HERITAGE ROAD LAYOVER

ENVIRONMENTAL PROJECT REPORT

METROLINX

PROJECT NO.: IM21405045
DATE: OCTOBER 2022

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Heritage Road Layover
Environmental Project Report

Project # IM21405045

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October 21, 2022

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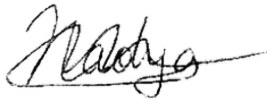
Prepared by:	Nadya Mrochkovskaia, BES Junior Environmental Planner		Date: October 21, 2022
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Executive summary

Project Overview

Metrolinx is completing a Transit Project Assessment Process (TPAP) Environmental Project Report (EPR) under *Ontario Regulation (O.Reg.) 231/08*, *Transit Project and Metrolinx Undertakings*. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors. The GO Expansion Program is an investment program that will transform GO Rail into a comprehensive regional rapid transit network that provides the expanded mobility the Greater Toronto and Hamilton Area (GTHA) needs to accommodate growth and maintain a high quality of life and prosperous economy. The long-term goal and vision of the GO Expansion Program is to provide 15-minute two-way all-day service. By 2055, annual ridership is expected to exceed 200 million, compared to 105 million without GO Expansion (Metrolinx, 2018).

As part of this program, Metrolinx is proposing to expand its facilities along Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project), is planned to provide additional storage capacity required to achieve the proposed level of service (two-way all-day service from Union Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station), and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service. See Figure ES-1-1.

Project Description

The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure ES-1-1).

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) trains consists of one (1) locomotive and six (6) coaches on each track. A two-lane access road 230 metres (m) in length, with a ROW width of 14.95 m, and a travelled portion 7.0 m wide will be created from Winston Churchill Boulevard to allow personnel to enter the layover facility.

Only the property included in the red outlined in Figure ES-1-1 will be acquired by Metrolinx as part of the proposed Project. No additional property outside of the boundaries will be acquired or controlled (permanently or temporarily to support construction) by Metrolinx.

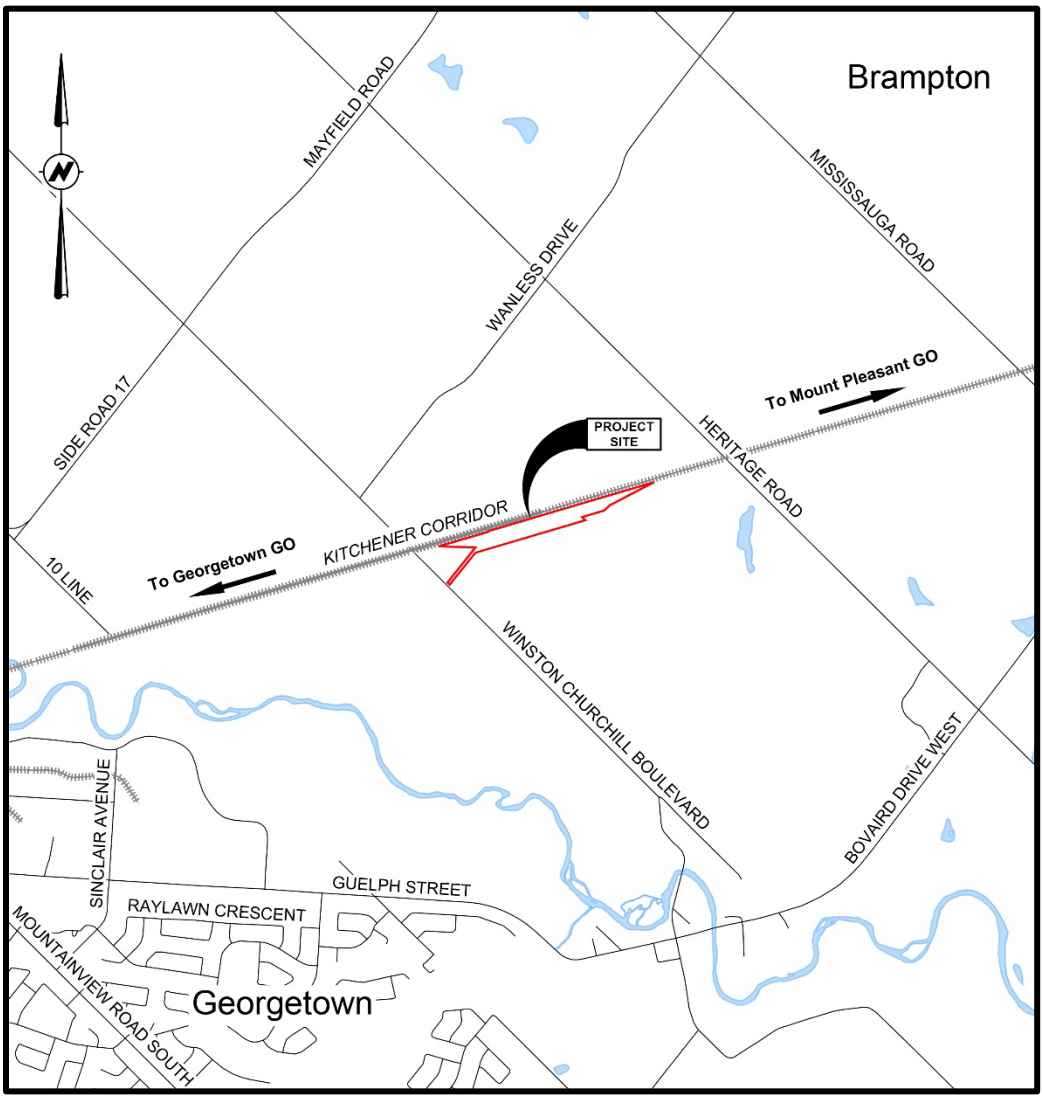

Figure ES-1-1: Location of Project Site

Study Process

This Environmental Project Report (EPR) documents the findings of the TPAP with respect to existing environmental conditions, assessment of potential impacts, mitigation measures and monitoring requirements, stakeholder and public consultation, and commitments to future work. See Figure ES 1-2 for the full TPAP.

Environmental Project Report Structure

This report has been organized into seven sections (Introduction, Project Description, Existing Conditions, Impact Assessment, Climate Change Considerations, Consultation and Commitments to Future Work) and includes supporting environmental and technical study reports (included as appendices), to address the requirements set out in *O.Reg. 231/08*.

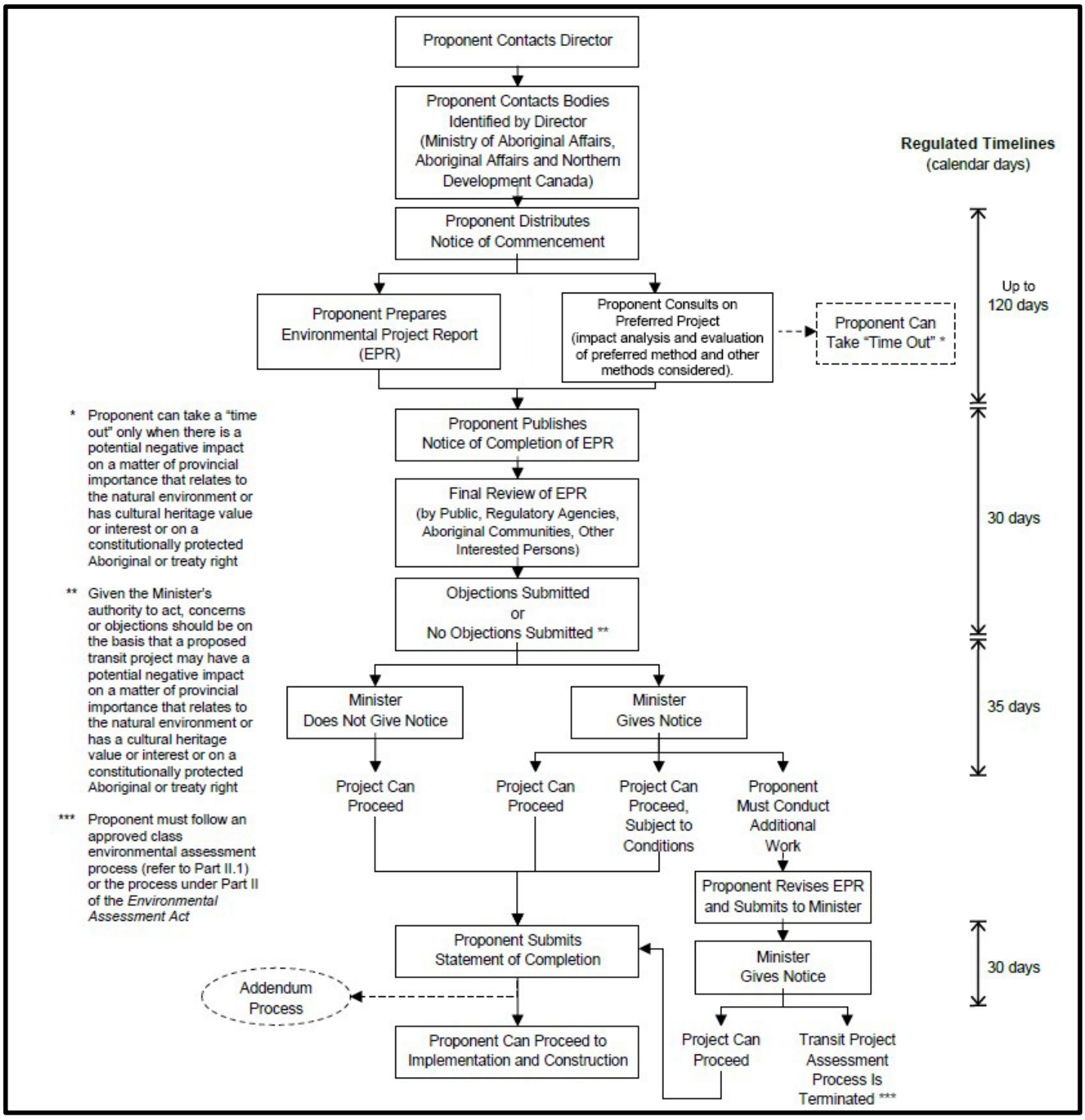

Figure ES 1-2: Outline of Transit Project Assessment Process

Assessment of Potential Effects and Proposed Mitigation Measures

The proposed Heritage Road Layover has the potential to cause changes to the existing environmental conditions within the study area that may result in both positive and negative environmental effects. Therefore, following the identification of the existing conditions, an assessment of the potential environmental effects, associated mitigation measures and monitoring activities was completed for the Project (see Section 4). The assessment considered both the construction phase, and the operations phase.

Table ES-1 provides a summary of the assessment of potential environmental effects, for the construction and operation phases, the measures identified to mitigate impacts, and commitments for monitoring during implementation of the project.

Table ES-1: Impact Assessment (Potential Effects, Mitigation Measures and Monitoring)

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Air Quality					
Air Quality	•	–	Emissions from fuel combustion and fugitive dust during construction activities could temporarily decrease air quality.	Dust prevention and control methodologies may include, but are not limited to: • Regulate mobile equipment travelling speeds inside the construction area to prevent excessive dust generation. • Ensure proper maintenance of equipment and vehicles operating in work areas. • Proper planning of construction phases and effective use of construction equipment to reduce dust. • Minimize the size of active areas on storage piles. • Operators should use due diligence during material loading, unloading and transferring activities to avoid excessive dust generation. • Drop heights should be minimized as much as practicable. • Development and implementation of an Air Quality Management Plan for the construction phase. • Wetting or covering of open areas, unpaved roads, or material storage piles that may emit dust. • Usage of non-chemical dust suppressant to reduce fugitive dust emissions from temporary unpaved roads or parking lots. • Stabilization of construction access and roadways to reduce the tracking of construction sediment (mud and soil) onto public roads by construction equipment. • Regular sweeping of vehicle trackout on public roads. • Use of temporary barriers to prevent soil erosion and control windspeed for locations where dust could potentially be generated.	• Air monitoring for PM_{10} along the Project Site perimeter, with particular emphasis on the ZOI, will provide assurance that fugitive dust sources are being adequately controlled and the potential for off-site effects are minimized. • Construction activities will be monitored by a qualified Environmental Inspector.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• Introduction of a no-idling policy to control mobile equipment and other vehicle emissions where applicable.	
Air Quality	–	•	Increase in volumes of train and vehicular traffic may decrease air quality but are anticipated to remain within MECP allowable air quality limits.	• No mitigation measures required.	• No monitoring activities are required.
Noise and Vibration					
	•	–	The predicted sound modelling indicate that it is feasible to operate most construction equipment within MECP limits. The vibration levels are predicted to meet the applicable limits during all construction stages.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. • In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly. • Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas.	• Monitor noise where it is predicted that noise exposure limits may be exceeded. At these locations, monitor noise continuously at each geographically distinct, active construction site with one monitor located strategically to capture the highest exposure level based on planned construction activities and the number, geographic distribution and proximity of noise sensitive receptors. • Develop regular reports describing the monitoring conducted and summarizing the data collected for the reporting period. The reports will include but not be limited to the number and duration of any incident during which any of the noise exposure limits documented in the Metrolinx *Guide for Noise and Vibration Assessment* (2020) were exceeded, the probable cause of each exceedance, the incident-specific measure(s) implemented, the resulting mitigated noise levels and the complaints investigation procedure. • Establish a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• Schedule major construction activities to take place during daytime hours, where possible. Prior to commencement of construction, a detailed Construction Noise Management Plan shall be developed. • The Construction Noise Management Plan shall: ○ Document and commit to all measures to be taken for meeting the noise exposure limits documented in the Metrolinx *Guide for Noise and Vibration Assessment* (2020) at every directly exposed sensitive receptor and throughout the entire project. ○ Determine the Zone of Influence for construction related noise based on the noise exposure limits outlined in the Metrolinx *Guide for Noise and Vibration Assessment* (2020) and taking into consideration the construction site, staging and laydown sites and hauling routes, each stage of the construction (including demolition), the overall construction schedule along with the schedule of each major component and associated major construction processes and equipment usage. ○ Identify all sensitive receptors that fall within the Zone of Influence for construction related noise. Mitigation measures will be proposed for these sensitive receptors, and the effects of the proposed mitigation measures will then be evaluated using noise modelling. If results of the modelling indicate that any sensitive receptors still remain within the Zone of Influence for construction related noise, then the following shall apply: ▪ Additional mitigation is proposed and subsequently modelled until the sensitive receptor does not fall within the Zone of Influence; or ▪ If mitigation strategies are not viable, receptor based mitigation will be proposed.	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Natural Environment					
Wildlife	●	-	Disturbance, displacement, or mortality of wildlife	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • Where feasible, the Project Site construction zone will be surrounded by a silt (exclusion) fence within 48 hours of the commencement of construction activities to prevent wildlife from entering the site. The exclusion fencing will be examined daily and repaired as needed to ensure it functions as intended • If wildlife is encountered within the construction site, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat. For example, construction activities will cease or be reduced, and wildlife will be encouraged to move offsite and away from the construction area on its own. A qualified biologist will be contacted to define the appropriate buffer required from wildlife.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	●	-	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection. • In the event that bird nests protected under the MBCA, FWCA, or ESA are encountered during construction, work must stop in the vicinity of the sighting until further direction is provided. These species and their nests must not be disturbed, tormented, injured, destroyed, and/or	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				separated from eggs, hatchlings, or chicks in any way. A protective buffer area should be established around the nest in consultation with a qualified avian biologist, as well as the MNRF, MECP, and/or Canadian Wildlife Service (CWS).	
Species at Risk – General	●	-	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNRF. • If SAR is present and conservation strategies have been developed by MNRF /MECP, the commitments in the recovery strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the procedure(s) to follow if an individual is encountered or injured.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.
Species at Risk - Bats	●	-	Habitat loss, disturbance and/or mortality to bats.	• Per MECP guidance as part of the TPAP consultation: • If there are any structures or buildings on the subject lands that may be suitable for use by bats, surveys should be undertaken in accordance with the Ministry's protocols. ○ If SAR bats are determined to be present, potential direct impacts may be avoided if tree removal is completed outside of the roosting period or active season (December 1 to March 14)	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Barn Swallow	●	-	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys were undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met,	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				including any registration, compensation, replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	measures will be developed with the MECP, if required.
Species at Risk – Eastern Meadowlark	●	-	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys were undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Aquatic Environment - Watercourses	●	-	Impacts to three watercourses in the Natural Environment Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site in adherence with the Metrolinx Vegetation Guideline (2020). • An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the wetland or waterbody. • A Spill Prevention and Response Plan will be developed before work commences and implemented during construction to ensure procedures and policies are in place during construction to minimize impacts to wetlands or waterbodies.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • A Salt Management Plan will be developed before work commences to ensure procedures and policies are in place during construction and operations to minimize impacts to watercourses. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal,	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				provincial and federal requirements, as amended, as well as the requirements of CVC.	
Aquatic Environment – Fish and Fish Habitat	●	-	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • As the watercourses on the Project Site are seasonal intermittent watercourses, a spring freshet survey will be completed in spring 2023 to further assess conditions prior to construction. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation Removal and Compensation Plans	●	-	Tree / Vegetation removal, injury and protection.	• As part of the Arborist Report, all trees within or adjacent to the Project Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR vegetation. SAR vegetation will be subject to permitting and approval requirements under Applicable Law, prior to the commencement of construction. The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and boundary trees. Municipal by-laws will dictate the	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/ regulations, and location with respect to ecological functioning.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • Vegetation compensation will be implemented through Metrolinx's Vegetation Compensation Guideline (2020), at minimum. Metrolinx's Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation. • Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. Refer to	• Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the Kitchener Corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program within the Metrolinx Vegetation Guideline (2020).

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Natural Environment commitment tables for additional details.	
Vegetation Removal and Compensation Plans – SAR Habitat	●	-	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with the Butternut Assessment Guidelines (MNRF, 2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Integrated Vegetation Management (IVM)	●	-	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	●	-	Potential for the spread of Emerald Ash Borer, Agrilus planipennis (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire) (2014), as amended from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Cultural Environment					

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Archaeological Resources	●	-	Potential for site AjGx-267 (Heritage Layover H1) to be impacted by construction and operational activities. No impacts are anticipated to Site AjGx-268 (Heritage Layover H2), which lies outside of the construction footprint.	• Develop and implement an Archaeological Risk Management Plan that addresses any recommendations resulting from Archaeological Assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources. The Archaeological Risk Management Plan shall be amended to incorporate any additional actions required resulting from subsequent Archaeological Assessment Reports. • All work shall be performed in accordance with Applicable Law, including but not limited to the *Ontario Heritage Act*, the Ministry of Tourism, Culture and Sport (MTCS), formerly the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) *Standards and Guidelines for Consultant Archaeologists* (2011), and the MTCS document, *Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario* (2011). • In the event that archaeological resources are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot should be protected from impact by employing a buffer in accordance with requirements of the MTCS. A professionally licensed archaeologist will be consulted to complete the assessment. If resources are confirmed to possess cultural heritage value/interest then they will be reported to the MTCS, and further Archaeological Assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx should be contacted and Applicable Law will be followed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. This will include completing all required Archaeological	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Assessments resulting from the Stage 1 AA (Stage 2, Stage 3 and Stage 4, as required) as early as possible, prior to the completion of design, and in advance of any ground disturbance. • For areas determined to have archaeological potential or contain archaeological resources that will be impacted by project activities, additional Archaeological Assessment will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered during project work, all activities must cease immediately and the local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services must be contacted. Archaeological investigations of human remains will not proceed until police have confirmed the remains are not subject to forensic investigation. Once human remains have been cleared of police concern, the MTCS will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*. If the human remains are determined to be of Indigenous origin, Metrolinx should be contacted and all Applicable Law must be adhered to. • All Archaeological Assessment findings will be shared with Indigenous communities and Nations, as per Metrolinx's *Guide to Engaging with Indigenous Communities* (2020).	
CHR1 - McNichol Cemetery	-	-	No direct adverse impacts are anticipated to the McNichol Cemetery. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	• The proposed work should be planned in a manner that avoids the McNichol Cemetery. • In accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (2011) and the *Funeral, Burial, and Cremation Services Act* and regulations under that Act, work in proximity to known cemeteries requires completion of an Archaeological Assessment	• Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				prior to any proposed ground disturbance. Previous Archaeological Assessments have been carried out in McNichol Cemetery (see Appendix G) and temporary fencing will be erected during construction to protect the cemetery.	
CHR2 - Built Heritage Resource – 10827 Winston Churchill Boulevard	●	-	Indirect Adverse Impact. Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship.	• The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a “potential heritage property” to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx ‘s selection procedures, which includes avoiding the property wherever possible or effectively mitigating impacts where not possible. • Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design.	• None.
CHR3 - Built Heritage Resource – 10746 Winston Churchill Boulevard	-	-	None. The residence is located approximately 110 metres from the proposed work.	• None.	• None.
Socio-Economic and Land Use					
Property	●	●	Property acquisition – permanent and temporary.	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
All land uses and adjacent lands	●	-	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration section of the commitment tables. • Develop a Communications Protocol in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
All land uses and adjacent lands	●	●	Land use and access disruption.	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site.	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	●	●	Visual effects from construction / operations areas / activities.	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	●	●	Light trespass, glare and light pollution effects.	• Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement Comply with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement.	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • Permanent lights will be installed for operations of the site.	
Transportation/Traffic					
Traffic	●	-	Construction may result in the need for temporary road or lane closures.	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period.
Utilities					
Utilities Planning and Construction	●	–	Utility serviceability effects due to design requirements and construction	• Obtain permits and consents from and with all Utility Companies with respect to the design, construction, installation, servicing, operation, repair, preservation, relocation, and or commissioning of Utility Infrastructure. • Ensure minimizing impact to the Train Service Plans and to continuity of service and disruption to property owners and customers of the Utility Companies to the satisfaction of the Utility Companies and Metrolinx.	• Maintain regular communication and coordination through issuance of regular progress reports and updates to applicable utility agencies.
Hydrogeology					
Groundwater	●	–	Construction activities could expose groundwater and associated contamination	• Develop a Groundwater Management and Dewatering Plan to guide the handling, management, and disposal of groundwater encountered during the works. The Groundwater Management and Dewatering Plan will be overseen by a QP and will comply with *Ontario Regulations 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1,	• A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for Metrolinx review to document performance monitoring data/results and any corrective actions implemented during the previous month. • Upon completion of the work, the Constructor will submit a Groundwater Management and Dewatering Implementation Report to Metrolinx.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				2020), *64/16* and *387/04*, as amended under the *Ontario Water Resources Act*. • The Groundwater Management and Dewatering Plan will describe the anticipated groundwater quantity and dewatering Zone of Influence that will be encountered during the works, and if approvals are needed for the water taking, such as a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the MECP. • The Groundwater Management and Dewatering Plan will describe the storage, transfer, and disposal and or treatment of the groundwater collected during the works, and approvals for the water disposal, and/or treatment if applicable, based on the quantity and quality. • The Groundwater Management and Dewatering Plan will be reviewed and approved by Metrolinx prior to construction.	
Stormwater Management					
Potential Impacts and Proposed Mitigation Measures for Stormwater and Site Drainage	●	–	The proposed construction activities pose a potential impact due to sediment transport into adjacent natural areas including watercourses, wetlands and municipal drainage infrastructure. The proposed works may result in increases to impervious areas, with potential effects to water quantity and quality. In addition to the increases in impervious coverage, there may be alterations to the local drainage system, both overland (major drainage system) and storm sewers (minor drainage system).	• Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC. • A detailed assessment of proposed ditches along the Kitchener Corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements and American Railway	• Turbidity levels within discharges from sites to be monitored visually. Turbidity levels will be monitored upstream and downstream of sites at watercourse crossings or adjacent to watercourses. Turbidity levels within discharges from sites and within receiving storm sewers will also be monitored visually to determine potential impacts from construction. • Grab samples for existing watercourses and/or wetlands, when runoff from the site discharges to a watercourse and/or wetland will be conducted for pre-construction, during construction, and post construction conditions until the site is considered stabilized. Grab samples for watercourses and wetlands will be taken for non-precipitation event and for precipitation events to obtain a reasonable understanding of the turbidity levels. Post-construction monitoring of wetland areas may be required depending on input from CVC.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (2019). • Infiltration requirements for municipalities will be determined as per the design guidelines and standards. • To offset the potential impacts to wetlands, the grades and drainage system on the periphery of the layover may need to be designed to result in minor local drainage diversions to the wetland features. An annual water budget for existing, future (without mitigation) and future (with mitigation) would have to be conducted. Input from a terrestrial biologist is required to review the annual water budget variations for existing and future conditions. • Develop and implement a Spill Prevention and Response Plan in accordance with the Project Agreement. • A hydraulic assessment of each crossing and any proposed culverts is required to determine proposed flood levels and associated creek bed and bank treatments to prevent scour and erosion and facilitate fish passage. Where applicable, the regulatory model(s) will be obtained from CVC to assess the hydraulic impacts along regulated watercourses. • Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models. Creek bed and banks design will include geomorphological input for scour and erosion prevention, and creation of appropriate fish habitat. • Incorporate Low Impact Development (LID) where practical and feasible, in accordance with design guidelines and standards.	• Monitoring will be conducted for potential oil spills and containment of spills to be conducted as per provincial requirements. • Functionality of stormwater quantity controls including peak flows and water levels for storm events within the design range. Monitoring would require local rainfall data. • Infiltration targets measured by flow monitoring on infiltrative LID Best Management Practices (BMPs). • Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS) removal as per the MECP *Stormwater Management Planning and Design Manual* (2003).

Consultation Process

Metrolinx consulted with and will continue to engage with Indigenous communities and Nations, and consult with government agencies, municipalities, elected officials, Regulatory Agency Staff and members of the public (including local residents, businesses, and interested groups) through various communication methods throughout both the Pre-Planning and the TPAP activities.

Consultation for this project occurred in two main stages, Pre-Planning, which occurred prior to the issuance of the Notice of Commencement, and regulated TPAP consultation activities, following the Notice of Commencement. Figure ES 1-2 details how consultation is integrated into the TPAP.

Two online Public Meetings were held for the Project. The first, held online from January 12 to January 26, 2022, provided an overview of the Project conceptual design, an outline of the TPAP, and a summary of the technical studies being prepared in support of the environmental assessment. A second round of consultation was held virtually from April 6 to April 20, 2022 to present draft environmental and desktop technical study findings.

In addition to the Public Meetings, Technical Advisory Committee Meetings (TACs) were also held with staff from the City of Brampton, Peel Region, the Town of Halton Hills, and Credit Valley Conservation and separately, discussions were held with municipal and provincial Elected Officials.

"Time Out" Process

On July 18, 2022, the TPAP was paused to engage further with Indigenous communities and Nations to provide additional context to the Project and describe in detail the technical studies undertaken, such that an Indigenous community or Nation can share with Metrolinx the potential and scope for adverse impacts to Indigenous and Treaty Rights resulting from the Project.

A Notice of Issue was sent to the Director of the Environmental Assessment and Permissions Branch of the Ministry of Environment, Conservation and Parks on July 18, 2022 and posted to the project website. The Notice of Issue was also communicated to Indigenous communities and Nations, government agencies, municipalities, elected officials, and members of the public identified in the project ailing list, and property owners surrounding the Heritage Road Layover area.

To facilitate the discussion of potential impacts to Indigenous and Treaty Rights as it relates to the Project, the following engagement was completed:

- A workshop held with Six Nations of the Grand River on July 22, 2022; and
- Ongoing engagement with Haudenosaunee Confederacy Chiefs Council by way of the Haudenosaunee Development Institute, which included establishing a project-specific agreement with the Nation.

Follow-up meetings were completed with the Ministry of Environment, Conservation and Parks to outline the outcomes of the above-noted engagement activities.

Project-specific feedback provided by Indigenous communities and Nations will be integrated as future commitments within the EPR and continue through detailed design and construction. Metrolinx is committed to working with Indigenous communities and Nations outside of the Heritage Road Layover project regarding broader issues that extend beyond the Heritage Road Layover scope of work.

A Notice of Resumption was provided to the Director of the Environmental Assessment Permissions Branch on August 16, 2022, and the 120-day TPAP consultation period resumed and concluded on August 18, 2022.

Commitments to Future Work

As part of the TPAP, *O.Reg. 231/08* requires future commitments, including required permits and approvals, to be developed to facilitate project implementation in accordance with project-specific mitigation measures and monitoring activities described in this EPR. The purpose of the commitments is to ensure that the Project is implemented in a manner that does not result in negative impact on matters of provincial interest related to the natural environment or to cultural heritage value or interest, or on constitutionally protected Indigenous and Treaty Rights.

Following the completion of the TPAP, further studies or consultation may be required, resulting in a refinement of the results presented in the EPR. If refinements lead to changes to the Project that are inconsistent with the EPR, these will be documented in an addendum to the EPR. Significant changes to the EPR will be accompanied by a notification of the change to the Project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities and Nations, as required in the regulation.

All applicable permits, approvals, and monitoring requirements under environmental laws will be reviewed, confirmed, and obtained prior to the construction of the Project.

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G	Stage 1 Archaeological Assessment Report
H	Traffic Impact Assessment
I	Consultation Record

List of abbreviations and definitions

AA	Archaeological Assessment. This may refer to Stage 1, Stage 2, Stage 3, or Stage 4 Archaeological Assessments.
AAQC	Ambient Air Quality Criteria
AMO	Atlas of the Mammals of Ontario
AODA	Accessibility for Ontarians with Disabilities Act
AREMA	American Railway Engineering and Maintenance-of-Way Association
BCI	Bat Conservation International Inc
BHR	Built Heritage Resource
BMP	Best Management Practice
Brampton	City of Brampton
CAAQS	Canadian Ambient Air Quality Standards
CAC	Criteria Air Contaminant
CHER	Cultural Heritage Evaluation Report
CHR	Cultural Heritage Resources
CHVI	Cultural Heritage Value or Interest
cm	Centimetre(s)
CN	Canadian National Railway

CTC	Refers to the Credit Valley-Toronto and Region-Central Lake Ontario Source Protection Region
CVC	Credit Valley Conservation Authority
CWR	continuously welded rail
CWS	Canadian Wildlife Service
DBH	Diameter at breast height
DFO	Department of Fisheries and Oceans Canada
DRM	Design Requirements Manual
EA	Environmental Assessment
EAA	Environmental Assessment Act
EASR	Environmental Activity Sector Registry is a registration requirement in respect of construction-related water taking activities prescribed under Ontario Regulation 63/16, as well as noise and vibration and air quality activities prescribed under Ontario Regulation 1/17 – Activities Requiring Assessment of Air Emissions made under the Environmental Protection Act (Ontario).
ECA	Environmental Compliance Approval
ECCC	Environment and Climate Change Canada
EMMP	Environmental Mitigation and Monitoring Plan
EMS	Environmental Management System
EPR	Environmental Project Report
ESA	Endangered Species Act
ESC	Erosion and Sediment Control
ETR	Express Toll Road
FLSA	French Language Services Act
Freshet	A large increase of water discharge volume in a river during spring months due to snow melt or storm events.
GGH	Greater Golden Horseshoe
GHG	Greenhouse Gas
GRT	Government Review Team
GTA	Greater Toronto and Hamilton Area
GTHA	Greater Toronto and Hamilton Area
GTTS	GO Transit's Track Standards
Halton Hills	Town of Halton Hills

HHSWS	Draft Heritage Heights Subwatershed Study
HIA	Heritage Impact Assessment
HOV	High occupancy vehicle
HWIN	Hazardous Waste Information Network Registry
IDC	Intensity Duration Curves
IDF	Intensity-duration-frequency
Indigenous or Aboriginal	Includes First Nations, Métis, and Inuit people in North America. While the term “Indigenous” is the more preferred term, the use of “Aboriginal” in this document is in reference to s.35 of the Canadian Constitution Act, 1982.
IPCC	Intergovernmental Panel on Climate Change
IRO	Metrolinx Indigenous Relations Office central point of contact for communications and consultations with the Indigenous communities and Nations.
IVM	Integrated Vegetation Management
Kitchener Corridor	The Kitchener Corridor is a railway line for Metrolinx trains between Union GO Station and Kitchener GO Station. The Halton Subdivision of the Kitchener Corridor is owned by CN.
km	Kilometres
km/hr	Kilometres per hour
kVA	Kilovolt ampere
LID	Low Impact Development
LSA	Local Study Area
LRTP	Long Range Transportation Plan
LRT	Light Rail Transit
m	Metres
MECP	Ministry of Environment, Conservation, and Parks
Metrolinx	Metrolinx is a provincial crown agency under the Metrolinx Act, S.O. 2006, Chapter 16, and its successors and assigns.
MTCS	Ministry of Tourism, Culture and Sport, formerly known as the Ministry of Heritage, Sport, Tourism, and Culture Industries
MMAH	Ministry of Municipal Affairs and Housing
MNRF	Ministry of Natural Resources and Forestry, formerly known as Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF).
mph	Miles per hour

MTO	Ministry of Transportation Ontario
MVA	Megavolt ampere
NAPS	National Air Pollution Surveillance
NHIC	Natural Heritage Information Centre
NZOI	Noise Zone of Influence
OBBA	Ontario Breeding Bird Atlas
Oil-Grit Separator	Oil-grit separators are underground devices designed to protect waterways from hazardous material spills and stormwater pollution.
ORAA	Ontario Reptile and Amphibian Atlas
O.Reg.	Ontario Regulation
OBA	Ontario Butterfly Atlas
OHT	Ontario Heritage Trust
ORMCP	*Oak Ridges Moraine Conservation Plan, 2017*
OWRA	*Ontario Water Resources Act, 1990*
PAH	Polycyclic Aromatic Hydrocarbons
PLAA	Permits, Licenses, Approvals, and Agreements
POR	Point of Reception
PPS	*Provincial Policy Statement, 2020*
PSOS	Project Specific Output Specifications
PTTW	Permit To Take Water is a permit issued by the MECP for the taking of water in accordance with Ontario Regulation 387/04, made under the Ontario Water Resources Act, or an Environmental Activity Sector Registration in accordance with the Ontario Regulation 63/16, made under the Environmental Protection Act (Ontario).
ROW	Right-of-Way
RSA	Regional Study Area
RSR	Representative Sensitive Receptors
RTP	Metrolinx's Regional Transportation Plan
SAR	Species at Risk
SARA	Species at Risk Act
SARO	Species at Risk Ontario
STEP	Sustainable Technologies Evaluation Program

SWH	Significant Wildlife Habitat
SWM	Stormwater management
TAC	Technical Advisory Committee
the Project	Heritage Road Layover Project
The Regional Plan	The Halton Regional Official Plan
TIA	Traffic Impact Analysis
TIP	Tree Inventory Plan
TMP	City of Brampton Transportation Master Plan
TPAP	Transit Project Assessment Process
TPZ	Tree Protection Zone
TSS	Total Suspended Solids
Undercoverage rate	Accounts for the total population of an area beyond the population within the 2021 Statistics Canada Census results.
VOCs	Volatile organic compounds
VZOI	Vibration Zone of Influence
WSP	WSP E&I Canada Limited (formerly Wood Environment & Infrastructure Solutions Canada Limited)
ZOI	Zone of Influence

1.0 Introduction and Study Process

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project), is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minuteoff peak and counterpeak service for stations between Bramalea GO Station and Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained WSP E&I Canada Limited (WSP) (formerly Wood Environment & Infrastructure Solutions Canada Limited (Wood)) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) trains consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Overview

Metrolinx is completing a Transit Project Assessment Process (TPAP) under *Ontario Regulation (O.Reg.) 231/08*, *Transit Project and Metrolinx Undertakings*. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Heritage Road Layover (the Project) is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

This Environmental Project Report (EPR) documents the findings of the TPAP with respect to existing environmental conditions, assessment of potential impacts, mitigation measures and monitoring requirements, stakeholder and public consultation, and commitments to future work.

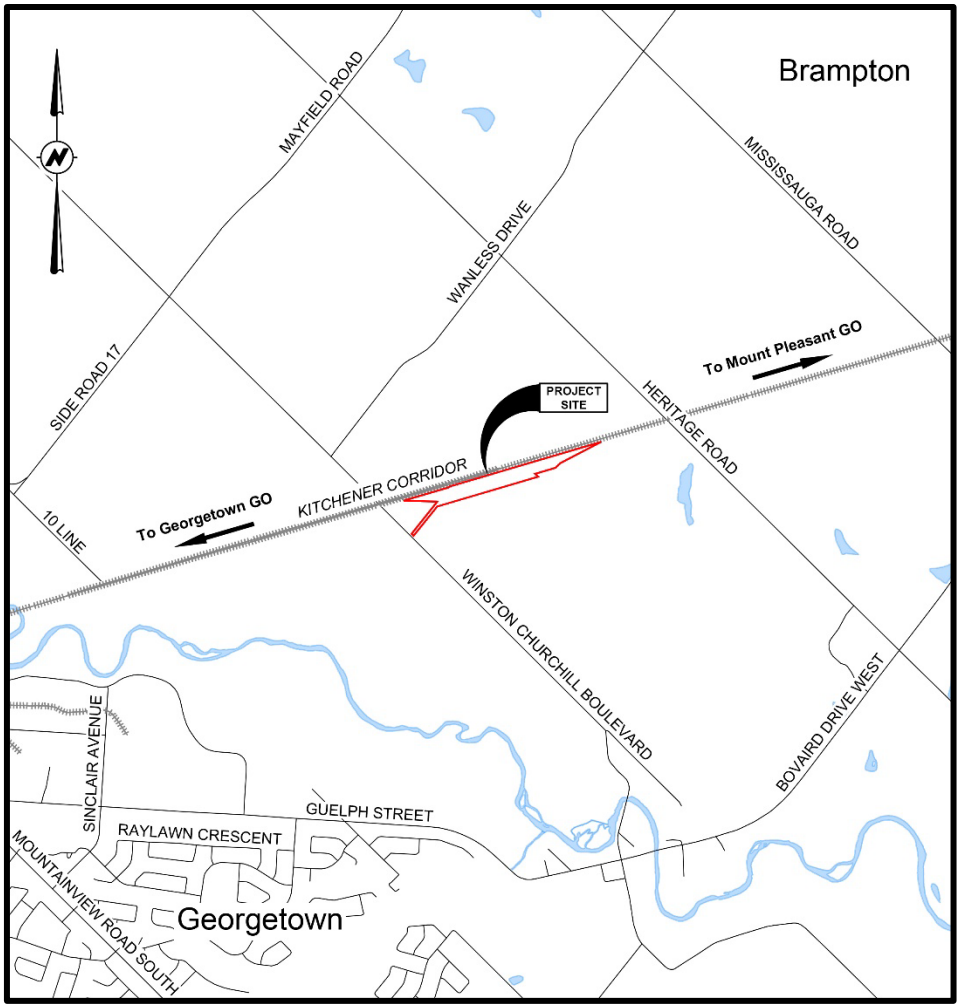


Figure 1-1: Location of Project Site

1.2 Project Context

1.2.1 GO Expansion

To get people moving throughout the Greater Toronto and Hamilton Area (GTHA) Metrolinx is actively building and upgrading existing GO rail stations, adding new track, building, and opening new maintenance and storage facilities, expanding and revitalizing bridges, and improving pedestrian connections. Modifying its usage from a rush hour commuter service, GO will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network. With GO Expansion, service will increase to 15-minute two-way all-day service with 6000 weekly trips. This will offer twice as many rush-hour options and three times as many off-peak options. With GO Expansion, the intent to add electrification for the entire rail network, reducing greenhouse gas emissions throughout Ontario. In addition, electric trains accelerate and decelerate faster, reducing trip time throughout the region. GO Expansion will create an estimated 8300 annual jobs for the first 12 years of service and double regional community capacity equivalent to nine highways the size of the 401. As part of GO

Expansion, service improvements are being added to the Kitchener Corridor, including this Project (Metrolinx Engage, 2021).

1.2.2 Kitchener Corridor

The Kitchener Corridor, as shown in Figure 1-2, connects the City of Kitchener within the Waterloo Region to Toronto and is primarily used for commuting purposes. Along the Kitchener Corridor are stops in Guelph, Halton Hills, Brampton, Mississauga, and Etobicoke, among others (Metrolinx Engage, 2021). As part of GO Expansion, the Kitchener Corridor will also include 15-minute two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minuteoff peak and counterpeak service for stations between Bramalea GO Station and Mount Pleasant GO Station. This will create better connectivity between the Guelph-Wellington region and the rest of the GTHA, support economic development, and promote urban development plans and better transit accessibility (Metrolinx Engage, 2021). The Project is located on the Kitchener Corridor between Mount Pleasant GO and Georgetown GO stations.

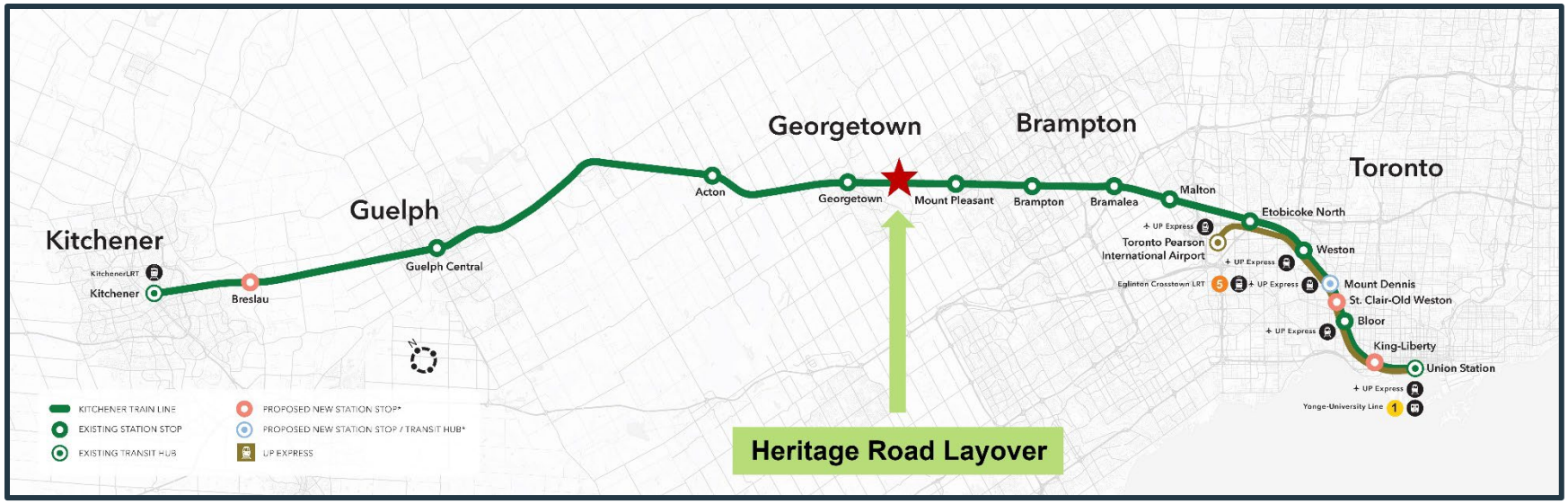


Figure 1-2: Kitchener Corridor

1.3 Planning Context

Several provincial and regional planning policies, as well as documents were reviewed to inform this assessment and the design considerations for the proposed project.

1.3.1 Provincial

Provincial Policy Statement (2020)

The *Provincial Policy Statement (2020a)* (PPS) issued by the Ministry of Municipal Affairs and Housing (MMAH) calls for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The PPS (MMAH, 2020a) supports improved land use planning and management, which contributes to a more effective and efficient use of land, resources, and infrastructure.

The PPS emphasizes the need to increase the use of active transportation and transit before other modes of travel. This Project is consistent with the PPS as it supports transportation choices that increase the use of public transit and promotes a safe transportation system. The proposed layover will eventually lead to two-way, all-day service, which will improve public transit in southern Ontario and thus increase ridership. The proposed layover facility will improve efficiency and reliability of the GO Transit service which in turn, will support the delivery of GO Expansion. GO Expansion will improve public transit across southern Ontario and increase ridership."

The policies from the PPS relevant to the Project are described in Table 1.3-1.

Table 1.3-1: PPS Policies Relevant to Heritage Road Layover

Section	PPS Policies Relevant to the Project
Section 1.1 Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns	
Subsection 1.1.1	"Healthy, liveable and safe communities are sustained by: e. promoting the integration of land use planning, growth management, *transit-supportive* development, *intensification* and *infrastructure* planning to achieve cost-effective development patterns, optimization of transit investments, and standards to minimize land consumption and servicing costs; g. Ensuring that necessary infrastructure public service facilities are or will be available to meet current and projected needs. Preparing for the regional and local impacts of a changing climate."
Section 1.6 - Infrastructure and Public Service Facilities	
Subsection 1.6.1	"Infrastructure and public service facilities shall be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs."

Section	PPS Policies Relevant to the Project
Subsection 1.6.1	"Planning for infrastructure and public service facilities shall be coordinated and integrated with land use planning and growth management so that they are: a. financially viable over their life cycle, which may be demonstrated through asset management planning; and, b. available to meet current and projected needs."
Section 1.6.7 - Transportation Systems	
Subsection 1.6.7.1	"Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs."
Subsection 1.6.7.2	"Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible."
Subsection 1.6.7.3	"As part of a multimodal transportation system, connectivity within and among transportation systems and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries."
Section 1.6.8 Transportation and Infrastructure Corridors	
Subsection 1.6.8.1	"Planning authorities shall plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs."
Section 2.1 Natural Heritage	
Subsection 2.1.2	"The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features."

A Place to Grow: The Growth Plan for the Greater Golden Horseshoe (2020)

The *Growth Plan for Greater Golden Horseshoe (2020)* was prepared and approved under the *Places to Grow Act (2005)* and amended in 2020 to include more details regarding growth targets for transit corridors and station areas, employment forecasts and population projections for municipalities. This plan supplements and builds upon the PPS in providing more specific land use planning policies relating to specific geographic areas in Ontario (MMAH, 2020a).

The following sections focus on studies and policies relevant to the Project:

Section 3.2.2. Transportation General, notably:

> "The transportation system within the GGH [Greater Golden Horseshoe] will be planned and managed to:
>
> a) provide connectivity among transportation modes for moving people and for moving goods; and,
>
> f) provide for the safety of system users" (MMAH, 2020a).

A Made-in-Ontario Environment Plan (2018)

A Made-in-Ontario Environment Plan (2018) was issued by the Ministry of the Environment, Conservation and Parks (MECP), replacing the *Ontario Climate Action Plan (2016),* and calls for various action items to preserve and protect land, air and water, while reducing waste, litter, and greenhouse gas emissions. *A Made-in-Ontario Environment Plan (2018)* aims to protect species at risk, conserve and manage parks and greenspaces, and determine a plan to address climate change concerns.

The following sections of the Plan are relevant to the Project:

- Government Leadership (Actions): "Improve public transportation to expand commuter choices and support communities".
- Government Leadership (Actions): "Support green infrastructure projects".
- Government Leadership (Actions): "Early actions: GO Train Service Increase" (Ministry of the Environment, Conservation and Parks, 2018).

The Greenbelt Plan (2017)

The *Greenbelt Plan (2017)* is an overarching document that serves to protect the Greenbelt area from urbanization that would cause harm to its agricultural and ecological features (MMAH, 2017a). The *Greenbelt Plan* is supported by The Growth Plan (2019), *Niagara Escarpment Plan (2017)* and based on the principles found in the ORMCP. Under the *Greenbelt Plan* (under Ontario Regulation 59/05), "…infrastructure improvements are permitted if it serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing infrastructure connections among urban growth centres" (MMAH, 2017a).

The Project Site is situated adjacent to lands designated in the Greenbelt Plan as Protected Countryside. The rural lands of the Protected Countryside are intended to continue to accommodate a range of commercial, industrial and institutional uses serving the rural resource and agricultural sectors.

The Big Move (2008)

Metrolinx developed the first regional transportation plan for the GTHA entitled *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area (The Big Move; 2008)* in response to the projects proposed in *MoveOntario 2020*. The goal of the plan was to reduce traffic congestion and increase public transportation use across Ontario, specifically in southern Ontario (Metrolinx, 2008).

The Big Move outlined 13 goals and 37 objectives. The relevant objectives supporting the development of the Project were:

- Objective 1: “Increased transportation options for accessing a range of destinations”;
- Objective 4: “Improved transportation experience and travel time reliability”;
- Objective 5: “Faster, more frequent and less crowded transit”;
- Objective 27: “Improved connections and service within the GTHA and to/from interregional, interprovincial, and international terminals and facilities”; and
- Objective 31: “Increased productivity of the transportation system” (Metrolinx, 2008)

The 2041 Regional Transportation Plan (2018)

The *2041 Regional Transportation Plan* is the second transportation plan for the GTHA and expands on the goals outlined in *The Big Move*, which resulted in the $30 billion investment in rapid transit. The *2041 Plan* provides an outline of an integrated approach from various stakeholders such as government, transit agencies, businesses, civic organizations and the public to help create an efficient system. The goal is to ensure a higher quality of life and a more prosperous and competitive economy, while protecting the environment (Metrolinx, 2018).

The *2041 Regional Transportation Plan* outlines five (5) main strategies:

1. Complete the delivery of current regional transit projects.
2. Connect more of the region with frequent rapid transit.
3. Optimize the transportation system.
4. Integrate transportation and land use.
5. Prepare for an uncertain future (Metrolinx, 2018).

Of these five (5) strategies, this Project is supported by Strategy 1 and 2. The focus of Strategy 1 is to develop the GO Expansion Program (formerly known as GO Regional Express Rail), which aims to eventually convert the GO rail system from commuter-based service to a two-way, all-day service (Metrolinx, 2018).

Additionally, Strategy 2 focuses on expanding the GO Regional Express Rail to meet travellers’ future needs to 2041 and defines a frequent rapid transit network as: “A seamless and reliable network of transit services running at least every 10-15 minutes all-day, every day. The Frequent Rapid Transit Network will consist of transit routes and corridors that ensure fast and reliable service through the use of dedicated infrastructure, design elements, and other supporting investments as required (e.g., full grade separation, exclusive right-of-way, HOV lanes, queue jump lanes, wider stop spacing than conventional transit routes, signal priority, or other transportation systems management measures) (Metrolinx, 2018).”

The Big Move resulted in completion of nine (9) major transit projects with 14 currently in engineering design phase or under construction. Under the current *2041 Regional Transportation Plan,* the remaining 14 projects from the Big Move and an additional 13 projects, which are currently in the planning and design stage, will be completed (Metrolinx, 2018).

Highway 413 (GTA West)

The Ontario government is moving forward with building Highway 413, a new 400-series highway and transit corridor across Halton, Peel and York regions. The corridor is expected to include a 4 to 6 lane, 59-kilometre 400-series highway with connections to Highways 400, 427, 410, 401, and 407 Express Toll Road (ETR). The highway would have 11 interchanges at municipal roads and features such as electric charging stations, service centres, carpool lots and truck inspection stations will all be explored as part of the design. The technically preferred route for Highway 413 in the City of Brampton travels north-south from Highway 401 in a corridor located between Mississauga Road and Heritage Road. The Project Site is situated west of Heritage Road, slightly to the west of the proposed Highway 413 preferred alignment corridor.

It is of note that the City of Brampton has proposed an urban boulevard in lieu of Highway 413 through the Heritage Heights area. More details are described in Section 1.3.2 Heritage Heights Secondary Plan.

1.3.2 Municipal

The site for the proposed Heritage Road Layover lies just to the east of Winston Churchill Boulevard, which serves as the boundary between Halton Region and the Town of Halton Hills, and Peel Region and the City of Brampton. Given that the study areas for a number of the studies undertaken to prepare this EPR take in lands west of Winston Churchill Boulevard, the land use plans and policies of Halton Region are also taken into account.

Halton Regional Official Plan (2018 Office Consolidation)

The Halton Regional Official Plan (*The Regional Plan*) is in place to solidify past decisions and to give clear direction as to how physical development should take place in Halton to meet the current and future needs of its people and landscape. *The Regional Plan* clarifies and assists in the delivery of Regional services and responsibilities as set out in the Planning Act, the Municipal Act, and other pertinent Provincial legislation (Regional Municipality of Halton, 2018).

The Regional Plan notes the goal for transportation "…is to provide a safe, convenient, accessible, affordable and efficient transportation system in Halton, while minimizing the impact on the environment and promoting energy efficiency" (Regional Municipality of Halton, 2018).

Town of Halton Hills Official Plan (2019 Office Consolidation)

The Local Study Area falls within the Greenbelt and it is designated Protected Countryside in the *Town of Halton Official Plan*. (Town of Halton Hills, 2019).

Region of Peel 2051 Official Plan Review (2018; 2022 Office Consolidation)

The Region of Peel Official Plan outlines a policy framework for guiding growth and development in Peel, while protecting the environment (Region of Peel, 2022).

The following sections identify objectives related to transit:

Section 5.6.19.9: “Work jointly with the Ministry of Transportation, Metrolinx, and local municipalities to identify additional transit stations that may be approved in the future, through initiatives such as the GTA West Transportation Corridor Environmental Assessment and additional transit stations that will support growth and the movement of people in Designated Greenfield Areas, as Major Transit Station Areas on Schedule E-5 of the Region of Peel Official Plan.”

Section 5.10.34.32: “Work with the Province, local municipalities, and other regions and municipalities in the Greater Golden Horseshoe to implement the Metrolinx Regional Transportation Plan and contribute to future updates of the Regional Transportation Plan.”

Let’s Move Peel Long Range Transportation Plan (2019)

The Long Range Transportation Plan (LRTP) is a five-year plan that guides transportation planning and infrastructure needs in the Region of Peel and sets out the blueprint to accommodate anticipated growth to 2041.

The Plan serves as:

The basis for recommended Transportation Infrastructure Programming;

The basis for the Transportation Capital Budget and 10-year Program; and,

Input into the Development Charges Background Study and By-law Update in 2020.

Key Components of the LRTP include:

Sustainable Mobility

Safe Mobility

Vehicular Mobility

Recommended Future Transportation Network

Implementation and Measurement

City of Brampton Official Plan (2006; 2020 Office Consolidation)

The *City of Brampton Official Plan* was adopted in 2006 and modified in 2008 to conform with the *Places to Grow – Growth Plan for the Greater Golden Horseshoe*. In September 2020, *The Official Plan* was consolidated to include a series of amendments. *The Official Plan* outlines land-use decision making processes within the municipality to 2031. *The Official Plan* is used to guide development and infrastructure decisions relating to land use, built form, transportation and the environment. The purpose of *the Official Plan* is to provide clear direction on how physical development and land-use decisions take place in Brampton to meet the needs of current and future residents (City of Brampton, 2020).

Section 2.4.1 of *The Official Plan* highlights the development of modern transportation systems and indicates three (3) main objectives:

a. “Create an integrated and expanded transportation network to provide a high level of service tied to the rate of distribution of growth within the City and to enhance accessibility for all residents including persons with disabilities”;

b. “Expand public transit service for Brampton’s residents including persons with disabilities and employers and to provide seamless connections to popular destinations within the GTA”; and,

c. “Build a pathway system that is accessible to all including persons with disabilities through a series of walking, cycling and multi-use trails that connects Brampton’s major destinations and links with other trails systems outside Brampton” (City of Brampton, 2020).

Section 4.5 of *the Official Plan* notes the intricate relationship between transportation, land use, the environment and physical form. Of the five (5) main objectives and the notable objectives two are relevant to this Project:

d. “To promote a high standard of environmental management and aesthetic quality in the routing, design and construction of transportation and associated structures, including green infrastructure and stormwater management practises in the right-of-way of new and retrofitted existing roads”; and,

e. “To work cooperatively with the Region of Peel, neighbouring municipalities and other regional municipalities, the Province and its agencies (e.g. Metrolinx) to develop an integrated transportation plan” (City of Brampton, 2020).

Section 4.5.4.32 of *the Official Plan* discusses Brampton’s intention to encourage Metrolinx to improve commuter services by:

i. “Introducing all-day, two-way service for commuters travelling to and from Brampton”;

ii. “Providing adequate off-peak service”;

iii. “Ensuring better connections with subway and other transit nodes”;

iv. “Expanding and enhancing access to all existing Commuter Rail stations”;

v. “Providing adequate parking lots/spaces”; and,

vi. “Improving pedestrian access and providing bicycle facilities” (City of Brampton, 2020).

As per *Schedule D: Natural Heritage Features and Areas* from the Official Plan, two watercourses on the Project Site are designated as Valleyland/Watercourse Corridors. Section 4.6.6.20 of the Official Plan emphasizes avoiding removal of natural heritage features, stating that removal must be justified by a watershed plan, subwatershed study, Environmental Implementation Report or natural heritage system study in consultation with CVC and other relevant agencies. Section 4.6.6.21 of the Official Plan also notes that the report should demonstrate no net loss, and if possible, a net gain in natural heritage system values and ecological functions.

City of Brampton Transportation Master Plan (2015)

The Transportation Master Plan (TMP) is the City of Brampton's long-term strategy to achieve a balanced transportation network to accommodate the growth and development needs of the region until 2041. The implementation of the Huronontario-Main Light Rail Transit (LRT) and two-way, all-day GO Rail service to Bramalea GO, Brampton GO, and Mount Pleasant GO stations is an essential component to the vision of the TMP. The TMP emphasizes on shifting travel to transit and other sustainable modes of travel. The Project directly aligns with improving frequency of GO Transit through Brampton and shifting to multi-modal transportation.

The TMP is reviewed every five years to reflect updated plans, policies, and best practices utilizing the following guiding principles:

- Enhance mobility and travel options for people and goods;
- Advance multi-modal transportation equity;
- Integrate transportation and land use planning;
- Protect public health and safety;
- Improve environmental sustainability;
- Leverage technology; and
- Emphasize community engagement and collaboration.

The TMP notes that the modal share of transit trips during the PM peak period is 9%, with a goal of achieving 20% by 2040.

The TMP Update for 2022 will focus on direction from the Brampton 2040 Vision and emergency Complete Street principles. The 2040 Vision for "Transportation and Connectivity" states that the City of Brampton "will be a mosaic of safe, integrated transportation choices and new modes, contributing to civic sustainability, and emphasizing walking, cycling and transit".

Heritage Heights Secondary Plan (2022)

The City of Brampton undertook a Secondary Plan Review of the Secondary Plan Areas 52 (Huttonville North) and 53 (Mount Pleasant West). These areas are collectively referred to as the 'Heritage Heights Community' (City of Brampton, n.d.-b). The City's Planning and Development Committee endorsed a conceptual land use plan for the Heritage Heights Community in July 2020 (City of Brampton, n.d.-b). The Heritage Heights Secondary Plan was adopted by City of Brampton Council on April 6, 2022. The Project Site falls within the Heritage Heights South Precinct portion of the secondary planning area. Immediately north of the Kitchener Corridor is the Heritage Heights North Precinct. The Heritage Heights Secondary Plan consists of low to medium density residential units surrounding the Project Site. It is identified as a high potential mineral aggregate resource area.

The following Principles were created to guide future policies, design, and growth in Heritage Heights:

1. Create walkable communities for people to gather, recreate, work, and live.
2. Development should be compact and diverse to achieve walkable and affordable active neighbourhoods.
3. Implement sustainable and resilient plans, technologies, and design approaches.
4. Include arts and cultural uses that will leverage Brampton's diversity and attract investment.
5. Conserve the natural and cultural heritage of the area, creating a destination for local and regional visitors.
6. Foster a competitive environment for employment and economic development.
7. Plan for wellbeing - physical, mental, social - through the design of people-centric spaces that are safe and age-friendly.
8. Integrate and connect green and open spaces into the design of neighbourhoods while being sensitive to existing ecological systems" (City of Brampton, n.d.-b).

Section 10.7 of the Secondary Plan notes that City Transit services will be provided in accordance with *the Official Plan.* Notably, the Plan identifies Major Transit Stations Areas and states that development and improvements in the vicinity of these stations will be designed to "…promote opportunities for the design of these transit stations and infrastructure to be integrated with development and the public realm" (City of Brampton). Additionally, the Council-adopted Secondary Plan for Heritage Heights states that the area is to be planned to accommodate approximately 124,000 people and 43,000 jobs.

The Heritage Heights Secondary Plan also includes an urban boulevard where Highway 413 (described in Section 1.3.1) is proposed for the section through the Heritage Heights Secondary Plan Area (City of Brampton Motion C363-2020).

Credit Valley Conservation

Credit Valley Conservation (CVC) in cooperation with the City of Brampton is preparing the draft Heritage Heights Subwatershed Study. A portion of the Project Site includes watercourses that flow to the Credit River and as such fall under the CVC regulatory by-law, O.Reg.160/06 Regulation Of Development, Interference With Wetlands And Alterations To Shorelines and Watercourses.

1.4 Transit Project Assessment Process

To complete the specific environmental and technical studies required for this TPAP, tailored assessment areas are defined that extend beyond the Project Site. These Assessment Areas are described in greater detail in Section 3.0 of this EPR and summarized in Table 1.4-1.

Table 1.4-1: Assessment Areas by Discipline Study

Discipline	Assessment Area[1]
Air Quality	500 m buffer from the Project Site Refined based on Zone of Influence (ZOI) for sensitive receptors
Noise and Vibration	500 m buffer from the Project Site Refined based on Noise Zone of Influence (NZOI) for sensitive receptors
Natural Environment	120 m buffer from the Project Site
Tree Inventory	5 m buffer from the Project Site Refined based on Tree Protection Zone (TPZ) for impacted trees as detailed in the Arborist Report
Socio-Economic and Land Use	Local Study Area (LSA) 300 m buffer from Project Site Regional Study Area (RSA) encompasses Ward 6 in the City of Brampton that includes the Heritage Heights Secondary Plan Area, and the portion of Ward 2 in the Town of Halton Hills east of the Credit River
Cultural Heritage	A 75 m buffer from the Project Site that includes a 25 m direct impact zone, and a further 50 m indirect impact zone
Stage 1 Archaeological Assessment	20 m buffer from the Project Site A broader study area based on previous archaeological assessment work is also considered
Traffic Impact Assessment	Study Area, the Halton Subdivision track section, and adjacent road intersections

This EPR was prepared in accordance with *O. Reg. 231/08, Transit Projects and Metrolinx Undertakings* (Transit Projects Regulation). Under O. Reg. 231/08 certain types of transit projects that have predictable, and easily manageable environmental effects can follow the TPAP streamlined approach to Environmental Assessments (EA).

Figure 1-3 describes the key steps in the TPAP.

[1] Note: All project sites are inclusive of a potential laydown area, that may be utilized in possible future projects. However the additional laydown area is not part of current design.

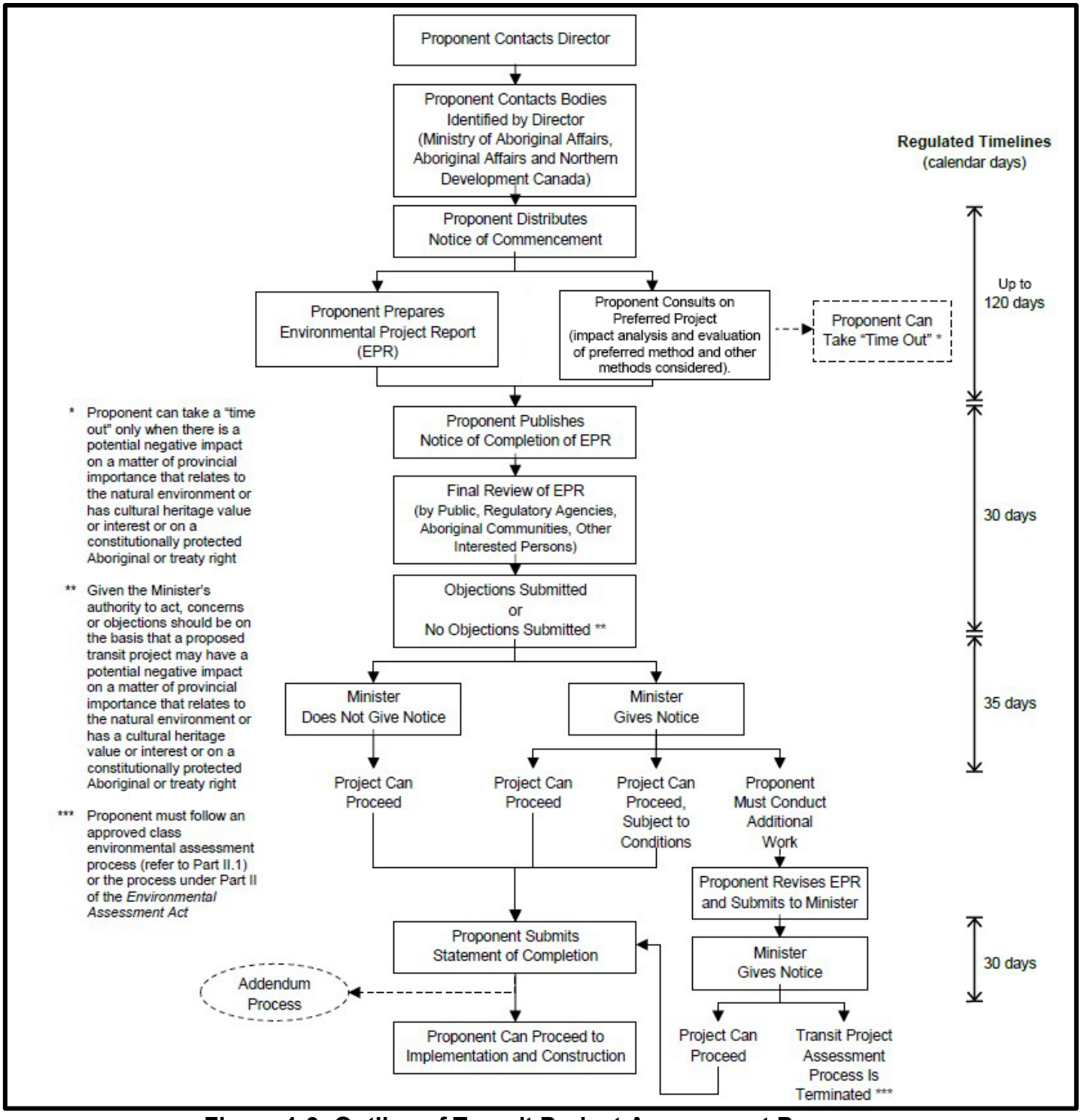


Figure 1-3: Outline of Transit Project Assessment Process

1.5 Project Proponent

The Ontario *Environmental Assessment Act* (EAA) defines “proponent” as a person who:

- Carries out or proposes to carry out an undertaking; or
- Is the owner or person having charge, management, or control of an undertaking.
- For the purpose of this EPR, Metrolinx is the proponent of the Project.

1.6 EPR Report Structure

This Environmental Project Report has been organized into seven sections (Introduction and Study Process, Project Description, Existing Conditions, Impact Assessment, Climate Change Considerations, Consultation, and Commitments to Future Work) and includes supporting environmental and technical study reports (included as appendices), to address the requirements set out in *O.Reg. 231/08*.

Table 1.6-1: Report Structure

Section within this EPR	Relevant Information
Section 1	A statement of the purpose of the transit project.
Section 2	A description of The Project, including details of the preferred design.
Section 3	A description of the existing environmental conditions at the site of the transit project.
Section 4	The assessment and evaluation of any impacts of the preferred design, including a description of any proposed measures for mitigating any negative impacts the transit project might have on the environment.
Section 5	Describes how the TPAP incorporates the MECP guidance for considering climate change in environmental assessments/TPAPs, highlights the Metrolinx broader sustainability initiatives, and provides a summary of the design considerations, measures to mitigate effects of climate change on the Project, and of the Project on climate change.
Section 6	A complete record of stakeholder consultation efforts made by Metrolinx to solicit input from the public, regulatory agencies, Indigenous communities and Nations, affected municipalities and adjacent property owners.
Section 7	A description of future commitments developed for developed to facilitate project implementation in accordance with project-specific mitigation measures and monitoring activities described in this EPR.

The following lists the studies completed to support the Project TPAP that are appended to this EPR:

- Air Quality Baseline Conditions and Impact Assessment Report.
- Noise and Vibration Baseline Conditions and Impact Assessment Report.
- Natural Environment Existing Conditions and Impact Assessment Report.
- Natural Environment Report Field Studies Addendum ~~(Currently Under Review)~~.
- Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report.
- Cultural Heritage Report: Existing Conditions and Impact Assessment.
- Stage 1 Archaeological Assessment Report.
- Traffic and Transportation Existing Conditions and Impact Assessment Report.

2.0 Project Description

2.1 Development of the Heritage Road Layover Preferred Design

To optimize the layout and function of the site three options were developed and assessed for the Heritage Road Layover facility during conceptual design. These conceptual design options addressed: the GO Design Requirements Manual (DRM) (Metrolinx, 2020) design criteria and operational requirements, space constraints to minimize the Project Site, site conditions, and integration with the planned Kitchener Corridor trackside improvements.

2.2 Site Conditions

The Project Site is predominantly within an agricultural landscape dominated by row cropped fields. As shown in Figure 2-1, the Project Site for the Heritage Road Layover is proposed south of the Kitchener Corridor and will be located east of Winston Churchill Boulevard and west of Heritage Road.

The Study Area contains several watercourses within the CVC Regulation Area which flow intermittently throughout the year, as well as function as agricultural swales. Three of these watercourses (unnamed tributaries to the Credit River) cross the proposed Heritage Road Layover facility and a tie-in to two existing culverts crossing the CN Right of Way (ROW) is required. Further details will be explored in detailed design.

Two private properties (commercial and residential) are located south of the at-grade crossing at Winston Churchill Boulevard. The proposed access road to the layover facility will be located south of the properties to avoid any impacts.

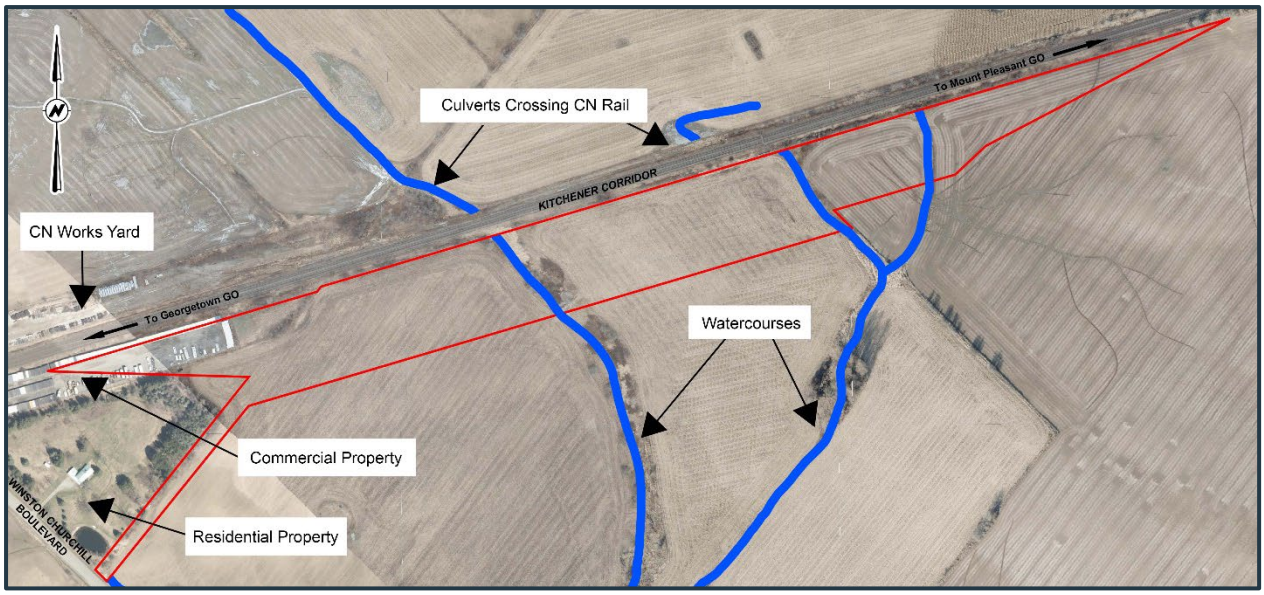


Figure 2-1: Existing Site Features

2.2.1 Heritage Road Layover Preferred Design Concept

The preferred design concept presents the following benefits:

- An optimized track layout that meets the current needs with less impact to the environment.
- The substation building is located centrally for optimized cable runs from substation to the wayside power.
- The locations of propane tank(s), water well, and other services are located close to the connection points.
- The pavement catchment area and storm water system is optimized.
- Has the lowest cost of construction.
- Protects for future work, such as west end connection, future tracks on the mainline, and electrification through the Kitchener Corridor.

2.3 Preferred Design Development

The basic Heritage Road Layover design elements include:

- Four layover tracks for maximum storage of four GO Trains (one train with two locomotives, 12 coaches or two trains with one locomotive, six coaches) on each track.
- Access road entrance from Winston Churchill Boulevard.
- Connection to Kitchener Corridor.

Figure 2-2 to Figure 2-4 show the Project renderings and site layout.

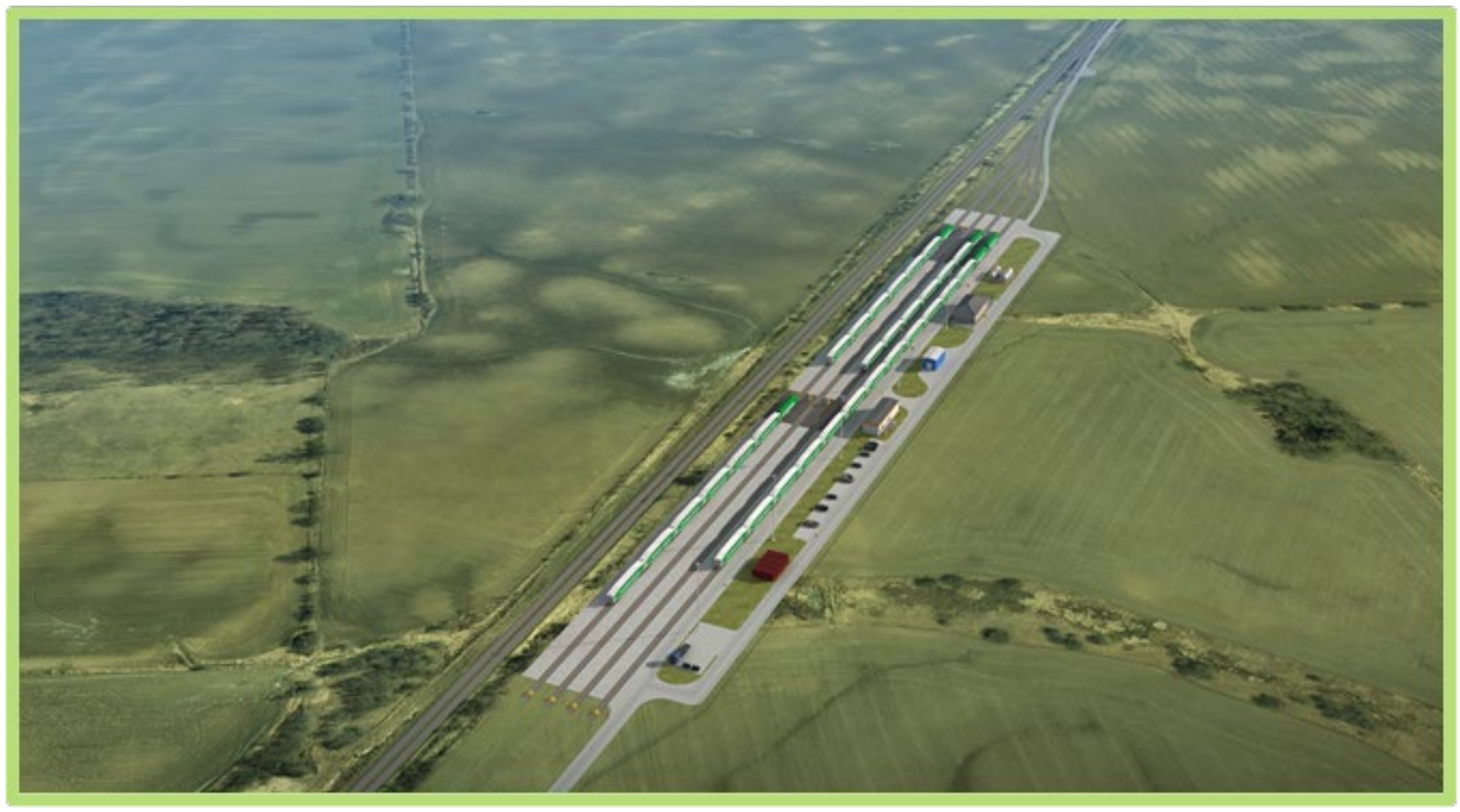
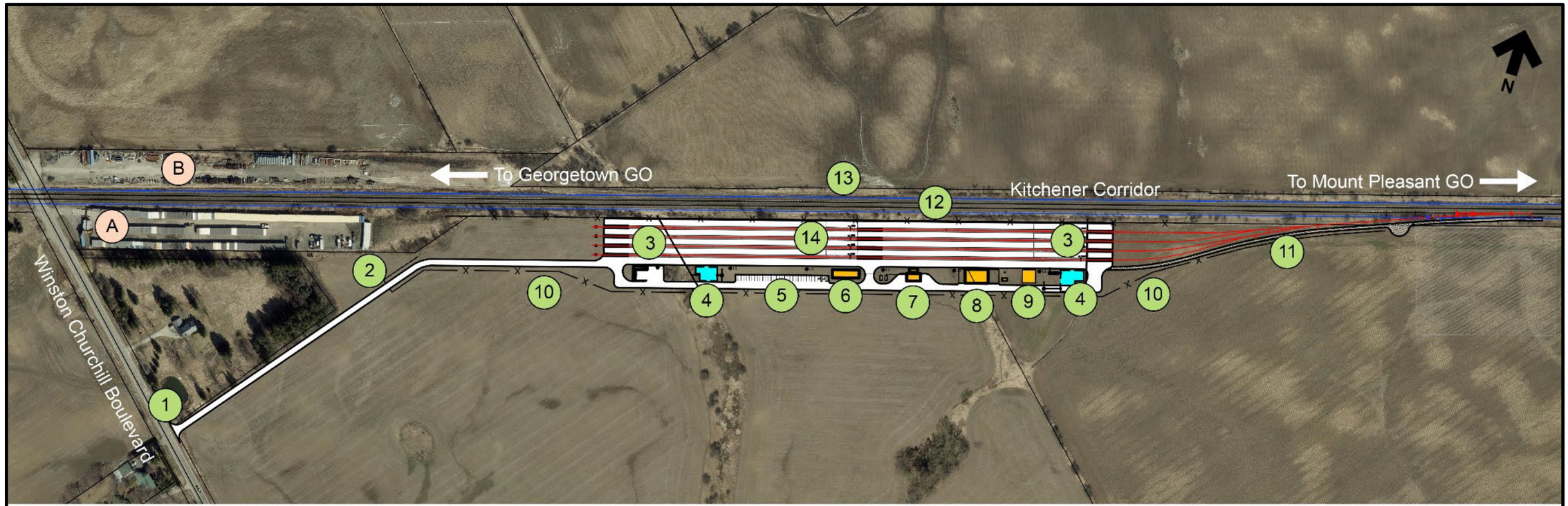


Figure 2-2: Rendering of aerial view of the proposed Project



Figure 2-3: Rendering of ground level view of the proposed Project



Legend

1 Facility Entrance	5 Parking Area	9 Concrete Pad	13 Future Mainline Tracks
2 Gate	6 Crew Buildings	10 Fence	14 Layover Tracks
3 Culvert	7 Waste Building	11 Maintenance Road	A U-Need Storage
4 Infiltration Facility	8 Substation	12 Current Mainline Tracks	B CN Works Yard

Figure 2-4: Proposed Facility Layout of the Project

The following is a summary of the design components that comprise the Heritage Road Layover facility:

Track Work

The alignments of the Tracks are designed according to GO Transit's Track Standards (GTTS), GO Transit DRM, CN Track Standards, American Railway Engineering and Maintenance-of-Way Association (AREMA), and industry best practices.

The design will be based on the following requirements:

- Four (4) tracks that each have the capacity to accommodate one (1) train consist with two (2) locomotives and twelve (12) cars or two (2) train consists with one (1) locomotive and six (6) cars
- Operating speed of 15 mph (24 km/hr) for passenger and 10 mph (16 km/hr) for freight
- Track design life of 50 years
- Rail, ties, ballast, track crossings, turnouts, and any other materials will be in accordance with GTTS

The track connection from the layover facility to the mainline track is to facilitate train movements eastbound towards Mount Pleasant GO Station. While it is possible to have trains pull out eastbound and then proceed westbound towards Georgetown GO Station, current plans do not call for crossover tracks at this location.

It is to be noted, that Metrolinx has protected for the layover facility to add a future connection to the mainline track to facilitate train movements westbound towards Georgetown GO Station. However, this westerly connection is outside the scope of the current project.

Roads

All service roads and pavement requirements are designed for heavy duty traffic grade (e.g. emergency response vehicles, fuelling trucks, material/equipment delivery trucks) to receive heavy duty grade pavement and rated for 30T vehicles.

A service roadway is designed to have a driveway entrance at Winston Churchill Boulevard and lead into the site running adjacent to the residential property at 10827 Winston Churchill Boulevard.

A two-lane access road about 230 metres (m) in length, with a ROW width of 15.0 m, and a travelled portion 7 m wide will be created from Winston Churchill Boulevard to allow personnel to enter the layover facility.

Service roads between tracks are designed for one-way traffic with widths as per the Metrolinx Design Requirements Manual for Rail Layover Facilities.

Buildings

There are 5 buildings proposed in the yard:

- Crew centre;
- Waste Disposal Building;
- Electrical Substation Building;
- Storage building (pre-fabricated building); and,
- Compressor Building.

Electrical Servicing

The incoming electrical supply from Alectra Utilities shall be 27.6kV supplied underground to the proposed electrical substation.

Preliminary estimated loads for the new train layover facility is 4,500kW / 5000kVA. This load includes for the following:

- Four (4) 12 car consist plus locomotive or eight (8) 6 car consists plus locomotives;
- Site Lighting;
- Compressed Air System;
- Crew centre;
- Waste Disposal Building; and,
- Electrical Substation Building.

It is proposed to provide a new high voltage substation consisting of two (2) 2500kVA outdoor power transformers, 27.6kV primary high voltage switchgear and dual feed 5MVA secondary switchgear with tie breaker. The new electrical substation will supply power to all wayside cabinets, exterior lighting, crew centre, waste disposal building and compressed air system. The high voltage substation will be provided with primary hydro metering to Alectra Utilities requirements.

Alectra Utilities will service the site by providing a 27.6kV primary underground feed from Winston Churchill Boulevard to the outdoor pad mounted high voltage load break switch. Two (2) customer-owned 2500kVA outdoor power transformers will be provided. The high voltage switchgear and transformers will be located beside the substation electrical room minimizing the length of the secondary feeds.

Back Up Power Generator

One (1) outdoor diesel-powered back-up emergency generator shall be provided to carry all the facility essential loads. The generator shall be located outdoors adjacent to the substation building. The generator shall be housed in an aluminium design, 14-gauge minimum, weather resistant sound attenuated enclosure. The building generator preliminary size is estimated at 500kW, 625kVA at 0.8 PF, standby rated to carry the entire building load as per DRM so the facility can operate during sustained power outages without any adverse effect on operations. The size will be finalized during the detailed design of the layover. Upon loss of normal power, the emergency power systems shall initiate the starting of the generator and the transfer of the loads. The

diesel-powered back-up emergency generator shall be independent, complete with its own fuel supply.

Lighting

Outdoor lighting shall be provided throughout the site to appropriately light roadways, walkways, building entrances, building perimeters, and parking lots. Light standards shall be high mast (30 m) for walkways between trains, 12 m at roadways and parking lots as required and 6.0 m high lighting standards used to illuminate areas beside wayside cabinets.

Lighting systems are to be designed to maximize visual comfort, efficiency, economy of installation, safety and ease of operation and maintenance. Luminaires shall be selected to be energy efficient including the use of energy efficient LED's. Light levels shall be defined for the general area and the task area. Light levels will also conform to the DRM.

2.4 Site Servicing

The following is a summary of site servicing requirements for the Project.

Water

A new water well is proposed to be installed on site. This may require a treatment system to be installed in accordance with provincial requirements to process both potable and non-potable water. It should be noted that a treatment plant may not be required considering the size and use of the buildings. The water well will only cater to the demand of the crew building, waste disposal building, and vehicle servicing when required.

Firefighting Water Reservoir

A firefighting water reservoir is to be installed, with a capacity sized in accordance with the requirement of Ontario Regulation 213/07: Fire Code and Chapter 9 of NFPA 1142, "Standard on Water Supplies for Suburban and Rural Fire Fighting".

Sanitary

Sewage from the crew centre and the waste disposal building will be collected in separate holding tanks. It is preferred that the holding tanks will be located close to each other, so if required they can be piped to a common location for removal by a sewage disposal truck.

Storm

The layover yard is underlain with a subdrain system that is connected to underground infiltration systems. The overflow is connected to existing culvert and storm ditches. For draining the drip trays, oil-water separators are installed before it is connected to infiltration system.

New culverts are proposed at two locations in the yard to maintain the existing storm water flows. Refer to Figure 2-4 for location.

Hydro

Refer to Section 2.3, electrical servicing.

Gas

There is no natural gas supply available nearby. Also, due to distance of the yard and connection points from the street, natural gas connection may not be feasible considering capital cost, demand, and life cycle costing.

As a result, propane will be used for building heating systems and the track switch heaters.

2.5 Construction Staging

The current schedule anticipates the Project receiving approval to proceed in late 2022, with construction procurement in summer 2023, and construction completion in winter 2025.

A tentative outline identifies five (5) construction stages as follows:

1. Site preparation, excavation, and grading (utilities relocation).
2. Construction of access routes and laydown areas.
3. Initial earth removal and construction of retaining wall, permanent concrete caissons with concrete lagging.
4. Final earth removal and grading.
5. Final site preparation to accommodate rail tracks.

2.6 Property Requirements

The property for the Project is shown in Figure 2-5 and totals approximately 5 hectares (50 000 m^2). The property is split into two parcels based on previously existing property boundaries and borders the Kitchener Corridor in the north. The western parcel includes an access road approximately 275 m in length and 15 m in width connecting to Winston Churchill Boulevard. At the time of this report, the design is yet to be finalized, therefore the measurements and dimensions shown in Figure 2-5 may be modified.

Only the property included in the red outlined in Figure 1-1 will be acquired by Metrolinx as part of the proposed Project. No additional property outside of the boundaries of Figure 1-1 will be acquired or controlled (permanently or temporarily to support construction) by Metrolinx. The boundaries shown in Figure 2-5 portray the Project Site as part of the conceptual design for the Heritage Road Layover.

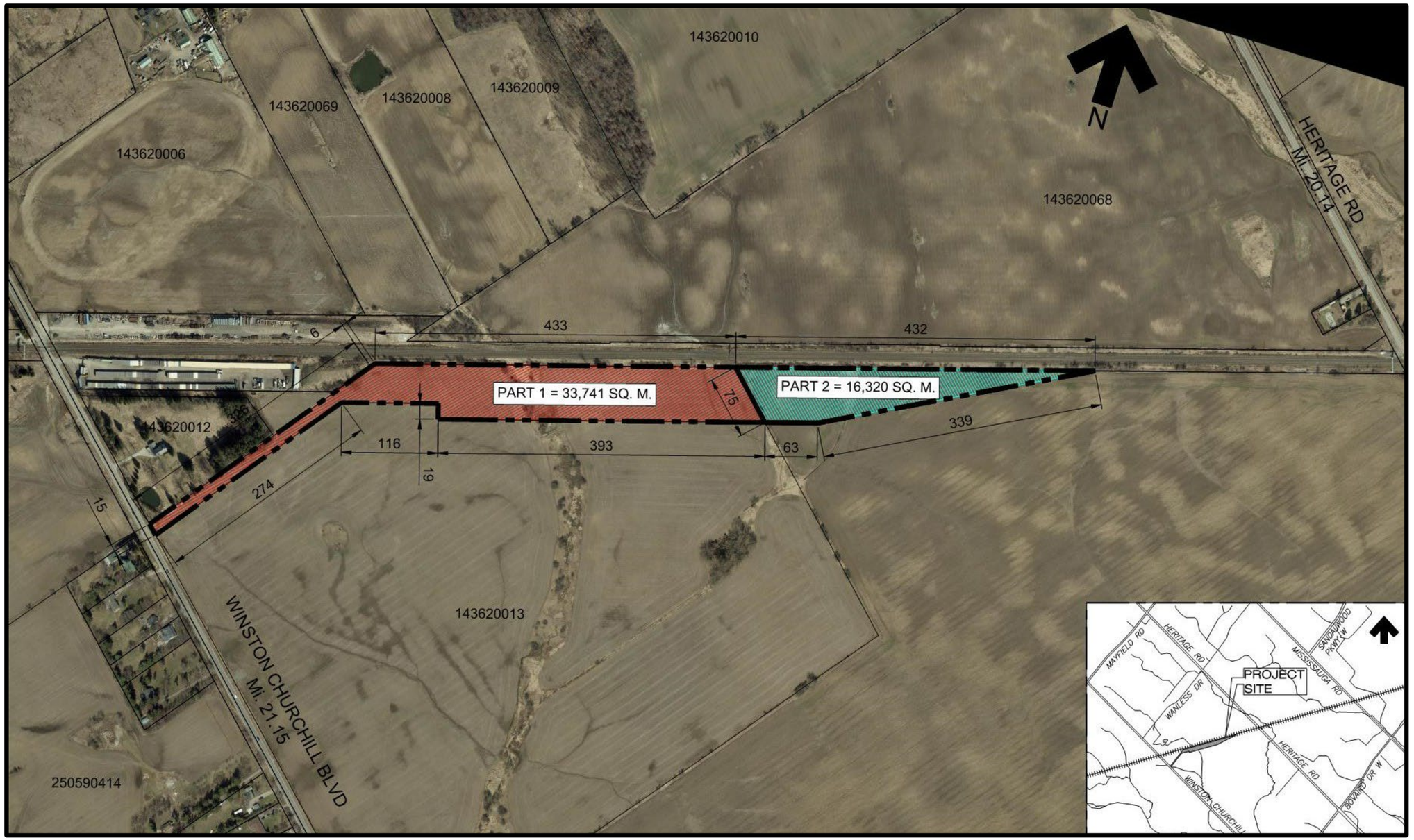


Figure 2-5: Project Property Plan

3.0 Existing Conditions

3.1 Air Quality

The Air Quality Baseline Conditions and Impact Assessment Report (Appendix A) determines the air quality impacts generated as part of construction and operation of the Heritage Road Layover and develops mitigation strategies for identified issues. The Study Area for Air Quality extends 500 m from the Project Site.

3.1.1 Methodology

The contaminants considered in the assessment include particulate matter (in PM_{10}, and $PM_{2.5}$,fractions); criteria air contaminants (nitrogen dioxide, carbon monoxide, sulphur dioxide); Volatile Organic Compounds (VOCs) in diesel combustion exhausts gases, specifically benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein and benzo(a)pyrene as a surrogate of Polycyclic Aromatic Hydrocarbons (PAHs) as required; respirable silica that may be present in concrete dust; and odorous contaminants.

Secondary particulate matter formed in the atmosphere, and ground level ozone that may be generated because of the tailpipe emissions, were not considered as part of the impact assessment. Regardless, measures to reduce air contaminant emissions will serve to control formation of these secondary pollutants.

There are a number of air quality monitoring stations operated by the Ontario MECP and as part of the Environment and Climate Change Canada's (ECCC) National Air Pollution Surveillance (NAPS) program that are located within reasonable distances of the Study Area. For this assessment, the Toronto Pearson International Airport was identified as the most appropriate weather station as it is within 18 km southeast of the Project Site.

Further details regarding the methodology of the study can be found in Appendix A.

3.1.2 Description of Baseline Conditions

The air quality local to the Study Area is influenced by various sources that include traffic related air pollution from the major local arterial roads, railroads, residential, institutional, and commercial heating, and transboundary sources. The key contaminants identified with the potential for air quality effects were PM_{10} associated with fugitive dusts, $PM_{2.5}$ as fugitive dust and equipment tailpipe emissions, and NO_2 from equipment tailpipe.

The only stations available to establish baseline air concentrations in the Study Area were located in commercial and industrialized centres such as Hamilton, Sarnia, and Burlington. Most of the baseline concentration levels for particulate matter, criteria air contaminants, and VOCs measured within the 90th percentile of 24-hr averaging data measured at the specific station. Further details regarding the results of each contaminant can be found in Appendix A Table 5-2.

3.2 Noise and Vibration

The Noise and Vibration Baseline Conditions and Impact Assessment Report (Appendix B) reviews the construction and stationary sources of sound that will be produced from the Project. The Study Area encompasses the Project Site and 500 m.

3.2.1 Methodology

An assessment was conducted of the noise and vibration effects during project construction and operation by applying the Metrolinx Environmental Guide for Noise and Vibration Impact Assessment, the MECP/GO Transit Draft Protocol, January 1995, and MECP's NPC-300, throughout planning, design, and construction.

The construction phase was modelled based on the construction activities and assumed equipment that are likely to be utilized to construct the project. The operations phase was modelled based on the stationary noise and vibration sources for the layover-built scenario. Modelling for both scenarios was used to determine the effects of the project on the receptors located within the study area, which spans 500 m in all directions from the Project Site (see Table 3.2-1).

Table 3.2-1 Representative Sensitive Receptors (RSRs)

Receiver	Description	Distance (m) [1]	Pin
RSR1	10827 Winston Churchill Blvd	50	143620012
RSR2	10886 Winston Churchill Blvd	216	250590128
RSR3	2849 Wanless Drive	476	143620069
RSR4	10618 Heritage Road	260	143620018

Construction Criteria

The Metrolinx Environmental Guide (Noise and Vibration) provides construction noise limits extracted from the Construction Noise Handbook (FHWA, 2006) and Transit Noise and Vibration Impact Assessment Manual (FTA, 2018). The vibration impacts from construction are assessed against the criteria identified in MOEE/GO Protocol and City of Toronto By-Law 514-2009.

Operational Criteria

The noise impact from the operational phase is assessed by utilizing the impact rating method, which evaluates the predicted levels in terms of the Adjusted Noise Impact. The Adjusted Noise Impact is calculated based on the difference between post-project noise and pre-project noise in terms of one-hour Leq at a point of reception (POR) with a limit of 55 dBA or the ambient/background sound level.

Further details regarding the methodology of the study can be found in Appendix B.

3.2.2 Description of Existing Conditions

The Project Site and surrounding land uses remain primarily agricultural at this time. Rural residences and farmsteads are found along Winston Churchill Boulevard,

Wanless Drive and Heritage Road. The existing residential building at 10827 Winston Churchill Boulevard is immediately adjacent to the proposed layover facility. A self-storage business and a CN works yard are situated north and south of the Kitchener Corridor at Winston Churchill Boulevard.

Major sources of noise in the Study Area include rail traffic from CN freight, VIA Rail, and GO trains, and road traffic. Results of the Noise and Vibration Assessment can be found in Section 4.3.

3.3 Natural Environment

3.3.1 Methodology

A Natural Environment Report (Appendix C) was completed for the Study Area, which consists of the Project Site and 120 m radius of the surrounding area, to describe aquatic species occurrences and habitat conditions and existing wildlife and terrestrial natural habitat features and functions. The natural environment assessment was completed through a desktop review of secondary sources, including previous studies, provincial policies, and species databases. Field surveys of Ecological Land Classification and Vascular Plants, Species at Risk (SAR), and aquatic environment were completed in June and July 2022. Appendix D of the EPR summarizes the findings from the summer 2022 field surveys. As the watercourses on the Project Site are seasonal intermittent watercourses, a spring freshet survey will be completed in spring 2023 to further assess conditions prior to construction.

In addition to the desktop review of information sources and field investigations, engagement with Indigenous communities and Nations may provide additional natural heritage knowledge and an assessment of the effects of the Project on the natural environment.

3.3.2 Description of Existing Conditions

The following sections describe the existing natural environment conditions within the Study Area (Figure 3-1).

Aquatic Environment

Three tributaries of the Credit River West Branch have been identified in the Study Area as shown in Figure 3-1. These watercourses flow intermittently throughout the year and function as agricultural swales. At the time of the preparation of the draft Heritage Heights Subwatershed Study, which includes studies carried out by Savanta in 2012, these tributaries were assessed and identified as contributing habitat providing sources of food downstream. A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Through consultation as part of the TPAP, CVC indicated that the Region of Peel is undergoing detailed design for a replacement crossing along Winston Churchill Blvd which includes considerations for fish passage and is aiming to remove any fish barrier at that crossing. Given the intermittent and ephemeral condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low.

There is also a dug pond along the eastern watercourse, approximately 200 m south of the Kitchener Corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat. A locally significant riparian wetland south of the rail line surrounds the middle watercourse. A review of background documents also identified two locally significant wetlands within the Study Area, which are shown in Figure 3-1.

No SAR fish or other aquatic species, or critical habitat were identified through the background review or field investigations in summer 2022.

Terrestrial Environment

The current terrestrial environment of the Study Area is entirely rural, dominated by agricultural land with row crop fields (Figure 3-1). The area around the Project Site is slated for low-density urban development under the Heritage Heights Secondary Plan. In the Town of Halton Hills, west of Winston Churchill Boulevard the 23 lot Churchill Valley Estates subdivision is under development.

According to the Physiography of Southern Ontario by Chapman and Putnam (1984), the Study Area falls in the southern slope of the Oak Ridges Moraine. The area is morainic with mostly red and grey shale. Currently, the Study Area is near urbanized areas within the GTHA but remains rural and agricultural. Areas of the site that present the greatest opportunities for wildlife habitat based on in-season observations of breeding activity include the pond and the densest thicket areas along the Kitchener Corridor.

Vegetation communities are generally limited within the Study Area and are associated with watercourse crossings, the Kitchener Corridor, and a residential property at the western limit of the Study Area. An isolated bluff of woodland is also present on the southwest edge of the Study Area, along the watercourse drainage in the field. The Project Site is mainly surrounded by agricultural lands with some nearby rural residential properties.

The descriptions detailed below present the predominant species and attributes of each of the vegetation communities observed during the 2022 field investigations. Additional species occurrences and vegetation community mapping are noted within Appendix D.

AG- Agricultural

The Agricultural areas surrounding the Project Site within the Study Area consisted of cultivated crops such as corn, as well as plowed field.

CUW1 – Mineral Cultural Woodland

There are two Cultural Woodland communities within the Study Area. The community on the west side of the Study Area that was located primarily on a residential property had a canopy that was dominated largely by Black Walnut and Manitoba Maple along the outer edges. The interior appeared to be largely by represented by planted Eastern White Pine and Red Pine; however, access was limited as there was no permission to enter the residential property. The sub-canopy and the understory consisted primarily of Manitoba Maple and invasive European Buckthorn. Groundcover species included

Garlic Mustard, Smooth Brome and Virginia Creeper. The small Cultural Woodland on the north side of the tracks consisted of Large Hawthorn species and old Common Apple trees over a groundcover of grasses and herbaceous plants such as Canada Goldenrod.

CUM1 – Mineral Cultural Meadow

The Cultural Meadow was the primary habitat within the Project Site which existed along both sides of the trailway line. A sparse row of trees was present along the sides of the railway which included mainly Bur Oak along with the occasional American Elm. Several European Buckthorn shrubs also lined the railway line between the trees. The ground cover consisted of a mix of Smooth Brome, Canada Goldenrod, and invasive plants such as Dog-strangling vine and Reed Canary grass. The sloped sides of the railway were also often covered with patches of Poison Ivy.

MAM2-2 – Reed-canary Grass Mineral Meadow Marsh

The Meadow Marsh vegetation community exists within and along the sides of a shallow valley that intersects the middle of the Study Area. It is dominated by invasive Reed Canary grass but also includes Smooth Brome along with small patches of herbaceous plants such as Elecampane and Broad-leaf Cattail. Several large Hawthorn species also lined the sloped sides of the feature.

CVI_1 – Transportation

This area includes the railway and associated storage yard.

OAO – Open Aquatic

A small open pond was identified on the residential property on the west side of the Study Area. The area was not accessible.

CVR – Residential

The Residential area identified consists of one property on the west side of the study area. The area was not accessible.

Wildlife

Background review was conducted only for species which had the potential to occur within the Study Area, such as those which have adapted to human-made structures and agricultural environments. Background reports suggest that a total of 33 wildlife species were documented, of which, 31 were birds, one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the Study Area and a full list of fauna and flora SAR, Species of Conservation Concern, provincially rare species, and locally rare species which have habitat in the Study Area is provided in Appendix C and Appendix D.

Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) is defined as areas where plants, animals, and other organisms live and can find adequate amounts of food, water, shelter, and space needed to sustain their populations. Under the PPS, wildlife habitat is considered "significant" if it is deemed ecologically important in terms of feature, function, representation, or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System. According to the Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E, under which the Project Site and Study Area fall under, significant wildlife habitat (SWH) may consist of:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities and Specialized Habitat for Wildlife;
- Habitat for Species of Conservation Concern (excluding Endangered or Threatened species); and
- Animal Movement Corridors.

SWH is defined when appropriate ecosites exist, and indicator wildlife species occur, or where conditions are otherwise acceptable and can be classified. Further information regarding SWH is available in Appendix D.

Seasonal Concentration Areas

Seasonal Concentration Areas for animals are habitats where large numbers of a single species or many species congregate at one (or several) times a year. The SWH Criterion Schedules for Ecoregion 6E outlines 16 wildlife habitats associated with Seasonal Concentration Areas.

Based on a review of habitats and Ecosites documented during field investigations, the CUM1 – Mineral Cultural Woodland habitat and agricultural fields may provide potential Waterfowl Stopover and Staging Areas (Terrestrial). Additionally, the narrow strip of CUM1 on the north end of the Project Site may not be suitable size for this SWH.

Rare Vegetated Communities and Specialized Habitat for Wildlife

Rare Vegetation Communities are habitats that contain provincially rare vegetation communities, or those which are rare to the area. The SWH Criterion Schedules for Ecoregion 6E outlines seven rare vegetation communities.

Based on a review of habitats and Ecosites documented during field investigations, no candidate SWH rare vegetation communities are present within the Project Site.

Specialized habitats for wildlife are those which support wildlife that have highly specific habitat requirements (e.g., nesting habitat – vernal pools), those areas that contain high species and community diversity and those which provide habitat that can greatly enhance species survival. The SWH Criterion Schedules for Ecoregion 6E outlines eight specialized habitats.

Based on a review of habitats and Ecosites documented during the field investigations, a potential Amphibian Breeding Habitat (Wetlands) is present. A small pond (<500 m2)

is present on the adjacent (west) residential property, approximately 10 m from the southwest limit of the Project Site. There was no access to this property during the field investigations and no portion of this pond extends into the Project Site. No other candidate rare, vegetated communities and specialized habitat for wildlife was identified of the Project Site or Study Area.

Habitat for Species of Conservation Concern (Not including Endangered for Threatened Species)

Habitats for Species of Conservation Concern are habitats for wildlife species classified as rare or substantially declining in Ontario or have a high percentage of their global population in Ontario, as well as several other rare habitats. The SWH Criterion Schedule for Ecoregion 6E outlines five Habitats for Species of Conservation Concern.

Based on a review of habitats and Ecosites documented during field investigations, there may be potential for two SWH habitats: Terrestrial Crayfish, Special Concern and Rare Wildlife Species within the Study Area. Although special concern and rare wildlife species were not observed during field investigations, several special concern and rare species were noted during the secondary source review to have element occurrences within the 1 km^2 and 10 km^2 databases encompassing the Study Area. Additionally, Milkweed were identified within the CUM1 – Mineral Cultural Woodland, though low in abundance.

Animal Movement Corridors

Animal Movement Corridors are habitats that link two or more other wildlife habitats that are critical to the maintenance of a population of a particular species or group of species, particularly in highly fragmented landscapes. The key ecological function of wildlife movement corridors is to enable wildlife to move between areas of significant habitat or core natural areas with minimum mortality. Wildlife movement corridors can provide critical links between shelter, feeding, watering, growing, and nesting locations. Wildlife and/or habitat corridors can help increase genetic diversity and aid in the re-establishment of populations after random events such as fires or disease outbreaks. These corridors can help to increase biodiversity and population stabilization. The SWH Criterion Schedules for Ecoregion 6E outline two animal movement corridors.

Based on a review of habitats and Ecosites documented during field investigations, there are no candidate SWH habitats for Animal Movement Corridors.

Species at Risk

Based on background review the following is a summary of potential SAR plant and wildlife occurrences in the Study Area. Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark SAR to occur in the study area. Butternut is regulated by Species at Risk Act (SARA) and was identified by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNRF) as potentially occurring in the study area. Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last

observed in 2004), all of the species are considered historical with no records after 1982.

The Ontario Breeding Birds Atlas (OBBA) also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle. Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting. The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area. Several bat species: the Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and Tri-coloured Bat have been categorized as 'Low' in their probability of occurrence within the Study Area. The Grasshopper Sparrow, Eastern Wood Pewee, and Monarch Butterfly are unlikely to be found in the Study Area.

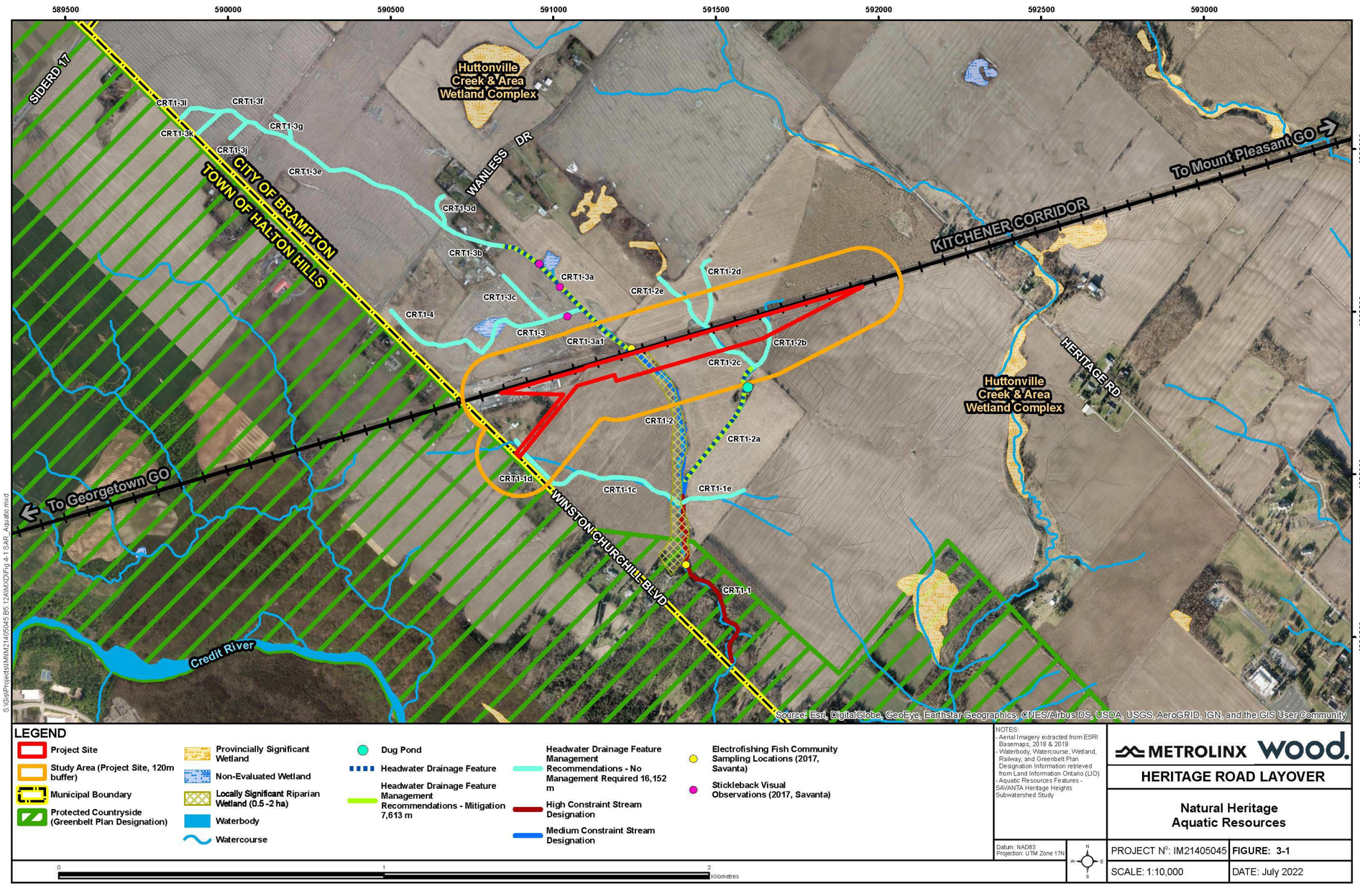


Figure 3-1: Natural Environment Characteristics Within Study Area and Surrounding Areas

Significant Natural Heritage Features

As per the *Provincial Policy Statement*, a Significant Natural Heritage Feature is an environmental area that is important for its ecological, environmental, and societal values to the natural landscapes of a specific area (PPS, 2020). Examples include significant wetlands, significant woodlands, and SAR habitat, among others.

It is to be noted that the portion of the Study Area directly west of Winston Churchill Boulevard falls under the Green Belt Plan Protected Countryside designation (Greenbelt Plan, 2007). Part of these lands are currently under construction for a 23 lot single detached residential subdivision. To the south of the Project Site, the Natural Heritage System of the Growth Plan for the Greater Golden Horseshoe occurs.

Figure 3-1 showcases the proximity of Greenbelt lands and Natural Heritage System to the Heritage Road Layover.

3.4 Tree Inventory

3.4.1 Methodology

An inventory of trees and vegetative cover was carried out within the Project Site and the Kitchener Corridor embankments. The results are available in Appendix D.

3.4.2 Description of Existing Conditions

While most of the Study Area is agricultural, there are vegetated margins at the western limits and to the north along the border with the Kitchener Corridor. A total of 136 trees were inventoried during the field assessment in June 2022. The range of species include: native American Elm, Black Walnut, Dotted Hawthorn, and White Ash, and invasive and anthropogenic species including Norway Maple, Manitoba Maple, and Apple Trees.

3.5 Socio Economic and Land Use

A *Socio-Economic and Land Use Characteristics Baseline Conditions and Impact Assessment Report* (Appendix E) was prepared to document the socio-economic conditions within the Study Area and provide an impact assessment based on construction, operation, and maintenance phases. The description of existing conditions provides a review of municipal / regional and provincial statistical data, municipal and provincial land use policy and planning documents, existing and future land uses, community services, amenities and resources and documents the current visual aesthetic characteristics.

3.5.1 Methodology

The Local Study Area (LSA) for the Project includes the Project Site and a 300 m buffer. The Regional Study Area (RSA) is larger and encompasses Ward 6 in the City of Brampton (Brampton), including the Heritage Heights Secondary Plan Area, made up of Secondary Plan Areas 52 (Huttonville North) on the area of the Project Site and 53 (Mount Pleasant West) north of the Kitchener Corridor. The RSA also encompasses a portion of Ward 2 in the Town of Halton Hills east of the Credit River. Ward 6 is located at the western edge of Brampton and is bordered by Caledon to the north, Mississauga

to the south and Georgetown to the west (City of Brampton, n.d.-a). Winston Churchill Boulevard, directly to the west of the Study Area, is the western boundary between the Town of Halton Hills and City of Brampton.

3.5.2 Description of Existing Conditions

Demographics

Brampton, located in the Region of Peel, was officially designated as a city in 1974. Brampton is made up of ten (10) wards. Located immediately north of Lester B. Pearson Airport, Brampton is home to more than 8,000 businesses, with the manufacturing industry being the largest employer. Brampton has experienced population growth since it was established as a settlement in the 1800s. In 1853, the population was 500 and as of 2011, the population has reached 656,480 residents as per Census Canada, and 680,820 residents with the undercoverage rate. Brampton is recognized as the second fastest growing city in Canada, and the 9th largest city across the country. The population for the City of Brampton has been derived from the most recent undercoverage rate utilized by Peel Region. The undercoverage rate accounts for the total population of an area beyond the population within the 2021 Statistics Canada Census results. The undercoverage population was unavailable for the Town of Halton Hills and Province of Ontario.

Recent preliminary forecasts prepared for the Region of Peel (September 2021) show a population for Ward 6 of 163,957 persons by 2031 (a 114.8% increase compared to 2016) (City of Brampton, 2021). This is projected to grow to 227,747 persons by 2051 (a 198.3% increase compared to 2016). Employment in Ward 6 (14,499 jobs in 2016) is projected to grow to 30,077 by 2031 and to 63,630 by 2051. Employment rates are expected to increase by approximately 13% between 2021 and 2041 in Brampton (Region of Peel, 2021b).

The Town of Halton Hills (Halton Hills), within the Region of Halton, is made up by two (2) urban areas, Georgetown and Acton, and historic hamlets, Glen Williams, Norval, Limehouse and Hornby (Town of Halton Hills, n.d.). Halton Hills has four (4) wards and had a total population of 62,951 in 2021 (Statistics Canada, 2022). In 2016, the population of Halton Hills at 12,700 was less than Brampton Ward 6 (Region of Peel, 2021a) (Region of Peel, 2021d). Data were not available for the 2006 population of Halton Hills Ward 2 (Ashby, 2018).

The *Halton Region Official Plan* (2018) provides the projected population increase from 2006 to 2031 for Halton Region and the lower tier municipalities. An increase of 62.1% is projected for Halton Hills from 2006 to 2031 (Regional Municipality of Halton, 2018). Employment rates are expected to increase by approximately 90% in Halton Hills between 2021 and 2041 (Watson & Associates Economists LTD, 2020). This indicates the need for investment in infrastructure to support the growing economy.

The population of Brampton, reported at 656,480 in 2021 as per Census Canada, had a greater percentage increase than Halton Hills and the Province of Ontario between 2016 and 2021 (Statistics Canada, 2022).All the demographics results are derived from a 25% sample of the population, which differs from the 100% sample available with

standard Census releases. The 2016 Census was utilized for data within this report as this was the latest demographics information available at the time of writing.

Land Uses and Development Applications

Residential Uses

The LSA includes a small portion of area designated as Country Residential zoning within Halton Hills. Church Valley Estates, a 23 lot residential subdivision lying west of Winston Churchill Boulevard within Halton Hills adjacent to the Project Site is under construction.

Commercial Uses

No commercial use areas are located within the LSA with the exception of the self-storage business located at 10861 Winston Churchill Boulevard.

Mixed Uses

No mixed uses are located within the LSA.

Institutional Uses

No institutional uses are located within the LSA.

Employment Uses

No employment uses are located within the LSA.

Recreational Uses

No recreational uses are located within the LSA.

Agricultural Use

The LSA primarily consists of lands in agricultural use and open spaces. It is designated as agricultural area within the City of Brampton and Protected Countryside in Halton Hills. The City of Brampton Zoning Bylaw has the properties that make up the Project Site are zoned Agricultural.

Development Applications for Future Land Uses

An Application for Site Plan Control has been approved for 10884 Winston Churchill Boulevard, which is located immediately north of the CN Rail Tracks, for a 40 m monopole telecommunications tower for Signum Wireless Corporation.

An Official Plan Amendment was also approved for the entire northwest Brampton Urban Development Area to remove the shale resources protection policies in the official plan. The applicant was the Heritage Heights Landowners Group.

The Churchill Valley Estates submitted a Subdivision Application to the Town of Halton Hills for 10672 Winston Churchill Boulevard to create a subdivision with 23 single detached lots. This development is scheduled for completion by the summer of 2022 (Buzz Buzz Homes, 2021). This is located west of the Project across Winston Churchill Boulevard.

Heritage Heights Secondary Plan (2022)

The City of Brampton undertook a Secondary Plan Review of the Secondary Plan Areas 52 (Huttonville North) and 53 (Mount Pleasant West), collectively referred to as the 'Heritage Heights Community' (City of Brampton, n.d.-b). The Heritage Heights Secondary Plan was adopted by Brampton City Council on April 6, 2022.This secondary plan guides future policies, design, and growth within Heritage Heights to ensure walkable and accessible communities, compact development, improved employment and economic opportunities, integration of green and open spaces, and conservation of natural and cultural heritage, among other goals (City of Brampton, n.d.-b). The plan identifies importance of both local and intercity transit infrastructure creation and integration into the public realm (City of Brampton, n.d.-b).

As shown in Figure 3-2 the land use structure for the area that includes the Project Site is designated for low to medium density residential units. A portion of the Natural Heritage System links natural features north of the Kitchener Corridor to the tributary that flows under Winston Churchill Boulevard to join the Credit River just north of Norval in the Town of Halton Hills. Also shown on the figure in the vicinity of the Project Site are; stormwater management facilities, neighbourhood parks, an elementary school, and sections of the street network, including a north-south crossing of the Kitchener Corridor, immediately east of the Project Site, and west of Heritage Road.

Brampton and Halton Hills are expanding, both in terms of demographics and land development. While the region is currently rural, policies and plans showcase a move towards a more urbanized environment.

Aesthetics / Visual Character

Renderings have been prepared that show the aesthetics/visual character of the site and surrounding landscape as it exists and with the layover facility in place, see Figure 2-2 and Figure 2-3 in Section 2.3 above. The following photos (Figure 3-2 to Figure 3-5) depict the site and surrounding landscapes from publicly accessible roads. The photos showcase the rural, low-density, and agricultural characteristics of the area for the proposed Project. Very few uses are present around the Project Site, as shown through these photos and *Land Use and Development Applications* in Section 3.5.2. The aesthetics and visual characters of the layover will not impact the surrounding community due to the rural nature of the area. Figure 3.5-1 shows the self-storage facility located on Winston Churchill Boulevard, facing northeast from the road and Figure 3-3 shows fields facing east from Winston Churchill Boulevard. The CN Works Yard is located north of Study Area, and Figure 3-4 shows the yard from Winston Churchill Boulevard facing northeast. The tracks in Figure 3-5 were photographed facing west from Winston Churchill Boulevard.



Figure 3-2: Self-storage facility and track crossing at Winston Churchill Blvd.



Figure 3-3: Agricultural fields surrounding the Project Site.



Figure 3-4: CN Works Yard just north of the Project Site.



Figure 3-5: CN Rail Tracks through the Study Area.

Transportation

The Province of Ontario is currently undertaking the environmental assessment and preliminary design for the proposed Highway 413 for the GTA West Corridor. Highway 413's proposed route is through York, Peel and Halton Regions and is expected to include four (4) to six (6) lanes, on a 59 km, 400 series highway. Highway 413 is proposed to connect to Highway 400, 427, 410, 401 and 407 toll road and will include 11 interchanges at municipal roads. The proposed route is for Highway 413 is just to the east of the Project Site between Heritage Road and Mississauga Road. It is of note that the City of Brampton has proposed an urban boulevard in lieu of Highway 413 through the Heritage Heights area.

Within the LSA, there are no existing local public transit bus stops. The proposed layover will improve efficiencies and reliability of the GO Transit service, which in turn, will support the delivery of GO Expansion. GO Expansion will improve public transit across southern Ontario and increase ridership

No existing active transportation facilities are within the LSA. A boulevard multi-use trail is planned on Winston Churchill Boulevard, as per the Halton Region Active Transportation Master Plan (Halton Region, 2015). Nearby the Project between Bovaird Drive and Mayfield Road, the Region of Peel's Long Range Transportation Plan has plans for a new cycling facility.

Pedestrian counts are very low for all TIA Study Area intersections and traffic counts. The closest intersection to the Project Site (Wanless Drive and Winston Churchill Boulevard) shows zero pedestrians during the peak hours.

The LSA is currently predominantly rural, without sidewalks or pathways for pedestrians. Sidewalks are anticipated to be added within the Heritage Heights Secondary Plan Area in conjunction with future development in the area.

3.6 Cultural Heritage

The Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Appendix F) established the historical context in the area for the proposed Heritage Road Layover.

A Cultural Heritage Report will recommend further studies, as appropriate. For TPAP projects, this includes:

- Where a known or potential built heritage resource or cultural heritage landscape may be directly and adversely impacted, and where it has not yet been evaluated for Cultural Heritage Value or Interest (CHVI), completion of a Cultural Heritage Evaluation Report (CHER) is required to fully understand its CHVI and level of significance. The CHER must be completed within the TPAP.
- If a built heritage resource or cultural heritage landscape is found to be of CHVI, then a Heritage Impact Assessment (HIA) will be undertaken by a qualified person. The HIA will be completed in consultation with MTSC and the proponent as early as possible during detail design, following the TPAP.

3.6.1 Methodology

Through information gathering and fieldwork, an inventory of built heritage resources and cultural heritage landscapes was created. A preliminary impact assessment with proposed mitigation measures for the Project Site and Study Area, a 75 m buffer from the Project Site that includes a 25 m direct impact zone, and a further 50 m indirect impact zone is also included in Appendix F.

Possible direct impacts to known or potential heritage properties within the 25 m zone may include: property acquisition, land disturbance, demolition of a heritage attribute, unsympathetic alterations, alterations for access requirements, introduction of new elements, the removal or planting of trees or other natural features, a change in land use, and/or continued intensification. Within the 50 m zone, possible indirect impacts

may include: introduction of shadows, isolation, vibration damage, and/or obstruction of a significant view. Where present, these direct and indirect impacts have the potential to diminish the integrity of a heritage property.

The locations of identified built heritage resources and cultural heritage landscapes in relation to the Project Site and Study Area are depicted in Figure 3-10.

3.6.2 Description of Existing Conditions

The Study Area is located within Treaty Number 19 (Ajetance Purchase) 1818, signed by the British Government and Mississauga Nation. Presently it is acknowledged that the Study Area is situated on the Treaty Lands and Traditional Territory of the Mississaugas of the Credit First Nation and the traditional territory of the Huron-Wendat, Haudenosaunee as well as the Métis.

The Study Area is located approximately 1 km north of the Credit River. A small intermittent watercourse runs through the Study Area and connects to the Credit River just north of Norval in the Town of Halton Hills. Historically, the Credit River was of critical importance to Indigenous peoples and was the focus for traditional land use activities, such as fishing and hunting, and was also used as a travel and trade route. Natural heritage elements, such as native flora and fauna, are known to have cultural heritage significance to Indigenous peoples. The presence of the nearby Credit River indicates that the Study Area has historical land use connections to Indigenous peoples.

The Study Area is set along the Halton Subdivision portion of the Kitchener Corridor, from Winston Churchill Boulevard to Heritage Road in a generally rural setting. The east end of the Study Area terminates approximately 300 m from Heritage Road in an agricultural field. The general area is rural agricultural with low density residential structures and light industrial landscapes along the railway track and Winston Churchill Boulevard. The industrial landscapes include a storage facility situated along the south side of the railway tracks and CN owned lands along the north side of the railway tracks

To identify existing heritage protections, information gathering requests were sent to the Ministry of Tourism, Sport, and Culture (MTSC), Ontario Heritage Trust (OHT), the City of Brampton, and Region of Peel. The results indicated the presence of McNichol Cemetery on the east side of the Study Area and identification of 10827 Winston Churchill Boulevard as a potential heritage property based on a previous heritage study. On Heritage Road, outside the Study Area, the Samuel Currie Farmhouse at 10294 Heritage Road is a listed heritage property (Figure 3-6) (Brampton Maps, 2019). In total, there are three known or potential Cultural Heritage Value or Interest (CHVI) sites within the Study Area. A detailed list is provided in Appendix F.



Figure 3-6: 10294 Heritage Road.

Figure 3-6 shows a view of fields facing west from Heritage Road. The figure has the Samuel Currie Farmhouse in the distance, which is a listed heritage property located at 10294 Heritage Road.



Figure 3-7: Field in Study Area.

Figure 3-7 shows conditions of a field along the southwest limit of the Study Area where there is a proposed location of the service road connecting the Project and Winston Churchill Boulevard. The treed area also defines the southern property boundary of 10827 Winston Churchill Boulevard.

McNichol Cemetery (CHL1)

McNichol Cemetery is a small familial burial plot located on the east side of the Study Area outside the ROW and west of Heritage Road. The land on which the cemetery is situated was first owned and farmed by a Scottish pioneer named Archibald McNichol and the McNichol family used the cemetery during the mid-19th century (WSP, 2021b). In the 1970s, the grave memorials were relocated to Alloa Cemetery and their bases were moved off the land in the mid-2000s. While there are virtually no visible traces of the cemetery left today, the remains of the buried individuals have not been removed from the property. A Stage 3 Archaeological Assessment (AA) was completed in 2017, detailed in Section 3.7.1 of this report. The cemetery is listed on the City of Brampton Heritage Register and its Heritage Designation is in process.

10827 Winston Churchill Boulevard (CHR2)

The property at 10827 Winston Churchill Boulevard is a Possible Built Heritage Resource identified in a review conducted by the City of Brampton (Project Correspondence; Brampton Heritage Planner; 2021). Several previous reports concluded that the structure is more than 40 years old and an example of a mid-19th century, two-storey, timber-frame, vernacular Georgian Style house (Unterman McPhail, 2011; ASI, 2018).

A preliminary review of historical mapping indicates that the existing residence on this property was constructed between 1954 and 1973. It is set back from the east side of Winston Churchill Boulevard with a long driveway and contains mature trees lining the portions of the road frontage and north and east property boundaries. The property is bound to the north by a light industrial storage facility obscured by trees and to the east and south by agricultural lands.



Figure 3-8: 10827 Winston Churchill Boulevard.

Figure 3-8 shows the viewpoint of 10827 Winston Churchill Boulevard, a potential heritage property, facing east.

10746 Winston Churchill Boulevard (CHR3)

The property at 10746 Winston Churchill Boulevard was identified during field review conducted in December 2021. Review of background information indicates this Victory style structure was constructed during the mid-20th century based on the historical map review and architectural style. The one-storey side gable structure is three bays across and features a front portico. It is set back considerably from the street and is lined on both sides by mature trees. The house is located on the west side of Winston Churchill Boulevard and is surrounded by houses of varying age.



Figure 3-9: 10746 Winston Churchill Boulevard.

Figure 3-9 shows 10746 Winston Churchill Boulevard west from the road. This property is a potential heritage property identified during field review.

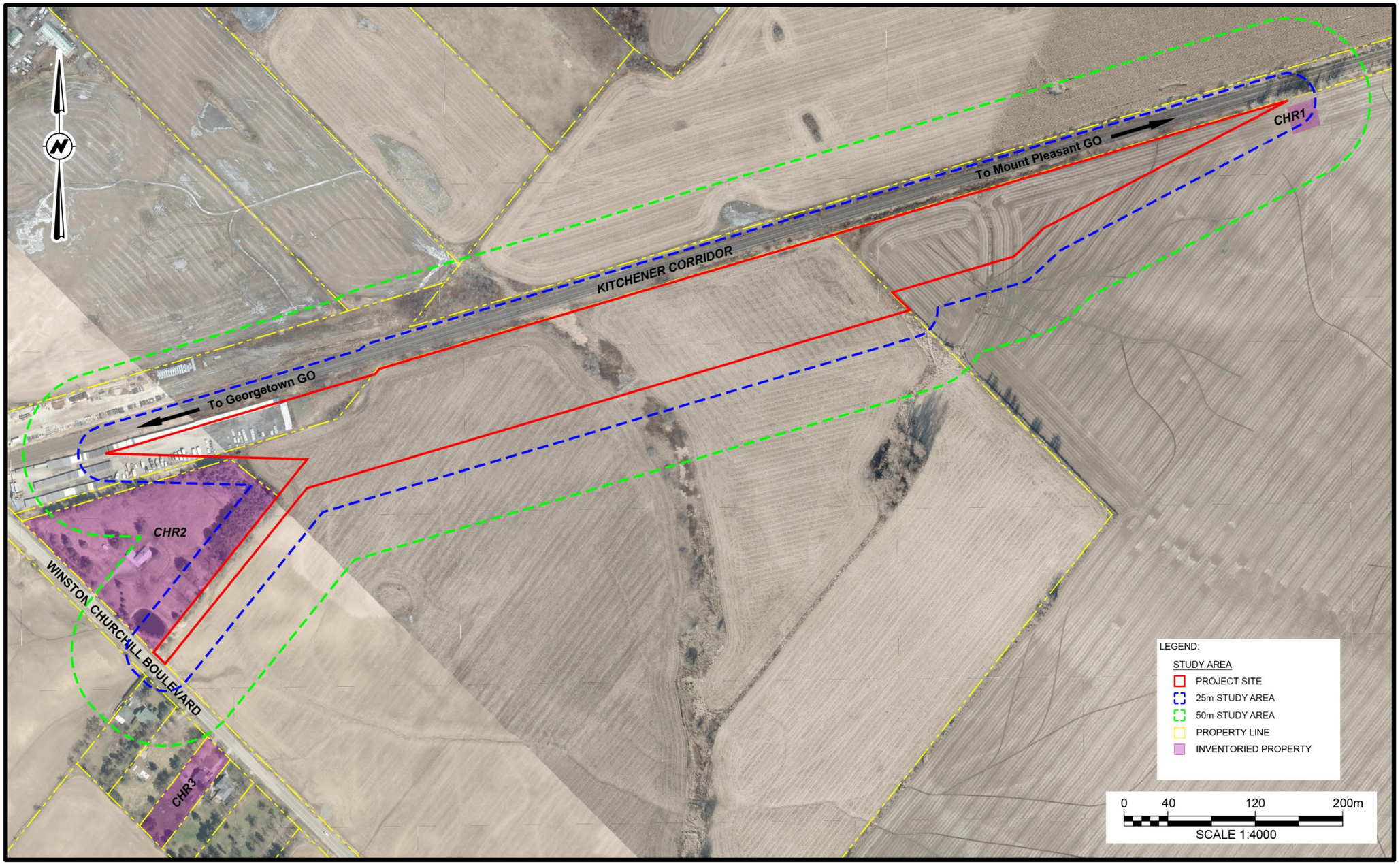


Figure 3-10: Identified Built Heritage Resources and Cultural Heritage Landscapes

3.7 Archaeology

The Stage 1 AA Report (Appendix G) established the archaeological context in the area for the proposed Heritage Road Layover.

3.7.1 Methodology

MTCS requires archaeological assessments to be completed for every land development project. There are four stages of assessments which determine the archaeological resources on the proposed development site and create plans for mitigation, however, not every stage may be applicable for a development.

For the Project, a Stage 1 AA has been completed and is available in Appendix G. The Stage 1 AA is a background review and qualitative study that systematically assesses the archaeological potential of a study area based on its land use and evidence of possible pre-contact Indigenous and historical Indigenous and early Euro-Canadian (settler) occupation. If any areas of archaeological potential are identified in Stage 1 AA, a land survey is completed with a Stage 2 AA to identify any archaeological resources within the property. Two Stage 2 AA has been previously completed within the entire Study Area for a comprehensive archaeological analysis of the area (see Section 3.7.2).

One of the most important factors influencing human land use is proximity to water. In the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), lands within 300 m of an extant or historical primary (lake, river, stream or creek) or secondary (intermittent streams and creeks, springs, marshes, and swamps) water source have potential for the presence of early Indigenous and Euro-Canadian archaeological sites. In the central and east portions of the study area are three primary water sources (permanent creeks) that flows south to empty into the Credit River (Appendix G).

The Study Area is a 20 m buffer from the Project Site, however a broader Study Area based on previous archaeological assessment work is also considered within the Stage 1 AA.

3.7.2 Description of Existing Conditions

Previous Archaeological Investigations

Previously, there were six archaeological assessments conducted within lands overlapping the Study Area and two archaeological assessments conducted within a 50 m surrounding radius. Figure 3-11 shows the location of the previous studies within the Study Area. MTCS provided information that showed 17 sites within a 1 km radius of the Study Area. Of these, one registered site is located within the Study Area and two registered sites are located within a 300 m radius of the Study Area. All three are categorized as Post-Contact, Euro-Canadian, with two being Homesteads and one being an Industrial/Homestead Site Type. Through the background review and previous archaeological assessments, all three identified sites are considered to have further CHVI. Should the Project Site construction and operations impact any of these areas, further study may be required. At this time, it is not anticipated that these sites surrounding the Study Area will be impacted by the Project.

Stage 1 AA were completed in 2005 by Archaeological Services Inc., and in 2014 and 2017 by Archeoworks. All identified the need for further assessments on lands close to

the Project Site. Figure 3-11 shows the layout of the previous AAs completed at the Project Site.

In 2014, a Stage 2 AA conducted by Archeoworks for an adjacent property (10510 Heritage Road) identified four Euro-Canadian and seven Indigenous artifact scatters. Only one was found within the Study Area but it determined to have no further CHVI and therefore not recommended for further archaeological assessment. Archeoworks also conducted a Stage 2 AA on the western portion of the Study Area in 2017, identifying 31 post-contact artifacts and 649 post-contact artifacts in two separate locations. These were both recommended for Stage 3 site-specific AA (Archeoworks, 2017b: i). There was also one Indigenous spot find in the Study Area, but this was determined to have no further CHVI.

Several studies identified the presence and CHVI of the McNichol Cemetery on the eastern side of the Study Area. Following recommendations of the Stage 2 AA for 10510 Heritage Road, Archeoworks conducted a Stage 3 AA cemetery investigation for the McNichol Cemetery and exposed five grave shafts. All of the grave shafts were covered in geotextile and backfilled, with a buffer zone of 5 m staked around the perimeter. The report recommended the cemetery be enclosed by a permanent fence at the staked boundary and that the cemetery be registered and protected from further disturbance.

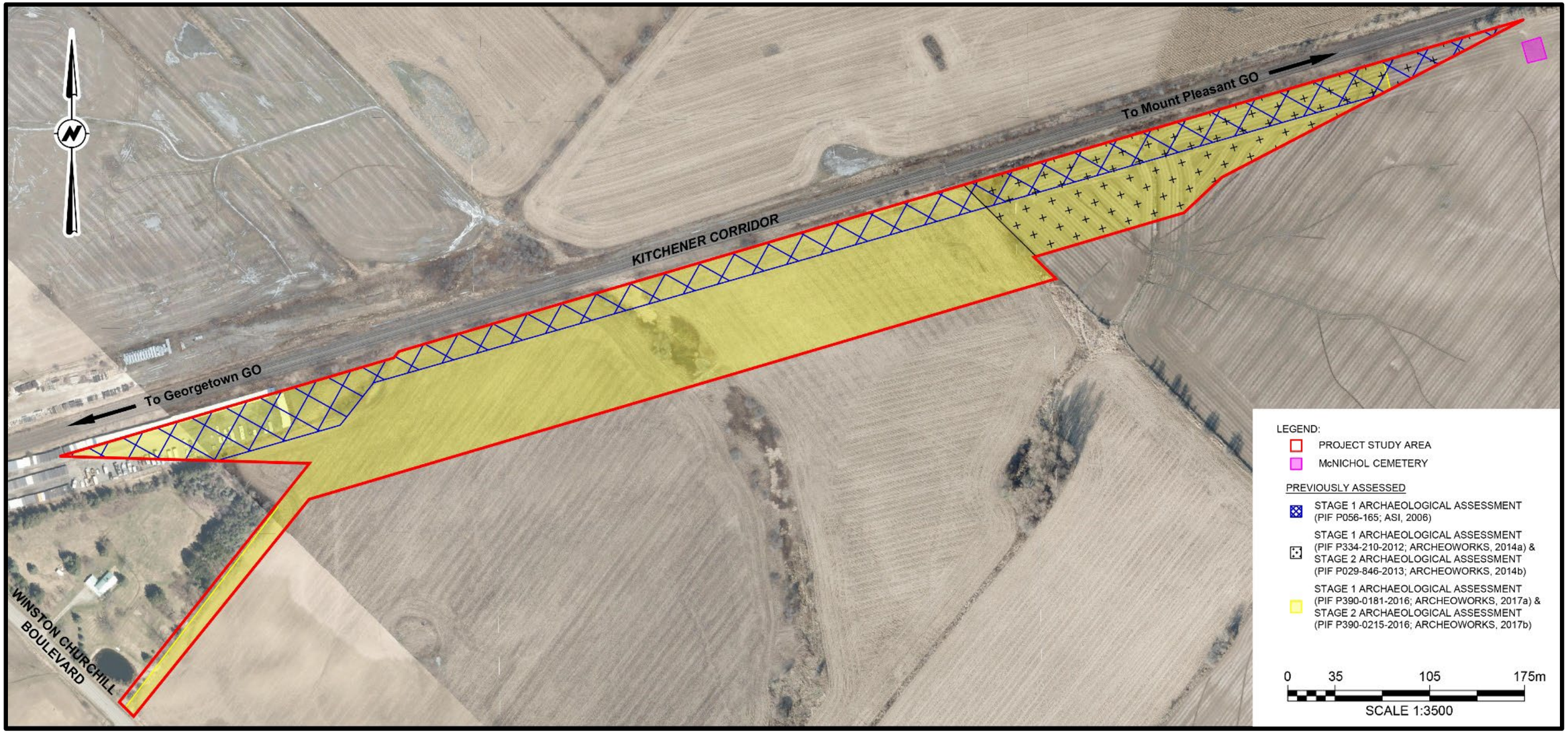


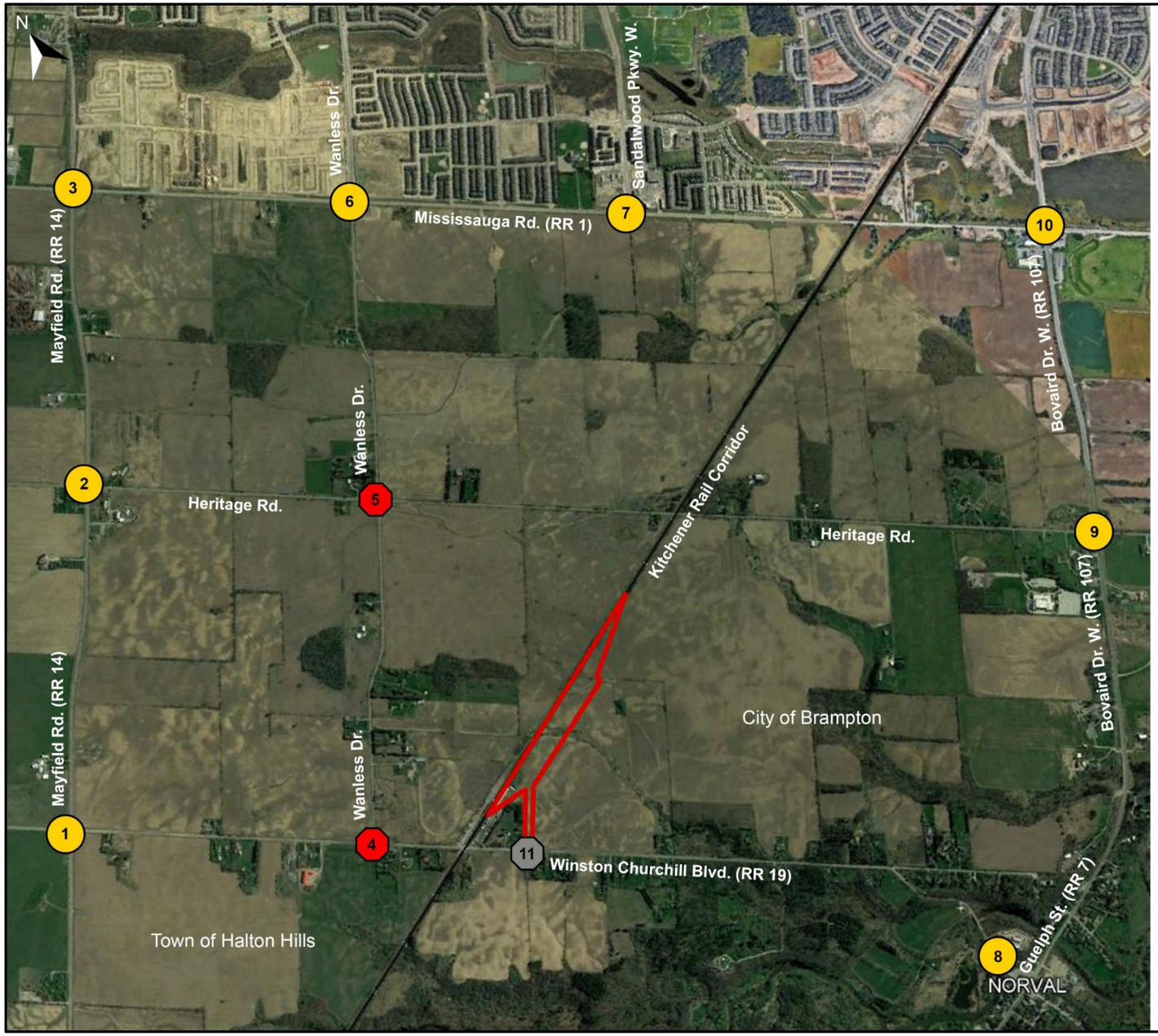
Figure 3-11: Previous Archaeological Assessments

3.8 Traffic and Transportation Infrastructure

A Traffic and Transportation Existing Conditions and Impact Assessment Report was prepared and can be found in Appendix H.

3.8.1 Methodology

Study intersections for both temporary (construction staging) and permanent traffic conditions were selected based upon identified major roads around the perimeter of the Project Site and surrounding 500 m. Figure 3-12 and Table 3.8-1 show and list the intersections within the 500 m Study Area. The Project Site is outlined in red in Figure 3-12.



LEGEND

Intersections with Traffic Signals

1. Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19)
2. Mayfield Road (Regional Road 14) @ Heritage Road
3. Mayfield Road (Regional Road 14) @ Mississauga Road (Regional Road 1)
6. Wanless Drive @ Mississauga Road (Regional Road 1)
7. Mississauga Road (Regional Road 1) @ Sandalwood Parkway West
8. Guelph Street (Highway 7) @ Winston Churchill Boulevard (Regional Road 19)
9. Bovaird Drive West (Regional Road 107) @ Heritage Road
10. Bovaird Drive West (Regional Road 107) @ Mississauga Road (Regional Road 1)

Intersections with Stop Controls

4. Stop Control for Wanless Drive @ Winston Churchill Boulevard (Regional Road 19)
5. All-Way Stop Control for Wanless Drive @ Heritage Road
11. Future Stop Control for Heritage Layover Facility (Site Access) @ Winston Churchill Boulevard (Regional Road 19)

Project Site

Figure 3-12: Traffic Intersection within the Traffic and Transportation Study Area

Table 3.8-1: Road Intersections Within the Study Area

#	Intersection	Control Type
1	Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19)	Traffic Signal
2	Mayfield Road (Regional Road 14) @ Heritage Road	Traffic Signal
3	Mayfield Road (Regional Road 14) @ Mississauga Road (Regional Road 1)	Traffic Signal
4	Winston Churchill Boulevard (Regional Road 19) @ Wanless Drive	Stop Control for Wanless Drive
5	Wanless Drive @ Heritage Road	All-Way stop control
6	Wanless Drive @ Mississauga Road (Regional Road 1)	Traffic Signal
7	Mississauga Road (Regional Road 1) @ Sandalwood Parkway West	Traffic Signal
8	Guelph Street (Highway 7) @ Winston Churchill Boulevard (Regional Road 19)	Traffic Signal
9	Bovaird Drive West (Regional Road 107) @ Heritage Road	Traffic Signal
10	Bovaird Drive West (Regional Road 107) @ Mississauga Road (Regional Road 1)	Traffic Signal
11	Winston Churchill Boulevard (Regional Road 19) @ Heritage Layover Facility (Site Access)	Stop Control for Site Access

There are two peak capacities during the day: AM and PM, with the time varying slightly at every intersection. Further detail is available in Table X within Appendix H. Operational traffic conditions were assessed for the following traffic and transportation horizons:

- Existing year prior to Project construction;
- During construction of the Project;
- Opening year of the Project; and
- Five (5) years after start of Project operations.

3.8.2 Description of Existing Conditions

Heritage Road is considered a City of Brampton municipal road while Winston Churchill Boulevard is a Peel regional road.

Winston Churchill Boulevard is a two-lane arterial road with a posted maximum speed limit of 60 kilometres per hour (km/hr). The road runs north-south beside the proposed Project Site access road and forms an unsignalized T-intersection to the north with Wanless Drive, with stop control on the westbound approach on Wanless Drive (see Figure 3-12). The first intersection to the south of the Project Site is the signalized intersection with Guelph Street (Highway 7). Heavy trucks are restricted from using Winston Churchill Boulevard from Steeles Avenue (about 10 km south of the Project Site) to Mayfield Road (about 1.5 km north of the Project Site) at all hours of the day.

There is a two-track level railway crossing on Winston Churchill Boulevard, with gates and flashers situated approximately 250 m north of the access road to the proposed Project. The Project Site is inaccessible by road or driveway at present.



Figure 3-13 Level Train Crossing at Winston Churchill Boulevard

Local transit does not currently provide service within the Study Area and there are no sidewalks or cycling infrastructure adjacent to the Project Site. Twelve residential driveways are found south of the Kitchener Corridor on the west side of Winston Churchill Boulevard. The entrance to 10827 Winston Churchill Boulevard is located north of the proposed access road to the Project Site, on the east side of Winston Churchill Boulevard. Some 200 m south of the proposed Project entrance is a farm field access.

The Project Site and Study Area lie within the Heritage Heights Secondary Plan area. At present, the land use is primarily agricultural and rural residential. The pending build-out of low-rise residential, subject to the Heritage Heights Secondary Plan, is considered in the assessment of future traffic conditions within the Transportation Impact Assessment report.

The Region of Peel and City of Brampton have widening plans within the timeline for the Project for Mississauga Road, Mayfield Road, Bovaird Drive, Wanless Drive, and Heritage Road in the Study Area. These widenings will relieve or reduce some of the existing operating problems and accommodate future trips to be generated by the Heritage Heights development.

The Region of Halton has completed the Norval West Bypass Transportation Corridor Improvements – Municipal Class EA Study, which addresses travel patterns and capacity constraints for the intersection of Winston Churchill Boulevard and Guelph Street. A preferred road alignment concept for a route around this intersection has been developed and is expected to be constructed in 2026. The new route will provide a Highway 7 bypass of the community of Norval for motorists not destined for the community. Details of the connection are not known at this time.

Further, Peel Region and Halton Region will be reconstructing Winston Churchill Boulevard from south of Mayfield Road to north of Guelph Street at the Credit River Bridge. This project will include pavement reconstruction, some grade corrections and construction of wider lanes (3.75 m) and paved shoulders (2.5 m).

3.9 Stormwater Management

The Study Area is situated within the South Slope physiographic region of Ontario (Chapman and Putnam, 1984:113). This region encompasses the southern slope of the Oak Ridges Moraine and includes the strip south of the Peel Plain from the Niagara Escarpment to the Trent River (Chapman and Putnam, 1984:172). The surficial geology is dominated by the Halton Till. Limestone of the Verulam and Lindsay Formations and shales of the Georgian Bay and Queenston Formations are located within this region (Chapman and Putnam, 1984:172).

Soil in the west portion of the Study Area is Chinguacousy clay loam, a Grey-Brown Podzolic with few stones, a smooth and gently sloping topography, and imperfect drainage. Over the east portion the soil is Oneida clay loam that is also a Grey-Brown Podzolic with few stones but is has a smooth, moderately sloping topography and good drainage (Hoffman & Richards, 1953).

The Project Site lies within Subcatchment Area CRT-1, as identified in the draft HHSWS, which is divided further into three drainage areas representing the westerly, central, and easterly watercourses that drain through the Project Site southwest to the Credit River. There are two culverts crossing the railway tracks into the Project Site (see Figure 2-1).

3.10 Groundwater

Based on information from previous studies, it has been noted that there is a shallow aquifer in the till overburden, and a deep aquifer in the underlying bedrock. With no municipal water supply, wells are drilled into both the shallow and deep aquifers to serve properties in the Study Area. Based on regional monitoring well results, the shallow aquifer can range between 1 – 2 m below ground surface. The depth of the groundwater will be confirmed in subsequent field studies during detailed design.

The Project Site is situated within Credit Valley Protection Area and therefore, the CTC Source Protection Plan may be applicable. The Project Manager at the CTC Source Protection Authority will be contacted to identify policies in source protection that may apply to the Heritage Road Layover Project. This will be done as part of the development of Detailed Design.

3.11 Utilities

No existing utilities are within the Project Site. However, the Northwest GTA Transmission Corridor, which is currently planned adjacent to Highway 413 will fall just outside of the 300 m Study Area. The purpose of the Northwest GTA Transmission Corridor Study is to identify an appropriate corridor of land accommodate the electricity needs of the growing population of the nearby regions.

4.0 Impact Assessment of the Preferred Design

4.1 Impact Assessment Methodology

The methodology applied to conduct the impact assessment of the project were derived from the analysis and results of technical discipline specific TPAP studies documented in the reports listed in Section 1.6, and are appended to the EPR. Issues and concerns raised by the public, stakeholders, and Indigenous communities and Nations during consultation and engagement activities were also considered and incorporated as appropriate (refer to Section 6.0 for further information on consultation).

The temporal boundaries for the effects assessment are defined based on the timing and duration of Project activities. The purpose of a temporal boundary is to identify when an environmental effect may occur in relation to specific Project phases and activities. The temporal boundaries for the EPR include the Project phases of:

- Construction: forecast to commence in the summer of 2023 and finish in winter 2025 (subject to change); and,
- Operations and Maintenance: following construction, ongoing operations at the Project Site to support future GO service on the Kitchener Corridor.

The determination of potential impacts to existing environmental conditions is based on an examination of the preferred design, construction staging and activities, and the planned operation of the layover facility with respect to train movements, and the related maintenance activities. Potential environmental effects resulting from the construction and operation of the Project were identified, analyzed, and described based on potential changes to the natural, cultural, and socio-economic, and cultural environments.

The impact assessment is based on conservative (worst case) assumptions regarding potential effects that could occur as a result of the Project. They are also based on existing environmental conditions, as outlined in Section 3.0, and information available at the time of the TPAP. The recommendations contained in this EPR will be reviewed by Metrolinx and updated as necessary during subsequent phases of the Project.

Where potential adverse impacts have been identified, mitigation measures have been recommended to limit or avoid the potential for those effects. The Project has been designed to prioritize the avoidance of adverse impacts, and mitigation measures are provided where avoidance is not feasible. Monitoring activities were also identified where warranted to evaluate effectiveness of proposed mitigation measures and provide feedback for adaptive management.

Table 4.13-1, found at the end of section 4.0, provides a summary presentation of the impact assessment findings; including potential effects from construction activities, operations, or both, mitigation measures, and monitoring activities.

4.2 Air Quality

Based on the qualitative assessment and quantitative modelling results, the key findings of the Heritage Road Layover are set out below and the full report is available in Appendix A.

4.2.1 Construction

As a conservative estimate, the potential for air quality impacts exists if the Project construction is carried out without adequate control of fugitive dust emissions (PM_{10}), however the modelled exceedances were infrequent. The more typical controlled construction scenario will not exceed over the applicable PM_{10} limits. Modelled air quality effects from Project construction activities with mitigation measures (including project impact and existing baseline air concentrations) are limited to within a 130 m Zone of Influence (ZOI). For the purposes of modelling, the construction stages are set out as follows, shown in Table 4.2-1.

Table 4.2-1 Stage of Construction for the Project

Stages of Construction	
1	Site preparation, excavation, and grading (utilities relocation)
2	Construction of access routes and laydown areas
3	Initial earth removal and construction of retaining wall, permanent concrete caissons with concrete lagging, construction of buildings and ancillary infrastructure
4	Final earth removal and grading
5	Final site preparation to accommodate rail tracks

Stage 1, the site preparation stage, was identified with the maximum emission scenario as numerous pieces of construction equipment may operate simultaneously and create the highest number of fugitive dust sources.

There are several sensitive receptors (existing residential dwellings) around the Project Site (see Figure 4-1) and efforts must be made to prevent PM_{10} exceedances at these locations during the construction phase. Sensitive receptors, as defined by the MECP include day cares, seniors' homes, schools, and residential buildings.

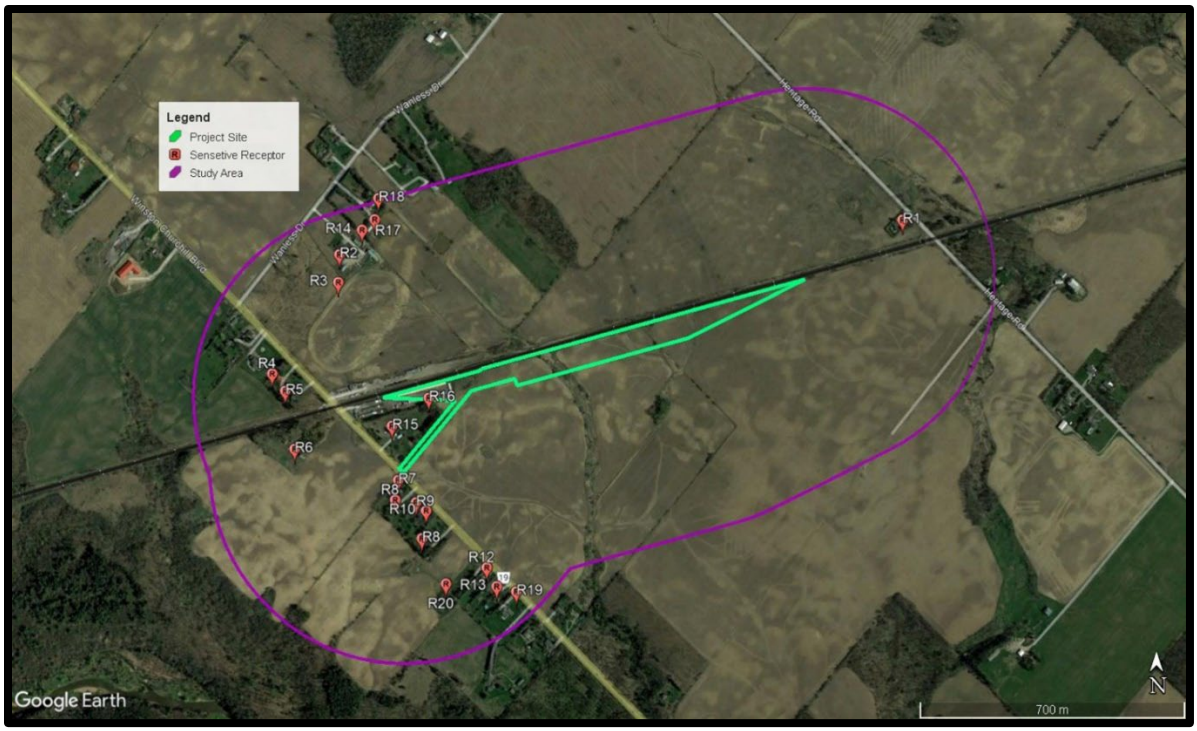


Figure 4-1 Sensitive Receptors Surrounding the Project Site

4.2.2 Operations and Maintenance

The modelling results indicate that the incremental Project effects for the target contaminants are predicted to be below the respective air quality criteria of the Ontario Ambient Air Quality Criteria (AAQC) or federal Canadian Ambient Air Quality Criteria Standards (CAAQS).

The cumulative effects of the Project and background concentration of $PM_{2.5}$ (24 hr), CO, 1-3 Butadiene, Formaldehyde, Acetaldehyde and Acrolein within the Study Area are below the AAQC or CAAQS for their respective averaging times throughout the day. Total maximum $PM_{2.5}$ concentration is exceeding the CAAQS for Annual averaging criteria (109% of the limit). These exceedances in the study area are driven by elevated background $PM_{2.5}$ concentrations mainly from traffic on Winston Churchill Boulevard and only marginally associated with Heritage Road Layover Site.

The cumulative effect of the Project and background concentration of the PM_{10}, benzene, and benzo(a)pyrene emissions within the Study Area were found to be higher than the AAQC or CAAQS as a result of high background concentration levels already present on the Project Site.

The cumulative effects (project + background concentration) of $PM_{2.5}$ is exceeded the CAAQS for Annual averaging criteria at two (2) receptors (residential, R15 – more than for 9% of criteria and R7 – more than for 2% of criteria). Both receptors are located inside the study area close to the road of Winston Churchill Boulevard.

The background total $PM_{2.5}$ concentrations are coming from traffic on Winston Churchill Boulevard, and only marginally associated with the operational emissions from the Heritage Road Layover Site.

As per Metrolinx guideline, the following set of quantitative criteria is recommended for cases when mitigation is potentially required:

- Ten or more sensitive receptors may potentially experience air quality that does not meet AAQC or CAAQS;
- The exceedance(s) amount to more than 10% of the applicable AAQC and CAAQS, and
- The total period of any potential exceedance over a typical year exceeds one month.

Based on the above criteria, mitigation of $PM_{2.5}$ emissions during the operational phase of the project is not required.

4.3 Noise and Vibration

The Project has the potential to result in temporary and permanent noise and vibration effects, including nuisance effects from the use of construction equipment, and effects related to the generation of noise and vibration from stationary equipment and the train sets during operations. See Appendix B for the full report.

4.3.1 Construction

Increases in ambient noise levels at nearby Representative Sensitive Receivers (RSRs) are expected in association with construction activities. These increases are anticipated to be temporary in nature and are considered to be a short-term nuisance to area residents. The predicted sound indicate that it is feasible to operate most construction equipment within the limits stipulated by NPC-115. The RSRs (see Table 3.2-1) were allocated at the locations predicted to have the worst-case impact from the construction and operation of the Project from each cardinal direction. Metrolinx will endeavour to abide by existing municipal noise by-laws for the duration of construction activities whenever feasible.

4.3.2 Operations and Maintenance

The noise impacts from the operations of the Project were calculated using predictive acoustic modelling and assessed against the applicable MECP NPC-300 limit. The operational assessment of the Project included all noise sources associated with layover operation such as idling of trains, train heating and ventilation equipment, electrical equipment, and hot air track blowers. Under the predictable worst-case hour scenario (LAeq-1hr), the modelled operational noise levels are predicted to meet the applicable MECP NPC-300 at the identified RSRs, during daytime and night-time periods (see Appendix B). The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of the closest sensitive receptor (a residential building) was at least 100 m away from the tracks.

4.4 Natural Environment

The Project has the potential to result in permanent and temporary effects during construction (e.g., impacts to the aquatic environment, removal of vegetation, effects on wildlife). The potential for effects due to operation will be limited with the potential for

further reduction through mitigation measures. Additional details can be found in the full report in Appendix C.

4.4.1 Construction

Aquatic Environment

Two of the three watercourses through the Study Area will be encapsulated within concrete box culverts. The addition of the new culverts will have direct and indirect impacts to the aquatic environment, specifically, the portions of watercourses CRT1-2, and CRT1-2b and CRT2-1c within the Project Site (see Figure 3-1). Through the use of appropriate mitigation, it is assumed that the works will not cause serious harm to the value of the fishery; however, further Project details (e.g. temporary and/or permanent site structures in or near water, the Project approach to construction, etc.) are required to determine the full extent of work with relation to the aquatic features within the Study Area and support any further permitting requirements, including the Fisheries Act.

BMPs and mitigation measures may be recommended as Project details become available during further detailed design phases. The construction of the Project is expected to have moderate impact on the aquatic environment. An Erosion and Sediment Control (ESC) Plan and A Spill Prevention and Response Plan will be required to limit sedimentation and pollution of storm sewer infrastructure.

Terrestrial Environment

Construction in the Project Site is likely to re-disturb areas previously disturbed by humans. The effects are considered a temporary impact as aggressive non-native invasive species are likely to repopulate once active construction is over.

Trees in the Project Site have been confirmed by a field survey. It is anticipated that any trees and vegetation occurring within the Project Site work zones will be removed. Disturbance to trees and vegetation at the edge of the site will be minimized if possible.

Wildlife

Potential effects on wildlife and wildlife habitat from construction include direct mortality from construction vehicles, habitat destruction through vegetation removal, habitat degradation through spills, and sensory disturbance of wildlife during construction. However, the landscape within the Project Site precludes an abundance of wildlife and/or wildlife habitat. Wildlife potentially using the site is anticipate to be limited to those which may cross the site and general disturbance from construction (such as noise and human presence) will cause such species to avoid the area.

Where feasible, the Project Site construction zone will be surrounded by a silt (exclusion) fence within 48 hours of the commencement of construction activities to prevent wildlife from entering the site. The exclusion fencing will be examined daily and repaired as needed to ensure it functions as intended

Other temporary impacts to wildlife during construction may include increased noise and lighting in areas adjacent to the Project Site. Wildlife that has the potential to be present adjacent to active construction are species that are already acclimatized to human

activity due to existing commercial/light industry land use in the vicinity of the proposed Project. Therefore, impacts to these species from increased noise and lighting are expected to be low.

Migratory Breeding Birds and Nests

To prevent harm to nesting birds, the removal of woody vegetation (e.g. trees and shrubs) should be conducted outside of the typical bird nesting period between April 1 and August 31. These timing constraints should not be perceived as absolutes as this period represents the core breeding period and some species may nest in March and September. Ultimately, the objective from a compliance perspective is to not circumvent the MBCA and its regulations. Due diligence measures should be implemented and documented for any nest searching efforts, including record control, to ensure compliance with the MBCA.

For activities (including vegetation removal) that must occur during bird nesting season, surveys to identify nesting activity should be completed by an experienced avian biologist no more than 48 hours of scheduled work activities. The avian biologist conducting nest sweeps must be able to identify birds by species and be knowledgeable of nesting seasons and activities for appropriate species. Due to the uncertainty that lies with nest sweeps during construction, especially during leaf-on conditions, it is recommended that all vegetation clearing activities occur outside the bird nesting window.

Should habit removal occur outside the nesting period there are no impacts anticipated. Should habitat removal occur during bird nesting season the impacts of construction on breeding and nesting birds are considered to be low.

In the event that bird nests protected under the MBCA, FWCA, or ESA are encountered during construction, work must stop in the vicinity of the sighting until further direction is provided. These species and their nests must not be disturbed, tormented, injured, destroyed, and/or separated from eggs, hatchlings, or chicks in any way. A protective buffer area should be established around the nest in consultation with a qualified avian biologist, as well as the MNRF, MECP, and/or Canadian Wildlife Service (CWS). Nest surveys should only be completed in simple habitats such as singular trees or a small and well-defined area. Complex habitats such as vegetation communities with layers and dense foliage reduce the certainty of capturing all potential breeding.

Species at Risk

The Project Site is narrow and restricted to the corridor or exceptionally disturbed areas. In the SAR screening for the Study Area, it was found the potential for Butternut, Barn Swallow, Snapping Turtle was moderate to high whereas all other species were identified as low to none and as such, impacts are not anticipated. SAR Habitat is limited but if occurrences of SAR are noted, impacts will have to be registered and mitigated accordingly.

Snapping Turtle is listed as Special Concern and therefore would receive habitat protection under SWH if individual use is documented. The construction impacts on SAR are considered to be low.

Significant Wildlife Habitat

From a review of previous studies, no Significant Wildlife Habitat has been delineated within the Project Site. As outlined in Section 3.3.2 under the Significant Wildlife Habitat subsection, there are four main SWH categories identified in the Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E. Overall, impacts on SWH as a result of construction are anticipated to be low.

Seasonal Concentration Areas

During field investigations in June 2022, the CUM1 – Mineral Cultural Woodland habitat and agricultural lands within the Project Site were identified as areas which may provide potential Waterfowl Stopover and Staging Areas (Terrestrial). However, no water was present at the time of field investigations and impacts on potential SWH as a result of construction are anticipated to be low.

Rare Vegetated Communities and Specialized Habitat for Wildlife

There were no candidate SWH rare vegetation communities identified within the Project Site.

A small pond (<500 m^2) present on the adjacent (west) residential property, approximately 10 m from the southwest limit of the Project Site, was identified as a potential Amphibian Breeding Habitat (Wetlands). As no portion of this pond extends into the Project Site, the impacts due to construction are anticipated to be low.

Habitat for Species of Conservation Concern (Not including Endangered for Threatened Species)

No special concern and rare wildlife species were observed during field investigations, however Milkweed was identified within the CUM1 – Mineral Cultural Woodland though low in abundance. Impacts to Milkweed as a result of construction are anticipated to be low.

Animal Movement Corridors

There were no candidate SWH habitats for Animal Movement Corridors identified within the Project Site.

4.4.2 Operations and Maintenance

Aquatic Environment

It is unlikely once the watercourses are altered that negative effects will occur due to operation, therefore, the impact of operations is expected to be low.

Winter snow removal and salt use at the Project Site have the potential to impact the watercourses in the Study Area. At a minimum, a Salt Management Plan should be prepared, and snow clearing operations should be carried out in a manner so that snow is stored as far away as possible from any watercourses. BMPs should be used as guidelines to protect these features, including the following examples:

- Government of Canada - Code of practice: Road salts environmental management (https://www.canada.ca/en/environment-climate-change/services/pollutants/road-salts/code-practice-environmental-management.html)
- Transportation Association of Canada – Salt Management Plans (https://www.tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/roadsalt-1.pdf)
- MOE Guidelines on Snow Disposal and De-icing Operations in Ontario

As potential spills from maintenance activities could impact the watercourses, the following mitigation measures should be implemented:

Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment.

Implement drip pans under equipment (e.g. generators, pumps, etc.) in operation within the work areas.

Any refueling should be undertaken at least 30 m from any watercourse and any other surface drainage feature.

Terrestrial Environment

It is not anticipated that herbaceous vegetation established post-construction will be negatively affected by the Project during operations.

Wildlife

Structures such as new culverts and perimeter fencing may create a barrier to wildlife movement. Wildlife that has the potential to be present adjacent to the Project Site are species that are already acclimatized to human activity and impacts to these species from increased noise and lighting are expected to be low.

Migratory Breeding Birds and Nests

It is not expected that the MBCA will be contravened during operations. However, if any migratory breeding birds and/or nests are identified during operations and if removal is required, this will be completed in accordance with applicable permits, BMPs and timing window restrictions.

Species at Risk

It is not anticipated that SAR will be affected by post-construction. Barn Swallow may find areas to nest on new structures. If occurrences of Barn Swallow are noted, impacts will have to be registered and mitigated accordingly.

Significant Wildlife Habitat

4.5 From a review of previous studies, no Significant Wildlife Habitat has been delineated within the Project Site. It is not anticipated that any

potential SWH will be affected by post-construction activities.
Vegetation Management

4.5.1 Construction

The Project Site is narrow and restricted to the areas immediately south of the Kitchener Corridor and is exceptionally disturbed areas due to agriculture. Disturbed areas appear to be entirely a result of anthropogenic disturbances and aggressive non-native invasive species. Construction in the Project Site is likely to re-disturb these areas. The effects are considered a temporary impact as aggressive non-native invasive species are likely to repopulate once active construction is over.

Any trees that occur within the Project Site will likely be removed or otherwise impacted. The impacts of construction are expected to be low based on the present conditions of the Project Site.

During site preparation the Project Site will be cleared and grubbed to allow for site grading so that the storage tracks, internal roads, and maintenance buildings can be constructed. In addition to the on-site vegetation removal, there is potential for edge effects to trees and vegetation along the property boundaries with 10827 Winston Churchill Boulevard, the self-storage facility, and the Kitchener Corridor.

At this time, given the largely open agricultural nature of the Project Site, and the distance of the limits of the construction work zone from adjacent treed property, it is predicted that impacts will be mostly limited to the direct removal of trees and vegetation in the watercourse areas tied to culvert installation under the Project Site.

4.5.2 Operations and Management

Any herbaceous vegetation established post-construction is not anticipated to be negatively impacted by the Project during operations, therefore there are no impacts from operations.

4.6 Socio Economic and Land Use

The Project will impact the properties that Metrolinx will be acquiring to construct the Project Site and has potential to result in temporary and permanent socio-economic effects to surrounding properties, including construction related nuisance effects and permanent visual and aesthetic effects. See Appendix E for the full Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report.

4.6.1 Construction

Planning Policy Context

The Project will be constructed within the Heritage Heights Secondary Plan, Heritage heights South Precinct area in the City of Brampton. The central portion within the Project Site is designated in the Land Use Structure schedule as Natural Heritage System intended to link natural features north of the Kitchener Corridor to the tributary that flows under Winston Churchill Boulevard to join the Credit River. Construction of the layover will result in a partial loss of this area designated as Natural Heritage System within the Project Site. Metrolinx will work with the Treaty/Rights Holders, CVC,

and the City during detailed design to identify appropriate measures for any partial loss of areas designated as part of the Natural Heritage System.

Land Use

The Project will result in permanent changes in land use for properties within the Project Site through permanent property acquisition. The Project may result in temporary changes in land use, property ownership and nuisance effects from construction of the Project. Emissions from fuel combustion and fugitive dust during construction activities could temporarily decrease air quality. The vibration levels are predicted to meet the applicable limits during all construction stages.

10827 Winston Churchill Boulevard (PIN 143620012), a residential rural property, is adjacent to the layover and will potentially be affected by temporary nuisance effects from increased noise, dust and vibration during construction.

Aesthetic / Visual

It is expected that during construction, there will be temporary nuisance effects from increased dust that may have aesthetic effects on nearby residences. Temporary visual effects may also be caused by construction activities and components including temporary storage sites for equipment, staging / laydown areas and stockpiling of materials. Removal of vegetation may change the views from residential properties in the area. Construction activities may be visible from residential properties and roadways, which will temporarily alter the nature of viewscapes.

It is expected that during construction, there will be temporary nuisance effects from increased lighting, required for construction activities that may have an effect on nearby residences.

Nuisance Effects

Short term nuisance effects such as construction noise, vibration and dust may impact the directly adjacent properties. See sections 4.2 Air Quality, 4.3 Noise and Vibration, and 4.9 Traffic and Transportation Infrastructure for further discussion.

Transportation

There is the potential for temporary road or lane closures during construction. See section 4.9 Traffic and Transportation Infrastructure for further details.

4.6.2 Operations and Maintenance

Planning Policy Context

The Project is consistent with relevant provincial and municipal land use policies, which prioritize development in transit corridors to support future use of transit. The Project, when completed, will allow for enhanced connectivity between growth centres through improvements to the frequency and reliability of the GO network as part of the overall Kitchener Corridor.

Land Use

Current land use will be impacted due to the loss of agricultural land and possible future development, which in the vicinity of the proposed Project, consists of low-medium density residential housing, as per the Heritage Heights Secondary Plan (2022).

10827 Winston Churchill Boulevard (PIN 143620012), a residential rural property, is adjacent to the layover will potentially be affected by operation. The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of 10827 Winston Churchill Boulevard (PIN 143620012) being at least 100 m away from the tracks. Increase in volumes of train and vehicular traffic may decrease air quality but are anticipated to remain within the MECP allowable air quality limits.

Aesthetic / Visual

During the operation phase, the storage and maintenance of trains at the layover facility will impact viewscapes.

Outdoor lighting shall be provided throughout the site to appropriately light: roadways, walkways, building entrances, building perimeters, and parking lots. Lighting systems are to be designed to maximize visual comfort, efficiency, economy of installation, safety and ease of operation and maintenance. Luminaires shall be selected to be energy efficient including the use of energy efficient LEDs. Light levels shall be defined for the general area and the task area. Light levels to conform to the DRM. All lighting will be connected to the emergency power system.

Nuisance Effects

There is potential for nuisance effects related to operations and maintenance, as addressed in sections 4.2 Air Quality, 4.3 Noise and Vibration, and 4.9 Traffic and Transportation Infrastructure.

10827 Winston Churchill Boulevard (PIN 143620012), a residential rural property, is adjacent to the layover will potentially be affected by operations due to vehicular movement on the proposed layover access road adjacent to the property.

Transportation

There may be minor increased traffic levels on Winston Churchill Boulevard due to maintenance and operations crews entering through the access road. See section 4.9 Traffic and Transportation Infrastructure for further details.

4.7 Cultural Heritage

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment was completed to provide an inventory of existing heritage conditions. See Appendix F for the full report.

4.7.1 Construction

A preliminary impact assessment was completed to evaluate potential impacts to three (3) identified cultural heritage resources (CHR), one (1) known cultural heritage landscape and two (2) potential built heritage resources, within the 50 m Cultural

Heritage Study Area. No direct impacts to CHR-1, CHR-2, or CHR-3 are anticipated as a result of construction. Indirect impacts are anticipated to CHR-2 due to the construction of the access road to the Project as the road is adjacent to the property limit of CHR-2.

4.7.2 Operations and Maintenance

There is a potential for indirect effects to CHR-2 to continue during ongoing operations due to vehicular access on the adjacent layover access road and proximity of the layover to the property limits. No direct adverse impacts are expected.

4.8 Archaeology

4.8.1 Construction

The findings of the Stage 1 AA indicate that there are 3 areas within 300m of the Project Site with archaeological potential. Stage 2 AA were previously completed (Archeoworks, 2017a and b) outside of these Project activities, which were reviewed as part of the Stage 1 AA for this EPR, identified the need for a Stage 3 site-specific AA.

The Stage 1 AA report can be found in Appendix G.

A Stage 3 AA for the Project Site will be undertaken prior to construction to confirm the presence of archaeological resources and to recommend appropriate mitigation if resources are identified. The Stage 3 AA will be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy (if required). No construction activities shall take place within the Study Area prior to the MTCS Archaeology Program Unit confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

4.8.2 Operations and Maintenance

There will be no activities during the operations and maintenance stage that could result in an impact to archaeological resources.

4.9 Traffic and Transportation Infrastructure

4.9.1 Construction

Construction activities are anticipated to commence in 2023 and finish in winter 2025, but this timeline may be subject to change. Road traffic effects during construction are expected to be minimal given the predominately rural location of the Project Site and the forecast background traffic levels. Northbound queues at the railway level crossing on Winston Churchill Boulevard may occasionally stretch back to the access road entrance. There may be infrequent temporary lane closures during construction of the access road and site preparation, and to offload construction equipment and materials.

Due to physical constraints at the intersection of Highway 7 and Winston Churchill Boulevard in the Norval Hamlet, along with year-round load restrictions, heavy trucks requiring access to Winston Churchill Boulevard will travel south from Mayfield Road. Furthermore, verification of current goods movement routes in Peel Region is required at the time of construction.

Construction traffic is expected to access the site during off-peak periods, resulting in negligible impact during peak hours. Ontario Traffic Manual - Book 7 - Temporary Conditions will be adhered to during the construction process to allow safe accommodation for drivers, pedestrians and cyclists, and for rail traffic. The Region of Peel, emergency services and school boards for the City of Brampton and Region of Peel, as well as residents in the surrounding areas will be notified of any short term closures to Winston Churchill Boulevard.

There is no current or planned local transit services operating on Winston Churchill Boulevard or Heritage Road. As such, construction activities are not anticipated to affect local transit routes.

There are five (5) construction stages expected as described in 4.2.1. Construction traffic volume estimates are expected to be refined in later planning stages but are estimated at this point to be less than 20 trucks per day. Construction shifts would start and end outside of the peak hours for road traffic, resulting in minimal impact on traffic movements along Winston Churchill Boulevard during peak hours. At this time, except for short term lane closures of less than a day that may be required to facilitate large trucks entering and exiting the site, construction related road closures are not expected.

The Region of Peel is planning a reconstruction of Winston Churchill Boulevard from south of Mayfield Road to north of the Credit River Bridge, scheduled in Spring 2024 with a completion in December 2025. Coordination of the construction schedule for the Heritage Road Layover and for the reconstruction of Winston Churchill is recommended to reduce any impacts to the surrounding communities during construction.

Along Winston Churchill Boulevard, pedestrian use is largely limited to local residents, and the road is not a signed cycling route with no sidewalks or cycling infrastructure in place. Therefore, construction activities are not anticipated to affect local pedestrian or cyclist access in the vicinity of the Project Site.

4.9.2 Operations and Maintenance

When in operation the Project is anticipated to have minimal effects on road traffic.

The Region of Peel and City of Brampton have widening plans within the timeline for the Project for Mississauga Road, Mayfield Road, Bovaird Drive, Wanless Drive, and Heritage Road surrounding the Project Site. These widenings will relieve or reduce some of the existing operating problems and accommodate future trips to be generated by the Heritage Heights development.

Vehicle trips to and from the Heritage Road Layover will be relatively low, with 20 or fewer total (including inbound and outbound) trips during each of the weekday morning and weekday afternoon peak hours. The facility’s operation will have a negligible impact on the road network. The access will operate acceptably with single lane approaches.

There is no current or planned local transit services operating on Winston Churchill Boulevard or Heritage Road. Should local transit service be implemented, operation of the Heritage Road Layover will have no effect.

Halton Region has a planned multi-use trail on Winston Churchill Boulevard, and the Region of Peel's Long Range Transportation Plan calls for a new cycling facility on

Winston Churchill Boulevard between Bovaird Drive and Mayfield Road. With these active transportation facilities installed on Winston Churchill Boulevard, the layover facility effects on pedestrian and cycling use will be as a point of potential user conflict. However, traffic levels in and out of the Project are expected to be minimal.

4.10 Stormwater Management

The Project has the potential to affect changes to stormwater runoff quantity; to increase peak flows, effect storm drainage systems and cause erosion in receiving watercourses. There is also the potential to affect changes to stormwater runoff quality; to increase sediment and pollutant loading, and effects to water quality.

4.10.1 Construction

To construct the layover facility, the Project Site needs to be graded to accommodate the storage tracks and buildings. Existing stormwater flows coming from the two culverts under the CN tracks located at the north end of the Project Site, and the agricultural lands on the Project Site will be redirected to new culverts through a series of subdrains, oil grit separators, and infiltration facilities. The new culverts will outlet to the existing watercourse immediately downstream of the Project Site.

4.10.2 Operations and Maintenance

Future operation of the Heritage Road Layover is not likely to affect the flow of stormwater within or beyond the Study Area, as the detailed design criteria will address the regulatory flow and quality requirements.

4.11 Groundwater

The Project has potential to affect both the quantity and quality of groundwater conditions. These effects relate potentially to both natural systems, and to domestic supply and water taking for irrigation and livestock.

Development at the Site must consider these sensitive areas and their associated policies, particularly with regards to maintaining pre-development groundwater recharge function under the post-development condition. A water balance will be completed as part of a separate report, which will assist in assessing this groundwater recharge issue.

4.11.1 Construction

Construction dewatering has the potential to negatively affect water well quality and quantity depending on the location and condition of the private wells identified for this Project. The requirement for and extent of construction dewatering for the Project will be confirmed through detailed design and the completion of geotechnical investigations. However, groundwater drawdown is not anticipated to move beyond the Project Site and anticipated to be of relatively short duration.

The need for, and extent of, private well monitoring during construction should be confirmed as part of final design, once dewatering requirements, proposed construction activity and potential ZOI are finalized.

During construction there is potential for surface water runoff to infiltrate the ground and introduce pollutants that may migrate downward to contaminate groundwater. There is

also the potential for spills to occur, particularly with refueling operations for construction equipment.

4.11.2 Operations and Maintenance

The addition of impermeable surfaces (e.g., pavement) on the site will reduce water infiltration into the ground and has the potential to affect the site water balance and groundwater recharge.

During operations, there is potential for surface water runoff to infiltrate the ground and introduce pollutants that may migrate downward to contaminate groundwater. There is also the potential for spills to occur, particularly with refueling operations for the on-site back-up power diesel generator, and the trains.

4.12 Utilities

4.12.1 Construction

No existing utilities (storm sewers, sanitary sewers, watermain, hydro and communication) are within the Project Site. Thus, there are no projected impacts during construction.

4.12.2 Operations and Maintenance

No existing utilities (storm sewers, sanitary sewers, watermain, hydro and communication) are within the Project Site and as such, there are no projected impacts during operation.

To provide hydro for the Project during operations, Alectra Utilities shall supply incoming electrical supply through an underground feed from Winston Churchill Boulevard to the proposed electrical substation. The utilities are to be constructed with enough capacity to ensure no issue of supplying power to the Heritage Road Layover, thus no impacts are anticipated.

4.13 Impact Assessment, Mitigation Measures and Monitoring Summary

Table 4.13-1 summarizes the effects, mitigation measures and proposed monitoring for the various components of the environment described in the previous sections of the EPR. A potential effect is denoted by a "●" and if no potential effects are anticipated, it is denoted with a "-".The intent of this table is to provide a summary of those commitments and responsibility of third parties where Metrolinx determines applicability. These are recommendations that will be confirmed as Project planning advances.

Table 4.13-1: Impact Assessment (Potential Effects, Mitigation Measures and Monitoring)

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Air Quality					
Air Quality	•	–	Emissions from fuel combustion and fugitive dust during construction activities could temporarily decrease air quality.	Dust prevention and control methodologies may include, but are not limited to: • Regulate mobile equipment travelling speeds inside the construction area to prevent excessive dust generation. • Ensure proper maintenance of equipment and vehicles operating in work areas. • Proper planning of construction phases and effective use of construction equipment to reduce dust. • Minimize the size of active areas on storage piles. • Operators should use due diligence during material loading, unloading and transferring activities to avoid excessive dust generation. • Drop heights should be minimized as much as practicable. • Development and implementation of an Air Quality Management Plan for the construction phase. • Wetting or covering of open areas, unpaved roads, or material storage piles that may emit dust. • Usage of non-chemical dust suppressant to reduce fugitive dust emissions from temporary unpaved roads or parking lots. • Stabilization of construction access and roadways to reduce the tracking of construction sediment (mud and soil) onto public roads by construction equipment. • Regular sweeping of vehicle trackout on public roads. • Use of temporary barriers to prevent soil erosion and control windspeed for locations where dust could potentially be generated.	• Air monitoring for PM_{10} along the Project Site perimeter, with particular emphasis on the ZOI, will provide assurance that fugitive dust sources are being adequately controlled and the potential for off-site effects are minimized. • Construction activities will be monitored by a qualified Environmental Inspector.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• Introduction of a no-idling policy to control mobile equipment and other vehicle emissions where applicable.	
Air Quality	–	•	Increase in volumes of train and vehicular traffic may decrease air quality but are anticipated to remain within MECP allowable air quality limits.	• No mitigation measures required.	• No monitoring activities are required.
Noise and Vibration					
	•	–	The predicted sound modelling indicate that it is feasible to operate most construction equipment within MECP limits. The vibration levels are predicted to meet the applicable limits during all construction stages.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. • In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly. • Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas.	• Monitor noise where it is predicted that noise exposure limits may be exceeded. At these locations, monitor noise continuously at each geographically distinct, active construction site with one monitor located strategically to capture the highest exposure level based on planned construction activities and the number, geographic distribution and proximity of noise sensitive receptors. • Develop regular reports describing the monitoring conducted and summarizing the data collected for the reporting period. The reports will include but not be limited to the number and duration of any incident during which any of the noise exposure limits documented in the Metrolinx *Guide for Noise and Vibration Assessment* (2020) were exceeded, the probable cause of each exceedance, the incident-specific measure(s) implemented, the resulting mitigated noise levels and the complaints investigation procedure. • Establish a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			

				• Schedule major construction activities to take place during daytime hours, where possible.
				
				Prior to commencement of construction, a detailed Construction Noise Management Plan shall be developed.
				
				• The Construction Noise Management Plan shall:
				  ○ Document and commit to all measures to be taken for meeting the noise exposure limits documented in the Metrolinx *Guide for Noise and Vibration Assessment* (2020) at every directly exposed sensitive receptor and throughout the entire project.
				  ○ Determine the Zone of Influence for construction related noise based on the noise exposure limits outlined in the Metrolinx *Guide for Noise and Vibration Assessment* (2020) and taking into consideration the construction site, staging and laydown sites and hauling routes, each stage of the construction (including demolition), the overall construction schedule along with the schedule of each major component and associated major construction processes and equipment usage.
				  ○ Identify all sensitive receptors that fall within the Zone of Influence for construction related noise. Mitigation measures will be proposed for these sensitive receptors, and the effects of the proposed mitigation measures will then be evaluated using noise modelling. If results of the modelling indicate that any sensitive receptors still remain within the Zone of Influence for construction related noise, then the following shall apply:
				  ▪ Additional mitigation is proposed and subsequently modelled until the sensitive receptor does not fall within the Zone of Influence; or
				  ▪ If mitigation strategies are not viable, receptor based mitigation will be proposed.	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Natural Environment					
Wildlife	●	-	Disturbance, displacement, or mortality of wildlife	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • Where feasible, the Project Site construction zone will be surrounded by a silt (exclusion) fence within 48 hours of the commencement of construction activities to prevent wildlife from entering the site. The exclusion fencing will be examined daily and repaired as needed to ensure it functions as intended • If wildlife is encountered within the construction site, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat. For example, construction activities will cease or be reduced, and wildlife will be encouraged to move offsite and away from the construction area on its own. A qualified biologist will be contacted to define the appropriate buffer required from wildlife.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	●	-	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection. • In the event that bird nests protected under the MBCA, FWCA, or ESA are encountered during construction, work must stop in the vicinity of the sighting until further direction is provided. These species and their nests must not be disturbed, tormented, injured, destroyed, and/or separated from eggs, hatchlings, or chicks in	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				any way. A protective buffer area should be established around the nest in consultation with a qualified avian biologist, as well as the MNRF, MECP, and/or Canadian Wildlife Service (CWS).	
Species at Risk – General	●	-	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNRF. • If SAR is present and conservation strategies have been developed by MNRF /MECP, the commitments in the recovery strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the procedure(s) to follow if an individual is encountered or injured.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.
Species at Risk - Bats	●	-	Habitat loss, disturbance and/or mortality to bats.	• Per MECP guidance as part of the TPAP consultation: • If there are any structures or buildings on the subject lands that may be suitable for use by bats, surveys should be undertaken in accordance with the Ministry's protocols. ○ If SAR bats are determined to be present, potential direct impacts may be avoided if tree removal is completed outside of the roosting period or active season (December 1 to March 14)	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Barn Swallow	●	-	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys were undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met, including any registration, compensation,	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	
Species at Risk – Eastern Meadowlark	●	-	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys were undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Aquatic Environment - Watercourses	●	-	Impacts to three watercourses in the Natural Environment Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site in adherence with the Metrolinx Vegetation Guideline (2020). • An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the wetland or waterbody. • A Spill Prevention and Response Plan will be developed before work commences and implemented during construction to ensure procedures and policies are in place during construction to minimize impacts to wetlands or waterbodies.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • A Salt Management Plan will be developed before work commences to ensure procedures and policies are in place during construction and operations to minimize impacts to watercourses. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal,	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				provincial and federal requirements, as amended, as well as the requirements of CVC.	
Aquatic Environment – Fish and Fish Habitat	●	-	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • As the watercourses on the Project Site are seasonal intermittent watercourses, a spring freshet survey will be completed in spring 2023 to further assess conditions prior to construction. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation Removal and Compensation Plans	●	-	Tree / Vegetation removal, injury and protection.	• As part of the Arborist Report, all trees within or adjacent to the Project Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR vegetation. SAR vegetation will be subject to permitting and approval requirements under Applicable Law, prior to the commencement of construction. The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and boundary trees. Municipal by-laws will dictate the	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/ regulations, and location with respect to ecological functioning.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • Vegetation compensation will be implemented through Metrolinx's Vegetation Compensation Guideline (2020), at minimum. Metrolinx's Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation. • Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. Refer to Natural Environment commitment tables for additional details.	• Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the Kitchener Corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program within the Metrolinx Vegetation Guideline (2020).

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Vegetation Removal and Compensation Plans – SAR Habitat	●	-	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with the Butternut Assessment Guidelines (MNRF, 2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Integrated Vegetation Management (IVM)	●	-	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	●	-	Potential for the spread of Emerald Ash Borer, Agrilus planipennis (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire) (2014), as amended from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Cultural Environment					

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Archaeological Resources	●	-	Potential for site AjGx-267 (Heritage Layover H1) to be impacted by construction and operational activities. No impacts are anticipated to Site AjGx-268 (Heritage Layover H2), which lies outside of the construction footprint.	• Develop and implement an Archaeological Risk Management Plan that addresses any recommendations resulting from Archaeological Assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources. The Archaeological Risk Management Plan shall be amended to incorporate any additional actions required resulting from subsequent Archaeological Assessment Reports. • All work shall be performed in accordance with Applicable Law, including but not limited to the *Ontario Heritage Act*, the Ministry of Tourism, Culture and Sport (MTCS), formerly the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) *Standards and Guidelines for Consultant Archaeologists* (2011), and the MTCS document, *Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario* (2011). • In the event that archaeological resources are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot should be protected from impact by employing a buffer in accordance with requirements of the MTCS. A professionally licensed archaeologist will be consulted to complete the assessment. If resources are confirmed to possess cultural heritage value/interest then they will be reported to the MTCS, and further Archaeological Assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx should be contacted and Applicable Law will be followed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. This will include completing all required Archaeological	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Assessments resulting from the Stage 1 AA (Stage 2, Stage 3 and Stage 4, as required) as early as possible, prior to the completion of design, and in advance of any ground disturbance. • For areas determined to have archaeological potential or contain archaeological resources that will be impacted by project activities, additional Archaeological Assessment will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered during project work, all activities must cease immediately and the local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services must be contacted. Archaeological investigations of human remains will not proceed until police have confirmed the remains are not subject to forensic investigation. Once human remains have been cleared of police concern, the MTCS will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*. If the human remains are determined to be of Indigenous origin, Metrolinx should be contacted and all Applicable Law must be adhered to. • All Archaeological Assessment findings will be shared with Indigenous communities and Nations, as per Metrolinx's *Guide to Engaging with Indigenous Communities* (2020).	
CHR1 - McNichol Cemetery	-	-	No direct adverse impacts are anticipated to the McNichol Cemetery. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	• The proposed work should be planned in a manner that avoids the McNichol Cemetery. • In accordance with the MTCS's *Standards and Guidelines for Consultant Archaeologists* (2011) and the *Funeral, Burial, and Cremation Services Act* and regulations under that Act, work in proximity to known cemeteries requires completion of an Archaeological Assessment	• Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				prior to any proposed ground disturbance. Previous Archaeological Assessments have been carried out in McNichol Cemetery (see Appendix G) and temporary fencing will be erected during construction to protect the cemetery.	
CHR2 - Built Heritage Resource – 10827 Winston Churchill Boulevard	●	-	Indirect Adverse Impact. Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship.	• The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a “potential heritage property” to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx ‘s selection procedures, which includes avoiding the property wherever possible or effectively mitigating impacts where not possible. • Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design.	• None.
CHR3 - Built Heritage Resource – 10746 Winston Churchill Boulevard	-	-	None. The residence is located approximately 110 metres from the proposed work.	• None.	• None.
Socio-Economic and Land Use					
Property	●	●	Property acquisition – permanent and temporary.	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
All land uses and adjacent lands	●	-	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration section of the commitment tables. • Develop a Communications Protocol in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
All land uses and adjacent lands	●	●	Land use and access disruption.	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site.	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	●	●	Visual effects from construction / operations areas / activities.	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	●	●	Light trespass, glare and light pollution effects.	• Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement Comply with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement.	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • Permanent lights will be installed for operations of the site.	
Transportation/Traffic					
Traffic	●	-	Construction may result in the need for temporary road or lane closures.	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period.
Utilities					
Utilities Planning and Construction	●	–	Utility serviceability effects due to design requirements and construction	• Obtain permits and consents from and with all Utility Companies with respect to the design, construction, installation, servicing, operation, repair, preservation, relocation, and or commissioning of Utility Infrastructure. • Ensure minimizing impact to the Train Service Plans and to continuity of service and disruption to property owners and customers of the Utility Companies to the satisfaction of the Utility Companies and Metrolinx.	• Maintain regular communication and coordination through issuance of regular progress reports and updates to applicable utility agencies.
Hydrogeology					
Groundwater	●	–	Construction activities could expose groundwater and associated contamination	• Develop a Groundwater Management and Dewatering Plan to guide the handling, management, and disposal of groundwater encountered during the works. The Groundwater Management and Dewatering Plan will be overseen by a QP and will comply with *Ontario Regulations 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), *64/16* and *387/04*, as amended under the *Ontario Water Resources Act*.	• A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for Metrolinx review to document performance monitoring data/results and any corrective actions implemented during the previous month. • Upon completion of the work, the Constructor will submit a Groundwater Management and Dewatering Implementation Report to Metrolinx.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• The Groundwater Management and Dewatering Plan will describe the anticipated groundwater quantity and dewatering Zone of Influence that will be encountered during the works, and if approvals are needed for the water taking, such as a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the MECP. • The Groundwater Management and Dewatering Plan will describe the storage, transfer, and disposal and or treatment of the groundwater collected during the works, and approvals for the water disposal, and/or treatment if applicable, based on the quantity and quality. • The Groundwater Management and Dewatering Plan will be reviewed and approved by Metrolinx prior to construction.	
Stormwater Management					
Potential Impacts and Proposed Mitigation Measures for Stormwater and Site Drainage	●	–	The proposed construction activities pose a potential impact due to sediment transport into adjacent natural areas including watercourses, wetlands and municipal drainage infrastructure. The proposed works may result in increases to impervious areas, with potential effects to water quantity and quality. In addition to the increases in impervious coverage, there may be alterations to the local drainage system, both overland (major drainage system) and storm sewers (minor drainage system).	• Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC. • A detailed assessment of proposed ditches along the Kitchener Corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements and American Railway Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (2019).	• Turbidity levels within discharges from sites to be monitored visually. Turbidity levels will be monitored upstream and downstream of sites at watercourse crossings or adjacent to watercourses. Turbidity levels within discharges from sites and within receiving storm sewers will also be monitored visually to determine potential impacts from construction. • Grab samples for existing watercourses and/or wetlands, when runoff from the site discharges to a watercourse and/or wetland will be conducted for pre-construction, during construction, and post construction conditions until the site is considered stabilized. Grab samples for watercourses and wetlands will be taken for non-precipitation event and for precipitation events to obtain a reasonable understanding of the turbidity levels. Post-construction monitoring of wetland areas may be required depending on input from CVC. • Monitoring will be conducted for potential oil spills and containment of spills to be conducted as per provincial requirements. • Functionality of stormwater quantity controls including peak flows and water levels for storm

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• Infiltration requirements for municipalities will be determined as per the design guidelines and standards. • To offset the potential impacts to wetlands, the grades and drainage system on the periphery of the layover may need to be designed to result in minor local drainage diversions to the wetland features. An annual water budget for existing, future (without mitigation) and future (with mitigation) would have to be conducted. Input from a terrestrial biologist is required to review the annual water budget variations for existing and future conditions. • Develop and implement a Spill Prevention and Response Plan in accordance with the Project Agreement. • A hydraulic assessment of each crossing and any proposed culverts is required to determine proposed flood levels and associated creek bed and bank treatments to prevent scour and erosion and facilitate fish passage. Where applicable, the regulatory model(s) will be obtained from CVC to assess the hydraulic impacts along regulated watercourses. • Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models. Creek bed and banks design will include geomorphological input for scour and erosion prevention, and creation of appropriate fish habitat. • Incorporate Low Impact Development (LID) where practical and feasible, in accordance with design guidelines and standards.	events within the design range. Monitoring would require local rainfall data. • Infiltration targets measured by flow monitoring on infiltrative LID Best Management Practices (BMPs). • Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS) removal as per the MECP *Stormwater Management Planning and Design Manual* (2003).

5.0 Climate Change Considerations

This section outlines how climate change considerations were taken into account in the environmental assessment and design of the Project. The following sections describe how the Transit Project Assessment Process (TPAP) incorporates the Ministry of Environment, Conservation and Parks (MECP)'s guidance for considering climate change in environmental assessments, with a focus on climate change *mitigation* and *adaptation*, as summarized in Table 5.1-1 and Table 5.1-2.

The Intergovernmental Panel on Climate Change (IPCC) defines climate change as:

"…*a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use*." (Intergovernmental Panel on Climate Change, 2014)

The term "climate change" can apply to any major variation in temperature, wind patterns or precipitation that occurs over time. Changes in the composition of the atmosphere are resulting in processes that alter global temperature and precipitation and are affecting local weather patterns. These processes can ultimately lead to increased occurrence of extreme weather events such as floods, droughts, ice storms and heat waves across the Greater Toronto and Hamilton Area (GTHA) (Metrolinx, 2017).

To mitigate climate change and the effects it can have on the natural and built environments, government agencies at all levels have developed strategies and guidelines to reduce greenhouse gas (GHG) emissions into the atmosphere. Government agencies are also implementing measures that promote resiliency to a changing climate. Consistent with these strategies and guidelines, the planning and design of the Project will consider both climate change *mitigation* (e.g., minimizing effects of a project on climate change) and *adaptation* (e.g., resilience of a project to future climatic changes).

The Heritage Road Layover project serves to support increased service capacity on the Kitchener Corridor as a component of the overall GO Expansion Program. In turn, this will reduce criteria air contaminants that impact human health and reduce greenhouse gases that contribute to climate change as outlined in Section 5.1. The Project will be constructed and operated with future climate change projections in mind, so construction delays and service interruptions due to extreme weather events will be minimized.

Section 5.1 outlines the policy context which guides how climate change has been considered in the planning of this Project. Given the construction and operational scope of the Project, and Metrolinx's extensive existing guidance on how to build and operate the transit infrastructure and facilities considering future extreme weather events, reference to existing climate change strategies and policies was judged to be sufficient in considering climate change in the TPAP.

Sections 5.2 (mitigation) and 5.3 (adaptation) describe how these considerations are being implemented in project planning and design for the Heritage Road Layover Project.

5.1 Policy Context

5.1.1 Government of Ontario

The Government of Ontario has committed to reducing GHG emissions to 30% below the 2005 levels by 2030 (e.g., 143 mega tonnes of carbon dioxide equivalent (CO2e) by 2030) (Government of Ontario, 2018).

The *Infrastructure for Jobs and Prosperity Act*, *2015* (Province of Ontario, 2015) indicates that infrastructure should be planned to mitigate effects on climate change and be designed to consider climate change adaptation. Specifically, Section 3.11 of this Act states that:

> "*Infrastructure planning and investment should minimize the impact of infrastructure on the environment and respect and help maintain ecological and biological diversity, and infrastructure should be designed to be resilient to the effects of climate change*."

The 2020 Provincial Policy Statement (PPS) (Ministry of Municipal Affairs and Housing, 2020) issued under the Planning Act advises on the need to consider reducing GHG emissions and reducing the potential risk of climate change-related events like droughts or intense precipitation. It encourages green infrastructure and strengthens stormwater management requirements; energy conservation and efficiency; reduced GHG emissions; climate change adaptation (e.g., tree cover for shade and for carbon sequestration); and consideration of the increased risk associated with natural hazards (e.g., flooding due to severe weather).

Applicability to the Project

Improving the public transit network can reduce traffic congestion and reduce the need for new road infrastructure, as well as reduce carbon emissions and air quality concerns associated with automobile use, contributing to reductions in GHG emission and helping to achieve provincial targets. Metrolinx is working in alignment with the intent of the *Infrastructure for Jobs and Prosperity Act*, 2015 in the planning and design of the Project.

Since infrastructure proposed for the Project will have life spans that have the potential to face significant climatic changes based on conservative climate projections, there is a need to consider both the operational impacts to climate change, as well as how the Project will be affected by future climate change-related events such as droughts or intense precipitation. This includes consideration of most of the aspects highlighted in the PPS, including green infrastructure; stormwater management; energy conservation and efficiency; GHG emissions; vegetation/carbon sequestration; and resiliency to natural hazards such as flooding. Specific measures related to these aspects are further discussed in Sections 5.1.2 and 5.1.3.

5.1.2 Ministry of the Environment, Conservation, and Parks

MECP has prepared a guide titled *Considering Climate Change in the Environmental Assessment Process* (Ministry of the Environment, Conservation, and Parks, 2017), to describe how environmental assessment processes shall incorporate consideration of climate change impacts, including:

- The effects of a project on climate change;
- The effects of climate change on a project; and
- Various means of identifying and minimizing negative effects during project design.

Considering climate change in accordance with the guide is meant to result in a project that is more resilient to future changes in climate and helps maintain the ecological integrity of the local environment in the face of a changing climate.

The guide states that proponents should take into account climate change mitigation and adaptation during both the assessment of alternatives to the undertaking and alternative methods of implementing the undertaking. Specific to Projects assessed under the TPAP process, the guide advises that the consideration of climate change should be scaled to the significance of the project's potential environmental effects, and that evaluation can be qualitative and/or quantitative.

Applicability to the Project

The TPAP starts with a selected Project. The regulation does not require proponents to look at the rationale and planning alternatives or alternative solutions to public transit or the rationale and planning alternatives or alternative solutions to the particular Project (The Ministry of the Environmental, Conservation, and Parks, 2014). The climate change assessment contained in this EPR focuses on the various design and mitigation measures that will support climate change mitigation and adaptation during construction and operations of the Project.

Overall, the Project's effects on climate change (e.g., mitigation) are expected to be small. There will be insignificant GHG emissions resulting from both construction and operations, as detailed in the Air Quality Impact Assessments completed for the Project (see Appendix A). The Air Quality Impact Assessments involved a high-level quantitative analysis of local GHG emissions during operations, comparing layover facility emissions to Provincial targets.

Since the Project will be operational for the foreseeable future, it will likely be affected by future climate change-related events such as droughts or intense precipitation. As a result, there is a need to consider the design, construction and operation of the Heritage Road Layover with these future events in mind. The Project will continue to take climate change considerations into account as the design progresses. The TPAP is based on the Preferred Design.

Table 5.1-2 outlines how climate change was considered in this TPAP. Each of the areas considered is described in greater detail in sections 5.2 and 5.3.

Table 5.1-1: Consideration of Climate Change in the Pre-TPAP and TPAP Phases

Consideration	Project Phase where Consideration Implemented	Areas Considered	Type of Evaluation
Effects of the project on climate change (mitigation)	Pre-TPAP, detailed design, construction, operations	Planning for transit	Qualitative
		GHG emissions	Quantitative
		Vegetation compensation and revegetation	Qualitative
		Energy consumption and emissions	Qualitative
Effects of climate change on the project (adaptation)	Detailed design, construction, operations	Air temperature	Qualitative
		Precipitation	Qualitative
		Drought	Qualitative

Further, Table 5.1-2 outlines how the primary expectations for proponents when considering climate change according to the MECP's guide (as indicated by "should" statements in the guide) have been addressed.

Table 5.1-2: Recommendations for Climate Change in the Pre-TPAP and TPAP Phases

MECP Guideline Recommendation	Section(s)
The ministry expects proponents to take into account: • The project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation). • Resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).	• Section 5.2.2 (greenhouse gas emissions). • Section 5.2.3 (impacts on carbon sinks). • Section 5.3 (climate change adaptation).
The proponent should also include a discrete statement in their study report detailing how climate change was considered in the environmental assessment.	• Table 5.2-1
Proponents of natural resource related projects should consult Appendix B for treatment of carbon stocks as sinks versus sources.	The Project is not natural resource related, so this is not applicable.
Proponents should include evaluation criteria, such as greenhouse gas emissions and impacts on carbon sinks, in the assessment of alternatives and alternative methods.	The TPAP does not include an assessment of alternatives or alternative methods, so this not applicable.
In concluding an environmental assessment study, the proponent should also include a statement in their study report about how climate change was considered in the environmental assessment and how the preferred alternative (project) is expected to perform with climate change considered.	• Section 5.0
Proponents should include evaluation criteria such as extreme weather events in their screening of alternatives, and alternative methods.	The TPAP does not include an assessment of alternatives or alternative methods, so this not applicable.
Proponents should also include in their study report, a statement about how climate change was considered in the environmental assessment, specifically in relation to the preferred alternative (project).	The TPAP does not include an assessment of alternatives or alternative methods, so this not applicable.

MECP Guideline Recommendation	Section(s)
All climate parameters with potential to interact with a project should be defined and considered at a screening level to fully understand which interactions pose higher risk.	• Section 5.3, Table 5.3-1
Proponents should also document any uncertainty related to either downscaling climate change projections to specific sites, or expected impacts to the environment or project, within the environmental assessment.	Metrolinx is moving towards using downscaling projections as described in its *Planning for Resiliency* report (Metrolinx, 2017) to inform decisions regarding planning, construction and operations of infrastructure. This considers adaptation to climate change across all infrastructure assets.
Considering climate change in the terms of reference for an environmental assessment should commit the proponent to considering climate change impacts in related project studies prepared in support of the environmental assessment report.	The TPAP does not include a term of reference, so this not applicable.
Considering climate change in an environmental assessment should result in the proponent refining and documenting measures for dealing with climate change impacts as the undertaking moves toward implementation stage. Examples could include adapted design or maintenance schedules, additional studies, and revised operating procedures.	• Section 5.3
Considering climate change in streamlined environmental assessment processes and studies could result in the inclusion of a commitment on how the proponent will implement climate change adaptation and mitigation measures during the detailed design phase of any given project.	• Section 5.2 • Section 5.3
Proponents should consider whether making reference to existing climate change strategies or policies alone is sufficient as a consideration of climate change, or whether a more detailed consideration of climate change should be carried out when conducting project-specific environmental assessment studies. Documentation of the results of this consideration should be included as part of project reporting.	• Section 5.0

5.1.3 Metrolinx

Metrolinx's draft Regional Transportation Plan (RTP) (Metrolinx, 2018) outlines the long-term projects, plans, and activities Metrolinx will deliver to support reduction of Ontario's overall GHG emissions by promoting a shift from single occupant vehicles to more energy-efficient options like public transit, walking, cycling, carpooling, and teleworking.

Metrolinx is committed to ensuring that the existing transit network and new transit facilities/infrastructure will have a low-carbon footprint[2] and contribute to a clean and healthy environment for future generations (Metrolinx, 2016).

As set out in the *Metrolinx Sustainability Strategy 2015 – 2020*, (Metrolinx 2016) the focus in implementing the GO Expansion Program is; *on how Metrolinx can plan, build, and operate, to achieve meaningful progress towards sustainability within its own operations*. The Metrolinx sustainability strategy focuses on five priority sustainability goals, outlined in Table 5.1-3.

Table 5.1-3: Metrolinx Sustainability Strategy

	SUSTAINABILITY GOALS
GOAL 1	**BECOME CLIMATE RESILIENT**
	Become Climate Resilient - Accelerate and intensify our efforts to implement a climate adaptation and resilience program to manage and mitigate climate change risks
GOAL 2	**REDUCE ENERGY USE AND EMISSIONS**
	Reduce Energy Use and Emissions - Adopt processes, programs and technologies that allow us to effectively track, monitor and reduce our energy consumption, and carbon and air emissions.
GOAL 3	**INTEGRATE SUSTAINABILITY IN OUR SUPPLY CHAIN**
	Minimize the impact associated with the use, extraction, processing, transport, maintenance, and disposal of materials and integrate sustainability criteria into our vendor management decisions. This goal extends to consideration of embodied carbon (e.g., the carbon dioxide emitted during the manufacture, transport, and construction of materials, together with end-of-life emissions).

[2] A carbon footprint is the total greenhouse gas emissions attributed to a body (e.g., person, facility, or event) expressed as carbon dioxide equivalent (CO_2e). CO_2e is a standard unit for measuring carbon footprints, as a way to express the impact of each different greenhouse gas in terms of the amount of CO_2 that would create the same amount of warming.

	SUSTAINABILITY GOALS
GOAL 4	**MINIMIZE IMPACT ON ECOSYSTEMS**
	Minimize Impacts on Ecosystems - Consider the impact of infrastructure and services on ecosystems and ecosystem services and make best efforts to manage, preserve and protect. This includes the consideration of infrastructure projects within the broader context of ecosystems and ecological values, including watershed/stormwater management considerations.
GOAL 5	**ENHANCE COMMUNITY RESPONSIBILITY**
	Leverage our significant investment in the region to create a lasting legacy for our communities and work closely with communities to create economic and social value.

Consideration of these goals has been integral to the decision-making for the design, construction, and operation of the Heritage Road Layover. Metrolinx generally requires that contractors adhere to the *GO Design Requirements Manual* (DRM) (Metrolinx 2020) and other applicable Metrolinx design standards, including the Metrolinx Sustainable Design Standard. The DRM outlines the Guiding Principles and technical details for designing and building GO infrastructure (Off Corridor [OffCorr] infrastructure). The DRM covers a number of areas directly and indirectly related to climate change adaptation and mitigation, including stormwater management, energy consumption and emissions, and vegetation. Effort will be made to apply DRM requirements to the infrastructure components to the maximum extent possible. The Metrolinx Sustainable Design Standard outlines specific design requirements and reporting direction for designing and building projects with capital costs over $100 million or otherwise required by Metrolinx. The Sustainable Design Standard covers a number of areas related to climate vulnerability and risk assessments and stormwater management. Effort will be made to apply Sustainable Design Standard requirements to infrastructure components to the maximum extent possible.

Similarly, the policy guidance provided in *Metrolinx Planning for Resiliency - Toward a Corporate Climate Adaptation Plan* (Metrolinx, 2017) has been integrated into the planning and design of the Heritage Road Layover Facility, to:

- identify the risks and implications of climate change – **Vulnerabilities**;
- respond to the threats posed by climate change impacts, e.g. severe weather events, temperature extremes - **Adaptation**
- increase the resiliency of the infrastructure and the operations and maintenance procedures – **Mitigation**

Applicability to the Project

Of the goals identified above, Goals 1, 2, and 4 line up most directly with climate change adaptation and mitigation as described in Section 5.1.2. Goal 1 is focused on adaptation and has been considered in various aspects of layover design. Goals 2 and 3 relate to minimizing emissions during layover construction and operations (mitigation), while Goal 4 focuses on minimizing impacts to ecosystems both during construction and operations (adaptation and mitigation). The following sections outline how project planning and design have been undertaken with regard to climate change mitigation and adaptation.

Goals 3 and 5 more broadly speak to how the construction and operations of the Project can maximize social and economic value and is not addressed in this volume as it does not relate to climate change directly.

5.2 Project Effects on Climate Change Mitigation

As indicated in Table 5.1-1, the effects of the Project on climate change mitigation have been evaluated both quantitatively (for GHG emissions) and qualitatively (for transit planning, vegetation compensation/revegetation, energy consumption/emissions and Environmental Management Systems [EMS] for layover operations).

5.2.1 Planning for Transit

Public transportation is a beneficial service that can reduce traffic congestion and the need for new road infrastructure, as well as reduce carbon emissions and air quality concerns associated with automobile use.

Improvements to transit will decrease average transit trip times in the GTHA, even with an increasing population, leading to more people using public transportation and fewer vehicle-kilometres travelled in congested conditions. This reduction in congestion, when combined with expected improvements in automobile fuel efficiency, will result in a decrease in per capita GHG emissions from automobile trips (Metrolinx, 2018).

The Project has been identified for implementation through a comprehensive, iterative planning process for GO Expansion in the GTHA. Further information about the business cases for the GO Expansion Program is provided in section 1.2.1.

5.2.2 Greenhouse Gas Emissions

GHG/Climate Change analyses were undertaken as part of the Air Quality Effects Assessment for the Project, to evaluate the local impacts to air quality (see Sections 3.0, 4.2 and Appendix A).

5.2.3 Vegetation Compensation and Revegetation

The construction of the Project may require the removal of trees and vegetation, which will result in a temporary loss of an existing carbon sink within the local environment, among other impacts.

For GO Expansion Program projects, Metrolinx has established a vegetation compensation framework as part of the Metrolinx Vegetation Guide (2020) and this framework will be applied to the Project. The compensation guideline applies to

construction and does not apply to routine operational maintenance work to ensure safe railway operations and sightlines within the Kitchener Corridor (Metrolinx, 2020).

Vegetation compensation will be implemented through Metrolinx's Vegetation Compensation Guideline, at minimum. Metrolinx's Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation. Table D-1 (Replication Tree (Planting) Ratio by Diameter at Breast Height (DBH) from CVC Ecosystem Offsetting Guidelines (2022) depicts the tree compensation ratios for CVC regulated lands, as shown in Table 5.2-1.

Table 5.2-1: Tree Compensation Ratios for CVC Regulated Lands

DBH Range (cm)	Replication Ratio
0 – 10	1:1
10.1 – 20	1:3
20.1 – 30	1:10
30.1 – 40	1:15
40.1 – 50	1:20
50.1 – 60	1:30
60.1 – 70	1:40
70.1 +	1:50

For Municipal (public) and Private Trees:

Any trees located on public or private lands will be compensated based on the guidelines specified within Brampton by-laws. Depending on the DBH of the tree, the following compensation ratios will be met for the Project (City of Brampton, 2018):

Table 5.2-2: City of Brampton Tree Compensation Ratios

DBH in cm	Ratio
15-20	1:1
21-35	2:1
36-50	3:1
51-65	4:1
>65	5:1

For Trees within Metrolinx Property:

Any trees within the Metrolinx ROW are not subject to municipal permits and approvals, including compensation requirements. Trees located within the Metrolinx ROW within a designated natural area will reflect the principles within the Guideline for Determining Ecosystem Compensation by the Toronto and Region Conservation Authority (TRCA). Trees not within a designated natural area will have baseline compensation of a 1:1 ratio. Metrolinx will work with CVC and Brampton to develop the final compensation plan for the Project.

Tree End Use:

Framework for the end use of trees removed from Metrolinx property should provide end use options, define higher value trees, outline transportation and storage plans, and building the distribution and re-use plan (Metrolinx, 2020). Higher value trees can be utilized as lumber for construction wood and other purposes. Most of the wood generated from tree removals will be converted into wood chips to be utilized within the railway corridor. If there is an excess of wood chips for the Project, distribution to community partners and re-use for gardening, pulp wood, biofuel and other uses may occur. The main objective is to reduce the amount of wood debris disposed into the landfill. Any diseased trees will not be transported outside of quarantine areas and all distribution and transportation will comply with the Canadian Food Inspection Agency.

Revegetation of disturbed areas will take place as soon as possible. Post-planting monitoring of restoration areas will occur for one year after installation. One site visit will be conducted during the subsequent growing season to confirm survival of plantings and/or seed mix. Should the plantings and/or seed mix not survive, additional seeding and/or plantings will be undertaken one year thereafter with one additional monitoring visit in the following growing season.

Additionally, the Metrolinx DRM requires that plant materials suitable to the growing environment at project sites be selected for vegetation/revegetation, and that species (native or non-native) must be hardy, drought and salt-tolerant, and resistant to the stresses of compacted soils and weather exposure.

5.2.4 Energy Consumption and Emissions

To lower the energy consumption and carbon footprint of the proposed infrastructure, the successful Project proponent will be required to explore (sequentially) the following groups of methods for applicability and feasibility: energy efficiency, energy conservation and recovery, and energy harvesting. Examples include:

Energy efficiency – consider enhanced building automation controls; utilize light-emitting diode (LED) lighting; apply passive means of reducing energy where it does not conflict with other operational design requirements; include the use of building materials with high-insulation/energy efficiency value where possible.

Energy harvesting – consider incorporating solar thermal systems, passive solar systems and/or ground source heat pump systems to replace or augment fuel-based systems.

These and other considerations will be developed into an Energy and Emissions Management Plan that will include targets and programs to promote continuous reduction of energy and emissions (both GHG and criteria air contaminant).

5.2.5 Environmental Management System

Metrolinx has developed an Environmental Management System (EMS), which outlines an organization-wide framework for pursuing environmental compliance and continuous environmental improvements. The EMS, which follows the ISO 14001 standard[3] is currently expanding from its operational focus to encompass additional environmental responsibility and stewardship considerations.

The overall objectives of the Metrolinx Sustainability Strategy are reflected in the EMS with respect to energy use reduction and air emissions (such as GHG) management. The operation of the Project will be subject to Metrolinx's EMS. The construction of the Project will be managed through the development of an Environmental Management Plan.

The EMS includes:

- Environmental standards for managing chemicals, solid waste, regulated waste, bulk storage and fuel handling, water use and disposal, energy use, air emissions, ozone-depleting substances, designated substances and hazardous materials, snow and ice, and wildlife and vegetation;
- Compliance audits and corrective action planning;
- Environmental reporting metrics;
- Monitoring of environmental impacts; and
- Monitoring of energy use and air emissions.

Through the use of standards, audits, and reporting, the EMS will promote ongoing compliance with regulatory and corporate environmental requirements throughout the operations of the Heritage Road Layover. Additionally, monitoring of impacts will support ecosystem resilience, consistent with overall Metrolinx sustainability objectives.

5.3 Project Effects on Climate Change Adaptation

It is recognized that climate change is already underway and can be anticipated to affect the construction and operations of the Project. There is general agreement that the Great Lakes Basin will see increases in temperature, precipitation, drought, wind gust events, and freezing rain by the end of this century; however, the level of confidence and quality of supporting evidence for these projections vary considerably

[3] ISO 14001 is an international standard that outlines specific requirements for an effective environmental management system. The standard provides a framework suitable for use by an organization and covers topics such as: Context of the organization, Leadership, Planning, Support, Operation, Performance evaluation, and Improvement.

(Metrolinx, 2017). Table 5.3-1 shows the current consensus predictions for climate change in the Great Lakes Basin.

To focus the consideration of effects of climate change on the Project, only those themes where there is high or medium agreement on data are addressed in the sections below, for both the construction and operations phases of the Project.

5.3.1 Air Temperature

Increases in air temperature will not greatly impact the construction of the Project.

5.3.2 Precipitation

Precipitation, whether it is rainfall, snowfall, or other forms of frozen/liquid water, is the key climate and weather-related variable of concern in Stormwater Management (SWM). As a result of climate change, storm events are predicted to become more intense in the GTHA, which can result in larger volumes of precipitation at one time (see (McDermid, et al., 2015) as outlined in Table 5.3-1).

Stormwater Management

The SWM design for the Project will consider the drainage and SWM objectives of the MECP Stormwater Management Planning and Design Manual (2003), Ministry of Transportation (MTO) Drainage Management Manual (2008), and TRCA Stormwater Management Criteria (2012), among other guidance. This will be supplemented by current guidance such as the runoff volume control targets for Ontario recommended to MECP (Aquafor Beech Ltd. and Earthfx Inc., 2016) from City of Brampton and CVC.

A detailed SWM Plan will be developed prior to the construction phase of the Project so that runoff from rainfall is controlled based on predicted future scenarios, to promote climate resilience. These scenarios will be identified by using the most up-to-date precipitation intensity-duration-frequency (IDF) curves available.

IDF curves are graphical representations of the amount of water that falls within a given period of time in catchment areas and are used by decision makers to plan and design infrastructure to withstand severe weather impacts (Office of the Auditor General of Canada, 2016). Current SWM practices include the use of IDF data and design storm distributions (e.g., Chicago Storm, Hurricane Hazel), as well as 2-year through to 100-year[4] storm events.

Designing the SWM systems for the Project using IDF curves will lead to:

- Reduced ongoing operation and maintenance requirements; and
- Minimized impacts on surrounding ecosystems, since SWM systems will be designed to ensure that runoff from rainfall is controlled mostly on-site.

[4] Storm even frequency is used to simplify the definition of a rainfall event that statistically has a chance of occurring once within the given time period (e.g., a 100-year storm has a 1 in 100 (1%) probability of occurring in any given year.

- Oil-grit separators[5] and stormwater management features must be sized appropriately to manage predicted future scenario flows and sediment loading (e.g., winter and spring).

Erosion and Sediment Control Measures

An increase in storm intensity, which is projected as a result of climate change (see Table 5.3-1), can make erosion and sedimentation more likely, especially during construction. Erosion and Sediment Control (ESC) measures, including the development of an ESC Plan, will be implemented during the construction phase of the Project to ensure stormwater runoff is controlled and sediment is prevented from entering sewers and watercourses. The ESC Plan will include consideration of the Greater Golden Horseshoe Area Conservation Authorities' Erosion and Sediment Control Guideline for Urban Construction (Greater Golden Horseshoe Area Conservation Authorities, 2006), MECP Stowmwater Management and Design Manual (2003), TRCA (in collaboration with CVC) Erosion and Sediment Control Guide (2019), and OPSS 805 (Erosion and Sediment Control Measures). Installation and monitoring of appropriate ESC measures will help mitigate potential effects of climate change on the Project.

[5] Oil grit separators are underground devices designed to protect waterways from hazardous material spills and stormwater pollution.

Table 5.3-1: Climate Change Projections for the Great Lakes Basin

Climate Parameter	Threshold	Annual Probability		Prob. Of Occurrence for Period (2015-2050)	PIEVC Scoring		
		Historical	2050s		Annual: Historical	Annual: 2050s	Study Period (35 year)
Extreme Temperatures	40°C	~0.01 per year	1-7 days per year	~100%	1	7	7
	32°C	6.5 days per year	27.5 days per year	1	7	7	7
	-30°C	0.05 days per year	<0.01 days per year	<70%	2	0-1	5-6
	-23°C	1.1 days per year	0.1 days per year	1	7	3	7
Temperature Ranges	60°C in one year	0.1 days per year	<0.01 events per year	<90%	3	0-1	6
Reduced Visibility (e.g. fog, blowing snow)	400 m	49 hours per year, 15.1 days per year	strong trend ↓, stable recent period	1	7	6-7	7
	200 m	33 hours per year, 11.9 days per year	strong trend ↓, stable recent period	1	7	6-7	7
Frost Penetration	1.2 m or below	0.17 per year	Trend↓ but some conflicting factors	>90%	4	3	6-7
High Winds (Gusts)	90 km/h	2 per year	>2.5 per year	1	7	7	7
	120 km/h	0.05 days per year	Likely ↑	85% or higher	2	2	6-7
Tornadoes	EF1+	1-in-6,000	Unknown	~0.6%	0	0	0-1

Climate Parameter	Threshold	Annual Probability		Prob. Of Occurrence for Period (2015-2050)	PIEVC Scoring		
		Historical	2050s		Annual: Historical	Annual: 2050s	Study Period (35 year)
Overland Flood/Heavy Rainfall	≥25 mm in 2 hour	~ 0.8 events per year	Very likely ↑	1	6	6	7
	≥60 mm in 2 hours	≤ 0.03 events or less per year	Very likely ↑	~70%	1-2	2	6
Freezing Rain	≥ 10 mm	~ 0.2 days per year	~ 0.3 days per year	~100%	4	4-5	7
	≥ 25 mm	0.06 days per year	>0.09 days per year	>95%	2	3	7
Snow	Blowing snow	7.8 days per year	Trends not significant to scoring	1	7	7	7
	≥ 20 cm in one day	0.1 days per year	Conflicting trends, likely remaining similar	>95%	3	3	6-7
Hail	"Gold ball" / 45 mm or larger	0.07 per year	Unknown	>90%	2-3	unknown	6
Horizontal Rain	Gusting 50km/h + >25 mm rain	1.8 days per year	Slight trend ↑	1	7	7	7
Lightning	Direct strikes	~ 0.3% per year	Likely ↑	>99%	1	unknown	3

5.3.3 Low-Impact Development

The SWM designs for the Project will consider implementation of Low Impact Development (LID) measures. LID is a SWM strategy that seeks to mitigate the impacts of increased runoff and stormwater pollution by managing runoff as close to its source as possible (e.g., in the vicinity of the proposed infrastructure). Compared to conventional design, LID measures allow for increased infiltration of stormwater through built infrastructure, which would be beneficial for managing stormwater should storms increase in intensity. LID design strategies include measures that can effectively remove nutrients, pathogens and metals from runoff, and reduce the volume and intensity of stormwater flows (Sustainable Technologies Evaluation Program (STEP), 2019).

5.3.4 Drought

Increase in the frequency and extent of drought will not greatly impact the construction of the Project.

5.3.5 Sustainability Considerations and Climate Change Mitigation Measures

As part of the Metrolinx Sustainability Strategy (2015-2020), five priority sustainability goals have been established to reduce impact on the environment and enhance opportunities for communities with the expansion of public transit within the GTHA. The efforts within the Sustainability Strategy have continued beyond 2020 to maintain a commitment to sustainability (Metrolinx, 2013). These five goals have been incorporated into the design of the Project and are outlined below in Table 5.3-2.

Table 5.3-2: Sustainability Considerations and Climate Change Mitigation Measures

Metrolinx Sustainability Strategy Goal	Project Component / Environmental Feature	Measures to Mitigate Effects of the Transit Project on Climate Change	Measures to Mitigate Effects of Climate Change on the Transit Project	Additional Measures to Promote Sustainability	Outcomes
GOAL 1: BECOME CLIMATE RESILIENT	Air Temperature	• Consider designs that include mitigation measures to reduce the urban heat island effect if the Project • Landscape plantings.	• Consideration of direct and indirect impacts from extreme weather during detailed design. • Consideration of design standards that account for temperature extremes and impacts. • Reduce solar absorption through building materials and automation Project Specific Output Specifications (PSOS).	• None.	• Reduced ambient air temperature within the local environment. • Enhanced minimized impact on surrounding community. • Reduced heat stress for on-site vegetation. • Reduced cooling costs.
	Precipitation	• None.	• Consideration of direct and indirect impacts from extreme weather during detailed design • Consideration of design standards that account for precipitation (rain and snow) extremes and impacts. • Use the most current Intensity Duration Curves (IDC) in SWM design. • Incorporate Low Impact Development (LID) techniques into design where feasible, under guidance from Sustainable Technologies Evaluation Program (STEP, 2019). • Develop a SWM Report during detailed design in consultation with CVC and MECP and following appropriate guides. • Design SWM system to reduce direct overland flow and sheet run-off to storm receptors, holding tanks, and other infrastructure requiring pump-outs.	• None.	• Minimized impacts on surrounding ecosystems and landscapes since stormwater systems are designed based on predicted storm events to mostly control on-site rainfall runoff. • Minimize impacts to SWM infrastructure, reducing operation and maintenance requirements. • Prepared for worst case forecast SWM flows and sediment loading. • Increased infiltration allows for better stormwater management to potentially address more intense storms.

Metrolinx Sustainability Strategy Goal	Project Component / Environmental Feature	Measures to Mitigate Effects of the Transit Project on Climate Change	Measures to Mitigate Effects of Climate Change on the Transit Project	Additional Measures to Promote Sustainability	Outcomes
			• Design SWM system to encourage surface water flow velocity reduction and ground infiltration. • Design SWM system to handle peak winter and spring loading • Monitor SWM facilities including any installed LID elements and maintain and repair as needed.		
	Drought	• None.	• Consideration of direct and indirect impacts from extreme weather during detailed design. • Consideration of design standards that account for precipitation (rain and snow) extremes and impacts. • Employ water conserving measures and metering to monitor consumption. • Landscape plantings using native and non-native species that are hardy, drought and salt-tolerant, and resistant to exposure and soil compaction. • Include commitments to implement water conservation practices and targets in the Sustainability Plan	• None.	• Reduced drought impacts to on-site vegetation as a result of stormwater capture systems (e.g., infiltration / cisterns). • Minimized impacts on surrounding ecosystems. • Reduced indoor and outdoor water use, minimizing the impact of extended droughts on operations and landscape plantings.
GOAL 2: **REDUCE ENERGY USE AND EMISSIONS**	Planning for Transit	• The Project has been identified for implementation through a comprehensive, iterative planning process for new facilities in the GTHA. • The layover facility location was selected based on a GO Expansion business case	• None.	• None.	• Reduce traffic congestion and air emissions and improve per capita GHG emissions.

Metrolinx Sustainability Strategy Goal	Project Component / Environmental Feature	Measures to Mitigate Effects of the Transit Project on Climate Change	Measures to Mitigate Effects of Climate Change on the Transit Project	Additional Measures to Promote Sustainability	Outcomes
		analysis, with benefits outweighing impacts. • The Project is anticipated to contribute to a broader reduction in traffic congestion and air emissions and improve per capita GHG emissions.			
	Energy Consumption and Emissions, including GHG Emission	• The Project is expected to contribute to an overall decrease in GHG emissions due to a reduction in vehicles, replaced by more trains carrying more passengers. • Consider energy efficient design. • Develop and Energy and Emissions Management Plan that targets and programs to promote continuous reduction of energy and emissions (both GHG and Criteria Air Contaminant [CAC]). • Include commitments in the Sustainability Plan to reduce energy consumption.	• None.	• Annual reporting of energy use and emissions.	• Reduced GHG and CAC emissions. • Reduced energy waste and cost throughout the life-cycle.
GOAL 3: INTEGRATE SUSTAINABILITY IN OUR SUPPLY CHAIN	Sustainable Building Materials and Procurement	• None.	• None.	• Identify opportunities to use green construction materials such as those with recycled content or certified sustainable. • Sustainability Plan to include plans and commitments to integrate sustainability criteria into the procurement of goods and services.	• Reduced life-cycle impacts.
GOAL 4: MINIMIZE IMPACT ON ECOSYSTEMS	Environmental; Management Systems	• Operate the Project in accordance with the Metrolinx EMS, which is aligned with ISO 19001, and includes the Sustainability Plan.	• Sustainability Plan to include identification of climate change risks and vulnerabilities.	• Operate the Project in accordance with the Metrolinx EMS, which is aligned with ISO 14001.	• Environmental compliance through continuous monitoring. • Monitoring of impacts will support ecosystem resilience.

Metrolinx Sustainability Strategy Goal	Project Component / Environmental Feature	Measures to Mitigate Effects of the Transit Project on Climate Change	Measures to Mitigate Effects of Climate Change on the Transit Project	Additional Measures to Promote Sustainability	Outcomes
		• To ensure compliance and continuous improvement, develop a Sustainability Plan aligned with the Metrolinx Sustainability Strategy and the EMS, that sets targets, measurements, and monitoring methods, and reporting format.			
	Vegetation Compensation and Revegetation	• Vegetation compensation will be implemented through Metrolinx's Vegetation Compensation Guideline, at minimum (Metrolinx, 2020). Metrolinx's Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation. • The success of compensation vegetation will be monitored in accordance with the Metrolinx Vegetation Guideline (Metrolinx, 2020).	• Select plant material suitable for the Project Site conditions. • Landscape plantings using native and non-native species that are hardy, drought and salt-tolerant, and resistant to exposure and soil compaction.	• Post-construction monitoring of restoration plantings, and re-planting as required. • Where there are opportunities for revegetation landscaping, consider opportunities to: o Enhance biodiversity and ecosystem value. o Develop a Pollinator Habitat Plan in support and Alignment with the Ontario Pollinator Health Action Plan. o Avoid planting invasive species near ravines and other natural areas.	• Compensation for vegetation removals to mitigate potential impacts on carbon sinks. • To mitigate potential impacts on carbon sinks, revegetation completed as soon as possible with plant material suitable for the Project site conditions.
	Waste Management and Reduction	• None.	• None.	• Develop and implement a Construction and Demolition Waste Management Plan prior to establish waste diversion goals and identify opportunities for recycling and reuse of construction materials. • As part of Sustainability Plan, identify ways to maximize waste diversion, and recycling and reuse.	• Increased waste diversion from landfill during construction and operation.
	Salt Reduction Initiatives	• None.	• None.	• Develop and update a Salt Management Strategy.	• Minimized impacts to local water bodies and reduced corrosion

Metrolinx Sustainability Strategy Goal	Project Component / Environmental Feature	Measures to Mitigate Effects of the Transit Project on Climate Change	Measures to Mitigate Effects of Climate Change on the Transit Project	Additional Measures to Promote Sustainability	Outcomes
				• Implement and maintain the Winter Maintenance Plan for facilities maintenance, to include consideration of: ○ Salt use and other chemicals reduction methods; ○ Smart-about-Salt certification for Winter Maintenance Service providers; ○ Best management practices including brine and pre-wetting; ○ Tracking and monitoring of salt and other de-icing compound use; ○ Using low-chloride alternatives in environmentally sensitive areas; and ○ Ensuring automated equipment is properly calibrated.	and wear on assets and infrastructure without compromising safety. • Reduced chemical exposure for employees and environment. • Reduced operational and maintenance costs.
GOAL 5: ENHANCE COMMUNITY RESPONSIBILITY	Community Benefits	• None.	• None.	• Develop a Community Benefits Framework, and a follow-on Community Benefits Agreement, which might include: ○ Opportunities for local workforce development in Project construction; ○ Procurement from local businesses and social enterprises; ○ Opportunities to build partnerships with local community organizations; and ○ Engagement with educational programs to further innovation and sustainability objectives.	• Enhanced social and economic benefits for local communities.

Metrolinx Sustainability Strategy Goal	Project Component / Environmental Feature	Measures to Mitigate Effects of the Transit Project on Climate Change	Measures to Mitigate Effects of Climate Change on the Transit Project	Additional Measures to Promote Sustainability	Outcomes
				• Sustainability Plan will include plans and commitments to provide programs that support employment and training, mental health and local economic development.	
	Light, Noise and Vibration Impacts.	• None.	• None.	• Minimize light pollution in accordance with the DRM, without compromising safety and security. • Prior to construction, develop and maintain a Noise and Vibration Control Plan, to mitigate construction noise and vibration impacts. • Design the layover facility and select equipment to minimize noise from rail operations. • Utilize isolators and vibration control devices as required so equipment noise and vibration does not interfere with GO Transit operations.	• Improved relations with surrounding communities.

6.0 Consultation

Consultation for this project has been conducted in accordance with *O.Reg. 231/08 Transit Projects and Metrolinx Undertakings*, Section 8. This section summarizes how Metrolinx engaged with Indigenous communities and Nations and a variety of key stakeholders to solicit comments and feedback on the proposed Heritage Road Layover. Metrolinx consulted with Indigenous communities and Nations, the public, property owners, elected officials, Technical Advisory Committee members, and review agencies during this process to ensure their feedback could be fully considered and incorporated. A detailed summary of stakeholder engagement, feedback, comments received and how they were considered throughout the TPAP is provided in Appendix I.

Appendix I is divided into six(6) separate appendices:

- I-1: Public Engagement Summary Reports
- I-2: Pre-Planning Correspondence Record
    - I-2a: Pre-Planning Correspondence Record: Meetings - TAC and Stakeholder
    - I-2b: Pre-Planning Correspondence Record: Meetings - Elected Officials
    - I-2c: Pre-Planning Correspondence Record: Technical and Community Stakeholders
- I-3: Transit Project Assessment Process Correspondence Record
    - I-3a: Transit Project Assessment Process Correspondence Record: Meetings - TAC and Stakeholder
    - I-3b:Transit Project Assessment Process Correspondence Record: Meetings - Elected Officials
    - I-3c. Transit Project Assessment Process Correspondence Record: Technical and Community Stakeholder
- I-4: Time Out Correspondence Record
    - I-4a. Time Out Correspondence Record: Technical and Community Stakeholders
    - I-4b. Time Out Correspondence Record: Elected Officials
- I-5: Notice of Completion Correspondence Record: Technical and Community Stakeholders
- I-6: Correspondence with Indigenous communities and Nations

Appendix I-1 contains the records from the two project Public Information Centres and related questions from the public.

Appendix I-2 contains the records of meetings and correspondence with agencies, municipal and community stakeholders, and elected officials during the pre-planning process.

Appendix I-3 contains the records of meetings and correspondence with agencies, municipal and community stakeholders, and elected officials during the TPAP process.

Appendix I-4 contains the records of correspondence with agencies, municipal and community stakeholders, and elected officials during the “TPAP pause” process.

Appendix I-5 contains the records of correspondence with agencies, municipal and community stakeholders, and elected officials during the 30-day Public Review Period.

Appendix I-6 contains the record of correspondence with Indigenous communities and Nations throughout the pre-planning, TPAP, and “TPAP pause” process.

All comments received from the public have been redacted to protect personal information.

Engagement with Indigenous communities and Nations is outlined separately in Section 6.8.

6.1 Consultation Approach

Pre-TPAP consultation began in November 2021, introducing the project to government agencies, relevant to the project. Formal consultation in advance of the Notice of Commencement was initiated with the publication of the Notice of Public Information Centre (PIC) #1 first published on December 23, 2021. Various methods of informal and formal communication have been employed throughout the pre-TPAP and TPAP.

Consultation for this project was planned to ensure a fulsome engagement process. The objectives of this approach were to:

- Inform relevant local, regional, and identified stakeholders of the Heritage Road Layover project;
- Meet the requirements of O.Reg. 231/08, s. 8 and mitigate impacts (as required) to receive regulatory approval;
- Engage, the public, property owners, elected officials, government review agencies and other relevant stakeholders throughout the TPAP process to ensure that the proposed project and mitigation measures are identified, understood, transparent, and fair;
- Educate various stakeholders about the local and regional benefits, location justification, and requirements for the layover in relation to the Kitchener GO Expansion;
- Build a level of understanding and trust; and Provide opportunities for feedback and to comment on the proposed project design, technical studies and identified mitigation measures.

6.1.1 Communication and Engagement Activities

To ensure stakeholders had the opportunity to influence the Project design, opportunities for engagement and comment were provided in advance of the prescribed review period following distribution of a Notice of Commencement. In order to attract as

many stakeholders as possible, a diverse set of engagement methods were employed, including:

- Online engagement at the Metrolinx Engage Heritage Road Layover Project Website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover), where participants could learn more about the Project and share their comments by e-mail;
- Notifications and email updates;
- Meetings with Review Agencies (Provincial, Municipal and Conservation Authorities);
- Notifications and presentations to elected officials;
- Meetings with other stakeholders as required;
- Notifications to, and discussions with, Property Owners;
- Virtual PICs and public review opportunities;
- Newspaper, and Social Media Advertisements; and
- Targeted letters to directly affected property owners and residents within a minimum of 100 m of the study area.

6.1.2 Accessibility

All consultation materials meet Metrolinx Accessibility requirements, in accordance with the *Accessibility for Ontarians with Disabilities Act*, 2016 (AODA), including printed Notices and Mailers, the EPR and Technical Reports.

6.1.3 Key Project Contacts and Stakeholders

A project contact list was developed at the outset of the Project and maintained throughout the duration. The list consisted of the following groups: members of the public, property owners, review agencies (federal, provincial, municipal and conservation authorities), elected representatives, utility companies, transit authorities, and other rail operators. The contact list contained the names, addresses, phone numbers and email addresses of each individual so that they could receive project updates throughout the Project. The project contact list can be found in Appendix I.

Agencies

Federal Agencies

- Environment and Climate Change Canada
- Fisheries and Oceans Canada

Provincial Agencies

- Ministry of Environment, Conservation and Parks
- Ministry of Natural Resources and Forestry

- Ministry of Tourism, Culture and Sport
- Ministry of Transportation
- Ministry of Municipal Affairs and Housing

Municipal Government, Conservation Authorities and Related Municipal Bodies

- Region of Peel
- City of Brampton
- Halton Region
- Town of Halton Hills
- Credit Valley Conservation

Elected Officials

Members of Parliament (MPs)

- Wellington-Halton Hills MP – Michael D. Chong
- Brampton West MP – Kamal Khera

Members of Ontario Provincial Parliament (MPPs)

- Wellington-Halton Hills MPP – Ted Arnott
- Brampton West MPP – Amarjot Sandhu
- Brampton South MPP – Prabmeet Sarkaria

City/Town Councillors and Regional Councillors

- City of Brampton – Wards 2 + 6 (City) – Doug Whillans
- City of Brampton – Wards 2 + 6 (Regional) – Michael Palleschi
- Region of Halton Hills – Ward 1 + 2 (Regional) – Clark Sommerville
- Town of Halton Hills – Ward 2 (Town) – Bryan Lewis
- Town of Halton Hills – Ward 2 (Town) – Ted Brown

Other Stakeholders

Rail

- CN Rail

Public

- Directly impacted property owners – lands acquired by Metrolinx prior to completion of the TPAP

- Local property owners – within a minimum of 120 m of the Project Site (a distribution map is included in Appendix I-1)
- General public

6.2 Project Notices

Public notices through the Brampton Guardian and Georgetown/Acton Independent Free Press were published prior to all PICs, as well as prior to the Notice of Commencement and Notice of Completion. Table 6.2-1 summarizes all notices circulated as part of the Project. Copies of these notices and mailers can be found in Appendix I-1 and I-4a.

Table 6.2-1: Summary of Notices

Type	Medium	Language	Location	Date
Notice of PIC #1	Newspaper	English	Brampton Guardian and the Georgetown Independent / Acton Free Press	December 23, 2021 and January 6, 2021
	Mailer	English	Delivered within a minimum of 100 m of the Study Area	December 23, 2021
Notice of Commencement And Notice of PIC #2	Newspaper	English	Brampton Guardian and the Georgetown Independent / Acton Free Press	March 24, 2022 and March 31, 2022
	Newspaper	French	Le Métropolitain	March 24, 2022 and March 31, 2022
	Mailer	English	Delivered within a minimum of 100 m of the Study Area	March 24, 2022
Notice of Issue	Mailer	English	Delivered within a minimum of 100 m of the Study Area	July 20, 2022
Notice of Resumption	Mailer	English	Mailed within a minimum of 100 m of the Study Area	August 16, 2022
Notice of Completion	Newspaper	English	Brampton Guardian and	August 18, 2022 and

Type	Medium	Language	Location	Date
			the Georgetown Independent / Acton Free Press	August 25, 2022
	Newspaper	French	Le Métropolitain	August 25, 2022 and September 8, 2022
	Mailer	English	Mailed within a minimum of 100 m of the Study Area	August 18, 2022

Notice of PIC Mailer

PIC #1

A Letter and copy of the Notice of Public Information Centre #1 were hand-delivered to households residing in close proximity to the Project Site on December 23, 2021. (a distribution map is included in Appendix I-1) A separate cover letter and copy of the Notice of Public Information Centre #1 was sent by registered mail on December 23, 2021 to the two property owners whose lands include the location of the Project Site, and to their respective legal counsel.

Notice of Commencement and PIC #2

A Letter and copy of the Notice of Commencement and Public Information Centre #2 were hand-delivered to households residing in close proximity (a minimum of 120 m) to the Project Site on March 24, 2022. (a distribution map is included in Appendix I-1) A separate cover letter and copy of the Notice of Commencement and Public Information Centre #2 was mailed on March 23, 2022 to the two property owners and their legal counsel who, at the time, owned portions of the lands that would comprise the Project Site. Stakeholders that emailed Metrolinx directly to be included in a project notice circulation list from PIC #1 were also provided with a copy of the Notice.

6.3 Pre-Planning Consultation

The Pre-Planning Consultation phase of the Project was the first opportunity to inform and engage regarding the Project. A Project website was set up and a PIC was held to provide a first look at the Project and request engagement and feedback.

6.3.1 Public Consultation

Project Website

In advance of PIC #1 a Project website was developed to provide information about the Heritage Road Layover (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). The website provides a comprehensive hub for interested stakeholders and members of the public to learn more about the Project and

allows viewers to find out how they can participate in consultation events, provide feedback.

Public Information Centre #1

From January 12 – 26, 2022 Metrolinx hosted the first PIC for the Heritage Road Layover Facility TPAP. Due to the ongoing COVID-19 pandemic and gathering restrictions the meeting was held virtually through www.metrolinxengage.com. The purpose of this first meeting was to introduce the Project and gather initial input and comments from the community. As well, the meeting provided the opportunity to understand any concerns surrounding the project at an early phase, so responses can be incorporated into the final reports. The project website was Participants could communicate through the public "Ask a Question" page, on page comment forms, by calling Metrolinx, or by emailing peel@metrolinx.com. The PIC #1 Summary Report can be found in Appendix I-1.

Table 6.3-1: Summary of Key PIC #1 Details

Category	Details
Date	Wednesday, January 12 to Wednesday, January 26, 2022
Location	https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover
Number of Unique Page Views	201
Questions/Comments Received	9
Project Information Presented	• Background Information – which provided information about GO Rail Expansion and the proposed Heritage Road Layover • Conceptual Designs – which provided more information about the proposed facility design, existing surroundings, location details, and renderings • Transit Project Assessment Project (TPAP) – which provided information on the technical studies being completed to ensure any potential adverse effects from the proposed infrastructure are either avoided, mitigated, or minimized

Table 6.3-2: Key Issues Raised During PIC #1

What We Heard	What We're Doing About It
Noise concerns	• The findings of the Noise and Vibration Baseline Conditions and Impact Assessment Report will be shared as part of the next meeting.

What We Heard	What We're Doing About It
	• Mitigation measures will be incorporated into the design of the layover if they are considered feasible.
Air quality concerns	• The findings of the Air Quality Assessment Report and mitigation of any effects on air quality in the surrounding area will be shared as part of the next meeting.
Design questions	• Incorporating mitigation criteria into the EPR that will address design concerns.
Heritage Heights Secondary Plan	• Continuing consultation with the City of Brampton.

6.3.2 TAC and Agency Consultation

A Technical Advisory Committee (TAC) was formed for this project including representatives of the City of Brampton, Region of Peel, Town of Halton Hills, and CVC. TAC meetings were held to present and discuss Project information. Additionally, meetings were offered to interested Agencies to introduce the project prior to requesting review. The dates and locations of the TAC and Agency meetings are listed in In advance of PIC #1 a Project website was developed to provide information about the Heritage Road Layover (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). The website provides a comprehensive hub for interested stakeholders and members of the public to learn more about the Project and allows viewers to find out how they can participate in consultation events, provide feedback.

Public Information Centre #1

From January 12 – 26, 2022 Metrolinx hosted the first PIC for the Heritage Road Layover Facility TPAP. Due to the ongoing COVID-19 pandemic and gathering restrictions the meeting was held virtually through www.metrolinxengage.com. The purpose of this first meeting was to introduce the Project and gather initial input and comments from the community. As well, the meeting provided the opportunity to understand any concerns surrounding the project at an early phase, so responses can be incorporated into the final reports. The project website was Participants could communicate through the public "Ask a Question" page, on page comment forms, by calling Metrolinx, or by emailing peel@metrolinx.com. The PIC #1 Summary Report can be found in Appendix I-1.

Table 6.3-1. The presentation materials and meeting minutes can be found in Appendix I-2a.

Table 6.3-3: Details of Technical Advisory Committee Meetings

Date	Location	Attendees	Summary
13-Dec-21	Online Session	City of Brampton Region of Peel Town of Halton Hills CVC	Provided an overview of the GO Expansion program and the conceptual design of the Heritage Road Layover facility Described the TPAP documentation including the summary Environmental Project Report (EPR) and the various technical studies supporting the TPAP Requested initial feedback and issues Key topics included: o Facility details such as future electrification, and track connection to the west, general site layout, site servicing for electricity, sewer and water o Potential impacts such as noise and vibration impacts o Coordination with the work being done on the draft Heritage Heights Subwatershed Study, particularly for stormwater management and the natural heritage system
16-Dec-21	Online Session	MTCS	Provided background on the Project Discussed archaeology and cultural heritage requirements Key topics included: o Coordination with the Heritage Heights Secondary Plan land use and servicing elements, particularly for the identified road crossing at eastern end of the layover facility

6.3.3 Elected Official Consultation

Metrolinx provided briefing materials in advance of the PICs to elected officials via email and offered to hold briefing meetings with elected officials. Table 6.3-4provides a list of meetings held.

Table 6.3-4: Summary of Meetings Held with Elected Officials Offices

Date	Office	Attendees	Meeting Summary
7-Jan-22	MPP Sandhu	Sumeet Kang	Metrolinx provided background on the project, and the opportunity to ask questions or provide suggestions. • Key topics included: o An overview of the GO Expansion program and the conceptual design of the Heritage Road Layover facility o A description of the TPAP documentation including the summary Environmental Project Report (EPR) and the various discipline TPAP Studies o A summary of the previous public engagement sessions held, and the feedback received o The number of residential properties potentially affected and property acquisition

6.4 TPAP Consultation

6.4.1 Notice of Commencement

In accordance with Section 7 of O.Reg.231/08, A Notice of Commencement was first issued on March 24, 2022. Due to timing, a combined Notice of Commencement and Public Information Centre #2 was circulated. The notice was published in English and French, delivered to local property owners (see Table 6.2-1 above), and circulated to Indigenous communities and Nations, the GRT, EOs, and any stakeholders who had requested to be included. Additionally, information was posted to the GO Expansion Twitter page and the Peel and Halton newsletters. The Notice of Commencement included information about the Project and TPAP as well as how to provide comments. A copy of the Notice of Commencement is provided in Appendix I-1.

6.4.2 Public Consultation

Public Information Centre #2

From April 6 – 20, 2022 Metrolinx hosted the second PIC for the Heritage Road Layover Facility TPAP. Due to the ongoing COVID-19 pandemic and gathering restrictions the meeting was held virtually through the Metrolinx Engage website. The purpose of the

second meeting was to provide results of all the draft environmental studies and share a draft of the Environmental Project Report (EPR). As well, key mitigation and monitoring requirements for construction and operations were provided for stakeholder consideration and comment.

Participants could communicate through the public "Ask a Question" page, on page comment forms, by calling Metrolinx at 416-202-7500, by tweeting @GOExpansion, or by emailing peel@metrolinx.com and haltonregion@metrolinx.com. The PIC #2 Summary Report can be found in Appendix I-1.

Table 6.4-1: Summary of Key Public Meeting #2 Details

Category	Details
Date	Wednesday, April 6 to Wednesday, April 20, 2022
Location	https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover
Number of Unique Page Views	247
Questions/Comments Received	2
Project Information Presented	• Project Overview – The main landing page, which provided information about GO Rail Expansion in the Greater Toronto and Hamilton Area and on the GO Kitchener corridor, and specifically about the proposed Heritage Road Layover, as well it provided a TPAP timeline and summary of input provided during the first public engagement session, held from January 12 – 26, 2022; • Conceptual Designs – which provided more information about the proposed facility design, existing surroundings, location details, and renderings; and, • TPAP Findings, Mitigation and Monitoring Measures – which provided information about the study findings along with key mitigation and monitoring measures that will be implemented for the project.

As part of PIC #2 and following the Notice of Commencement, the draft project EPR and technical studies were shared on the project website for review and comment. Each technical study link led to a page providing study highlights and potential effects, mitigation, and monitoring measures. Drafts of the following reports were made available during the consultation period:

- Draft Environmental Project Report
- Air Quality

- Archaeology
- Cultural Heritage
- Natural Environment
- Noise and Vibration
- Socio-Economic & Land Use Characteristics

As part of the EPR a Traffic and Transportation study was in preparation but not available to be shared during the PIC consultation period. The Draft Traffic and Transportation study has since been completed and added to the Engage website for public review.

Table 6.4-2: Key Issues Raised During PIC #2

What We Heard	What We're Doing About It
Concerns regarding impacts to future development	Working with the City of Brampton to coordinate the Project with the Heritage Heights Secondary Plan and align with the intended surrounding development. Reviewing mitigation and monitoring requirements against planned future land uses.

6.4.3 TAC and Agency Consultation

As noted in Section 6.3.2 a TAC was formed for this project including representatives of the City of Brampton, Region of Peel, Town of Halton Hills, and CVC. The dates and locations of the TAC and Agency meetings are listed in Table 6.4-3. The presentation materials and meeting minutes can be found in Appendix I-2a.

Table 6.4-3: Details of Technical Advisory Committee Meetings

Date	Location	Attendees	Summary
01-Apr-22	Online Session	City of Brampton Region of Peel Town of Halton Hills CVC	• Overview of the GO Expansion program and the conceptual design of the Heritage Road Layover facility • Described the TPAP documentation including the summary Environmental Project Report (EPR) and the findings from the various discipline TPAP Studies • Discussed initial feedback and issues raised by the public from PIC #1 • Additional discussion topics included: o Facility details such as size of trains, and train refuelling and fuel storage, o Potential impacts such as noise and vibration impacts in relation to pending and future residential development, and issues with existing rail traffic noise o Coordination of schedules for construction staging between planned Metrolinx, Peel Region and City of Brampton infrastructure projects o Coordination with the work being done on the draft Heritage Heights Subwatershed Study, particularly for stormwater management and the natural heritage system
28-Jun-22	Online Session	City of Brampton CVC CN	• Key topics included: o Impacts of the layover to the draft Heritage Heights Subwatershed Study and the Heritage Heights Secondary Plan

			○ Discussions regarding a proposed roadway which would cross the Project Site, and natural environment and stormwater issues

6.4.4 Elected Official Consultation

Metrolinx provided briefing materials in advance of the PICs to elected officials via email and offered to hold briefing meetings with elected officials. Table 6.4-4 provides a list of meetings held.

Table 6.4-4: Summary of Meetings Held with Elected Officials Offices

Date	Office	Attendees	Meeting Summary
28-Mar-22	MP Khera	Patrick Vaughan	Metrolinx provided background on the project, and the opportunity to ask questions or provide suggestions. • Key topics included: o An overview of the GO Expansion program and the conceptual design of the Heritage Road Layover facility o A description of the TPAP documentation including the summary Environmental Project Report (EPR) and the various discipline TPAP Studies o What engagement has or will occur with Indigenous communities and Nations, particularly given the planned Stage 3 Archaeological Assessment of the site situated within the Project Site footprint?
29-Mar-22	City of Brampton	Michael Palleschi	Metrolinx provided background on the project, and the opportunity to ask questions or provide suggestions. • Key topics included: o An overview of the GO Expansion program and the conceptual design of the Heritage Road Layover facility o A description of the TPAP documentation including the summary Environmental Project Report (EPR) and the various discipline TPAP Studies

			○ A summary of the previous public engagement sessions held, and the feedback received, including the notices provided to nearby property owners ○ The layover operational impacts on the Winston Churchill Boulevard and Heritage Drive crossings ○ Details of typical operations at the Site, such as the definition of light maintenance activities and inspections ○ Coordination with the Heritage Heights Secondary Plan land use, roads and servicing, natural heritage system, and stormwater management elements

6.4.5 GRT Review Circulation

In preparation of the final EPR members of a Government Review Team (GRT) were provided with draft EPR and supporting documents for review and comment. During the TPAP period, several comments were received from agencies and municipalities (including MTCS, CVC, MECP, City of Brampton, Region of Peel, Town of Halton Hills, and MNRF) key comments are summarized in Table 6.4-5. See Appendix I-3c for correspondence records for Municipalities and Agencies.

Integration of Comments

Comments received throughout the TPAP consultation period have been responded to and integrated into the EPR and supporting documents to strengthen requirements. Additional mitigation and monitoring commitments and future commitments have been included within the EPR to address these comments.

Table 6.4-5: Key Comments from GRT Review of Draft EPR and Supporting Documents

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
City of Brampton	Population Data	Population references within the EPR and SELUC are outdated. Update all references to 2021 Census projections.	All population references have been updated to 2021 Census data.
City of Brampton	Policy	Note that the Heritage Heights Secondary Plan was adopted by City Council on April 6, 2022	All reports have been revised to note the adoption of the Heritage Heights Secondary Plan. Metrolinx continues to consult with the City of Brampton.
City of Brampton	Infrastructure	Ongoing discussions regarding the location of the Heritage Road Layover in relation to Tennis St. as shown in the Heritage Heights Secondary Plan.	Metrolinx is coordinating with the City of Brampton and CN Rail to accommodate the proposed crossing of the CN tracks.
City of Brampton	Construction	Construction activities and staging should be planned and undertaken to avoid unintended	Construction is not anticipated to have a direct effect to CHR-1. Indirect impacts (such as a

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
		negative impacts on CHR 1 and CHR 2.	temporary increase of noise and dust) are anticipated for CHR-2 as it is adjacent to the proposed access road to the Project. Measures will be taken to mitigate these impacts.
MTCS	Property	The Cultural Heritage Report should explain what property is owned and what property could be acquired/controlled by Metrolinx for the purpose of this project.	Details have been added to the report to describe the Project Site footprint and clarify that no additional property acquisitions are anticipated.
MTCS	Report Language	Additional language should be added to the report to reflect the purpose of the report relating to recommending further studies.	Language as recommended by MTCS has been incorporated into the report.
MTCS	Stage 1 AA	Please submit the Stage 1 Archaeological Assessment report to the ministry for registration.	The Stage 1 Archaeological Assessment report has been submitted for registration on July 5 2022.
MNRF	Permitting	The relocation of fish outside of the work area requires a Licence to Collect Fish for Scientific purposes and the relocation of wildlife outside the work area (including amphibians, reptiles, and small mammals) will require a Wildlife Collector's	A Licence to Collect Fish for Scientific Purposes was obtained to complete the Aquatic Survey field investigations. Requirements for future permitting have been noted as

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
		Authorization under the Fish and Wildlife Conservation Act will also be required.	project commitments.
Region of Peel	Construction	The EPR and TIA do not discuss Peel/Halton's proposed work along Winston Churchill Blvd.	The reports have been updated to incorporate the planned capital project on Winston Churchill Blvd.
Region of Peel	Construction	The entrance tie-in must match the proposed road grades of Winston Churchill Blvd.	The design will incorporate the proposed grades as provided by the Region of Peel.
Region of Peel	Stormwater	As part of Peel's construction work along Winston Churchill Blvd. the culvert configuration under the CN crossing will be changing. This should be taken into consideration.	The design of the culvert at the CN crossing will be taken into account as part of the design and Stormwater Management report.
Region of Peel	Communication	Please provide sufficient notice to the Region of Peel and other stakeholders (Emergency Services, school boards, etc.) for upcoming road closures.	Notification requirements have been incorporated into the TIA and EPR.
Region of Peel	Construction	The Heritage Road Layover shares PINs with the Kitchener Corridor Expansion project. Please coordinate these projects together to ensure all information can be reviewed by Regional Staff.	The Heritage Road Layover project team will share this information with the Kitchener Corridor Expansion team to streamline review for Regional staff.

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
Region of Peel	Traffic	Details pertaining to the impact to access of the identified heritage features are to be incorporated into the Traffic Study.	There are no impacts expected to the cultural heritage properties. Confirmation of no traffic impacts have been added to the TIA and EPR.
Region of Peel	Traffic	A road occupancy permit and traffic control plan would be required for any proposed lane closures.	This requirement has been added to the TIA and EPR.
Region of Peel	Traffic	The traffic count data used includes 2020 pandemic traffic data. Detail how this data was balanced.	Clarification regarding the traffic data used has been incorporated into the TIA.
Region of Peel	Traffic	Ensure Book 7 is adhered to during the construction process, including all necessary signs along Winston Churchill Blvd. to ensure pedestrians and cyclists are safely accommodated.	Adherence to Book 7 has been incorporated into the TIA and EPR.
CVC	Stormwater	The Heritage Road Layover is located within the draft Heritage Heights Community Subwatershed Study (HHSWS) area which is being finalized with the City of Brampton. Since the Heritage Road Layover project was not considered when the HHCSS was developed consultation is required with the City of Brampton to determine	Consultation with the City of Brampton is ongoing. Further details regarding stormwater will be incorporated into the Stormwater Management Report.

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
		how to mitigate impacts to the proposed natural heritage system.	
CVC	Wildlife	Consider installation of wildlife exclusion fencing. Both from the riparian area as well as from external to the site.	This has been identified in the EPR.
CVC	Stormwater	Ensure that the field studies and background information consider findings from the draft HHSWS Phase 1 and 2.	This work was referenced as part of the NER and EPR. Work relating to the draft HHSWS is ongoing.
CVC	Aquatic	Note that the fish barrier at Winston Churchill Blvd. as identified in the reporting is being replaced by a new crossing along Winston Churchill Blvd. which includes considerations for fish passage.	This has been noted within the reporting.
CVC	Vegetation	In conjunction with mitigation measures related to vegetation removal, please also account for non-treed natural vegetation communities that will also require avoidance and/or replacement (i.e., there is wetland present within the area associated with the intermittent CRT1-2).	The extent and type of vegetation communities have been confirmed through field studies and mitigation and monitoring measures have been incorporated. Compensation will be implemented through the Metrolinx Vegetation Compensation Guideline (2020) at minimum.
CVC	Vegetation	Tree compensation is mentioned. Note that within CVC's regulated	Vegetation compensation will be implemented

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
		area, CVC promotes the use of CVC's Ecological Offsetting Guideline.	through the Metrolinx Vegetation Compensation Guideline (2020), at minimum. The Metrolinx Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation.
CVC	Aquatic	Watercourse CRT1-2 is regulated (medium constraint) and provides seasonal fish habitat. A standard culvert may not be a good option. More discussion will be required on this.	Culvert design will be confirmed through the SWM report. The EPR notes CVCs interest in the culvert design.
Town of Halton Hills	Construction	As part of the construction, and trucks accessing the site must come from Mayfield Road. No truck traffic should be going through Norval Hamlet.	Restriction has been added within the TIA and EPR for Highway 7 and Winston Churchill Blvd intersection in Norval Hamlet with note indicating traffic must travel south from Mayfield Drive.
Town of Halton Hills	Communication	As a courtesy to all the residents living on Winston Churchill Blvd. and in the Norval	This requirement has been added to the TIA and the

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
		Hamlet, please provide notification in advance detailing the construction work that will be occurring along with a Metrolinx contact. Please provide a copy of that notification to the Town of Halton Hills staff representation	EPR future commitments.
MECP	Water	The study area is partially located in highly vulnerable area and significant groundwater recharge area. The construction phase of this project could pose risks to this area. Source protection policies may apply. The EPR has not discussed protection of drinking water sources. The EPR should identify that the project would be occurring within the Credit Valley Protection Area and that the CTC Source Protection Plan applies. The EPR should also identify whether any policies apply to activities related to the construction, operation, or maintenance of the project. The EPR should note whether the proponent has discussed the project with the CTC Source Protection Authority.	Additional information and mitigation measures have been added to the EPR relating to source protection.

Comment Received From	Issue Category	Summary of Comment/Concern	Incorporation into EPR and Design
MECP	Vegetation	Additional mitigation measures, including plantings and vegetation near impacted sensitive receptors to minimize off-site particulate impacts should be explored for the operation phase of the project.	Additional mitigation measures will be evaluated as needed.

Table 6.4-6 Summary of Agency Communication

Agency	Date	Summary
Federal – Department of Fisheries and Oceans	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Federal – Department of Fisheries and Oceans	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Federal – Department of Fisheries and Oceans	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Federal – Department of Fisheries and Oceans	May 9, 2022	• DFO responded to the EPR circulation noting they do not review reports and to submit a Request for Review form if the project needs review
Federal – Department of Fisheries and Oceans	June 14, 2022	• Metrolinx responded to DFO noting that aquatic fieldwork is scheduled for July 4, 2022, following which a Request for Review will be submitted
Federal – Department of Fisheries and Oceans	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Federal – Department of Fisheries and Oceans	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Federal – Department of Fisheries and Oceans	August 18, 2022	• Metrolinx shared Notice of Completion
Federal – Environment and Climate Change Canada	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Federal – Environment and Climate Change Canada	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Federal – Environment and Climate Change Canada	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Provincial – Ministry of Environment, Conservation and Parks	November 25, 2021	• Metrolinx provided an introduction email and high-level project summary • Metrolinx requested confirmation of the Project Officer for the file •
Provincial – Ministry of Environment, Conservation and Parks	November 29, 2021	• MECP requested confirmation of project timing
Provincial – Ministry of Environment, Conservation and Parks	December 1, 2021	• Metrolinx confirmed proposed project dates with MECP
Provincial – Ministry of Environment, Conservation and Parks	December 8, 2021	• MECP indicated they had no concerns with the proposed timeframe
Provincial – Ministry of Environment, Conservation and Parks	February 4, 2022	• Metrolinx provided the Noise and Vibration study assumptions for MECP review
Provincial – Ministry of Environment, Conservation and Parks	February 8, 2022	• MECP indicated that comments would be ready by the week of February 28, 2022
Provincial – Ministry of Environment, Conservation and Parks	March 2, 2022	• MECP provided comments on the Noise and Vibration Assumptions
Provincial – Ministry of Environment, Conservation and Parks	March 24, 2022	• Metrolinx provided the Notice of Commencement for MECP review
Provincial – Ministry of Environment, Conservation and Parks	April 5, 2022	• Metrolinx provided the Draft EPR for comment
Provincial – Ministry of Environment, Conservation and Parks	April 8, 2022	• MECP noted that a lead Project Officer had been assigned to the project • MECP requested confirmation on the target dates for the project

Provincial – Ministry of Environment, Conservation and Parks	April 11, 2022	• MECP provided a letter acknowledging the Notice of Commencement • Metrolinx provided estimated timelines for the project and requested confirmation that the EPR had been properly circulated to the new Project Officer • MECP confirmed that they had received the EPR and technical studies • MECP requested Metrolinx share their preferred comment response table • Metrolinx provided the comment response table for MECP use
Provincial – Ministry of Environment, Conservation and Parks	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction • MECP requested clarification regarding how the Noise and Vibration comments circulated March 2, 2022 would be closed off
Provincial – Ministry of Environment, Conservation and Parks	April 18, 2022	• Metrolinx noted that the comments were incorporated into the Noise and Vibration report and the comments could be closed off as part of the technical review of the report
Provincial – Ministry of Environment, Conservation and Parks	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Provincial – Ministry of Environment, Conservation and Parks	May 12, 2022	• MECP noted that the technical reviewers requested more time and would submit their comments by Monday May 16, 2022
Provincial – Ministry of Environment, Conservation and Parks	May 13, 2022	• Metrolinx noted that there is no issue with the minor delay • Metrolinx also noted their intent to proceed with a full 120 day TPAP process rather than the 90 day period previously discussed
Provincial – Ministry of Environment, Conservation and Parks	May 27, 2022	• MECP provided comments on the EPR • MECP noted that they were satisfied with the Noise and Vibration responses
Provincial – Ministry of Environment, Conservation and Parks	July 14, 2022	• Metrolinx noted that they were looking to proceed with a Notice of Issue for the project and would like to schedule a meeting for July 26, 2022 • MECP noted that the date would work for a meeting
Provincial – Ministry of Environment, Conservation and Parks	July 11, 2022	• Metrolinx shared their responses to the City of Brampton's comments regarding Cultural Heritage and Archaeology
Provincial – Ministry of Environment, Conservation and Parks	July 13, 2022	• Metrolinx provide their comment responses to MECP
Provincial – Ministry of Environment, Conservation and Parks	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Provincial – Ministry of Environment, Conservation and Parks	July 28, 2022	• MECP requested an updated EPR for review
Provincial – Ministry of Environment, Conservation and Parks	July 29, 2022	• Metrolinx shared updated EPR draft for MECP review
Provincial – Ministry of Environment, Conservation and Parks	August 3, 2022	• MECP acknowledged the Notice of Issue
Provincial – Ministry of Environment, Conservation and Parks	August 9, 2022	• Metrolinx shared the Indigenous communities and Nations consultation record
Provincial – Ministry of Environment, Conservation and Parks	August 10, 2022	• MECP confirmed successful receipt of the Indigenous communities and Nations consultation record • Metrolinx shared the Stakeholder Consultation record
Provincial – Ministry of Environment, Conservation and Parks	August 15, 2022	• MECP confirmed most comments had been addressed, pending review of SAR and updates to the consultation record
Provincial – Ministry of Environment, Conservation and Parks	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project • MECP acknowledged the Notice of Resumption
Provincial – Ministry of Environment, Conservation and Parks	August 18, 2022	• Metrolinx shared Notice of Completion
Provincial – Ministry of Municipal Affairs and Housing	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022

Provincial – Ministry of Municipal Affairs and Housing	April 11, 2022	• MMAH requested the circulation letter and an overlay map for their review • Metrolinx provided the requested letter and map as well as the comment response template
Provincial – Ministry of Municipal Affairs and Housing	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Provincial – Ministry of Municipal Affairs and Housing	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Provincial – Ministry of Municipal Affairs and Housing	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Provincial – Ministry of Municipal Affairs and Housing	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Provincial – Ministry of Municipal Affairs and Housing	August 18, 2022	• Metrolinx shared Notice of Completion
Provincial – Ministry of Natural Resources and Forestry	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Provincial – Ministry of Natural Resources and Forestry	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Provincial – Ministry of Natural Resources and Forestry	April 22, 2022	• MNDMNRF provided comments on the EPR
Provincial – Ministry of Natural Resources and Forestry	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Provincial – Ministry of Natural Resources and Forestry	May 26, 2022	• MNDMNRF indicated that they have no further comments related to the Traffic Impact Assessment • MNDMNRF noted that the project contact has changed
Provincial – Ministry of Natural Resources and Forestry	June 1, 2022	• Metrolinx noted the contact change
Provincial – Ministry of Natural Resources and Forestry	July 4, 2022	• Metrolinx provided their responses to MNDMNRF's comments which will be incorporated into the EPR
Provincial – Ministry of Natural Resources and Forestry	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Provincial – Ministry of Natural Resources and Forestry	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Provincial – Ministry of Natural Resources and Forestry	August 18, 2022	• Metrolinx shared Notice of Completion
Provincial – Ministry of Tourism, Culture, and Sport	November 24, 2021	• Metrolinx provided an introduction email and high-level project summary, and offer of an initial meeting • Metrolinx provided copies of previously completed Archaeological Assessments
Provincial – Ministry of Tourism, Culture, and Sport	November 29, 2021	• MTCS requested further background information regarding the project and if it had been covered by a previous TPAP
Provincial – Ministry of Tourism, Culture, and Sport	December 6, 2021	• Metrolinx clarified that the project was not part of a previously completed TPAP but was part of the broader study area for the GO Transit Georgetown to Kitchener Rail Expansion ESR completed in 2009. A TPAP was previously initiated for the project in 2015/2016 but no notice of commencement was issued.
Provincial – Ministry of Tourism, Culture, and Sport	December 6, 2021	• MTCS expressed interest in an initial project background meeting
Provincial – Ministry of Tourism, Culture, and Sport	December 9, 2021	• Metrolinx provided an invitation to a Technical Advisory Committee meeting on December 16, 2021
Provincial – Ministry of Tourism, Culture, and Sport	January 6, 2022	• Metrolinx circulated the final meeting minutes from the December 16, 2021 meeting

Provincial – Ministry of Tourism, Culture, and Sport	March 4, 2022	• Metrolinx provided the Draft Cultural Heritage Report for review
Provincial – Ministry of Tourism, Culture, and Sport	April 5, 2022	• Metrolinx provided the Draft EPR for comment
Provincial – Ministry of Tourism, Culture, and Sport	April 7, 2022	• Metrolinx confirmed proper circulation of the Draft EPR • MTCS confirmed they would provide comments by May 8, 2022
Provincial – Ministry of Tourism, Culture, and Sport	April 11, 2022	• MTCS requested Metrolinx's comment response table
Provincial – Ministry of Tourism, Culture, and Sport	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Provincial – Ministry of Tourism, Culture, and Sport	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Provincial – Ministry of Tourism, Culture, and Sport	May 6, 2022	• MTCS noted they would not be commenting on the Draft Traffic Impact Assessment • MTCS noted they would comment on the forthcoming Cultural Heritage Assessment • MTCS requested clarification regarding when the Stage 1 Archaeological Assessment would be submitted to the ministry
Provincial – Ministry of Tourism, Culture, and Sport	May 9, 2022	• Metrolinx noted that a Cultural Heritage Evaluation Report will not longer be required for the project based on no direct impact to the adjacent property • Metrolinx noted that comments from municipal partners on the Stage 1 Archaeological Assessment were being compiled and that formalized feedback from Indigenous communities and Nations had not yet been received
Provincial – Ministry of Tourism, Culture, and Sport	May 10, 2022	• MTCS clarified that they were looking for responses to comments provided on the Draft Cultural Heritage Report • MTCS confirmed the process for submitting the Stage 1 Archeological Assessment and suggested requesting an expedited review to fit within the project timeline • Metrolinx confirmed that all comments on the Draft Cultural Heritage Report were being addressed collectively so the responses and revised report should be circulated in late May
Provincial – Ministry of Tourism, Culture, and Sport	May 13, 2022	• Metrolinx requested guidance regarding holding the Stage 1 Archaeological Assessment report until Indigenous communities and Nations comments could be received and incorporated
Provincial – Ministry of Tourism, Culture, and Sport	May 16, 2022	• MTCS noted that their advice is to complete a Stage 1 report at a minimum during the pre-planning stage of a project, and not passed the regulated 120 day TPAP period • MTCS noted that there is an option to take a "timeout" in order to complete consultation for the report
Provincial – Ministry of Tourism, Culture, and Sport	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Provincial – Ministry of Tourism, Culture, and Sport	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Provincial – Ministry of Tourism, Culture, and Sport	August 18, 2022	• Metrolinx shared Notice of Completion
Provincial – Ministry of Transportation	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Provincial – Ministry of Transportation	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Provincial – Ministry of Transportation	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Provincial – Ministry of Transportation	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Provincial – Ministry of Transportation	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project

Provincial – Ministry of Transportation	August 18, 2022	• Metrolinx shared Notice of Completion
Municipal – City of Brampton	November 16, 2021	• Metrolinx provided an introduction email and high-level project summary, and offer of an initial meeting • Metrolinx requested confirmation of project contact
Municipal – City of Brampton	November 19, 2021	• City of Brampton confirmed project contact and interest in a meeting
Municipal – City of Brampton	December 1, 2021	• Metrolinx provided an invitation to the Technical Advisory Committee meeting on December 13, 2021
Municipal – City of Brampton	December 1, 2021	• City of Brampton requested additional staff be included in the TAC meeting
Municipal – City of Brampton	December 17, 2021	• Metrolinx circulated the Technical Advisory Committee meeting minutes from December 13, 2021
Municipal – City of Brampton	January 17, 2021	• City of Brampton requested a status update for the project to circulate to their Transit Advisory Committee
Municipal – City of Brampton	January 18, 2021	• Metrolinx confirmed that PIC #1 was currently live and a full project status could be found on the webpage
Municipal – City of Brampton	March 11, 2022	• City of Brampton provided some comments on the PIC #2 slide deck • City of Brampton provided some comments regarding the design and location of the layover facility with respect to the Heritage Heights Secondary Plan
Municipal – City of Brampton	March 21, 2022	• Metrolinx noted that the Project Notice of Commencement and PIC #2 would be circulated March 24, 2022 • Metrolinx provided an invitation to the Technical Advisory Committee meeting on April 1, 2022
Municipal – City of Brampton	April 7, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Municipal – City of Brampton	April 11, 2022	• Metrolinx circulated the Technical Advisory Committee meeting minutes from April 1, 2022
Municipal – City of Brampton	April 12, 2022	• City of Brampton noted a discrepancy in the EPR regarding service frequency • Metrolinx indicated that the EPR would be revised to state the correct service frequency as previously communicated with the City of Brampton • City of Brampton requested service information for stations west of Mount Pleasant • Metrolinx provided the future service levels for stations west of Mount Pleasant
Municipal – City of Brampton	April 12, 2022	• Metrolinx met with City of Brampton to discuss integration with the Heritage Heights Secondary Plan
Municipal – City of Brampton	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Municipal – City of Brampton	April 21, 2022	• City of Brampton requested the Traffic Impact Assessment
Municipal – City of Brampton	April 22, 2022	• Metrolinx indicated that the Traffic Impact Assessment had been delayed and should be circulated early next week
Municipal – City of Brampton	April 28, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Municipal – City of Brampton	May 8, 2022	• City of Brampton provided comments for the Draft EPR submittal • City of Brampton noted that comments on the Traffic Impact Assessment would follow under a separate cover
Municipal – City of Brampton	May 30, 2022	• City of Brampton provided comments for the Traffic Impact Assessment
Municipal – City of Brampton	July 11, 2022	• Metrolinx provided a response to comments relating to Cultural Heritage and Archaeology • Metrolinx provided a copy of the Archeoworks 2017 Stage 3 Site-Specific Archaeological Assessment as requested
Municipal – City of Brampton	July 12, 2022	• Metrolinx provided the remainder of their comment responses to the City of Brampton's feedback on the EPR
Municipal – City of Brampton	July 15, 2022	• City of Brampton indicated their satisfaction with most of the comment responses • City of Brampton requested that the population forecasts in the EPR and SELUC reports be updated
Municipal – City of Brampton	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project • City of Brampton noted that the City Environmental Planning staff would have additional comments finalized shortly
Municipal – City of Brampton	July 20, 2022	• City of Brampton provided comments from Environmental Planning Staff on the EPR

		• Metrolinx acknowledged the comments
Municipal – City of Brampton	July 21, 2022	• City of Brampton provided an additional comment regarding stormwater quality • City of Brampton provided additional comments from Development Engineering Staff regarding noise • Metrolinx requested additional information regarding the SELUC comments • City of Brampton confirmed SELUC information
Municipal – City of Brampton	July 29, 2022	• Metrolinx confirmed edit to the SELUC report in response to City's comment
Municipal – City of Brampton	August 2, 2022	• Metrolinx requested permission to circulate data from the City of Brampton to Indigenous communities and Nations • City of Brampton confirmed no issue
Municipal – City of Brampton	August 4, 2022	• City of Brampton shared additional comments from the Heritage Planning staff • Metrolinx responded to provide clarification regarding Cultural Heritage
Municipal – City of Brampton	August 10, 2022	• Metrolinx provided comment responses to the City of Brampton along with an updated copy of the EPR • City of Brampton provided a memo summarizing potential conflicts with the Heritage Heights Secondary Plan and draft Heritage Heights Subwatershed study requiring further discussion and mitigation
Municipal – City of Brampton	August 11, 2022	• City of Brampton confirmed agreement that surrounding properties would not have any direct cultural heritage impacts
Municipal – City of Brampton	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Municipal – City of Brampton	August 18, 2022	• Metrolinx shared Notice of Completion
Municipal – Credit Valley Conservation	December 17, 2021	• Metrolinx circulated the Technical Advisory Committee meeting minutes from December 13, 2021
Municipal – Credit Valley Conservation	March 21, 2022	• Metrolinx noted that the Project Notice of Commencement and PIC #2 would be circulated March 24, 2022 • Metrolinx provided an invitation to the Technical Advisory Committee meeting on April 1, 2022
Municipal – Credit Valley Conservation	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Municipal – Credit Valley Conservation	April 11, 2022	• Metrolinx circulated the Technical Advisory Committee meeting minutes from April 1, 2022
Municipal – Credit Valley Conservation	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Municipal – Credit Valley Conservation	May 11, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Municipal – Credit Valley Conservation	May 31, 2022	• CVC provided comments on the draft EPR
Municipal – Credit Valley Conservation	June 12, 2022	• Metrolinx provided a comment response table detailing how CVC's comments were addressed as well as the revised Natural Environment Report
Municipal – Credit Valley Conservation	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Municipal – Credit Valley Conservation	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Municipal – Credit Valley Conservation	August 16, 2022	• CVC acknowledged the responses to their comments and noted some remained open as well as providing some additional comments to address • CVC noted additional coordination will be required following the TPAP phase of the project
Municipal – Credit Valley Conservation	August 18, 2022	• Metrolinx shared Notice of Completion
Municipal – Region of Peel	December 1, 2021	• Metrolinx provided an introduction email and high-level project summary • Metrolinx provided an invitation to the Technical Advisory Committee meeting on December 13, 2021

Municipal – Region of Peel	December 17, 2021	• Metrolinx circulated the Technical Advisory Committee meeting minutes from December 13, 2021
Municipal – Region of Peel	March 21, 2022	• Metrolinx noted that the Project Notice of Commencement and PIC #2 would be circulated March 24, 2022 • Metrolinx provided an invitation to the Technical Advisory Committee meeting on April 1, 2022
Municipal – Region of Peel	March 24, 2022	• Metrolinx circulated the Notice of Commencement to Region of Peel Elected officials with an offer for a briefing on March 28, 2022
Municipal – Region of Peel	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Municipal – Region of Peel	April 11, 2022	• Metrolinx circulated the Technical Advisory Committee meeting minutes from April 1, 2022
Municipal – Region of Peel	April 11, 2022	• Region of Peel noted that they have circulated the EPR for comments • Region of Peel noted that there was a new lead project contact
Municipal – Region of Peel	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Municipal – Region of Peel	May 5, 2022	• Region of Peel requested a copy of the Draft Traffic Information Study • Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022 • Region of Peel provided comments on the EPR
Municipal – Region of Peel	May 17, 2022	• Region of Peel provided an additional comment noting that Public Sector Network does not have any infrastructure in the area of the project
Municipal – Region of Peel	May 27, 2022	• Region of Peel provided additional comments on the Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report
Municipal – Region of Peel	June 6, 2022	• Region of Peel provided comments on the Draft Traffic Impact Assessment Report • Metrolinx thanked the Region of Peel for their review and confirmed that the staff who had requested the report had reviewed it. • Region of Peel confirmed that the staff were part of the review team
Municipal – Region of Peel	June 27, 2022	• Metrolinx requested clarification regarding a comment regarding culvert configurations • Region of Peel clarified their comment request • Metrolinx confirmed they would reach out with a response shortly
Municipal – Region of Peel	July 8, 2022	• Metrolinx provided consolidated responses to the Region of Peel's comments • Metrolinx provided the updated Traffic Impact Assessment for review
Municipal – Region of Peel	July 15, 2022	• Region of Peel acknowledged comment responses and provided additional comments regarding Air Quality • Metrolinx confirmed they would review the new comments
Municipal – Region of Peel	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Municipal – Region of Peel	August 12, 2022	• Metrolinx provided responses to the Region of Peel's Air Quality comments
Municipal – Region of Peel	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Municipal – Region of Peel	August 18, 2022	• Metrolinx shared Notice of Completion
Municipal – Town of Halton Hills	December 8, 2021	• Metrolinx provided an introduction email and high-level project summary • Metrolinx provided an invitation to the Technical Advisory Committee meeting on December 13, 2021
Municipal – Town of Halton Hills	December 9, 2021	• Halton Hills expressed interest in attending the Technical Advisory Committee meeting
Municipal – Town of Halton Hills	December 17, 2021	• Metrolinx circulated the Technical Advisory Committee meeting minutes from December 13, 2021
Municipal – Town of Halton Hills	March 21, 2022	• Metrolinx noted that the Project Notice of Commencement and PIC #2 would be circulated March 24, 2022 • Metrolinx provided an invitation to the Technical Advisory Committee meeting on April 1, 2022
Municipal – Town of Halton Hills	March 24, 2022	• Metrolinx circulated the Notice of Commencement and PIC #2 including an invitation for a briefing meeting on March 29, 2022 • Halton Hills indicated they would like to attend the briefing meeting
Municipal – Town of Halton Hills	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022 • Metrolinx provided the PDF versions of the Notice of Commencement and PIC #2 for circulation as discussed in the TAC meeting

Municipal – Town of Halton Hills	April 11, 2022	• Metrolinx circulated the Technical Advisory Committee meeting minutes from April 1, 2022
Municipal – Town of Halton Hills	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Municipal – Town of Halton Hills	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Municipal – Town of Halton Hills	May 24, 2022	• Halton Hills noted that they were coordinating all comments and hoped to share them with Metrolinx by May 27, 2022
Municipal – Town of Halton Hills	June 3, 2022	• Halton Hills provided comments on the EPR
Municipal – Town of Halton Hills	July 8, 2022	• Metrolinx provided a comment response table addressing the Halton Hills comments
Municipal – Town of Halton Hills	July 11, 2022	• Halton Hills confirmed that their comments had been adequately addressed
Municipal – Town of Halton Hills	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Municipal – Town of Halton Hills	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Municipal – Town of Halton Hills	August 18, 2022	• Metrolinx shared Notice of Completion
Other Technical Stakeholders – Canadian National Railway	December 3, 2021	• Metrolinx provided an introduction email and high-level project summary, and offer of an initial meeting
Other Technical Stakeholders – Canadian National Railway	December 8, 2021	• Metrolinx offered to provide a call
Other Technical Stakeholders – Canadian National Railway	April 6, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Other Technical Stakeholders – Canadian National Railway	April 7, 2022	• Metrolinx provided the Draft EPR for comment response by May 8, 2022
Other Technical Stakeholders – Canadian National Railway	April 14, 2022	• Metrolinx circulated a correction to a typographical error in the EPR introduction
Other Technical Stakeholders – Canadian National Railway	April 29, 2022	• CN requested more detailed design plans to facilitate their review • Metrolinx requested clarity regarding what details they would require
Other Technical Stakeholders – Canadian National Railway	May 5, 2022	• Metrolinx circulated the Draft Traffic Impact Assessment for review by May 28, 2022
Other Technical Stakeholders – Canadian National Railway	June 7, 2022	• Metrolinx reiterated their request for clarity regarding additional information CN required for their review
Other Technical Stakeholders – Canadian National Railway	June 8, 2022	• CN requested the Stormwater Management report including a proposed grading plan for their review
Other Technical Stakeholders – Canadian National Railway	June 16, 2022	• Metrolinx provided the 60% detailed design report, specifications, and drawings for the site. • Metrolinx noted that the SWM report would be circulated once it is prepared.
Other Technical Stakeholders – Canadian National Railway	July 18, 2022	• Metrolinx shared Notice of Issue, pausing the project
Other Technical Stakeholders – Canadian National Railway	August 16, 2022	• Metrolinx shared Notice of Resumption, resuming the project
Other Technical Stakeholders – Canadian National Railway	August 18, 2022	• Metrolinx shared Notice of Completion

6.5 Notice of Issue

A Notice of Issue for the project was registered with MECP on July 18, 2022 and posted to the project website in accordance with O.Reg.231/08 section 10. The Notice was also circulated to Indigenous communities and Nations, GRT, MTO, elected officials, delivered to surrounding property owners within a minimum 100 m of the Project Site and members of the public identified in the project mailing list on July 16, 2022.

The Notice of Issue was utilized because additional information from Indigenous communities and Nations was required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the Constitution Act, 1982, are impacted.

Consultation During the "time out" Period

To facilitate the discussion of potential impacts to Indigenous and Treaty Rights as it relates to the Project, the following engagement was completed:

- A workshop held with Six Nations of the Grand River on July 22, 2022; and
- Ongoing engagement with Haudenosaunee Confederacy Chiefs Council by way of the Haudenosaunee Development Institute, which included establishing a project-specific agreement with the Nation.
- Follow-up meetings were completed with the Ministry of Environment, Conservation and Parks to outline the outcomes of the above-noted engagement activities.
- Project-specific feedback provided by Indigenous communities and Nations will be integrated as future commitments within the EPR and will continue through detailed design and construction.

Metrolinx is committed to working with Indigenous communities and Nations outside of the Heritage Road Layover project regarding broader issues that extend beyond the Heritage Road Layover scope of work. A summary of the workshop held with Six Nations of the Grand River is included in Appendix I-6. A very high level summary of the meetings with the Haudenosaunee Confederacy Chiefs Council is also provided in Appendix I-6.

6.6 Notice of Resumption

A Notice of Resumption was provided to the Director of the Environmental Assessment Permissions Branch on August 16, 2022, and the 120-day TPAP consultation period resumed and concluded on August 18, 2022.

6.7 Post TPAP Consultation

6.7.1 Notice of Completion

In accordance with Section 11 of O.Reg.231/08, A Notice of Completion was first issued on August 18, 2022, within 120 days of the Notice of Commencement. The Notice was circulated in the same publications as the Notice of commencement as detailed above in Table 6.2-1. The Notice of Completion was also emailed to interested parties on the

contact list. The Notice detailed the objection process available. The notice was made available on the project webpage. A copy of the Notice of Completion is provided in Appendix I.

6.7.2 30-Day Public Review

Upon issuing the Notice of Completion, the Final EPR and Supporting Appendices (environmental and technical studies) were made available for 30 days for review by the Public (including property owners), Indigenous communities and Nations and organizations, Review Agencies, and other Stakeholders. Specifically, the EPR was posted online to the Metrolinx project website as follows:

https://www.metrolinxengage.com/en/content/kitchener-corridorheritage-road-layover

During the 30-day review period, if there are concerns pertaining to the potential for a negative impact on a matter of Provincial importance according to O. Reg. 231/08 that relates to the natural environment or has cultural value or interest, or on a constitutionally protected Aboriginal or treaty right, an objection may be submitted to the Minister of Environment, Conservation and Parks (the Minister) as outlined in the Notice of Completion.

The 30-day public review period will commence on August 18, 2022 and will conclude on September 19, 2022.

Consultation

Table 6.7-1 outlines the consultation that occurred during the public review period and the changes that were made to the EPR in response. Any commitments beyond the TPAP timeframe are captured within Section 7. All correspondence can be found in Appendix I-5.

Table 6.7-1 Summary of Agency Communication Following Notice of Completion

Agency	Date	Summary	Change to the EPR
Federal – Department of Fisheries and Oceans	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Federal – Environment and Climate Change Canada	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Provincial – Ministry of Municipal Affairs and Housing	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Provincial – Ministry of Natural Resources and Forestry	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Provincial – Ministry of Tourism, Culture, and Sport	August 27, 2022	• MTCS provided comments based on their review of the Stage 1 Archaeological Assessment report and requested edits	Revisions to Appendix G
Provincial – Ministry of Tourism, Culture, and Sport	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Provincial – Ministry of Tourism, Culture, and Sport	September 2, 2022	• Metrolinx provided the requested edits to the Stage 1 Archaeological Assessment Report	N/A
Provincial – Ministry of Tourism, Culture, and Sport	September 15, 2022	• MTCS acknowledged the requested changes and noted some additional required revisions • MTCS noted their preference to have an approved Stage 1 Archaeological Assessment Report prior to the completion of the Public Review Period • Metrolinx confirmed the requested edits would be completed by September 16	Revisions to Appendix G
Provincial – Ministry of Tourism, Culture, and Sport	September 16, 2022	• MTCS confirmed that the Stage 1 Archaeological Assessment Report has been accepted and has been entered into the register	N/A
Provincial – Ministry of Transportation	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Municipal – City of Brampton	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Municipal – City of Brampton	September 6, 2022	• Metrolinx responded to additional comments and noted that they will continue to work with the City of Brampton and CVC as the Heritage Heights Secondary Plan progresses	None – a commitment is already noted in section 7.1.3
Municipal – Credit Valley Conservation	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Municipal – Credit Valley Conservation	September 6, 2022	• Metrolinx responded to CVC's additional comments acknowledging that discussions regarding stormwater management would extend passed the TPAP period into further detailed design	None
Municipal – Credit Valley Conservation	September 9, 2022	• CVC noted that after their review of the Final EPR they had no further comments and looked forward to coordinating with Metrolinx and the City of Brampton to address outstanding stormwater issues related to the heritage heights subwatershed study.	A commitment has been added to section 7.1.4
Municipal – Region of Peel	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	N/A
Municipal – Region of Peel	September 15, 2022	• The Region of Peel noted they are in the process of preparing comments to the Final EPR	None
Municipal – Region of Peel	September 16, 2022	• The Region of Peel shared additional comments on the Final EPR	A reference within the document was updated. A commitment to continued engagement is already noted in section 7.1.3
Municipal – Region of Peel	October 11, 2022	• The Region of Peel requested clarification regarding the response to a comment and if further information was required.	None

		• Metrolinx clarified the comment response and confirmed no further information was required.	
Municipal – Region of Peel	October 13, 2022	• The Region of Peel provided comments regarding the documents being referenced as part of the SELUC Report and requested a revision.	A revision to the requested references was made to Appendix E.
Municipal – Region of Peel	October 18, 2022	• Metrolinx confirmed that the references had been revised within Appendix E. • The Region of Peel confirmed that there were no further comments from staff on the EPR.	None
Municipal – Town of Halton Hills	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	None
Other Technical Stakeholders – Canadian National Railway	September 1, 2022	• Metrolinx provided a revised (signed) version of the Noise and Vibration report with minor edits	None

Table 6.7-2 Summary of Public Communication Following Notice of Completion

Date Received	Issue Category	Comment Summary	Response Summary	Change to the EPR
August 22, 2022	Natural Environment and Infrastructure	Requested information regarding the possibility of adding green roofs to buildings. Also requested information regarding planting in unused areas of the site to be used for pollinators.	The buildings that serve the layover facility are small, prefabricated structures that meet design specifications for energy efficiency. Green roofs have not been specified. While the City of Brampton does have green standards that offer guidance, in this instance the applicable design standards are those set out in Table 5.3 2: of the EPR for Sustainability Considerations and Climate Change Mitigation Measures, including the use of green construction materials such as those with recycled content or certified sustainable. During detailed design, a plan will be developed for landscape plantings that: • Use native and non-native species that are: hardy, drought and salt-tolerant, and resistant to exposure and soil compaction; • Enhance biodiversity and ecosystem value; and, • Support and align with the Ontario Pollinator Health Action Plan in areas where practicable and feasible.	None
September 19, 2022	Noise and Vibration	Request for information regarding the process that would be followed to determine the noise and vibration impacts for potential future changes to the project. Also requested the information gathered from the baseline noise and vibration monitoring.	If in future changes are made than the addendum procedures under O.Reg. 231-08 Transit Projects and Metrolinx Undertakings would be followed. The baseline monitoring is currently underway after having been delayed due to property access constraints.	None

6.7.3 35-Day Minister's Review

Following the 30-day public review period, the Minister has 35-days within which to issue one of three notices:

1. A notice to proceed with the transit project as planned in its Environmental Project Report;
2. A notice that requires the proponent to take further steps, which may include further study or consultation; or,
3. A notice allowing the proponent to proceed with the transit project subject to conditions.

The 35-day review period will commence on September 20, 2022 and will conclude on October 23, 2022.

6.8 Engagement with Indigenous Communities and Nations

6.8.1 Background

In 2018, Metrolinx made a commitment to build positive and meaningful relationships with Indigenous communities and Nations, in alignment with its strategic objectives. To that end, the Metrolinx Indigenous Relations Office (IRO) was established in 2019 with a mandate to build and grow relationships with Indigenous communities and Nations.

In 2020, the IRO became the sole point of contact for Indigenous communities and Nations within Metrolinx and, in that capacity, supports the organization in coordinating engagement and communication with Communities and Nations related to all projects and Metrolinx activities.

6.8.2 List of Indigenous Communities and Nations

Metrolinx engaged with Indigenous communities and Nations that were identified as potentially interested through consultation with the Special Project Officer, Environmental Assessment Branch of the MECP. A formal letter of acknowledgement was sent by the MECP on January 13, 2022 (see Appendix I-2c) identifying the following Indigenous communities and Nations as having potential interest in the project:

- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Mississaugas of the Credit First Nation
- Huron-Wendat Nation

6.8.3 Formal Notices, Reports and Field Invitations

The IRO shared the following project notices, reports and field invitations with the identified Indigenous communities and Nations:

- Project Introduction and Notice of Public Information Centre #1 - January 7, 2022
- Draft Stage 1 Archaeological Assessment Report for review – February 8, 2022 and followed up on April 21, 2022
- Draft Cultural Heritage Report for review - March 7, 2022
- Notice of Commencement and Notice of Public Information Centre #2 - March 23, 2022
- Draft Environmental Project Report and supporting technical studies including, but not limited to, Air Quality, Noise and Vibration, Natural Environment and Socio-Economic Land Use for review - April 5, 2022
- Invitation to participate in upcoming fieldwork for Stage 3 Archaeological Assessment, Noise Vibration Baseline Monitoring, Phase II Environmental Site Assessment and Natural Environment surveys including Confirmation Ecological Land Classification and Plant List Collection, Significant Wildlife Habitat and Species at Risk Habitat assessment, Tree Inventory and Fish and Fish Habitat assessments (see studies and fieldwork dates in Appendix I-6 Table 1)- May 19 2022.
- Notice of Completion – August 18, 2022

Engagement with the identified Indigenous communities and Nations began in January, 2022. Each Indigenous community or Nation received a letter (via email) from the IRO regarding the Project on January 7th, followed by an initial project introduction meeting. Indigenous communities and Nations communicated which aspects of the Project they would prefer to be engaged for.

During Pre-Planning and TPAP consultation, the IRO shared the Notice of Commencement, draft EPR technical reports for review and comments, and invitations to participate in upcoming fieldwork. The Indigenous communities and Nations have been provided with copies of the EPR and supporting documents for review and comment. Metrolinx has supported this review and been available to respond to comments and questions.

The Notice of Issue (July 18, 2022) and subsequent Notice of Resumption (August 15, 2022) were also shared with Indigenous communities and Nations.

The correspondence and feedback from received from the project notices, reports and field invitations can be found in Appendix I-6.

6.8.4 Meetings

The IRO facilitated the following meetings to discuss the Heritage Road Layover Project:

- Huron-Wendat Nation – February 18, 2022, and March 22, 2022
- Mississaugas of the Credit First Nation – February 18, 2022, March 22, 2022, May 19, 2022
- Six Nations of the Grand River - January 14, 2022, April 19, 2022, May 30, 2022.

To work towards a better understanding of the Project a workshop with Six Nations of the Grand River occurred on July 22, 2022 to review all the environmental findings presented in the EPR.

Metrolinx also met with the Haudenosaunee Confederacy Chiefs Council by way of the Haudenosaunee Development Institute to further discuss with the Nation since late July in order to facilitate their meaningful engagement moving forward.

Further details of the meetings held are provided in Appendix I-6.

6.8.5 Formal Feedback

A summary of feedback received from Indigenous communities and Nations regarding the Project is included in Appendix I-6.

6.8.6 Additional Engagement with Indigenous Communities and Nations

In addition to the formal engagement outlined above, the Metrolinx is committed to continued engagement with all interested Indigenous communities and Nations as the Project progresses.

7.0 Commitments to Future Work

7.1 Permits and Approvals

All required permits and approvals shall be obtained and the project completed in accordance with applicable law. The required permits and approvals shall be obtained prior to the associated work commencing.

In addition to the commitments to future work outlined in Table 7.2-1, permits and approvals obtained for the proposed works, as outlined in the following sections, may identify the need for additional mitigation. Any additional mitigation measures required in connection with a permit or approval shall be implemented.

7.1.1 Federal

The Regulations Designating Physical Activities under the federal *Impact Assessment Act (CIAA, 2019)* identify the physical activities (e.g., types of projects) that constitute "designated projects" that may require a Federal EA. A review of the Regulations was carried out by Metrolinx within respect to the Project. Based on this review, this Project does not constitute a designated project under *CEAA, 2012*.

CIAA, 2019 also outlines requirements for determination of the likelihood of significance environmental effects for a physical activity that is carried out on federal lands, or outside of Canada, in relation to a physical work and that is not a designated project (Section 82 of *CIAA 2019)*. All of the proposed work for the Project will be carried out on lands to be owned by Metrolinx. As such, the requirements under *CIAA, 2019* do not apply.

At the time of publication no Federal permits or approvals are anticipated for the Project, however, based on the planned disturbance on identified watercourses containing fish habitat, a Request for Review will be submitted to DFO to determine if a *Fisheries Act* authorization is required.

The federal Species at Risk Act (S.C. 2002, c. 29) may apply as the Halton Subdivision Kitchener Corridor is federally regulated land. Based on field investigations, no species regulated under the federal SARA were identified.

The federal Railway Safety Act is listed in Table 7.2-1 with its application to be determined.

As the project proceeds the federal permit and approval requirements shall continue to be assessed and addressed.

7.1.2 Provincial

At the time of publication the following provincial permits and approvals have been identified as potentially required for the project:

Ministry of the Environment, Conservation and Parks (MECP)

It is not anticipated that any permits will be required under the Ontario *Endangered Species Act*; however, if any SAR species are confirmed on or near the Project Site that may be affected by on-site activities, a Notice of Activity may be filed with MECP.

Dewatering activities were previously governed by the Permit to Take Water (PTTW) process in compliance with O. Reg. 387/04, issued under Section 34 of the *Ontario Water Resources Act* (OWRA), 1990, for temporary water takings from the environment that exceed 50,000 litres/day. This includes water drawn from groundwater and surface water. However, in March 2016, the MECP introduced a new water taking regulation (O. Reg 63/16) allows for construction related dewatering to proceed under the Environmental Activity Sector Registry (EASR) requirements if dewatering volumes are above the O. Reg 387/04 threshold (e.g., 50,000 litres/day) but below 400,000 litres/day.

The need for dewatering during construction activities will be confirmed prior to construction, as will the permitting/registration requirements. The requirements for dewatering during construction are dependent on the locations, depth and extent of excavation required for the Project. Significant dewatering is not anticipated during operations, however if excavations encounter a high water table and groundwater dewatering is required during operations, additional mitigation measures may be necessary.

The on-site and excess soil management during construction will be governed by *Ontario Regulation 406/19,* which is being phased in over time as follows:

- The on-site and excess soil management during construction will be governed by Ontario Regulation 406/19, which is being phased in over time, as follows:
- January 1, 2021: reuse rules, including risk-based standards, waste designation and approvals;
- January 1, 2022: testing, tracking and registration (some exemptions apply); and
- January 1, 2025: restrictions on landfilling soils.

In addition to the above-noted items, site servicing will be through provision of water via an on-site well, and sewage disposal will be through on-site storage and pump out for disposal off-site to a regulated facility. As such, there are potential requirements under the *Environmental Protection Act*, 1990, to obtain Environmental Compliance Approval (ECA) or EASRs for the following:

- Noise and Vibration;
- Stormwater;
- Groundwater & Surface Water;
- Water Supply; and,
- Sewage Works.

Ministry of Natural Resources and Forestry (MNRF)

In advance of fieldwork, a Licence to Collect Fish for Scientific Purposes under the Fish and Wildlife Act will be submitted as part of the requirement to capture and transport fish.

As the project proceeds the provincial permit and approval requirements shall continue to be assessed and addressed.

7.1.3 Municipal

At this time there is no municipal water, wastewater, or stormwater infrastructure in place to service the project. The lands that include the Project Site are presently serviced privately with wells and septic. However, exclusive of site servicing, a range of municipal permits and approvals may be required for the project. As a Crown Agency of the Province, Metrolinx is exempt from certain municipal processes and requirements. In these instances, Metrolinx will engage with the municipalities to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals. In other instances, appropriate permits and approvals shall be obtained. To provide construction access to the Project Site from Winston Churchill Boulevard, the Peel Region Occupancy Permit shall be obtained.

Brampton is currently implementing the adopted Heritage Heights Secondary Plan that will guide future urban development in the westerly portion of the municipality, including the Project Site. As plans are advanced for future municipal water, sanitary, and storm servicing these will be reviewed during detailed design. Brampton, and the Regional Municipality of Peel (the Region), will be consulted with during the detailed design process to address impacts to municipal water, sanitary, and storm sewer systems.

A portion of the Project Site is designated as a natural heritage system in the draft Heritage Heights Subwatershed Study (HHSWS). To maintain planned functions for watercourses on the Project Site, Metrolinx has expressed a commitment to be part of the design solution in alignment with recommendations provided in the draft HHSWS for any loss of locally significant wetland and turtle habitat. Communication and engagement with Brampton, the Region, and Halton Hills shall continue as design and construction planning progress to address municipal interests.

7.1.4 Conservation Authorities

Metrolinx as a Crown Agency of the Province of Ontario is not subject to the *Conservation Authorities Act*. However, Metrolinx will engage with Credit Valley Conservation to incorporate their requirements as a best practice, where practical, and may obtain associated permits and approvals or engage in a Voluntary Project Review where applicable.

Communication and engagement with CVC will continue as design and construction planning progress to address matters related to their mandate, including stormwater management issues relating to the HHSWS.

7.1.5 Utilities

Coordination with both Brampton and the Region, and the relevant private utilities will be undertaken as design and construction planning progress. Electrical feed to the Project Site will be provided by Alectra Utilities. Potential utility conflicts shall be reviewed in consultation with each utility company as part of detailed design. Implementation and construction obligations shall be undertaken pursuant to the

crossing agreements with each of the utility companies as required. Any associated permits and approvals will be obtained prior to construction.

7.2 Summary of Permits and Approvals

A preliminary list of the potentially applicable permitting and approval requirements for the Project are identified in Table 7.2-1. Additional requirements may be identified or confirmed during detailed design, or as ongoing consultation progresses.

Table 7.2-1: Summary of Permits and Approvals

Permits, Licences and Approvals	Regulatory Authority	Legislation & Regulation
Federal		
Fisheries Request for Review	DFO	Fisheries Act, (RSC, 1985, c. F-14)
TBD	Environment and Climate Change Canada (ECCC)	Species at Risk Act, (S.C. 2002, c. 29)
TBD	Transport Canada	Railway Safety Act, (1985, c. 32 [4th Supp.])
Damage or Danger Permit[6]	ECCC	Migratory Birds Convention Act (1994, c. 1035)
Provincial		
Notice to Proceed	MECP	*Environmental Assessment Act O. Reg 231/08* (Transit Projects & Metrolinx Undertakings)
Species at Risk Ontario (SARO)/Endangered Species Act (ESA) Permits	MECP	O. Reg. 230/08 and O. Reg 242/08 Endangered Species Act Section 17
Depending on the dewatering volumes: Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR)	MECP	Ontario Water Resources Act (O. Reg 128/03) Section 34 O. Reg 63/16 - Registrations Under Part II.2 of the Act – Water Taking
Excess Soil management	MECP	Ontario Regulation 406/19
Hazardous Waste Information Network Registry (HWIN)	MECP	Environmental Protection Act (O. Reg. 347)
Compliance with Fish and Wildlife Conservation Act (Licence to Collect Fish for	MNRF	Fish and Wildlife Conservation Act S.O. 1997, c. 41 (December 10, 2019), Section 7

[6] Damage or Danger Permit for birds regulated under the Migratory Convention Act is applicable during operations since during construction, birds are to be protected following required mitigation measures.

Permits, Licences and Approvals	Regulatory Authority	Legislation & Regulation
Scientific Purposes and Wildlife Collector's Authorization)		
Wildlife Scientific Collector's Authorization	MNRF	Fish and Wildlife Conservation Act S.O. 1997, c. 41 (December 10, 2019) Section 60
Cultural Heritage Assessment Sign off	MTCS	Ontario Heritage Act
Stage 1 & 3 Archaeology Assessment Sign off	MTCS	Ontario Heritage Act
Municipal		
Tree Preservation By-law, for any properties that are not Metrolinx owned, where applicable.	Municipality	City of Brampton By-law 317-2012
Road Occupancy Permit	Regional Municipality	Region of Peel
Credit Valley Conservation		
Voluntary Project Review	Conservation Authority	Ontario Regulation 155/06

7.3 Commitments and Future Work

The EPR commitments have been developed to satisfy the requirements of O. Reg. 231/08 and facilitate the creation of the proposed Heritage Road Layover in accordance with the mitigation measures and monitoring activities described in this report. The implementation should not result in a negative effect on the natural environment, cultural heritage, or surrounding community. Metrolinx is committed to implementing the mitigation and monitoring activities outlined in Table 4.13-1. Commitments for future work to be undertaken during subsequent phases of the Project are outlined in Table 7.3-1.

Table 7.3-1: Summary of Commitments and Future Work

Discipline	Commitments
Field Work	
Natural Environment	A spring freshet survey will be completed in spring 2023 to further assess conditions prior to construction.
Detailed Design	
General	Implement mitigation measures and monitoring requirements as outlined in Table 4.13-1. Develop/undertake and implement prior to construction design and management plans in accordance with the specific

	mitigation measures identified through the effects assessment and listed in Table 4.13-1. The Project Site is in the City of Brampton and Study Area for most project disciplines includes both the City of Brampton and Regional Municipality of Halton Hills. Metrolinx will confirm that any municipal input is addressed prior to commencement of construction activities. All required permits and approvals shall be obtained. As a Crown Agency of the Province of Ontario, Metrolinx is exempt from certain municipal processes and requirements. Water, sanitary, and storm servicing will be reviewed during detailed design. No municipal water, sanitary, and storm sewer systems are expected to be impacted. Communication and engagement with the surrounding community, municipalities, and conservation authority, shall continue as design and construction planning progress. To maintain planned functions for watercourses on the Project Site, Metrolinx has expressed a commitment to be part of the design solution in alignment with recommendations provided in the draft HHSWS for any loss of locally significant wetland and turtle habitat. Final detailed monitoring plans will be developed as part of detailed design activities.
Natural Environment	Watercourse CRT1-2 is regulated (medium constraint) and provides seasonal fish habitat. Metrolinx will consult with CVC on culvert options during detailed design. An Arborist Report will be prepared as part of the detailed design.
Hydrogeology	Geotechnical and hydrogeology studies will be undertaken in accordance with applicable permitting and approval requirements. Appropriate dewatering strategies will be confirmed in coordination with the relevant municipality and conservation authority and permits and approvals, if required, will be determined during detailed design and implemented during construction. The quantity control criteria will be for the post to pre-development control up to the 100-year Design storm event, per the City's recommendations. The Project Manager at the CTC Source Protection Authority will be contacted to identify policies in source protection that may

	apply to the Heritage Road Layover Project. This will be done as part of the development of Detailed Design. A water balance will be completed as part of a separate report, which will assist in assessing this groundwater recharge issue.
Cultural Heritage	No known or potential built heritage resource or cultural heritage landscape properties were found to be directly affected by the construction or operations of the Project.
Archaeology	No demolition, construction, grading or other soil disturbances will occur within the Project Site prior to the MTCS confirming in writing that all archaeological licensing and technical review requirements have been satisfied. Stage 3 AA for site AjGx-267 and where recommended, Stage 4 AA will be undertaken by a licensed archaeologist in summer and fall 2022, prior to the completion of detail design, and submitted to MTCS for review. Metrolinx will confirm that any Archaeological Assessment reports submitted to MTCS for review have been entered into the Ontario Public Register of Archaeological Reports prior to commencing any ground disturbing activities.
Traffic and Transportation	Municipal paramedic services will be given an opportunity to review emergency response plans and access/egress points to construction sites.
Climate Change	Investigate in detail the effects of weather extremes (temperature, rainfall, wind, freezing rain), snow drifting and other climate related impacts on the yard and define the extent of maintenance and rail operational problems to be expected. Incorporate mitigating measures into the design.
Construction	
General	Implement mitigation measures and monitoring activities related to construction as outlined in Table 4.13-1. Develop/undertake design and management plans in accordance with the specific mitigation measures identified through the effects assessment and listed in Table 4.13-1. An Environmental Mitigation and Monitoring Plan (EMMP) will be developed and implemented prior to construction to outline the responsibilities for carrying out monitoring activities.
Sustainability	A Sustainability Plan will be developed and implemented prior to construction to identify methods for reducing climate change impacts that may occur during the construction and operations of the Project.

	A Construction and Demolition Waste Management Plan will be developed and implemented to establish waste diversion goals and identify opportunities for recycling and reuse of construction materials. An Energy and Emissions Management Plan will be developed and established with targets and programs to promote continuous reduction of energy and emissions (both GHG and CAC).
Natural Environment	An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be developed and implemented to limit sedimentation and pollution of storm sewer infrastructure. Any tree adjacent to a construction area will be protected by a Tree Protection Zone or permitted for injury or removal and compensated for accordingly with Metrolinx Vegetation Guidelines followed at a minimum. Any vegetation removal will be outside of the applicable timing windows of April to end of August. An Arborist Report will be provided based on field assessments completed by a certified arborist. Develop and undertake; Salt Management Plan, Soil Management Plan, and Vegetation Management Plan. Any in-water work will be outside the applicable timing windows. A Pollinator Health Action Plan will be developed and implemented to protect pollinators in Ontario.
Hydrogeology	A Groundwater Management and Dewatering Plan will be prepared and implemented.
Socio-Economic and Land Use	Surrounding property owners and tenants will be informed of anticipated upcoming construction works.
Air Quality	Adherence to the site-specific mitigation and monitoring recommendations identified in the Air Quality Impact Assessment Report (Appendix A).
Noise and Vibration	The appointed contractor will be responsible for ensuring equipment meets the sound level limits referenced in the Construction Noise and Vibration Assessment Report (Appendix B).
Traffic and Transportation	Construction lane and turning widths will accommodate emergency vehicles. A Traffic Control Plan will be created for any proposed lane closures.

	No road detours or temporary sidewalks are anticipated for this project. Current goods movement routes in Peel Region will be verified at the time of construction. The construction schedules for the Heritage Road Layover and for the reconstruction of Winston Churchill will be coordinated to reduce any impacts to the surrounding communities.
Operations	
General	Implement mitigation measures and monitoring activities related to operations as outlined in Table 4.13-1. Develop/undertake design and management plans in accordance with the specific mitigation measures identified through the effects assessment and listed in Table 4.13-1.
Noise and Vibration	Noise sources will meet the MECP allowable levels under the NPC-300 criteria. If necessary, appropriate noise mitigation will be applied.

7.4 Environmental Mitigation and Monitoring Plan

The Environmental Mitigation and Monitoring Plan will be completed in detailed design by the Proponent and will provide a summary of the mitigation measures that are required to be implemented prior to / during construction in order to effectively mitigate the Project's potential impacts and satisfy legislative requirements.

7.5 Future Engagement and Consultation

Metrolinx has committed to ensuring that consultation with project stakeholders (government agencies, elected officials, members of the public) and engagement with Indigenous communities and Nations will continue beyond the TPAP for the Project.

7.5.1 Engagement with Indigenous Communities and Nations

Metrolinx will continue to engage with the Indigenous communities and Nations through the Indigenous Relations Office as the Project proceeds through detailed design, field investigations are conducted, and construction proceeds.

7.5.2 Public Consultation

Metrolinx is committed to continuing to consult and communicate with stakeholders and other interested parties beyond the TPAP. Specifically, Metrolinx will:

Design and implement a response strategy to address/resolve potential construction-related concerns.

Maintain the Project website throughout the detailed Design and construction phases where the public can access updated information on the Project.

Continue discussions/consultation with project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities, as required.

7.5.3 Agency Consultation

In addition to carrying out the TPAP process, there are a number of additional federal, provincial, municipal and other permit and approval processes that Metrolinx will follow. Further details are outlined in Section 7.2 of this EPR.

As a part of obtaining permits and approvals, Metrolinx will consult with permitting agencies, and follow associated public notification or consultation practices as applicable.

Metrolinx will continue to consult with the MECP, MNRF, MTCS and CVC, along with other interested agencies as the detailed design is advanced. This will include opportunities to refine design elements to maintain or enhance ecological function, and receive additional design-specific site information and management plans as this detail is made available.

7.5.4 Consultation with Elected Officials

As a part of Metrolinx's ongoing efforts to keep the community informed throughout the design and construction of the proposed works, Metrolinx welcomes inquiries and comments from elected officials wishing to keep their electorate informed. As the Project advances, project updates will be posted to the Project website.

8.0 References

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Appendix A

Air Quality Baseline Conditions and Impact Assessment Report – Heritage Road Layover

Heritage Road Layover
Air Quality Baseline Conditions and Impact Assessment

Project # IM21405045

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

August 2022

Heritage Road Layover

Air Quality Baseline Conditions and Impact Assessment

Project # IM21405045

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August 18, 2022

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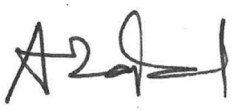
Prepared by:	Akhter Iqbal, M.Sc., P.Eng. Senior Air Quality Engineer		August 15, 2022
Reviewed by:	Alex Breido, Ph.D., P.Eng. Senior Associate Air Quality Engineer		August 15, 2022

Executive Summary

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project) is required to provide additional storage capacity to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minue peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood), to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

The Air Quality Assessment Project for the construction of the layover facility includes, but is not limited to tasks as follows:

- Define the Study Area, receptors, pollutants of interest, and background conditions;
- Assess air quality impacts generated from the construction and operation of the Project;
- Provide a qualitative and quantitative analysis of the effects on air quality; the quantitative analysis will include the use of modelling to predict off-site air concentrations that result from site activities; and
- Assessment of GHG emissions for operational phase of the Project.

The target pollutants (Particulate matter less than 10 micron in diameter, (PM_{10}), Particulate matter less than 2.5 micron in diameter $PM_{2.5}$), nitrogen dioxide (NO_2) carbon monoxide (CO), sulphur dioxide (SO_2) Benzo(a)pyrene, Benzene, 1-3 Butadiene, Formaldehyde, Acetaldehyde, and Acrolein) were considered for this assessment. The emission rates for the contaminants were developed based on MOVES3 US EPA software, and US EPA Emission factors, and traffic data.

Modelling for the site was done using the US EPA American Metrological Society Model (AERMOD) (version 19191), modelling package of Lakes Environmental (version 10.2.1). The meteorological data set (Toronto Pearson Airport) used in the model was provided by the Ministry of the Environment, Conservation and Parks (MECP). The target pollutants were modelled for the layover build scenario and included predicted concentration levels at the closest sensitive receptors.

This report provides an evaluation of possible air quality effects resulting from the proposed construction and operation of the Project to improve transit services along the

Kitchener Corridor. The site preparation phase was determined to be the maximum emission scenario with the highest number of construction equipment in use and the most extensive earthworks.

The key contaminants identified with the potential for air quality effects were PM_{10} associated with fugitive dusts, $PM_{2.5}$ as fugitive dust and equipment tailpipe emissions, and NO_2 from equipment tailpipe.

A Zone of Influence (ZOI) was identified to the west of the Project where the potential exists for air quality effects on residential properties. With effective mitigation and monitoring, the potential effects are limited to the first 130 metres (m) surrounding the construction activities with infrequent Ambient Air Quality Criteria (AAQC) exceedances predicted by air dispersion modelling.

Prior to commencement of construction, the Constructor will develop and submit a detailed Construction Air Quality Management Plan (AQMP) to outline the mitigation and monitoring that will be carried out during all construction phases to limit air quality effects to the extent feasible.

With the proximity to residential neighbours, continuous monitoring for dust effects (PM_{10}) is recommended to provide assurance that air quality is being protected.

Once the Construction Plan and Schedule are better defined, an update to the Air Quality Impact Assessment should be considered to quantify the potential air quality effects more accurately in the vicinity of the Project.

For operational phase of the Project the main findings of the report are as follows:

- The assessment is done considering the current Tier 0 to Tier 2 locomotive engines conservatively for all train operators even though currently, Metrolinx has 16 Tier 4 locomotives, and all diesel multiple units are Tier 4; and
- The operational phase modelling considered emissions from vehicular traffic on Winston Churchill Boulevard. Air quality will improve in the Study Area due to an anticipated increased use of cleaner fuels and electrical vehicles. These two factors will offset the increased traffic volume on the Winston Churchill Boulevard.

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List of acronyms and abbreviations

AAQC	Ambient Air Quality Criteria
ADMGO	Guideline A-11: Air Dispersion Modelling Guideline for Ontario", Version 3.0, February 2017
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model (US EPA)
AQMP	Air Quality Management Plan
B(a)P	Benzo(a)pyrene, used as a surrogate for total PAHs
CAAQS	Canadian Ambient Air Quality Standards
CCME	Canadian Council of Ministers of the Environment
cm	Centimetres
CO	Carbon Monoxide
DPM	Diesel Particulate Matter
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EPA	Ontario Environmental Protection Act R.S.O. 1990, CHAPTER E.19
HEP	Head End Power units
hr	Hours
MECP	Ministry of the Environment, Conservation, and Parks
m	Metres
mm	Millimetres
MOVES	Motor Vehicle Emission Simulator (US EPA)
NAPS	National Air Pullulation Surveillance
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides (predominantly $NO+NO_2$)
PAH	Polycyclic aromatic hydrocarbons
PM_{10}	Particulate matter less than 10 micron in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micron in diameter
POR	Point of Reception
Project Site	Area for the Heritage Road Layover facility construction and operations
SO_2	Sulphur Dioxide
the Project	Heritage Road Layover
Study Area	500 metres of the Project Site and surrounding Area
TPAP	Transit Project Assessment Process
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
Wood	Wood Environment & Infrastructure Solutions Canada Limited
ZOI	Zone of Influence

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project) is required to provide additional storage capacity to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minue peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood), to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

The purpose of this Air Quality Baseline Conditions and Impact Assessment Report is to predict the potential impacts of emissions from the construction and operations phases of the layover facility. This assessment was prepared based on the preferred design information of the Project, traffic data measured by Spectrum (a traffic data collection software), train schedule, and typical construction equipment fleet to be used during the construction phase of the Project.

1.1 Project Background

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Project. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The Project Site of the Heritage Road Layover is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

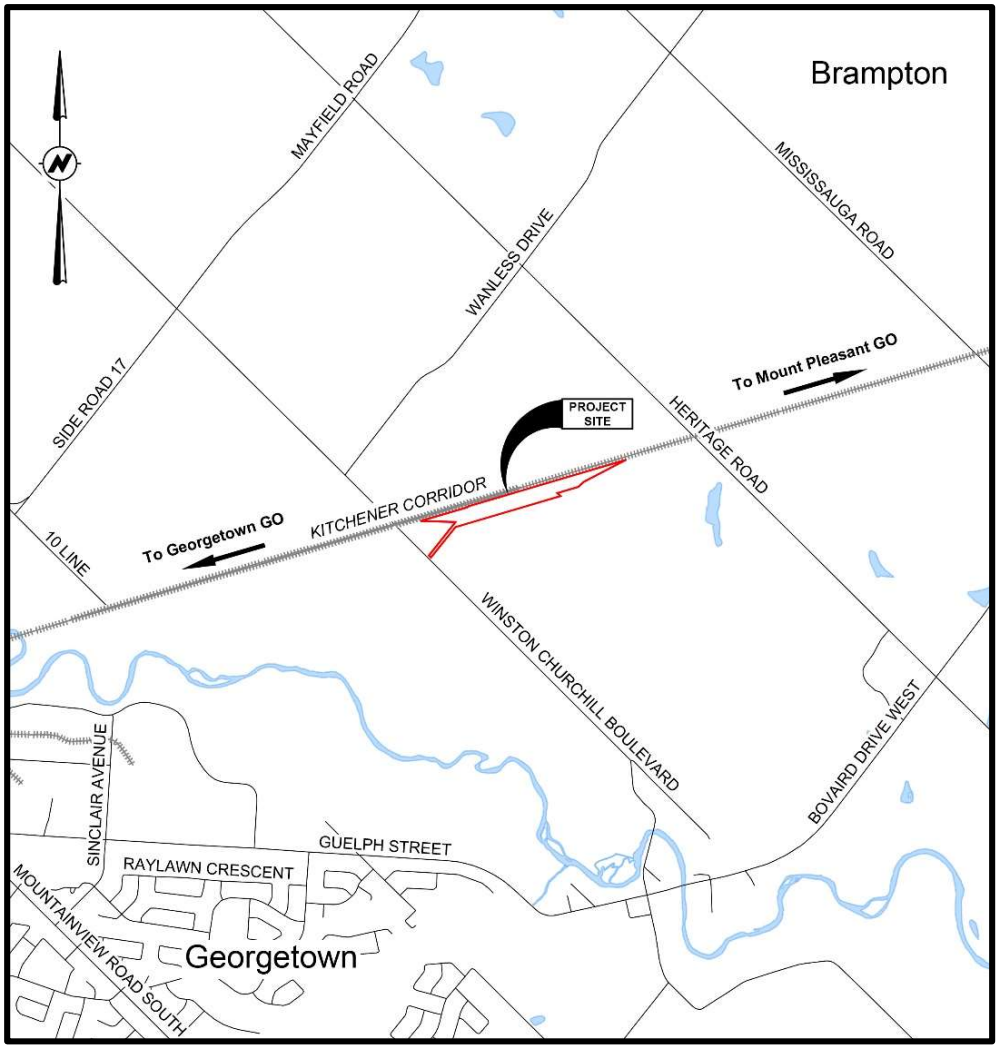

Figure 1-1: Project Location

The Project will include a crew building, waste building, electrical substation, and parking area.

1.2 Project Scope

The scope of work to be completed for the Project includes, but is not limited to:

- Define the Study Area, receptors, pollutants of interest, and background conditions;
- Assess air quality impacts generated from the construction and operation of the Project;
- Provide a qualitative and quantitative analysis of the effects on air quality; the quantitative analysis will include the use of modelling to predict off-site air concentrations that result from site activities; and
- Assessment of greenhouse gas (GHG) emissions for operational phase of the Project (limited operations associated with the Heritage Road Layover).

1.3 Air Quality Effects Assessment

The Construction Phase Air Quality Effects Assessment is a qualitative and quantitative process to assess the significance of Project effects on local air quality. This assessment addresses the required elements of *Appendix 5: Draft Assessment of Construction Related Local Air Quality Impacts* of the *Metrolinx Environmental Guide: Recommended Approach for Assessing and Mitigating Air Quality Impacts and Greenhouse Gas Emissions of Metrolinx Public Transit Projects* (Metrolinx Environmental Guide) (Metrolinx, 2019) and is generally completed for due diligence purposes and is not required for regulatory purposes.

The air dispersion modelling was conducted using the American Meteorological Society Model (AERMOD), and where possible following the principles of the *Air Dispersion Modelling for Ontario [Guideline A-11]* (MECP, 2017).

To fulfil the study objectives, the scope of work included, but was not limited to:

- Defining an appropriate local Study Area;
- Identifying air quality contaminants of concern that may be emitted to the air as a result of construction activities associated with the Project;
- Identifying applicable regulatory criteria and project limits for the air quality contaminants of concern;
- Establishing existing air quality conditions in the Study Area;
- Identifying emission sources and quantifying contaminant emission rates from construction equipment and activities for a typical grade separation project to allow for screening-level air dispersion modelling of a maximum emission scenario (site preparation phase of construction) using AERMOD;
- Comparing the predicted off-site concentrations of air contaminants of concern against the provincial Ambient Air Quality Criteria (AAQC) and other metrics for discussion of the significance of the modelled effects; and
- Recommending appropriate best practices, mitigation measures, and monitoring that are demonstrated to be effective in reducing air contaminant emissions and thereby preventing adverse air quality effects beyond the site perimeter.

The operation phase is considered layover build scenario; the scope of work included as follows:

- Estimating emissions for trains idling and operating at the layover facility;
- Estimating emissions for the trains passing through the CN rail corridor in the Study Area;
- Estimating emissions from the vehicular traffic on Winston Churchill Boulevard;
- Qualitative and quantitative analyses of the air quality effects based on the layover “build scenario”.

2.0 Air Quality Effects Assessment Boundaries and Receptors

The new layover facility will be located south of the CN Rail Halton Subdivision section of the Metrolinx Kitchener GO Rail Corridor between Winston Churchill Boulevard and Heritage Road in the City of Brampton, Ontario.

The Study Area considers lands within 500 metres (m) of the Project Site (construction and operation phases) and focus on sensitive receptors located in this area. Sensitive receptors, as defined by the Ministry of the Environment, Conservation, and Parks (MECP), including day cares, seniors' homes, schools, and residential buildings.

The nearest existing sensitive receptors that are predominantly to the north and west of the Project Site, as shown in Figure 2-1.

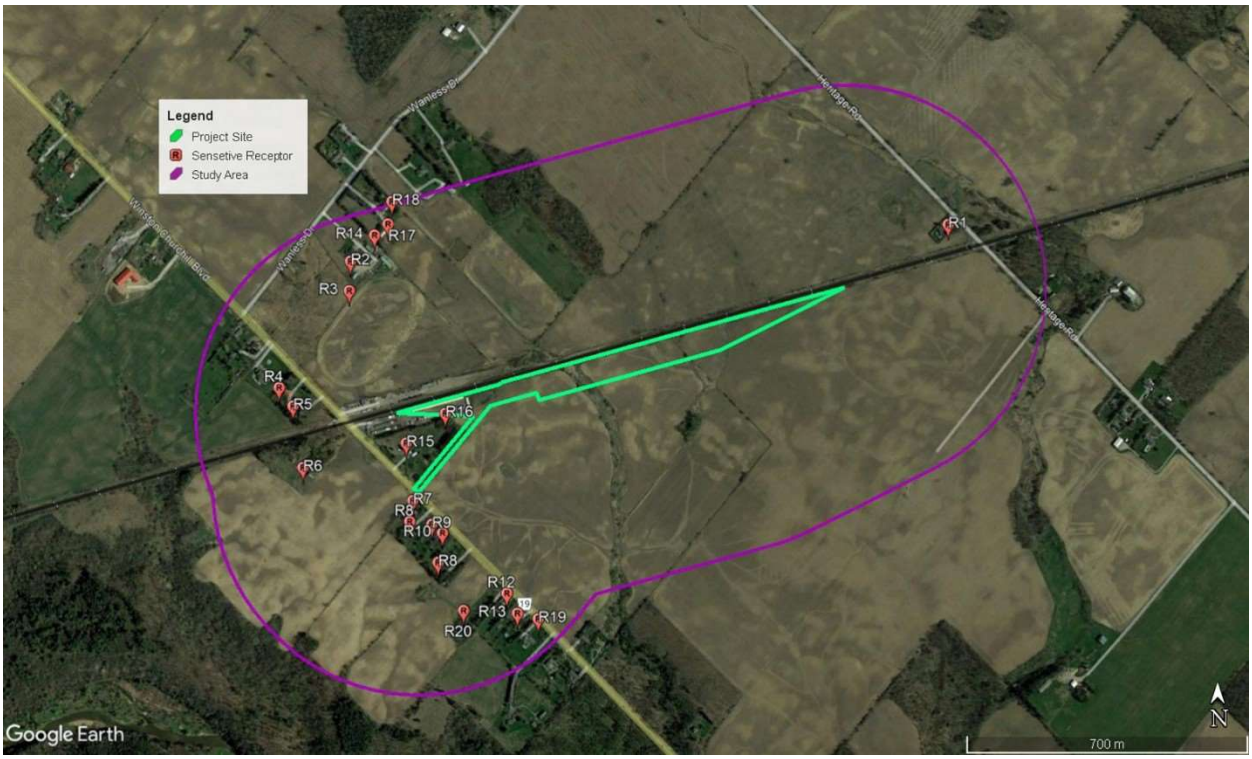

Figure 2-1: Location of defined sensitive receptors in the Study Area

3.0 Air Quality Contaminants of Concern

In Ontario, the *Environmental Protection Act* (EPA) prohibits release of a contaminant into the natural environment, if the discharge causes or may cause an adverse effect.

Airborne contaminants of relevance to transportation projects, including particulate matter, nitrogen oxides, carbon monoxide (CO), benzo(a)pyrene, and Volatile Organic Compounds (VOCs) (specifically benzene, 1-3 butadiene, formaldehyde, acetaldehyde, and acrolein), have standards and AAQCs in Ontario that were set based upon health or environmental effects of exposure to these pollutants. Further, the Metrolinx Environmental Guide identifies CO, nitrogen oxides (NO_X, expressed as NO_2), particulate matter, and VOCs as contaminants that are to be considered in air quality assessments (Metrolinx 2019). The list of relevant contaminants is consistent with the Metrolinx Environmental Guide.

These potential contaminants were all considered qualitatively, and where warranted, were considered quantitatively through the use of air dispersion modelling to predict off-site air concentrations associated with construction activities.

3.1 Particulate Matter

Particulate matter is subcategorized in several ways to support discussions of emission sources and potential air quality, health, and nuisance effects. The two (2) categories pertinent to this assessment are inhalable PM_{10} and respirable $PM_{2.5}$.

Inhalable Particulate (PM_{10})

PM_{10} has a particle size range up to 10 µm in aerodynamic diameter. The PM_{10} size fraction includes the smaller particles referred to as $PM_{2.5}$; it is emphasized that PM_{10} and $PM_{2.5}$ are not separate compounds, nor are they additive. In addition to the nuisance effects, there are possible health effects that may be attributed to PM_{10}. The interim AAQC is based upon these potential health effects.

In general, fugitive dusts are generated from open sources that are susceptible to air dispersion to areas off-site. Common sources of fugitive dust include unpaved roadways, aggregate storage piles, and heavy construction operations. PM_{10} will be assessed as a surrogate for total fugitive dust as per the Metrolinx Environmental Guide.

Respirable Particulate ($PM_{2.5}$)

$PM_{2.5}$ has a particle size range up to 2.5 µm in aerodynamic diameter. $PM_{2.5}$ is the most important particle size range from a respiratory public health perspective. Current AAQCs and federal Canadian Ambient Air Quality Standards (CAAQS) have been established for $PM_{2.5}$ that are protective of health. $PM_{2.5}$ is released to the air as a by-product of fuel combustion and as fugitive dust. There is also a potential for the release of respirable silica during cutting, demolition, or repair of concrete structures. This has not been quantitatively assessed in the same manner as fugitive dusts from other sources due to the infrequent and short-term nature of such activities. Intensive dust control is imperative when carrying out such activities, and air sampling for respirable silica is recommended until it can be demonstrated that mitigation is effective and air quality effects are found to be lower than the AAQC for respirable silica.

PM_{10} and PM 2.5 fractions consider the effects of tailpipe emissions from diesel engines, material handling and fugitive dust that may be generated at the Project Site.

3.2 Nitrogen Oxides

Nitrogen oxides (NO_X) are a mixture of compounds of oxygen and nitrogen, including nitric oxide (NO), nitrous oxide (N_2O), nitrogen dioxide (NO_2), and others. These compounds are formed during fuel combustion, and are emitted from sources such as vehicles, boilers, and diesel generators, as examples.

3.3 Carbon Monoxide

Carbon monoxide (CO) is a colourless, odourless, tasteless gas, which is produced primarily through the combustion of fossil fuels due to incomplete combustion. Most of the CO produced in Ontario is from the transportation sector (87%), and the combined effect of power generation, buildings, heating, and industrial operations is approximately 13% of the total (MECP, 2019).

3.4 Volatile Organic Compounds (VOCs) and Polycyclic Aromatic Hydrocarbons (PAHs)

Volatile organic compounds (VOCs) are an aggregate grouping of many organic substances that readily volatilize and undergo photochemical reactions in the atmosphere. There are a number of VOCs that are created as a by-product of fuel combustion, however discussions of air quality effects from diesel equipment and the transportation sector generally involve the following five (5) VOCs which are associated with health effects and designated as air toxics by the Ministry of Transportation (MTO 2012):

- Benzene;
- 1,3-Butadiene;
- Formaldehyde;
- Acetaldehyde; and
- Acrolein.

Polycyclic aromatic hydrocarbon (PAH) are hydrocarbons that are composed of multiple aromatic rings. There are numerous compounds that are classified as PAHs; benzo(a)pyrene (B[a]P) is a common PAH that is used in air quality assessments in Ontario as a surrogate for Total PAHs. B(a)P is most commonly found in the solid phase bound to diesel particulate matter (DPM) but may also be present in the vapour phase at elevated temperatures in tailpipe emissions. The quantitative assessment and air dispersion modelling will consider the potential effects of emissions of these five (5) VOCs and B(a)P from equipment and vehicles associated with the Project.

3.5 Odour

Odour emissions have the potential to become a nuisance to people who live near odour sources, or to people who frequent sports fields, community centres, or other

sensitive land uses in the Study Area. Odour becoming a nuisance varies widely from person to person and there are varying degrees of sensitivity and opinions about what is considered offensive. Five (5) factors that contribute to odour nuisance have been defined to help deal with the complex and subjective nature of odours, referred to as the FIDOL factors:

- **Frequency (F)** – how often odour is detected;
- **Intensity (I)** – how strong is the odour;
- **Duration (D) –** are odours very brief or are episodes lengthy;
- **Offensiveness (O) -** the hedonics or descriptors (putrid, solvent); and
- **Location (L) –** is someone present to smell the odour.

Various combinations of these five (5) factors may lead to odour complaints or adverse effects, and all five (5) must be considered for effective odour management.

Odours will be managed through the implementation of Best Practices and were not quantified or modelled as part of this assessment due to the inconsistency and unpredictability of odours at construction projects.

3.6 Greenhouse Gases

Greenhouse Gas (GHG) emissions, such as:

- Carbon dioxide (CO_2);
- Methane (CH_4); and
- Nitrous oxides (N_2O).

These gases are potential contributors to long-term, global climate change effects.

Net GHG effects from the Project are compared with the most recent and publicly available Ontario inventory data.

4.0 Applicable Regulatory Criteria and Guidelines

In Ontario, local air quality impacted by industry is regulated under the *Environmental Protection Act (EPA)* and *O. Reg. 419* "*Air Pollution – Local Air Quality*" (*O. Reg. 419*). Any stationary discharge to the environment requires an Environmental Compliance Approval (ECA) or an Environmental Activity and Sector Registry (EASR) registration under Section 9 of the *Ontario EPA*. This regulation and the requirement for permitting do not extend to mobile or fugitive sources, however there is still the potential for on-site construction activities to affect air quality in the Study Area.

The *EPA** also has a prohibition on causing an adverse effect (Section 14 of the *Ontario EPA*), with adverse effect is defined as:

- Impairment of the quality of the natural environment for any use that can be made of it;
- Injury or damage to property or to plant or animal life;
- Harm or material discomfort to any person;
- An adverse effect on the health of any person;
- Impairment of the safety of any person;
- Rendering any property or plant or animal life unfit for human use;
- Interference with normal conduct of business; and
- Loss of enjoyment of normal use of property.

**(EPA, RSO 1990, c. E.19, as amended, s.1(1)).*

While the overarching concern is with human health effects, based upon this definition, odour, as well as nuisance dust, may cause an adverse effect even at concentrations where no health or other environmental effects are expected and should be controlled during construction and operations phases of the Project.

4.1 Air Quality Assessment Criteria

This air quality assessment requires a comparison of the predicted effects, which are the air concentrations predicted by air dispersion modelling, to applicable air quality criteria. This allows for assessment of the potential for, and significance of, adverse effects on the environment and human health in the Study Area. Various regulatory agencies (including Provincial and Federal agencies) set specific target criteria to be protective of human health and the environment. Ontario's MECP has established Ambient Air Quality Criteria (AAQC) for various parameters, including most of the target pollutants identified for this Air Quality Assessment. The AAQCs are set to determine a desirable concentration for a location, inclusive of all sources and background. The AAQC levels are not compliance standards but set to provide guidance for acceptable ambient air quality in Ontario. The MECP has not set an AAQC for PM_{10}, but rather provides a suggested "interim AAQC" value for PM_{10} of 50 µg/m^3 for the 24-hour averaging time. In contrast, the *O. Reg. 419/05* standards are used only for facility

specific emissions and are used for permitting and compliance purposes. In many cases, the AAQC criteria and the *O. Reg. 419/05* standards are numerically the same.

For this assessment, it was appropriate to compare the modelled effects to the respective Ontario AAQCs. The Ontario AAQC limits used for the assessment include limits for different averaging times, depending upon the substance.

In addition to the Provincial criteria, there are Federal air quality criteria. Canadian Ambient Air Quality Standards (CAAQS) for fine particulate matter $PM_{2.5}$ and nitrogen dioxide (NO_2) adopted by the Canadian Council of Ministers of the Environment (CCME) were considered in this assessment. The CAAQS are not intended for the assessment of specific emission sources but rather to characterize air quality where people are living, or at other sensitive receptors. Therefore, comparison of the modelled worst-case concentrations directly to the CAAQS would be overly conservative, as the CAAQS does not pertain to the maximum daily but to the 3-year average of the 98th percentile for $PM_{2.5}$ and NO_2. The CAAQS may be used as targets or aspirational goals for long-term studies, however for this study the AAQCs were used for comparison with the modelled effects. The CAAQS are also scheduled to decrease over the next several years.

A summary of the applicable AAQCs, and CAAQS is provided in Table 4-1.

Table 4-1: Ambient Air Quality Criteria and Project Limits

Parameter	CAS Number	Averaging Time	Ontario AAQC µg/m^3	Federal CAAQS µg/m^3
PM_{10}	n/a	24-hour	50	—
$PM_{2.5}$	n/a	24- hour	27	27
		Annual	—	8.8
Nitrogen dioxide (NO_2)	10102-44-0	1-hour	400	120
		24-hour	200	—
		Annual	—	30
Carbon monoxide (CO)	630-08-0	1-hour	36,200	—
		8-hour	15,700	—
Acetaldehyde	75-07-0	24-hour	500	—
		½-hour	500	
Acrolein	107-02-8	24-hour	0.4	—
		1-hour	4.5	—
Benzene	71-43-2	Annual	0.45	—
		24-hour	2.3	—
Benzo(a)pyrene	50-32-8	Annual	0.00001	—
		24-hour	0.00005	—
1,3-Butadiene	106-99-0	Annual	2	—
		24-hour	10	—
Formaldehyde	50-00-0	24-hour	65	—

5.0 Existing Air Quality Conditions

5.1 Baseline Conditions

The air quality local to the Study Area is influenced by various sources that include traffic related air pollution from the major local arterial roads, railroads, residential, institutional, and commercial heating, and transboundary sources.

There are a number of air quality monitoring stations operated by the Ontario MECP and as part of the Environment and Climate Change Canada's (ECCC) National Air Pollution Surveillance (NAPS) program that are located within reasonable distances of the Study Area. These stations were used to establish baseline air concentrations in the Study Area as the surrounding land uses are similar (suburban development, highways, arterial roads, commercial and industrial). The stations are also at similar distances from heavy industrialized centres such as Hamilton, Sarnia, and areas in the US such as the Ohio Valley.

For contaminants that are assessed for the 1-hour, and 24-hour averaging times, the 90th percentile of the measured concentrations were used as a representative baseline. The use of maximum measured ambient concentrations for the assessment of cumulative effects would be overly conservative for these shorter averaging periods, as the assumption would be that the worst-case emissions from the site would coincide with unfavourable weather conditions in the direction of the receptor and maximum contributions from all regional sources. For this reason, the 90th percentile concentration is frequently used as a conservative baseline, as a concentration that is expected to be exceeded only under certain weather conditions or other air quality influences. This approach has been accepted by MECP and ECCC for other air quality studies reviewed as part of the Environmental Assessment (EA) process and is specifically cited in the both the Alberta and Saskatchewan Air Quality Modelling Guides (Alberta Environment Air Quality Model Guide (2013), Saskatchewan Air Quality Modelling Guideline (2012)); the Alberta guide cites the use of the 90th percentile to allow for some variability due to anthropogenic or unusual local sources. For contaminants that have AAQCs for the annual averaging period, the average of the monitoring data was used for the baseline.

A five-year dataset (2015-2019) was used to calculate the statistics used for the baseline concentrations. There were no PM_{10} data from monitoring stations in reasonable proximity to the Study Area, therefore the PM_{10} concentration was estimated based upon an assumed $PM_{2.5}/PM_{10}$ ratio of 0.54 (Lall et.al. 2004). The monitoring stations used to establish regional baseline conditions for the Study Area are identified in Table 5-1. The selection of these stations was based on the proximity to the Project Site, similarity of land use, and most recent robust data set.

Table 5-1: MECP/NAPS Monitoring Stations

Station ID		Location		Distance from Study Area (km, direction)	Contaminants
NAPS No.	Name	Latitude	Longitude		
60428	Brampton 525 Main St. N.	43.699	-79.781	7 km, NE	$PM_{2.5}$, NO_2, Ozone*
60434	Mississauga 3359 Mississauga Road N.	43.547	-79.659	21 km, SE	CO
60435	Etobicoke 461 Kipling Avenue	43.611	-79.522	27 km, SE	Benzene, 1,3-Butadiene
60512	Hamilton Elgin and Kelly	43.258	-79.862	45 km, S	Benzo(a)pyrene
62601	Experimental Farm Simcoe	42.857	-80.270	97 km, SW	Acetaldehyde, Formaldehyde, Acrolein

Note: * Background ozone is required for modelling of atmospheric NO_2 conversion in AERMOD.

5.1.1 Baseline Concentration Summary

The baseline concentrations considered for the assessment are summarized in Table 5-2; these baseline concentrations are relevant to the discussion of cumulative effects in Section 8 of this report.

Table 5-2: Regional Study Area Baseline Concentrations

Compound	CAS Number	Averaging Time	Baseline Concentration ($\mu g/m^3$)	Reference for Baseline Concentration
PM_{10}	n/a	1-hour	27.8	$PM_{2.5}/PM_{10}$ = 0.54 (Lall et. all, 2004)
		24-hour	25.2	
$PM_{2.5}$	n/a	24-hour	13.6	90th percentile of 24-hr averaging data measured at Brampton, combined (2015-2019)
		Annual	7.64	Annual average measured at Brampton, combined (2015-2019)
		1-hour	15	90th percentile of 24-hr averaging data measured at Brampton, combined (2015-2019)
Nitrogen dioxide (NO_2)	10102-44-0	1-hour	40.8	90th percentile of 24-hr averaging data measured at Brampton, combined (2015-2019)

Compound	CAS Number	Averaging Time	Baseline Concentration (µg/m^3)	Reference for Baseline Concentration
Nitrogen dioxide (NO_2)	10102-44-0	24-hour	31.7	90th percentile of 24-hr averaging data measured at Brampton, combined (2015-2019)
		Annual	19.3	Annual average measured at Brampton, combined (2015-2019)
Carbon monoxide (CO)	630-08-0	8-hour	462	As a conservative assumption, same value with one hour average background was assumed.
		1-hour	462	90th percentile of 1-hr averaging data measured at Mississauga, combined (2015-2019)
Benzo(a)pyrene	50-32-8	Annual	1.5E-04	Annual average measured at Hamilton, combined (2015-2019)
		24 Hour	3.7E-04	90th percentile of 24-hr averaging data measured at Hamilton, combined (2015-2019)
Benzene	71-43-2	Annual	0.73	Annual average measured at Etobicoke, combined (2015-2019)
		24-hour	1.45	90th percentile of 24-hr averaging data measured at Etobicoke, combined (2015-2019)
Acetaldehyde	75-07-0	24-hour	0.87	90th percentile of 24-hr averaging data measured at Experimental Farm, combined (2015-2019)
		½-hour	2.6	Approximated from 24-hour averaging value
Acrolein	107-02-8	24-hour	0.030	90th percentile of 24-hr averaging data measured at Experimental Farm, combined (2015-2019)
		1-hour	0.07	Approximated from 24-hour averaging value
1,3-Butadiene	106-99-0	Annual	0.03	Annual average measured at Etobicoke, combined (2015-2019)
		24-hour	0.06	90th percentile of 24-hr averaging data measured at Etobicoke, combined (2015-2019)
Formaldehyde	500-00-0	24-hour	1.52	90th percentile of 24-hr averaging data measured at Experimental Farm, combined (2015-2019)

5.2 Regional Weather Data

Air quality is affected by both the emission sources that release pollutants into the air, and by atmospheric conditions, such as wind speed, wind direction, and temperature.

For this assessment, the Toronto Pearson International Airport was identified as the most appropriate weather station as it is within 18 km southeast of the Project Site. The climate ID for Toronto Pearson International Airport is 6158733, Latitude 43°40'38" N,

and Longitude 79°37'50" W. The meteorological data from this station was also used for the air dispersion modelling.

5.2.1 Wind Speed and Direction

The wind rose depicted in Figure 5-1 for the nearest weather station at Toronto Pearson International Airport, in the period of 2016-2020. A wind rose depicts the predominant wind patterns for a site by graphically illustrating the distribution of wind speed and wind direction. The wind rose is comprised of two (2) parts:

- Frequency of wind blowing from each specified direction around the rose; and
- Distribution of wind speed indicated by the colours on each bar that represent wind speed ranges.

Westerly winds were the most common and prevailing.

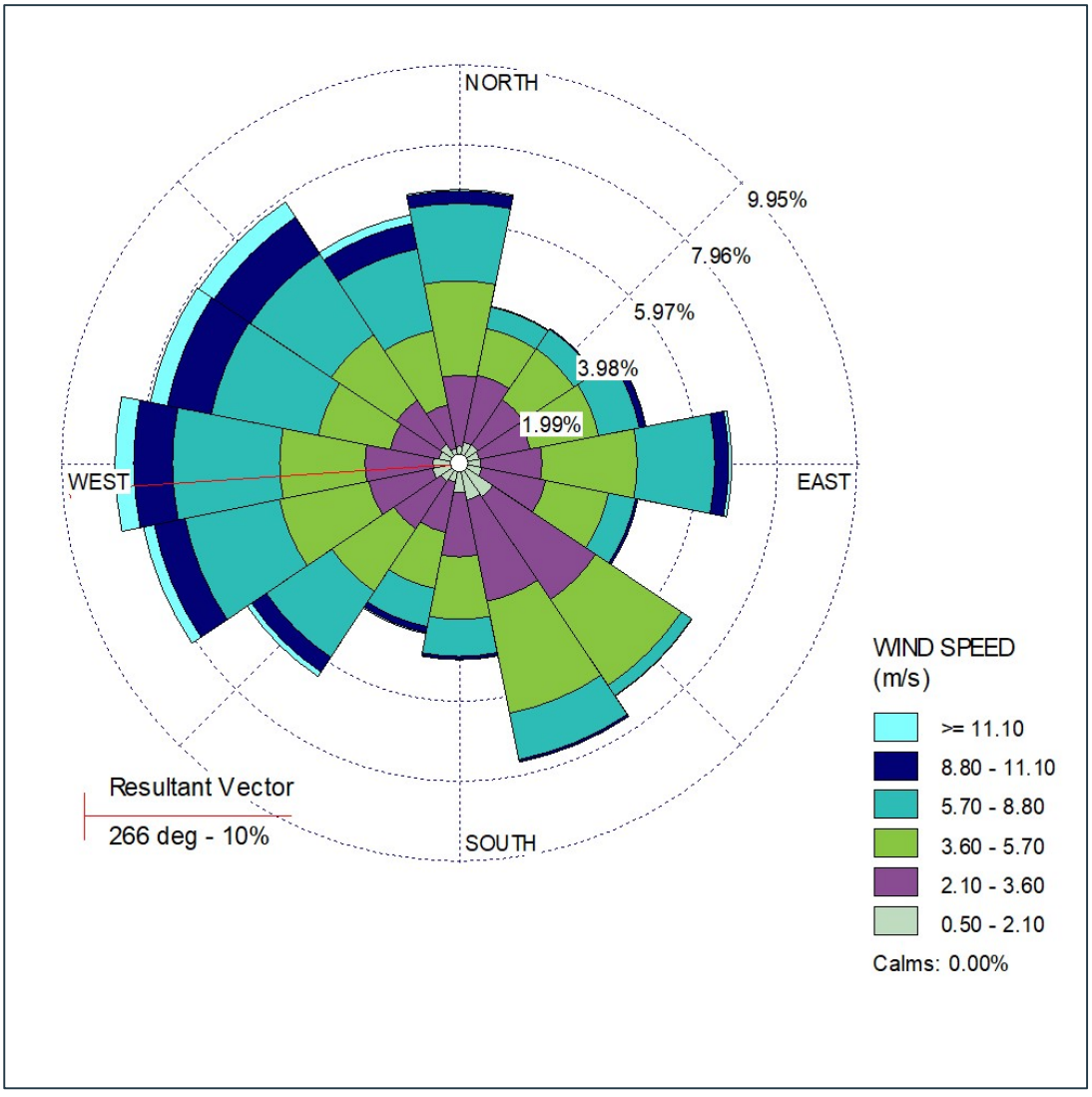

Figure 5-1: Wind rose for the Study Area, Toronto Pearson Airport (2016-2020)

5.2.2 Temperature and Precipitation

According to the Canadian Climate Normals (calendar years 1981 to 2010) for Toronto Pearson International Airport, the mean annual temperature was 8.2°C. The warmest month of the year is August with an average temperature of 20.6°C and the coldest month is January with an average temperature of - 5.5°C. The meteorological station recorded a total average annual precipitation of 785.9 mm, of which 681.6 mm was rainfall. Precipitation is distributed throughout the year, with most of the rain occurring between April into October. Climate Normals for the Toronto Pearson International Airport station are summarized in Table 5-3.

These parameters are relevant to discussions of potential fugitive dust and air quality effects as precipitation acts as a natural dust suppressant, and lower temperatures reduce the speed at which soils and aggregate materials dry following a precipitation event. Although this is not reflected in the air dispersion modelling, fugitive dust mitigation should be intensified during summer months and into October.

Table 5-3: Toronto Pearson International Airport Weather Station Data

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Daily Average Temperature (°C)	-5.5	-4.5	0.1	7.1	13.1	18.6	21.5	20.6	16.2	9.5	3.7	-2.2	8.2
Daily Maximum Temperature (°C)	-1.5	-0.4	4.6	12.2	18.8	24.2	27.1	26.0	21.6	14.3	7.6	1.4	13.0
Daily minimum Temperature (°C)	-9.4	-8.7	-4.5	1.9	7.4	13.0	15.8	15.1	10.8	4.6	-0.2	-5.8	3.3
Rainfall (mm)	25.1	24.3	32.6	63.0	74.3	71.5	75.7	78.1	74.5	60.6	68.0	34.0	681.6
Snowfall (cm)	29.5	24.0	17.7	4.5	0.0	0.0	0.0	0.0	0.0	0.4	7.5	24.9	108.5
Precipitation (mm)	51.8	47.7	49.8	68.5	74.3	71.5	75.7	78.1	74.5	61.1	75.1	57.9	785.9

6.0 Air Emission Sources and Emission Rates

6.1 Construction Phase

Construction activities are a source of air emissions, most commonly fugitive dusts, odours, and tailpipe emissions from diesel equipment and vehicles.

Odours will be managed through the implementation of Best Practices and were not quantified and not modelled as part of this assessment due to the inconsistency and unpredictability of odours at construction projects.

For the purposes of this study, these sources are identified as follows:

- Construction equipment diesel and gasoline engines;
- Movement of equipment on unpaved and paved surfaces;
- Fugitive dust emission from material handling, haul, and truck operations;
- Earthworks; and
- Outdoor stockpiles and exposed soils or aggregates.

On-road traffic bringing materials to or from the Project Site was not considered in the air quality assessment scope as the incremental increase in traffic each hour is expected to be minor, but delivery flatbed trucks on the Project Site were considered in the model.

6.1.1 Emission Rate Estimation

The emission rate estimates required for air dispersion modelling included mobile source emissions from vehicle exhaust of the nonroad construction equipment (i.e., tailpipe emissions), and fugitive dust from the material handling, earthworks, and exposed soils/aggregates. Emissions factors and rates are provided in Appendix A for construction equipment and vehicle emissions as well as fugitive dust emissions, expanded upon below.

Construction Equipment and Vehicle Emissions

The tailpipe and particulate emissions from brake and tire wear for heavy-duty diesel construction vehicles and nonroad equipment were estimated using the Motor Vehicle Emission Simulator (MOVES) 3 model. This model is the *EPA*'s official model for estimating emissions from both on-road and nonroad vehicles. The estimation of the emission rate (g/s) for each nonroad vehicle was determined from the engine rating (hp) specifications and the MOVES emission factor (g/hp-hr) output. For the purposes of this model, the average construction fleet age at the Project Site was assumed to be three (3) to five (5) years old.

Fugitive Dust Emissions

The particulate matter emission from the construction activities were estimated using *USEPA's AP-42 Compilation of Air Pollutant Emissions Factors*. The main sources of emission are the particulate emission due to material handling, which includes the construction vehicle activities (bulldozer, grader, loader, soil compactor), road dust from

haul trucks, and the wind erosion of material stockpiles. A control efficiency of 75% was considered in estimating PM_{10} and $PM_{2.5}$ emission rates for the 'controlled' scenario which considers the use of control measures such as water application and stabilization of exposed areas and stockpiles (Australia 2012).

6.1.2 Maximum Emission Scenario

The modelling scenario is representative of a typical layover construction project using the best available data and estimation methodology. Five (5) distinct construction stages were assumed for this project, with emissions from each stage assessed individually; in some cases, the consequences of the possible overlap of stages were considered in developing the maximum emission scenario for the air dispersion modelling. Table 6-1 describes the five (5) stages.

Table 6-1: Construction Stages

Stages of Construction	
1	Site preparation, excavation, and grading (utilities relocation)
2	Construction of access routes and laydown areas
3	Initial earth removal and construction of retaining wall, permanent concrete caissons with concrete lagging, construction of buildings and ancillary infrastructure
4	Final earth removal and grading
5	Final site preparation to accommodate rail tracks

For each construction stage, a fleet of diesel construction equipment was assigned in order to develop the emission scenarios. Table 6-2 shows the assumed fleet for each construction phase including the equipment and engine ratings deemed appropriate.

Table 6-2: Assumed Construction Equipment Listing
(Engine Ratings and Number of Units)

Stages of Construction	Equipment List	Engine Rating (hp)	Number of Units Used Concurrently
Site preparation, excavation, and grading (utilities relocation)	Backhoe	380	1
	Bulldozer	350	1
	Crane	350	1
	Grader	275	1
	Loader	350	1
	Soil Compactor	130	1
	Dump Truck	450	1
	Flatbed Truck	450	1
	Diesel	250	1
	Diesel Air	185	2

Stages of Construction	Equipment List	Engine Rating (hp)	Number of Units Used Concurrently
Construction of access routes and laydown areas	Bulldozer	350	1
	Loader	350	1
	Drum Roller	150	1
	Dump Truck	450	2
	Soil Compactor	130	1
	Flatbed Truck	450	1
Initial earth removal and construction of retaining wall, permanent concrete caissons with concrete lagging, construction of buildings and ancillary infrastructure	Loader	350	1
	Backhoe	380	1
	Bulldozer	350	1
	Manlift	80	1
	Pile Driving Rig	575	1
	Grader	275	1
	Crane	350	1
	Concrete Pump	80	1
	Dump Trucks	450	1
	Drum Roller	150	1
	Diesel Generator	250	1
	Air Compressor	185	1
Final earth removal and grading	Bulldozer	350	1
	Backhoe	380	1
	Grader	275	1
	Loader	350	1
	Flatbed Truck	450	1
	Diesel Generator	250	1
	Air Compressor	180	2
Final site preparation to accommodate rail tracks	Crane	350	2
	Concrete Pump	80	2
	Manlift	80	4
	Flatbed Truck	450	1
	Air Compressor	185	2
	Drum Roller	150	1

The third stage (Initial earth removal and construction of retaining wall, permanent concrete caissons with concrete lagging) was selected as the worst-case scenario for the study based on the estimated equipment profile.

The emission estimates from the sources identified have been presented in the form of Tables (Appendix A). The summary tables provide data on all emission sources associated with the Project that are expected to discharge one (1) or more of the target contaminants. The locations of the emission sources on the Project site layout are shown on Appendix C.

A summary of the emission calculation methodologies, the emission factors used, and the associated calculations, are provided in Appendix B. Calculations are shown for all emission sources, including equipment tailpipe, construction equipment, and material handling.

6.2 Operational Phase

The following emission sources are considered for the operation scenario:

- Mobile GO, VIA, CN locomotives on Canadian National Railway (CN) tracks within the Study Area;
- Idling GO locomotives at the layover facility; and
- Vehicles, and trucks on Winston Churchill Boulevard within the Study Area.

6.2.1 Emission Rate Estimation

Locomotive Emissions

For CN locomotives, Tier 0 and Tier 2 locomotive emission factors were conservatively used for the baseline scenario; For VIA locomotives, Tier 0 locomotive emission factors were used for the baseline scenario; For GO locomotives, Tier 2 emission factors were used for all scenarios.

GO locomotives are equipped with Head End Power (HEP) units. These diesel units provide the heating, cooling, lighting, and other auxiliary power needs of the trains and are operated at 50% load. Emissions from the HEP units were also calculated and added to the locomotives emissions and modelled.

Train engine emissions were estimated considering the train schedules, the total time spent in the Study Area by each train type, and the maximum number of trains in a Study Area over any given period of time, and the worst-case combination of train types.

Train engine emissions were estimated considering the train schedules, the total time spent in the Study Area by each train type, and the maximum number of trains in a Study Area over any given period of time, and the worst-case combination of train types. Sample calculations are provided in Appendix A.

Idling GO Locomotive Emissions at the Project

GO locomotives using the layover facility typically will idle for 60 minutes prior to departure in the morning, and for 15 minutes after arrival in the evening

Emissions are calculated based on traction unit at 9 hp and the HEP unit at 1200 hp during idling. Sample calculations are provided in Appendix A.

Vehicles Emissions
The tailpipe emissions and particulate emissions from brake and tire wear for on-road vehicles were estimated using the MOVES3 model. The estimation of the emission rate (g/s) for each vehicle was determined based on:

- Regional temperature and humidity averages;
- Vehicle age characteristics;
- Fuel characteristics; and
- Roadway type and average speeds.

The emissions calculations and a summary of the hourly traffic data (provided by Spectrum) is presented in Appendix B.

Re-entrainment Particulate Matter Emissions:
Re-entrainment of dust from paved roads is considered and added to the particulate matter emissions for this project. $PM_{2.5}$ and PM_{10} emission factors are calculated based on US EPA AP-42, Section 13.2.1.

The equation used to calculate the dust re-entrainment emission factor:

$$E = k * (sL)^{0.91} x (W)^{1.02}$$

Where:

E = particulate emission factor (g/VKT)

K = particle size multiplier

sL= road surface silt loading factor (g/m2)

W = average vehicle weight (assumed 3 tons)

Sample calculations of emission factors for re-entrainment particulate matter are provided in Appendix B.

7.0 GHG Emissions

GHG emissions from the Locomotives idling at the layover facility (project) were estimated using fuel usage factors (US EPA 2009) and Metrolinx-provided fuel-based emission factors; this approach is recommended by the MTO Environmental Guide.

Three GHGs present in fuel combustion exhaust are considered: carbon dioxide, methane, and nitrous oxide. The Global Warming Potentials (GWP) for methane and nitrous oxide published in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) were used. The GWPs used for this project are 25 for methane and 298 for nitrous oxide (IPCC 2015).

Every year, Canada prepares and submits a national GHG inventory to the United Nations Framework Convention on Climate Change (UNFCCC). IPCC has published a Fifth and Sixth Assessment Report however it is the GWPs used in the Fourth that are used in Canada's national GHG Inventory which supports Canada's assessment of its progress in reducing emissions and combatting climate change.

Construction equipment GHG emissions were not assessed quantitatively for the following reasons:

- The construction schedule is not finalized, the duration is temporary, and using the overly conservative stress test fleet approach is not deemed applicable to GHG emissions estimate; and
- Construction equipment operating in the site area will have only marginal impact on overall GHG emissions.

The GHG emissions from the operational phase of the Project is assessed for the idling locomotives at the layover facility, as this is the main contributing factor.

According to the Metrolinx Environmental Guide (Metrolinx, 2019), the Metrolinx locomotives emit 3007 grams per litre of CO_2e. The USEPA recommends 20.8 bhp-hr/gal for the large line-haul and passenger locomotives. The conversion gives the value of 181.3 (g/s) of CO_2e. With the assumption of 75 minutes of idling (1 hr morning, and 15 min evening), it is expected that the Project adds 297 tonnes of CO_2e per year of operation.

Table 7-1 shows the comparison of the Project GHG to the provincial inventory.

Table 7-1: Reference Ontario and Project GHG Emissions

Sector	Peak Annual GHG Emissions (kilotonnes CO_2e)	Project GHG as a Fraction of the Inventory
Layover Project	0.30	—
Ontario Rail	1,541	0.0193%
Ontario All Transportation	62,421	0.0005%
All Provincial Sources	164,979	0.0002%

Reference:
ECCC 2021b. Data Products - Canada's Air Pollutant Emissions Inventory.

The net GHG emission from the Project are the equivalent of 0.02% of the Ontario's rail transportation sources.

8.0 Air Dispersion Modelling

The air dispersion modelling assessment was done in accordance with recommendations stipulated in the Metrolinx Environmental Guide: Recommended Approach for Assessing and Mitigating Air Quality Impacts and Greenhouse Gas Emissions of Metrolinx Public Transit Projects (Metrolinx 2019), and the MECP's "Guideline A-11: Air Dispersion Modelling Guideline for Ontario" (ADMGO), Version 3.0, February 2017.

The U.S. EPA AERMOD (version 19191) model was used for modelling of air contaminant emissions for the construction phase of the Project. AERMOD is a Gaussian steady-state plume model which is commonly used for this type of assessment and accepted by the MECP as a main regulatory dispersion model in the province. AERMOD package incorporates meteorological AERMET and terrain AERMAP pre-processor models. This allows one to use the tailored regional data and real digital terrain elevation files, which makes the modelling results more accurate.

AERMOD is capable of modelling a variety of source types, such as point sources, area sources, volume sources and line sources (both area and volume) which are chosen based on how to best represent the construction activities at the Project Site. AERMOD was run for the averaging times that correspond to the relevant air quality criteria; for example, 1-hour, 24-hour, and annual.

For the AERMOD modelling, a 5-years (2016-2020) site-specific meteorological dataset from the Toronto Pearson International Airport (Toronto Pearson) provided by MECP. The elevation of the Toronto Pearson station is 173 m, and the data were processed with AERMET version 19191. The terrain elevation files (GeoTIFF formatted) used in the modelling were selected following ADMGO recommendations and were downloaded from the MECP website.

The following assumptions and model considerations were used for the construction phase worst-case scenario model setup:

- All equipment and activities at the construction Project Site are running concurrently;
- Equipment operation was considered using appropriate equipment utilization factors (USFHWA, 2017);
- Construction will occur between 7a.m. and 7p.m., 7 days per week;
- While the emissions from the non-road vehicle tailpipes are continuous for the whole year, the particulate matter emissions from the material handling and unpaved haul roads were considered negligible between months November and March;
- For particulate matter (PM_{10} and $PM_{2.5}$) models, the AERMOD particle deposition option was used;
- For NO_2 modelling, the ozone limiting method (OLM) with seasonal background concentrations of ozone was considered in the AERMOD model setup; and
- For the particulate matter models (PM_{10} and $PM_{2.5}$), two (2) scenarios were considered in the assessment to allow for comparison of the off-site effects of uncontrolled fugitive dusts sources. The first scenario assessed effects of

uncontrolled fugitive dust sources, while the second scenario used emission rates that were reduced by a 75% control efficiency to reflect reasonable dust control at construction site that uses water as mitigation for emissions from unpaved on-site roads, material handling and stockpiles.

For operation phase (layover build option), the predictable worst-case scenario is defined based on the regular train operation on the CN rail corridor, train idling at the layover and traffic volume on the Winston Churchill Boulevard in the Study Area.

The modelling scenario:

- CN Rail corridor – maximum seven (7) GO trains per hour (peak), one (1) CN train and one (1) VIA train;
- Layover facility: four (4) tracks with capacity to accommodate one (1) train consist with 2 locomotives and 12 cars, 60 minutes idling in the morning (6am to 7am) before departure from the facility, in the afternoon 15 minutes idling;
- Hourly traffic data (year 2021) for Winston Churchill Boulevard.

9.0 Construction Phase Air Quality Modelling Results

The assessment for the construction phase is conservative in terms of the emission rate estimates reflecting the maximum emission scenario with numerous activities and construction equipment operating simultaneously, and in terms of the modelling which predicts effects from the worst-case meteorological conditions over five (5) years of meteorological data.

The zone of influence (ZOI) was identified based on the air concentrations predicted by the air dispersion model to the Ontario AAQC, and the federal CAAQS.

The impacts on the sensitive receptors within the ZOI in the Study Area are assessed for the target contaminants.

9.1 PM_{10} (Fugitive Dusts)

In accordance with the Metrolinx Environmental Guide, PM_{10} was used as a surrogate for the assessment of potential effects of fugitive dusts generated by construction activities and carried off-site.

Two (2) scenarios were modelled:

- One (1) uncontrolled in which no watering or dust mitigation was considered in the emission rate estimates for the fugitive dust sources, roads and material movement
- One (1) controlled scenario which reduced PM_{10} emission rates by 75% to account for dust control from water application and other common mitigation measures.

Watering has been reported to reduce dusts from materials handling, stockpiles, tilling, by up to 90%, and by 74% from unpaved road, suggesting 75% may be conservatively low from some sources (WGA, 2006 and Australia, 2012).

The total emission rate for PM_{10} sources (engines, roads, stockpiles, and material handling) within the Project Site was reduced by 75% with the control measures applied to fugitive dust sources and no specific control efficiency for particulate matter from combustion engines. The resultant concentrations, using the reduced emission rates.

With this fugitive dust control, the 24-hour average PM_{10} concentration predicted by the controlled model showed Zone of Influence (ZOI) of eleven (11) meters of the Project Site, with no impact on sensitive receptors. In contrast with no mitigation, the ZOI extended fifty-two (52) meters of the Project Site, where sensitive receptors can potentially experience few exceedances around 0.3% of the time (5 times in 1,826 days of modelling).

If a baseline PM_{10} concentration of 25.2 µg/m³ for the 24-hour averaging time is also considered for discussion of cumulative effects, there will also be few AAQC exceedances for this averaging time around the Project Site, and the resultant ZOI extends thirty (30) m from the perimeter when mitigation is considered; in the absence of proper mitigation, the ZOI could extend to one hundred and thirty (130) m from the Project Site.

9.2 Respirable Particulate Matter $PM_{2.5}$

The maximum site-wide emission rate for $PM_{2.5}$ can potentially decrease by 53% when fugitive dust control measures were considered in the estimation of emission rates. The decrease was less than what was seen with PM_{10} as the uncontrolled tailpipe emissions account for a larger fraction of the total emitted in the case of $PM_{2.5}$.

For $PM_{2.5}$, the maximum modelled concentrations for the controlled scenario were below the 24-hour AAQC, meaning there is no ZOI is expected. With uncontrolled fugitive dust, the ZOI could extend to five (5) meters from the Project Site. When including the 24-hour baseline $PM_{2.5}$ concentration of 13.6 µg/m³, the cumulative effects result in prediction of 20 m of ZOI for uncontrolled fugitive dust scenario. No sensitive receptor could potentially experience the exceedances for $PM_{2.5}$.

9.3 Gaseous Contaminants

The modelling was performed for the gaseous emission from the construction equipment tailpipes. The contaminants were modeled for this study are nitrogen dioxide, carbon monoxide, acetaldehyde, acrolein, benzo(a)pyrene, benzene, formaldehyde, and 1,3-butaidien.

The modelling results indicated that no ZOI could be expected from the Project impact.

The potential cumulative effect, which includes the baseline, were also below the AAQCs, with the exception of benzo(a)pyrene. The study also considered the potential for benzo(a)pyrene (B(a)P) effects on air quality, which is a by-product of the diesel fuel combustion that powers the construction equipment. In Ontario, the baseline concentration for B(a)P already exceeds the AAQC, therefore the AAQC cannot be achieved with the screening level modelling.

These findings indicate that air quality effects from construction equipment exhaust are possible, and that effective management of tailpipe emissions is required as part of the comprehensive air quality management to help maintain acceptable air quality in the Study Area.

10.0 Operational Phase Air Quality Effects Assessment

For the operational phase (layover build scenario) traffic and locomotives emissions sources were modelled with the US EPA AERMOD model version 19191, AERMOD is a Gaussian steady-state plume model which is commonly used for this type of assessment and accepted by the MECP as a main regulatory dispersion model in the province. AERMOD package incorporates meteorological AERMET and terrain AERMAP sub models. This allows to use the site-specific meteorological data and digital terrain files, which makes the modelling results more accurate.

The meteorological data obtained from the MECP was a 5-year (2016 – 2020) dataset. This consisted of hourly surface data from a met station at Toronto Pearson Airport located approximately 19.5 kilometres (km) to the east of the Study Area and upper air data from the U.S. National Weather Service's Buffalo station. The meteorological data incorporated into the model included wind speed, wind direction, stability category, air temperature, rural mixing height, and urban mixing height.

The modelling Results are presented in Table 10-1 and the corresponding receptors noted in the rightmost column "Location of Max Impact" are shown in Figure 2-1.

Table 10-1: Results of Dispersion Modelling

Pollutant	Averaging Time	AAQC Criteria µg/m^3	Max Project Concentration µg/m^3	Max Cumulative Concentration µg/m^3	Percentage of Criteria (Project)	Percentage of Criteria (Cumulative)	Location of Max Impact**
$PM_{2.5}$	24 hr.	27	13.38	26.98	50%	100%	R15
	Annual	8.8 *	1.99	9.63	23%	109%	R15
PM_{10}	24 hr.	50	39.08	64.28	78%	129%	R15
NO_2	1 hr.	400	106.99	147.79	27%	37%	R15
	24 hr.	200	28.16	59.86	14%	30%	R15
	Annual	30 *	6.13	25.43	20%	85%	R15
CO	1 hr.	36,200	12333	12795	34%	35%	R15
	8 hr.	15,700	5136	5598	33%	36%	R15
Benzene	24 hr.	2.3	1.53	2.98	67%	130%	R15
	Annual	0.45	0.22	0.95	49%	211%	R15
1-3 Butadiene	24 hr.	10	0.17	0.23	2%	2%	R15
	Annual	2	0.02	0.05	1%	3%	R15
Formaldehyde	24 hr.	65	2.05	3.57	3%	5%	R5
Acetaldehyde	1/2-hr	500	7.72	10.32	2%	2%	R16
	24 hr.	500	0.82	1.69	0%	0%	R5
Acrolein	1 hr.	4.5	1.24	1.31	28%	29%	R5
	24 hr.	0.4	0.17	0.2	43%	50%	R5
Benzo(a)pyrene	24 hr.	0.00005	0.00001	0.00038	20%	760%	R15
	Annual	0.00001	0.0000013	0.00015	13%	1513%	R15

Notes:
* Annual averaging criteria for NO_2, and $PM_{2.5}$ are based on CAAQS.
** The location of defined sensitive receptors are provided in Figure 2-1.

The incremental (project) effects for the target contaminants are predicted to be below the respective air quality criteria.

The cumulative effects (project + background concentration) of $PM_{2.5}$ (24-hr), CO, 1-3 Butadiene, Formaldehyde, Acetaldehyde and Acrolein within the Study Area are below the AAQC for their respective averaging times. Total maximum $PM_{2.5}$ concentration is exceeding the CAAQS for Annual averaging criteria (109% of the limit). These exceedances in the study area are driven by elevated background PM2.5 concentrations mainly from traffic on Winston Churchill Blvd. and only marginally associated with Heritage Road Layover Site.

The cumulative effect (project + background concentration) of the PM_{10}, benzene, and benzo(a)pyrene emissions within the Study Area were found to be higher than the AAQC as a result of high background concentration levels.

11.0 Mitigation and Monitoring

11.1 Construction Phase

It is recommended that a detailed Construction Air Quality Management Plan (AQMP) be developed during the construction phase of the Project. This AQMP should include mitigation measures and best practices to control particulates and other contaminants (NOx, CO, VOCs, etc.), and to monitor particulates (PM10, and PM2.5) during construction. Where appropriate, *Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities* (Cheminfo Services 2005) should be incorporated as this has been a standard reference for construction projects in Canada since publication. The AQMP takes site-specific aspects into account and articulates the proactive dust control measures for each activity, additional responsive measures that may be implemented depending upon real-time weather and site conditions in accordance with adaptive management principles.

The AQMP will comprise items (and not only) as follows:

1. Demonstrate compliance with the specific air quality criteria and limits in the Metrolinx *Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment* (2019).
2. Define the Project's air quality impact zone and identify all sensitive receptors within this area.
3. Assess the baseline air quality by continuous measurement of local ambient concentrations of $PM_{2.5}$ and PM_{10} over a minimum period of one week, where large local sources of pollution, such as highways, directly affect the zone of influence of the Project.
4. Estimate and document the predictable worst-case air quality impacts of the Project on sensitive receptors within the air quality impact zone, develop appropriate mitigation measures, demonstrate their effectiveness, and commit to their timely implementation.
5. Monitor continuously any contaminant, in addition to $PM_{2.5}$ and PM_{10}, which is predicted to exceed its relevant air quality exposure criterion during any phase of the Project and at any receptor.
6. Include explicit commitment to the implementation of all applicable best practices identified in the Environment Canada document, *Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities* (2005).
7. Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop (if any) during the construction.

The construction related air contaminants of primary concern are in the form of particulate matter, with the principal construction related fractions of $PM_{2.5}$ and PM_{10} - particulate matter of less than 2.5 and 10 micron in diameter, respectively. The 15 minutes average limits developed by Metrolinx will be used as indicators. Other contaminants of concern include crystalline silica and oxides of nitrogen. The list of

contaminants will be expanded with any and all air pollutants that may be produced as a result of the work.

Monitoring is required to provide assurance that dust and air contaminant control measures are effective in preventing adverse air quality effects beyond the site perimeter. The Proponent must also have a mechanism in place to investigate, respond to, and document any identified air quality concerns.

It is to be noted that VOC emissions are best controlled by management practices. Monitoring is not practical due to the various other sources of VOCs proximate to the Study Area, including vehicular traffic on roadways, large commercial buildings, and the nearby industrial printing facility. It would not be possible to distinguish the VOCs from the Project from those emitted from sources outside the Study Area. Monitoring for these parameters in response to a complaint or concerns regarding air quality effects should be incorporated into the AQMP. Continuous $PM_{2.5}$ and NO_2 monitoring would be protective of potential air quality effects of tailpipe emissions.

11.2 Operational Phase

Exhaust emissions of diesel-powered trains contribute to local and regional air pollution.

The cumulative effects (project + background concentration) of $PM_{2.5}$ is exceeded the CAAQS for Annual averaging criteria at two (2) receptors (residential, R15 – for 9% of criteria and R7 – for 2% of criteria). Both receptors are located inside the study area close to the Winston Churchill Boulevard.

The total PM2.5 concentrations are coming from traffic on Winston Churchill Boulevard, and only marginally associated with the operational emissions from the Heritage Road Layover Site.

As per Metrolinx guideline, the following set of quantitative criteria is recommended for cases when miFAtigation is potentially required:

- *Ten or more sensitive receptors may potentially experience air quality that does not meet AAQC or CAAQS;*
- *The exceedance(s) amount to more than 10% of the applicable AAQC and CAAQS, and*
- *The total period of any potential exceedance over a typical year exceeds one month.*

Based on the above criteria, mitigation of $PM_{2.5}$ emissions during the operational phase of the project is not required.

Mitigation Measures:

- Engines and their emission control equipment will be maintained to manufacturers' specifications.
- Unnecessary train / engine / propulsion system idling will be minimized through technical and operational measures.

Any additional mitigation measures, such as planting trees and vegetations near impacted sensitive receptors to minimize off-site particulate matters impacts will be evaluated on as needed basis.

12.0 Summary of Findings and Recommendations

Based on the qualitative assessment and quantitative modelling results, the key findings of the Heritage Road Layover are as follows:

- The potential for air quality impacts exists if the Project construction to be carried out without adequate control of fugitive dust emissions (PM_{10}) however modelled exceedances were infrequent. The controlled construction scenario will not generate exceedances over the applicable PM_{10} limits
- Modelled air quality effects from Project construction activities with mitigation (project impact and existing baseline air concentrations) are limited to within a 130-metre Zone of Influence;
- The Site Preparation stage was identified as the maximum emission scenario, with the most pieces of construction equipment that may operate simultaneously and therefor the highest number of fugitive dust sources;
- The areas to the west have sensitive receptors and efforts must be made to prevent PM_{10} exceedances at these locations during the construction phase;
    - The assessment is done considering the current Tier 2 locomotive engines. New locomotives will most likely comply with Tier 4 diesel engine emission standards, so the air quality impacts will be lower in the future than modelled in the current study; and
    - The operational phase modelling considered emissions from vehicular traffic on Winston Churchill Boulevard. Air quality will improve in the Study Area due to use of cleaner fuels and electrical vehicles. These two factors will offset the increased traffic volume on the Winston Churchill Boulevard.

The following recommendations are offered to minimize air quality effects:

- A comprehensive Air Quality and Dust Management Plan is required and implement during the construction phase of the Project;
- Air monitoring for PM_{10} along the site perimeter, with particulate emphasis on the ZOI, will provide assurance that fugitive dust sources are being adequately controlled and the potential for off-site effects minimized; and
- Once the Construction Plan and Schedule are better defined, an update to the Air Quality Impact Assessment should be considered to quantify the potential air quality effects more accurately in the vicinity of the Project.

13.0 References

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Appendix A

Tables

Table A1: Locomotive Counts and Emission Rates (CN Rail Corridor)

							1-Hour Emission Rate (g/s)									
	Assumed Train Speed (km/h)	Distance of Study Area (km)	Time in Study Area (min)	Trains/day	Peak Trains/hour	Assumed number of locomotives per train	CO	NO2	PM2.5	PM10	SO_2	Acrolein	Benzene	Benzo(a)pyrene	1,3-Butadiene	Formaldehyde
VIA (moving)	88	1.243	0.85	2	1	1	8.22E-02	1.56E-02	3.51E-03	3.51E-03	2.05E-02	2.51E-04	1.63E-04	9.06E-12	1.55E-05	1.72E-03
CN (moving)	80	1.243	0.93	20	1	4	3.75E-01	7.12E-02	1.60E-02	1.60E-02	9.34E-02	1.14E-03	1.11E-03	6.96E-11	7.04E-05	7.84E-03
GO (moving)	88	1.243	0.85	107	7	1	1.87E-01	6.85E-02	1.21E-02	1.21E-02	1.55E-01	6.38E-04	1.85E-03	1.16E-10	6.35E-05	9.96E-03
Modelling Line Source Total Emission Rate							**6.44E-01**	**1.55E-01**	**3.2E-02**	**3.16E-02**	**2.69E-01**	**2.03E-03**	**3.12E-03**	**1.95E-10**	**1.49E-04**	**1.95E-02**

	Assumed Train Speed (km/h)	Distance of Study Area (km)	Time in Study Area (min)	Trains/day	Peak Trains/hour	Assumed number of locomotives per train	CO	NO2	PM2.5	PM10	SO_2	Acrolein	Benzene	Benzo(a)pyrene	1,3-Butadiene	Formaldehyde
LOCOLAY	25	0.745	1.79	107	7	1	3.94E-01	1.45E-01	2.55E-02	2.55E-02	3.13E-01	1.35E-03	3.89E-03	2.44E-10	1.34E-04	2.10E-02

Assumptions: NO2/NOX Ratio of 10% based on USEPA In-Stack Ratio Database
PM2.5 emission rate equal to PM10 emission rate
US EPA. 2009. Emission Factors for Locomotives. EPA-420-F-09-025.
HEP emissions are added to the GO locomotive emissions at 50% load.

References: US EPA. 2021. NO2/NOX In-Stack Ratio (ISR) Database.
USEPA. 2018. Speciation Profiles and Toxic Emission Factors for Nonroad Engines in MOVES2014b. EPA-420-R-18-011

Table A2: 2021 Locomotive Emission Factors and Rates (Layover Facility)

The GO Transit non-revenue trains using the layover facility typically will idle for 60 minutes prior to departure in the morning, and for 15 minutes after arrival in the evening.

Idling emissions, includes HEP

1-hr idling				g/hp-hr***			g/L*	Total	g/s (total)								
			bhp	CO	NOx	PM2.5	CO2	Number	CO	NO2	PM2.5	Acetaldehyde	Acrolein	Benzene	Benzo(a)pyrene	1,3-Butadiene	Formaldehyde
GO	MP40 LOCOMOTIVE	Tier 2	1192	2.6	6.9	0.16	3007	1	0.9	0.23	0.05	9.43E-03	1.70E-03	4.91E-03	3.08E-10	1.69E-04	2.65E-02

Emissions are calculated based on traction unit at 9 hp and the HEP unit at 1200 hp during idling.

*Metrolinx Guide, Appendix 1, Table 5
**Metrolinx Guide, Appendix 1, Table 1
***Metrolinx Guide, Appendix 1, Table 3
Assuming HP = BHP

				Ref 1	Ref 1	Ref 2	Ref 2	Ref 2	Ref 2	Ref 2	Ref 2
	Compound	HC	VOCs	Acetaldehyde	Acrolein	Benzene	Benzo(a)pyrene	1,3-Butadiene	Formaldehyde
	Source	Diesel		Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Tier 0	Emission factors, g/bhp-hr	0.48	0.505	3.77E-02	1.53E-02	9.91E-03	5.51E-10	9.40E-04	1.05E-01
	Fraction			0.0746	0.0302	0.0196	1.09E-09	0.00186	0.207
Tier 2+3	Emission factors, g/bhp-hr	0.26	0.274	2.85E-02	5.12E-03	1.48E-02	9.29E-10	5.09E-04	7.99E-02
	Fraction			1.04E-01	1.87E-02	5.41E-02	3.40E-09	1.86E-03	2.92E-01
Tier 4	Emission factors, g/bhp-hr	0.04	0.042	2.92E-03	4.21E-04	5.44E-04	7.07E-11	3.37E-05	9.16E-03
	Fraction			6.93E-02	9.99E-03	1.29E-02	1.68E-09	8.00E-04	2.17E-01

1.US EPA. 2009. Emission Factors for Locomotives. EPA-420-F-09-025.
2.USEPA. 2018. Speciation Profiles and Toxic Emission Factors for Nonroad Engines in MOVES2014b. EPA-420-R-18-011

Table A3: Vehicle Emission

MOVES3 Emission Factor - 2021

Speed (km/h)	Speed (mph)	% Cars - AM/PM Peak	% Trucks - AM/PM Peak	$PM_{2.5}$	PM_{10}	NO_2	CO	Benzene	Benzo(a)pyrene	1-3 Butadiene	Formaldehyde	Acetaldehyde	Acrolein
60	37	96.0	4.0	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)	Effective Emission Factor AM/PM (g/veh-mile)
				2.03E-02	5.85E-02	7.16E-02	3.60E+00	2.49E-03	1.67E-08	2.79E-04	1.82E-03	1.14E-03	1.23E-04
			1 Vehicle Emission Rate (g/s)	2.1E-04	6.1E-04	7.36E-04	3.70E-02	2.56E-05	1.72E-10	2.87E-06	1.87E-05	1.17E-05	1.26E-06

Average Speed	Distance	Time travelled
(km/h)	(km)	(s) per car
60	0.6	36

Appendix B

Emission Rate Calculations

B1. Bulldozer Activity (Construction)

Particulate matter emissions from the movement of bulldozers was estimated using the methodology outlined in US EPA Section 11.9, Table 11.9-2, Bulldozing on Material other than Coal (Overburden).

$$TSP\ EF\left(\frac{kg}{hr}\right) = 2.6 \times \left(\frac{(s)^{1.2}}{(M)^{1.3}}\right)$$

$$PM_{10}\ EF\left(\frac{kg}{hr}\right) = 0.34 \times \left(\frac{(s)^{1.5}}{(M)^{1.4}}\right)$$

$$PM_{2.5}\ EF\left(\frac{kg}{hr}\right) = 0.105 \times TSP$$

s = silt content (%)
M = moisture content (%)

Table B1: Particulate Emissions from Bulldozers Activity

Scenario	Particle Size	Number of Bulldozers or Equivalent	Silt Content (%)	Moisture Content (%)	Emission Rate per Dozer (kg/h)	Emission Rate total (kg/h)	Emission Rate total (g/s)	Utilization Factor %	Hours per Day	Control Efficiency %
Maximum	TSP	2	8.5	7.9	2.31	4.62	1.28	40%	12	75
	PM_{10}				0.46	0.93	0.26			
	$PM_{2.5}$				0.24	0.48	0.13			

Particle Size	Uncontrolled Emission rate (g/s)		Controlled Emission rate (g/s)	
	24-hr Average	1-hr Average	24-hr Average	1-hr Average
PM_{10}	5.15E-02	1.03E-01	1.29E-02	2.57E-02
$PM_{2.5}$	2.69E-02	5.39E-02	6.73E-03	1.35E-02

B2. Re-entrainment Emissions (Operation)

Contaminant	AADT	K	sL	W	E	E	ER
		g/VKT	g/m^2	Tons	g/VKT	g/VMT	g/s
PM_{10}	500 - 5000	0.62	0.2	3	0.440	0.273	7.33E-03
$PM_{2.5}$		0.15	0.2	3	0.106	0.066	1.77E-03

Equation from AP-42 (Section 13.2.1-3)

Average Speed	Distance	Time travelled
(km/h)	(km)	(s) per car
60	0.6	36

$$E = k\,(sL)^{0.91} \times (W)^{1.02} \qquad (1)$$

where: E = particulate emission factor (having units matching the units of k),
k = particle size multiplier for particle size range and units of interest (see below),
sL = road surface silt loading (grams per square meter) (g/m^2), and
W = average weight (tons) of the vehicles traveling the road.

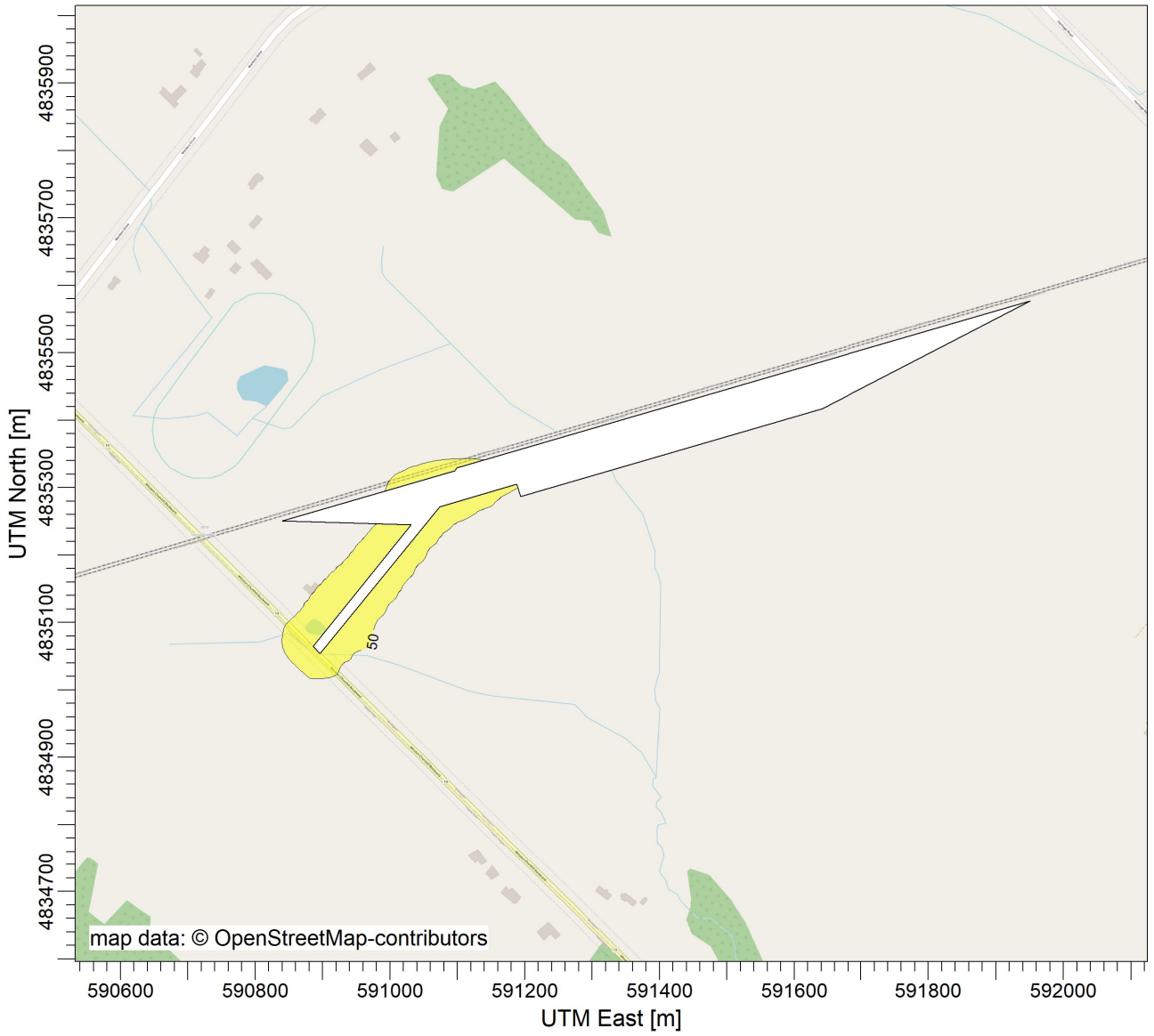
Note:
sL values are taken from the USEPA AP-42, Table 13.2.-2. K factors are taken from thr MTO guideline, Table 5.

Appendix C

Figures

Project Title:

Heritage Layover - Construction Phase
PM10 - Uncontrolled Fugitive Dust



PLOT FILE OF HIGH 24-HR VALUES FOR SOURCE GROUP: UNCONTROLLED

µg/m³

0 50

Comments: Ontario AAQC = 50 µg/m³ Figure presents worst-case scenario of the Project only.	Sources: **32**		
	Receptors: **1174**		wood.
	Output Type: **Concentration**	SCALE: 1:10,000 0 0.3 km	
		Date: **03-Mar-22**	Figure Number: **C-1**

AERMOD View - Lakes Environmental Software

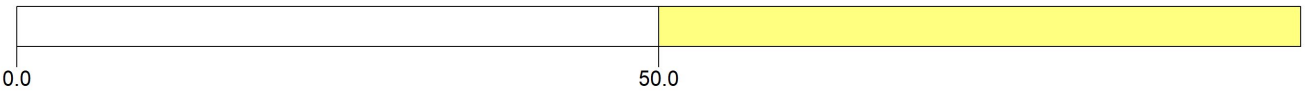
Project Title:

Heritage Layover - Construction Phase
PM10 - Controlled Fugitive Dust



PLOT FILE OF HIGH 24-HR VALUES FOR SOURCE GROUP: CONTROLLED

µg/m³



Comments: Ontario AAQC = 50 µg/m³ Figure presents worst-case scenario of the Project only.	Sources: **32**		
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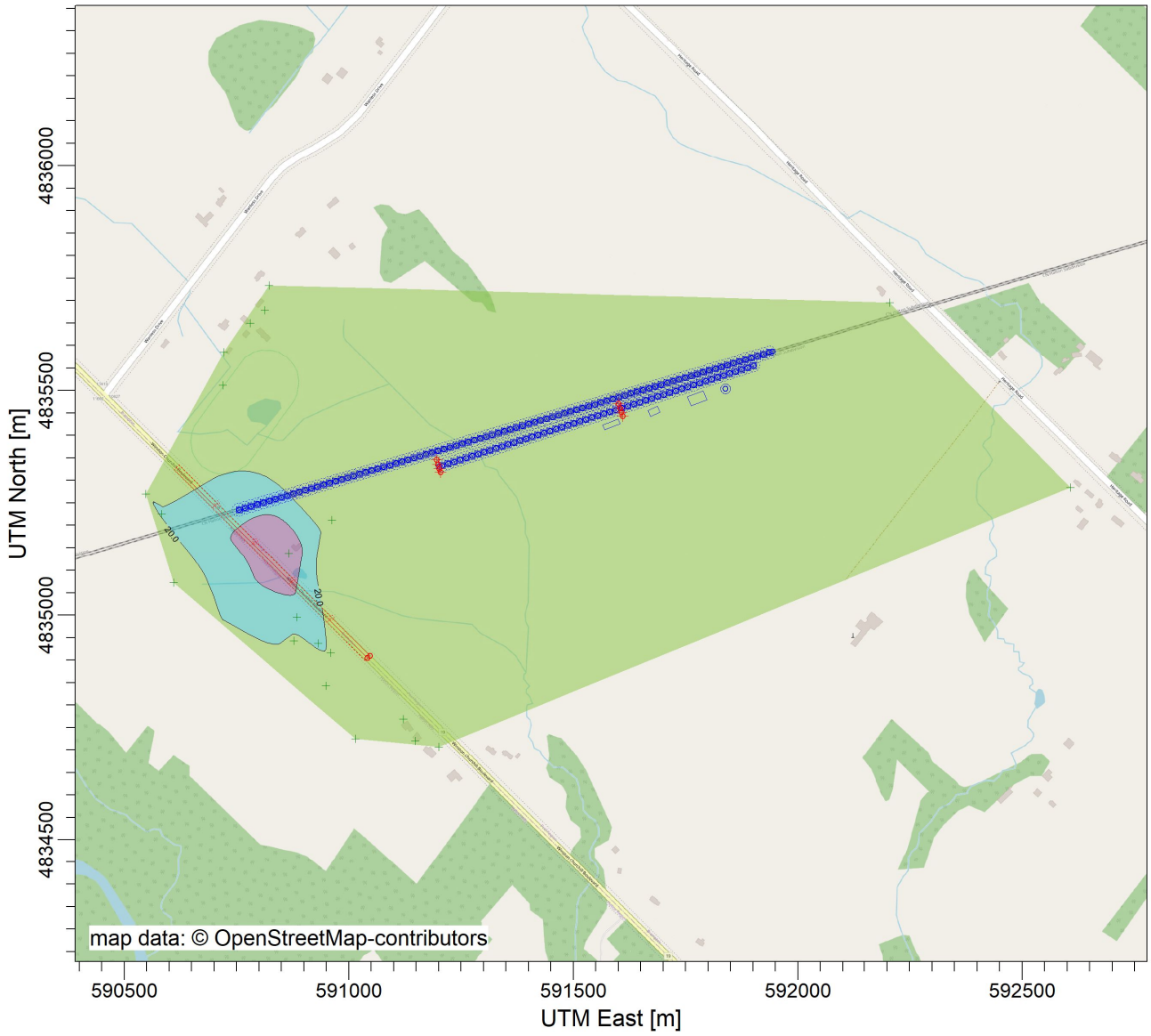
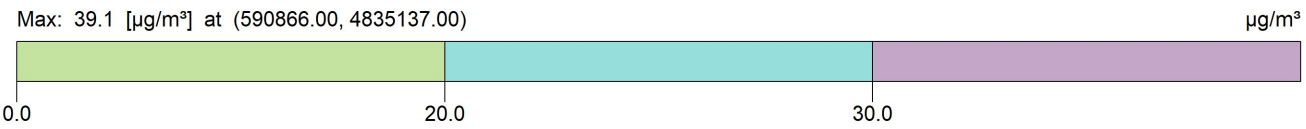
AERMOD View - Lakes Environmental Software

Project Title:

Heritage Layover - Operation Phase
PM10



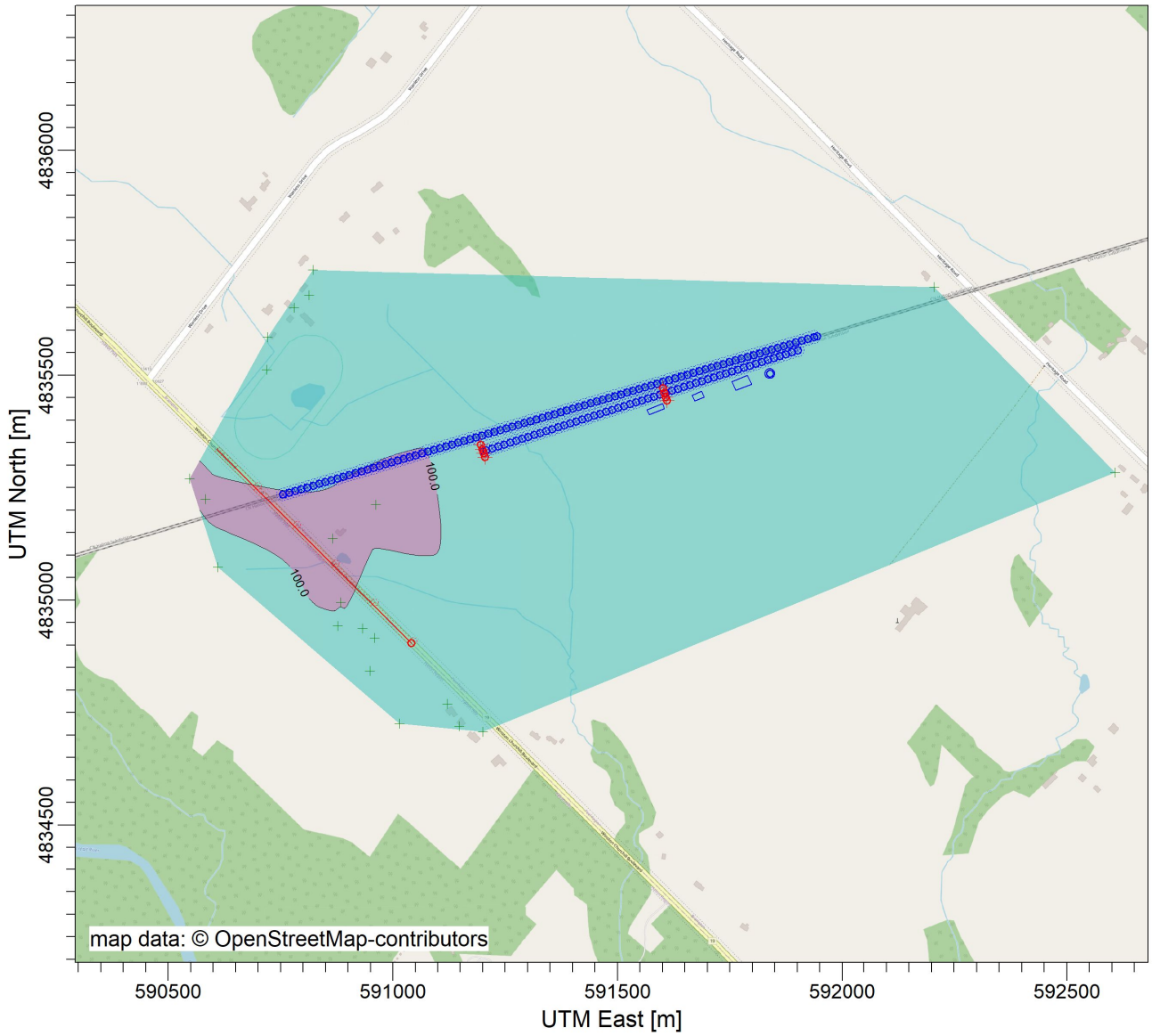


Comments: Ontario AAQC = 50 µg/m³ Figure presents worst-case scenario of the Project only.	Sources: **12**		
	Receptors: **21**		wood.
	Output Type: **Concentration**	SCALE: 1:15,000 0 0.5 km	
		Date: **03-Mar-22**	Figure Number: **C-3**

AERMOD View - Lakes Environmental Software

Project Title:

Heritage Layover - Operation Phase
NO2 (1hr averaging period)





Comments: Ontario AAQC = 400 µg/m³ Figure presents worst-case scenario of the Project only.	Sources: **11**		
	Receptors: **21**		wood.
	Output Type: **Concentration**	SCALE: 1:15,000 0 0.5 km	
		Date: **03-Mar-22**	Figure Number: **C-4**

AERMOD View - Lakes Environmental Software

Project Title:

Heritage Layover - Operation Phase
Benzene (24h averaging period)



Max: 1.53 [µg/m³] at (590866.00, 4835137.00) µg/m³

0.00 | 0.50 | 1.50

Comments: Ontario AAQC = 2.3 µg/m³ Figure presents worst-case scenario of the Project only.	Sources: **11**	
	Receptors: **21**	
	Output Type: **Concentration**	SCALE: 1:15,000 0 0.5 km
		Date: **03-Mar-22**

wood.

Figure Number:
C-5

AERMOD View - Lakes Environmental Software

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Limitations

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Appendix B

Noise and Vibration Baseline Conditions and Impact Assessment Report – Heritage Road Layover

Heritage Road Layover
Noise and Vibration Impact Assessment Report

Project # IM21405045

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Executive summary

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station)and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

This Noise and Vibration Impact Assessment Report (NVIR) evaluates the noise and vibration impacts associated with the construction and the operational phase of the Facility. The applicable guidelines used for the assessment of noise and vibration impacts from the Facility were the Metrolinx “Environmental Guide for Noise and Vibration Impact Assessment” (Metrolinx 2021), the MOEE/GO Transit, “Draft Protocol for Noise and Vibration Assessment” (MOEE/GO, 1995) and the Ontario Ministry of Environment, Conservation and Parks (MECP) Environmental Noise Guideline NPC-300, ‘’Noise Assessment Criteria for Stationary Sources and for Land Use Planning.” (MECP 2013). Four (4) Representative Sensitive Receptor (RSR) locations were identified and considered in this NVIR based on the Facility layout.

The construction is assumed to be completed in five (5) stages. Zone of Influence (ZOI) areas for noise and vibration were developed to define the geographic area within which receptors may be exposed to noise and vibration levels higher than the applicable criteria. An impact assessment was conducted to evaluate the construction noise at the identified RSR locations using geometric spreading calculations and anticipated duty cycles for construction equipment. The vibration impacts were assessed based on a single worst-case vibration event using vibration impacts from the worst-case piece of equipment for each construction stage.

The construction noise was assessed against the criteria limits established in the Metrolinx Environmental Guideline. Under the predictable worst-case emission scenario for the construction of the Facility, assuming simultaneous operation of all equipment, noise levels are predicted to exceed the applicable Metrolinx Guideline limits at RSR1 during daytime (07:00-23:00) during all stages of construction and at RSR2 for Stages 2-5 simultaneous activities scenario of construction. Noise levels are predicted to exceed the limits at all RSRs during the night-time (23:00-07:00) periods for all construction stages. The construction vibration was assessed against the limits established in the MOEE/GO Protocol and City of Toronto By-Law 514-2008, “Construction Vibrations” (City of Toronto, 2008). The vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages.

The noise impacts from the operation of the Facility were calculated using predictive acoustic modelling and assessed against the applicable MECP NPC-300 limit. The operational noise modelling included all noise sources associated with layover operation. Under the predictable worst-case hour scenario (LAeq-1hr), the modelled operational noise levels are predicted to meet the applicable MECP NPC-300 at the identified RSRs, during daytime and night-time periods. The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of the closest RSR being at least 100 metres away from the tracks.

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List of Acronyms and Abbreviations

MECP	Ministry of Environment, Conservation, and Parks
NVIR	Noise and Vibration Impact Assessment Report
NZOI	Noise Zone of Influence
O.Reg.	Ontario Regulation
PPV	Peak Particle Velocity
RCNM	Roadway Construction Noise Model
RMS	Root Mean Square
RSR	Representative Sensitive Receptors
The Project	Heritage Road Layover
TPAP	Transit Project Assessment Process
VZOI	Vibration Zone of Influence
Wood	Wood Environment & Infrastructure Solutions Canada Limited
ZOI	Zone of Influence

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Heritage Road Layover. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Heritage Road Layover (the Project) is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

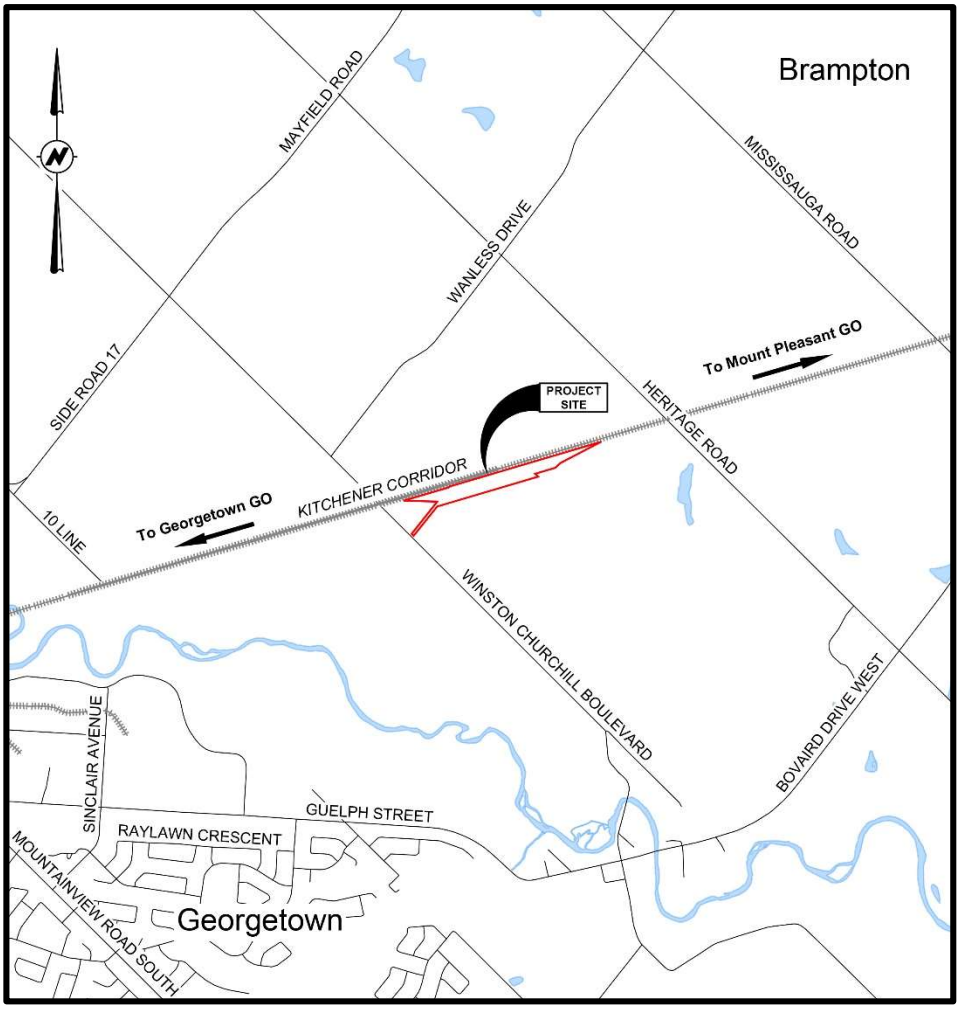


Figure 1-1: Project Site Location

1.2 Noise and Vibration Assessment

The purpose of the Noise and Vibration Impact Assessment Report (NVIR) is to:

- Identify potential noise and vibration effects during the construction phase of the Project;
- To determine the significance of the potential construction effects and evaluate against applicable noise and vibration criteria in terms of zone of influence;
- To assess potential noise and vibration effects during the operational phase of the Project;
- To determine the significance of the potential operational effects and evaluate against applicable noise and vibration criteria; and
- To recommend an appropriate mitigation strategy to reduce emissions and prevent adverse noise and vibration effects.

2.0 Baseline Conditions

Baseline noise and vibration measurements need to be conducted to document existing levels of ambient noise and vibration, including levels from the existing rail corridor at Representative Sensitive Receptors (RSRs) prior to the start of construction. Baseline measurements have not been completed at the time of writing of this NVIR due to ongoing inclement weather conditions in the winter months. Baseline measurements are predicted to be completed by the end of April 2022 tentative of suitable weather conditions.

2.1 Noise

Construction is scheduled to be of more than four months duration and therefore baseline noise will be measured at each identified RSR location for a minimum of 1-month (4-weeks) period. Baseline noise measurement plan is summarized in Table 2-1.

Table 2-1: Baseline Noise Measurement Plan

Element	Description
Location	Measurements will be taken outdoors
Duration of Monitoring	Minimum 1-month (4 weeks) of monitoring per representative sensitive receptor
Equipment to be used	Type 1 integrating sound level meters. Equipped with windscreens as recommended by the manufacturer. Equipment will be enclosed in an environmental case to minimize the effects of weather, wind, wildlife and external interference on the collected measurements. Microphones will be placed at a height of approximately 1.5 meters above grade.
Metrics	At a minimum the following metrics will be recorded: LAeq-1h, LASMax and LASMin. All measurements will be synchronized to start at the top of each hour.
Weather Information	Sound level measurements will be conducted during periods of suitable weather conditions as per MOECC NPC-103. Weather data from the nearest publicly available source for establishing temperature, precipitation and wind speed in the Project Site will be collected and correlated with baseline noise data.

2.2 Vibration

Baseline vibration measurements will be conducted for a period of 8-hours at three setback distances to quantify the propagation characteristics of the area for each RSR. Baseline vibration measurement plan is summarized in Table 2-2.

Table 2-2: Baseline Vibration Measurement Plan

Element	Description
Location	Measurements will be taken outdoors.
Duration of Monitoring	Minimum 8-hours of monitoring at three setback distances per representative sensitive receptor.
Equipment to be used	Monitoring terminal capable of measuring 1-second history data of Peak Particle Velocity (PPV) (VPPV) and Root-Mean-Square (RMS) velocity (VRMS) along three orthogonal axes. Data acquisition system equipment with tri-axial geophone. Geophone will be placed on the ground, secured as per manufacturer recommendations. The instrumentation shall comply with applicable ISO and ANSI standards and be capable of accurately assessing vibration in the 0.05 to 0.20 mm/s RMS range at frequencies of 4 to 200 Hz.
Metrics	Peak Particle Velocity (PPV) (VPPV) - used for assessment of potential damages to building structures due to vibration, in particular from blasting, as outlined in NPC-119 (MOE, 1977a); and Root-Mean-Square (RMS) velocity (VRMS) - used for assessment of potential impacts related to human perception of vibrations.
Post-processing	Maximum, 95th percentile, 75th percentile, mean, median, 25th percentile, 5th percentile, and minimum along the three orthogonal axis will be provided for each metric. Tri-axial measurements will be summed into a single vector for analysis.

3.0 Assessment of Construction Activities

Construction noise and vibration impacts need to be evaluated prior to construction to identify areas where construction may cause adverse effects on communities. If adverse effects are anticipated, operational changes and temporary mitigation measures will be investigated as part of the construction plan to minimize, monitor and mitigate noise and vibration levels to the extent reasonably possible and at least to meet the applicable limits.

3.1 Construction Phasing Assessment

The Construction Phasing Assessment identifies the major noise and vibration producing stages and equipment. These inputs are used to develop the Construction Noise Zone of Influence (NZOI), Construction Vibration Zone of Influence (VZOI). Table 3-1 shows the identified construction stages and the associated construction equipment.

Table 3-1: Construction Phases and Equipment

Stages of Construction	Equipment List	Engine Rating (hp)	Number of Units Used Concurrently
Site Preparation (preconstruction activities, drainage, etc.)	Backhoe	380	2
	Bulldozer	350	2
	Crane	350	2
	Loader	350	2
	Soil Compactor	130	1
	Dump Truck	450	2
	Flatbed Truck	450	1
	Diesel Generator	250	2
	Diesel Air Compressor	185	2
	Vac-Truck	-	1
Construction of rail tracks (laying bottom ballast, anchorage, steel tracks, top ballast, etc.)	Track laying machine	450	1
	Loader	350	1
	Dump Truck	450	2
	Crane	350	1
	Flatbed Truck	450	1
	Soil Compactor	130	1
Construction of access road (excavation, drainage, base layer, compacting, etc)	Loader	350	1
	Bulldozer	350	1
	Backhoe	380	1

Stages of Construction	Equipment List	Engine Rating (hp)	Number of Units Used Concurrently
	Grader	275	1
	Dump Trucks	450	2
	Drum Roller	150	1
	Vac-Truck	-	1
Construction of layover area, parking lot, service areas (excavation, concrete pad, buildings/tailers, crew centre, electrical substation building, storage areas, compacting, etc.)	Crane	350	2
	Concrete Pump	80	1
	Manlift	80	2
	Cement Truck	450	1
	Diesel Generator	250	1
	Air Compressor	180	2
Final site preparation activities (cleaning, asphalt pavement, traffic signs, etc.)	Drum Roller	150	2
	Dump Truck	450	2
	Asphalt Paver	450	1
	Asphalt Roller	150	1
	Flatbed Truck	450	1
	Asphalt Distributor Truck	250	1

3.2 Construction Noise

To address the risks related to construction noise emissions requires a progressive approach of assessment and mitigation. The first step is to define the construction activities with particular emphasis on high impact stages. These activities and equipment are outlined in Section 3.1 of this NVIR. Then using the applicable criteria for noise, the zones of influence for these activities can be determined. The Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (Metrolinx 2021), hereafter referred to as the 'Metrolinx Environmental Guide' is used to guide the construction noise assessment.

3.2.1 Applicable Criteria

The Metrolinx Environmental Guide provides construction noise criteria extracted from the Construction Noise Handbook (FHWA, 2006) and Transit Noise and Vibration Impact Assessment Manual (FTA, 2018). Table 3-2 identifies the noise criteria associated with construction equipment and the applicable receptor location.

Table 3-2: Construction Noise Criteria

Land Use	LEQ [dBA] [1]		LEQ (15min) [dBA]		LMAX [dBA]	
	Day [2]	Night [3]	Day [2]	Night [3]	Day [2]	Night [3]
Residential - Weekday	Louder of: 75 or Baseline +5	Louder of: 65 or Baseline +5	85	75	90	80
Residential - Weekend	Louder of: 70 or Baseline +5	Louder of: 60 or Baseline +5	75	65	90	80
Institutional	Louder of: 70 or Baseline +5	Louder of: 60 or Baseline +5	75	65	90	80
Commercial	Louder of: 80 or Baseline +5	-	-	-	-	-
Industrial	Louder of: 85 or Baseline +5	-	-	-	-	-

Notes:

1. Average energy equivalent noise level over the day and night.
2. Weekday (07:00-23:00) L_{EQ} are over a 16-hour period. Weekend (09:00-23:00) L_{EQ} are over a 14-hour period.
3. Weekday (23:00-7:00) L_{EQ} are over a 8-hour period. Weekend (23:00-9:00) L_{EQ} are over a 10-hour period.

3.2.2 Construction Noise Zone of influence

A Construction Noise Zone of Influence (NZOI) Assessment was completed using the emission values and calculation methods described in the Construction Noise Handbook (FHWA, 2006) and the Roadway Construction Noise Model (RCNM) User's Guide (FHWA, 2006). The NZOI calculations utilized the construction phasing information provided in Table 3-1 and the noise criteria referenced in Table 3-2.

The strictest limit in Table 3-2 is 70 dBA (Leq-14h) during daytime (09:00 – 23:00 hours) and 60 dBA (Leq-10h) during night-time (23:00 – 09:00) on the weekend in a residential setting. The weekday limits are identified as 75 dBA (Leq-16hr) during daytime (07:00 – 23:00 hours) and 65 dBA (Leq-8h) during night-time (23:00 – 07:00). It is typical to set zone of influence criteria 5 dBA below that which would cause an exceedance of noise

criteria. Since the construction is anticipated to occur all seven (7) days a week, it is reasonable to utilize the weekend noise criteria, 70 dBA during daytime and 60 dBA during night-time, to establish the NZOI for all seven (7) days in the week. The RCNM noise model outputs average emissions identical for any given period in a 24-hr day and thus, utilizing the weekend limits throughout the week represents a conservative approach to the assessment. If baseline noise levels are identified to be above the established limits, a relative criterion of baseline + 5 dBA will be used to recalculate the NZOI.

Table 3-3 shows the resulting NZOI for all construction stages for daytime and night-time. The maximum NZOI predictions occur during Stage 1 – Site Preparation with daytime and night-time NZOI values of 170 metres and 536 metres, respectively. The NZOI figures and sample calculation for daytime and night-time are included in Appendix A.

It is important to note that simultaneous activities are likely to occur for the majority of the construction schedule and that although there may be slight variations in activities the NZOI is very likely to overlap surrounding noise sensitive land uses throughout the construction duration. Activities encompassing for Stage 2 to Stage 5 (Stage 2-5 Simultaneous Activities) The NZOI values for simultaneous activities are 241 metres and 761 metres for daytime and night-time, respectively.

Table 3-3: Noise Zone of Influence

Stage of Construction	Description	Daytime 70 dBA ZOI (meters)	Night-time 60 dBA ZOI (meters)
1	Site Preparation	170	536
2	Construction of rail tracks	119	376
3	Construction of access road	129	409
4	Construction of layover area, parking lot, service areas	98	311
5	Final site preparation activities	132	376
2-5	Simultaneous activities	241	761

3.3 Construction Vibration

To assess the risks related to project vibration emissions requires an approach similar to that described for noise in Section 3.2. The Metrolinx Environmental Guideline (Metrolinx, 2021) and the MOEE/GO Transit, “Draft Protocol for Noise and Vibration Assessment” (MOEE/GO, 1995) are used to guide the construction vibration assessment. The applicable criteria for vibration levels are provided in Section 3.3.1 of this report.

3.3.1 Applicable Criteria

The Metrolinx Environmental Guide (Noise and Vibration) provides construction vibration limits extracted from the Transit Noise and Vibration Impact Assessment Manual (FTA, 2018) and the MOEE/GO Transit Draft Protocol (MOEE/GO, 1995). The vibration impacts from construction will be assessed against the criteria for public annoyance and building damage as identified in MOEE/GO Draft Protocol and City of Toronto By-Law 514-2008, respectively. By-law 514-2008 is superseded by Municipal Code Chapter 363, Building Construction and Demolition (City of Toronto, 2021). The construction noise and vibration limits are summarized in Table 3-4.

Table 3-4: Construction Vibration Criteria

Source	Condition	Criteria (in/s)	Criteria (mm/s)
MOEE/GO Protocol [1]	Potential annoyance vibration levels (RMS)	0.006	0.14 or baseline levels (whichever is higher)
FTA	Building extremely susceptible to vibration damage – heritage buildings (PPV)	0.12	3
FTA	Reinforced-concrete, steel or timber (no plaster) (PPV)	0.51	13
By-law 514-2008	Frequency of vibration less than 4 Hz (PPV)	0.32	8
By-law 514-2008	Frequency of vibration between 4 and 10 Hz (PPV)	0.59	15
By-law 514-2008	Frequency of vibration greater than 10 Hz (PPV)	0.98	25
By-law 514-2008	Frequency Independent ZOI Assessment Criterion (PPV)	0.20	5

Notes:

1. If the vibration assessment at a point of reception is predicted to exceed the criteria by 25%, mitigation measures will need to be evaluated based on administrative, operational, economic and technical feasibility.

3.3.2 Construction Vibration Zone of Influence

A Construction Vibration Zone of Influence (VZOI) Assessment was completed using the emission values described in the Transit Noise and Vibration Impact Assessment Manual (FTA, 2018) and calculation methods described in the Metrolinx Environmental Guide (Metrolinx, 2021). The VZOI was calculated based on the stringent criteria

identified in Table 3-4 and the most adverse piece(s) of construction equipment in terms of vibration for each construction stage.

Since there are no heritage buildings identified, it is reasonable to set the criteria for determination of the zone of influence at 5 mm/s to assess building damage as per City of Toronto By-Law 514-2008. Public annoyance criteria of 0.14 mm/s was used per MOEE/GO Draft Protocol (MOEE/GO, 1995) to assess potential impacts related to human perception of vibrations. Table 3-5 shows the resulting zones of influence for all construction stages which are not dependent on time of day. Though it is advisable to restrict significant vibration generating activity to daytime hours to reduce the possibility of disturbance to surrounding residents. The maximum VZOI predictions occur at 8 meters and 35 metres with regards to building damage and public annoyance criteria, respectively. The VZOI figures and sample calculations are included in Appendix B.

Table 3-5: Vibration Zones of Influence

Stage	Description	Building Damage (meters) ZOI 5 mm/s[1]	Public Annoyance (meters) ZOI 0.14 mm/s[2]
1	Site Preparation	8	35
2	Construction of rail tracks	8	35
3	Construction of access road	8	35
4	Construction of layover area, parking lot, service areas	5	18
5	Final site preparation activities	8	35
2-5	Simultaneous activities	8	35

Notes:

1. Based on Peak Particle Velocity (PPV) limit as per By-Law 514-2008.
2. Based on Root Mean Square (RMS) Velocity limit as per MOEE/GO Transit Protocol

4.0 Representative Sensitive Receptors

The NZOI assessment outlined in Section 3.2 identified that the NZOI will overlap surrounding noise sensitive land-uses and therefore Representative Sensitive Receivers (RSRs) need to be identified. Based on the Facility layout, the construction footprint and the surrounding land-uses, it would be reasonable to establish representative receivers predicted to incur the worst impact from the construction and operation of the Facility.

The RSRs were allocated at the locations predicted to have the worst-case impact from the construction and operation of the Facility from each cardinal direction. The proposed RSR locations are provided in Table 4-1 and shown in the NZOI figures provided in Appendix A.

Table 4-1: Representative Sensitive Receivers - Noise

Receiver	Description	Distance (m) [1]	Pin
RSR1	10827 Winston Churchill Blvd	50	143620012
RSR2	10886 Winston Churchill Blvd	216	250590128
RSR3	2849 Wanless Drive	476	143620069
RSR4	10618 Heritage Road	260	143620018

Notes:

1. Distance was measured from nearest construction footprint to building façade for large properties in rural settings where buildings and living areas may be setback from lot-lines and construction areas.

5.0 Impact Assessment

5.1 Construction Noise

A construction noise impact assessment was completed to evaluate the expected construction noise at the identified RSR locations using the emission values from Construction Noise Handbook (FHWA, 2006) and the Roadway Construction Noise Model (RCNM) User's Guide (FHWA, 2006). The assessment approach described in the Metrolinx Environmental Guide (Metrolinx, 2021) was used that involved utilizing geometric spreading calculations, duty cycles of construction equipment and relative distance of each identified RSR from the construction area boundary.

The predicted noise impacts from construction are provided in Table 5-1. The calculated values for each construction stage are not dependent on the time of day, as a worst-case scenario was applied as per the Metrolinx Environmental Guideline (Metrolinx, 2021). Sample calculation for RSR1 for simultaneous activities from Stage 2 to 5 is provided in Appendix A.

Based on the calculations, construction noise levels at RSR1 are predicted to exceed the daytime limit of 70 dBA during all construction stages. Construction noise levels are also predicted to exceed the daytime limit at RSR2 under the simultaneous activities from Stage 2 to Stage 5 scenario. Noise levels during night-time are predicted to exceed the night-time limit of 60 dBA at all identified RSR's for all construction stages. Therefore, the noise emissions must be effectively managed, mitigated and monitored to ensure compliance with the construction noise criteria.

Table 5-1: Construction Noise Impact Assessment

Receiver	Description	Distance (m) [1]	Predicted L_{EQ} [dBA]					
			Construction Stages					
			1	2	3	4	5	2-5
RSR1	10827 Winston Churchill Blvd	50	81	78	78	76	78	84
RSR2	10886 Winston Churchill Blvd	216	68	65	66	63	66	71
RSR3	2849 Wanless Drive	476	61	58	59	56	59	64
RSR4	10618 Heritage Road	260	66	63	64	62	64	69

Notes:

1. Distance was measured from nearest construction footprint to building façade for large properties in rural settings where buildings and living areas may be setback from lot-lines and construction areas.

5.2 Construction Vibration

A construction vibration impact assessment was completed to evaluate the expected construction vibration levels at the identified RSR locations using the assessment approach identified in the Metrolinx Environmental Guide (Metrolinx, 2021). The

vibration impacts were assessed based on a single worst-case vibration event using vibration impacts from the worst-case piece of equipment for each construction stage based on relative distance of each identified RSR from the construction area boundary.

The predicted vibration impacts from construction with regards to building damage and public annoyance are provided in Table 5-2 and 5-3, respectively. The calculated values for each construction stage are not dependent on the time of day, as a worst-case scenario was applied as per the Metrolinx Environmental Guideline (Metrolinx, 2021). Sample calculation for RSR1 is provided in Appendix B.

Based on the calculations, the vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages.

Table 5-2: Construction Vibration Impact Assessment – Building Damage

Receiver	Description	Distance (m) [1]	Predicted Vibration Levels – PPV [mm/s] [2]					
			Construction Stages					
			1	2	3	4	5	2-5
RSR1	10827 Winston Churchill Blvd	50	0.317	0.317	0.317	0.115	0.317	0.317
RSR2	10886 Winston Churchill Blvd	216	0.035	0.035	0.035	0.013	0.035	0.035
RSR3	2849 Wanless Drive	476	0.011	0.011	0.011	0.004	0.011	0.011
RSR4	10618 Heritage Road	260	0.027	0.027	0.027	0.010	0.027	0.027

Notes:

1. Distance was measured from nearest construction area boundary to building façade for large properties in rural settings where buildings and living areas may be setback from lot-lines and construction areas.
2. Based on single worst-case vibration in terms of Peak Particle Velocity (PPV)

Table 5-3: Construction Vibration Impact Assessment – Public Annoyance

Receiver	Description	Distance (m) [1]	Predicted Vibration Levels – RMS [mm/s] [2]					
			Construction Stages					
			1	2	3	4	5	2-5
RSR1	10827 Winston Churchill Blvd	50	0.079	0.079	0.079	0.029	0.079	0.079
RSR2	10886 Winston Churchill Blvd	216	0.009	0.009	0.009	0.003	0.009	0.009
RSR3	2849 Wanless Drive	476	0.003	0.003	0.003	0.001	0.003	0.003
RSR4	10618 Heritage Road	260	0.007	0.007	0.007	0.002	0.007	0.007

Notes:

1. Distance was measured from nearest construction area boundary to building façade for large properties in rural settings where buildings and living areas may be setback from lot-lines and construction areas.
2. Based on single worst-case vibration in terms of Roost Mean Square (RMS) velocity.

6.0 Construction Noise and Vibration Monitoring, Mitigation and Compliance Verification

6.1 Construction Noise and Vibration Mitigation

The Construction Phasing Assessment in Section 3.1 identified a large volume of equipment for each stage of construction and these stages have the potential to occur simultaneously. Efforts need to be made to use the minimum amount of equipment necessary to complete the work, to complete tasks sequentially rather than simultaneously and to eliminate idling equipment which generates noise without any productive effort. All equipment utilized in the construction area boundary should include all noise control options available from the manufacturer and operate in good working order without defects which could increase noise emissions. Adjustments should be made to the equipment volumes, construction phasing and sequencing to remain compliant with the noise limits within contract by utilizing noise monitoring results as feedback.

In addition to the general mitigation measures identified, construction noise can also be controlled through implementation of source specific measures. Source specific measures includes ensuring all equipment levels are compliant with the most stringent sound level contained in MECP guidelines NPC-115 and NPC-118. Equipment maximum sound level, with all control measures identified by the manufacturer that the equipment relevant to the construction of the Facility needs to conform to, are presented in Table 6-1.

Since the Vibration Impact Assessment, both in terms of public annoyance and building damage, predicted compliance during all construction stages, specific mitigation measures targeting vibration are not warranted. Nonetheless, it is advisable to restrict critical vibration generating equipment such as bulldozers, soil compactors and drum rollers to be operated as far away from RSR1 as is feasible or practical relative to being able to complete the construction of access road and other construction activities.

Table 6-1: Equipment Emission Limits

Type of Unit	Maximum Sound Level [dBA] [1]	Distance [m]	Power Rating [kW]
Excavation Equipment [2]	83	15	Less than 75
	85	15	75 or greater
Pneumatic Equipment [3]	85	7	-
Portable Compressors	76	7	-

Notes:

1. Maximum permissible sound levels presented here are for equipment manufactured after Jan. 1, 1981.

2. Excavation equipment includes bulldozers, backhoes, front end loaders, graders, excavators, steam rollers and other equipment capable of being used for similar applications.
3. Pneumatic equipment includes pavement breakers.

6.2 Construction Noise and Vibration Monitoring

The Noise Impact Assessment identified exceedances with the construction noise criteria at RSR1 and RSR2. From the NZOI shown in Table 3.3 and the predicted construction noise levels in Table 5-1, it is evident that noise from construction must be managed to comply with the construction noise limits.

Noise monitoring can be beneficial during construction to determine the actual noise impact with respect to construction on the surrounding community. Noise monitoring should be conducted by a qualified acoustical consultant (or set up to automatically measure) at a minimum of one location representative of worst-case predictable impact. The daytime noise monitoring requirements have been developed as per the Metrolinx Environmental Guideline (Metrolinx, 2021) and provided in Table 6-2.

The proposed location of the Facility can be classified as “Rural”. Due to the proximity of the construction work to RSR1 and the predicted NZOI, monitoring is recommended throughout continuously at RSR1 for all stages of construction. At a minimum, noise data should be collected with the following parameters logged at 1-minute intervals: L_{Aeq}, L_{AS90} and L_{max}. 1-hour parameters should be reviewed daily and any 1-hour L_{Aeq} exceeding 70 dBA during daytime and 60 dBA during night-time should trigger a review of activities. Audio recordings are therefore further recommended for investigation of primary contributions to 1-hour L_{Aeq} values exceeding 70 dBA during daytime and 60 dBA during nighttime, or for when complaints are logged as necessary.

It is important to note that construction is assumed to occur between 07:00 and 19:00 hours, 7 days per week in this NVIR, therefore night-time monitoring is not deemed to be required during the construction of the Facility. If night-time construction activities are to occur, noise monitoring is recommended at all RSR locations

Based on the Vibration Impact Assessment, the vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages and therefore vibration monitoring in not warranted during construction of the Facility.

Table 6-2: Construction Daytime Noise Monitoring Requirements

Receiver	Description	Distance (m) [1]	Monitoring Required [Y/N]					
			Construction Stages					
			1	2	3	4	5	2-5
RSR1	10827 Winston Churchill Blvd	50	Y	Y	Y	Y	Y	Y
RSR2	10886 Winston Churchill Blvd	216	N	N	N	N	N	N
RSR3	2849 Wanless Drive	476	N	N	N	N	N	N
RSR4	10618 Heritage Road	260	N	N	N	N	N	N

Notes:

1. Distance was measured from nearest construction footprint to building façade for large properties in rural settings where buildings and living areas may be setback from lot-lines and construction areas.

6.3 Compliance Verification

Any noise monitoring results generated should be utilized as part of the construction work activity evaluation process with the feedback being applied to advance site management that strives for Facility's compliance with the construction criteria. These monitoring results should be documented formally through a construction noise monitoring report. Weekly Noise Monitoring Reports are recommended which will identify any monitoring activities undertaken in any given week, if required, and document the results including any non-conformance with applicable construction noise criteria. Metrolinx should be notified of any such non-conformance no later than 24 hours after the identification. The results should subsequently be reported in the Weekly Monitoring Report. Mitigation measures, if evaluated to be warranted, should also be subsequently developed and considered to address the non-conformance. During construction, in cases where it is not practicable to meet the construction noise criteria, acceptable alternative measures should be further assessed for application and coordinated for integration with the work activity program in areas of the potentially affected RSRs.

6.4 Best Management Practices

Metrolinx is committed to minimize, where feasible, effects of noise and vibration that may result from the relatively low to moderate intensity works to be undertaken during the construction of the Facility. Best management practices structured on construction management, staff training, monitoring and vigilance of all aspects of work to minimize effects are recommended. This will involve an integrated approach with responsibilities at all levels of staff, to manage the site effectively such that effects can be minimized, and in the event of upset conditions to coordinate an efficient response to adjust activities that may be non-conforming, or where feasible to recognized site issues

and/or complaints that may be received. General recommendations are provided in Table 6-3.

Table 6-3: Representative Sensitive Receivers - Noise

Scheduling and Site Management: Proactive planning for site conditions management to minimize emissions and associated interaction with community, commuters, and workers
Communications • Establish a communication and complaint procedure that include community engagement before work commences on site. • Proactively develop a process for managing and responding to noise and vibration concerns. This may require targeted consultation, if applicable, where concerns may be predicted in advance. • Provide signage on the site boundary and web based that indicates the name and contact details of person(s) accountable for the site and accordingly any noise and vibration concerns.
Training • Conduct environmental safety inductions for all project personnel and training in basic principles of noise and vibration control and compliance, identification and response actions. • Convey regular training-based communication on need for and importance of effective control of noise and vibration emissions. • Maintain records of the training.
General Scheduling, Preparing and Maintaining the Site • Plan and schedule construction activities that generate higher levels of noise and/or vibration occur during day-time hours (between 07:00 and 19:00) where feasible. Restrict construction activities between 19:00 and 07:00 hours if possible. • Plan site layout to maximize separation from machinery and noise/vibration generating activities and potential receptors. • Adjusting the progress or rate at which activities are carried out to minimize emissions and optimize control measures. • Identify a plan to minimize, monitor and mitigate noise and vibration levels to the extent reasonably possible and at least to meet the construction criteria.
Inspection/Monitoring: Monitoring activities include continuous visual observations and routine environmental site inspections to confirm complaint specified mitigation measures in this NVIR • Project Environmental Inspector should inspect the site during periods of mitigation control set-up and then bi-weekly during regular construction activity to confirm that noise and vibration control practices are being implemented and audit/confirm records of general daily site inspection.

Work Practices
Work Isolation • Utilize temporary sound barriers or hoarding as necessary to limit off-site noise emissions from specific work areas for small scale localized but high noise generating work.
Demolition Considerations • Apply enclosed chutes where waste materials require transfer from height to bins. • Minimize drop heights of demolition waste materials into bins and line the bottoms of bins with rubber mats. • Soft strip inside buildings before demolition to optimize use of building as screened enclosure and use deconstruction techniques rather than general demolition. • Using saws to break up existing asphalt and concrete instead of hydraulic hammers or jack hammers, wherever possible and practical.
Vehicle and Machinery Operations • Maintain equipment in good working order and exclude from site visually non-compliant emitters. • Engine preventative maintenance per OEM recommendations. • Identify designated truck routes which avoid proximity to potential receptors and identify appropriately low speed limits via signage. • Minimized drop heights during loading and unloading of trucks. • Use industry standard equipment and vehicle idle reduction initiatives, as possible. Provide direction for equipment which must be left running to have the maximum practical separation distance from potential receptors. • Use only equipment with all manufacturers available noise control technology options installed and in good working order. • Make every effort to reduce or eliminate tailgate banging. • Use only broad-band backup alarms on the site.

7.0 Assessment of Layover Options

7.1 Noise Modelling Methodology and Criteria

The noise assessment for the Facility was completed using a sound prediction software package, Cadna/A, published by Datakustik GmbH, which was configured to implement the ISO 9613-2 environmental sound propagation algorithms. The Cadna/A noise modelling software is widely accepted by the consulting industry and the MECP.

In order to provide an accurate prediction of noise levels at the RSRs due to noise emissions from Facility operations, the model took into account the following factors:

- Source sound power level and directivity;
- Distance attenuation;
- Source-receptor geometry, including heights and elevations;
- Ground and air (atmospheric) attenuation.

Ground attenuation was assumed to be spectral for all sources, with the ground factor (G) assumed to be 0.5. The attenuation effects of foliage (grass/trees) and buildings were not considered in order to produce a conservative, predictable worst case, prediction of operational noise levels.

The operational assessment of the Facility included noise sources associated with layover operation such as idling of trains, train heating and ventilation equipment, electrical equipment, or hot air track blowers. The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility. Modelling parameters provided in the Metrolinx Environmental Guide (Metrolinx, 2021) and shown in Table 7-1 were used to model operational noise from the Facility.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track. The operation of the Facility considers idling of trains for 60 minutes during peak morning hours (05:00-06:00) and for fifteen minutes during the peak afternoon hours (15:30-15:45). Based on the layout of the Facility, incoming trains will have the ability to go both eastbound (EB) and westbound (WB).

The Facility operation was assessed against the limit provided in Ontario Ministry of Environment, Conservation and Parks (MECP) Environmental Noise Guideline NPC-300, ''Noise Assessment Criteria for Stationary Sources and for Land Use Planning." (MECP 2013):

- The sound level limit for noise from a layover site in any hour, expressed in terms of the One-Hour Equivalent Sound Level (Leq) is the higher of either 55 dBA or the background sound level.

Table 7-1: Default Modelling Parameters for Layovers, Stationary Sources and Ancillary Facilities

Modelling Parameter	Idling Trains (including heating and ventilation)
Sound Power Level	105 dBA based on FTA Reference SEL at 50 ft (15 m)
Number of Idling Trains	Estimate using consist lengths and physical dimensions of layout facility
Source Height	FTA reference height of 2.5 m (8 ft) for trains with diesel-electric locomotives and 0.6 m (2 ft) for those without (see Table 4-26, FTA, 2018)

7.2 Noise Modelling Results

The predictable worst-case scenario evaluates the noise levels at the identified RSRs for simultaneous idling of all four trains based on the orientation of the locomotive and the direction of travel (EB or WB). The Facility was assessed for daytime and night-time operations. An acoustic assessment summary is provided in Table 7-1 and 7-2 for EB and WB scenarios, respectively.

The noise contours for both the predictable worst-case operational scenarios for daytime and night-time are provided in Appendix C. The location of the idling trains considered for EB and WB scenarios in the model is also shown in a figure in Appendix C.

Under the predicable worst-case operational scenarios, the Facility is expected to be in compliance with the applicable MECP NPC-300 guideline limit at all RSR locations.

Table 7-2: Acoustic Assessment Summary – Eastbound

Receiver	Description	Daytime [dBA] [1]	Night-time [dBA][1]	Compliant with Limit (Y/N)
RSR1	10827 Winston Churchill Blvd	34	40	Y
RSR2	10886 Winston Churchill Blvd	31	37	Y
RSR3	2849 Wanless Drive	33	39	Y
RSR4	10618 Heritage Road	36	40	Y

Notes:

1. Based on one-hour equivalent sound level predicted from simultaneous idling of all four trains.

Table 7-3: Acoustic Assessment Summary – Westbound

Receiver	Description	Daytime [dBA] [1]	Night-time [dBA] [1]	Compliant with Limit (Y/N)
RSR1	10827 Winston Churchill Blvd	42	48	Y
RSR2	10886 Winston Churchill Blvd	37	43	Y
RSR3	2849 Wanless Drive	37	43	Y
RSR4	10618 Heritage Road	30	36	Y

Notes:

1. Based on one-hour equivalent sound level predicted from simultaneous idling of all four trains.

7.3 Vibration

There are no criteria limits to assess operational vibration from a layover facility. Existing operations at he proposed location of the Facility consists of fast-moving trains along the rail corridor. The vibration impact from these existing operations is expected to dominate at the nearest identified RSRs. Since the impact is assessed on a pass-by basis irrespective of the volume of trains, evaluation of vibration impact from slow moving trains is not deemed necessary at the identified RSRs. In addition, the nearest RSR is at least 100 metres away from the Facility tracks. Vibration levels from slow moving trains is not typically a concern at this distance.

8.0 Conclusions

A Noise and Vibration Impact Assessment (NVIR) of construction and operation associated with the proposed Layover Facility has been prepared based on the current stage of design and available construction phasing information. If there are any significant deviations in construction phases, staging, methods, equipment, or activities, then a reassessment is recommended.

The results of ZOI assessments identified nearby sensitive lands at risk of being of exposed to construction noise exceeding their respective applicable limits during daytime and night-time. Residences as far as 241 metres from the Construction Footprint may be adversely impacted by noise from construction activities. Buildings as far as 8 metres from Construction Footprint may be adversely affected by vibration levels associated with the use of Vibratory Soil Compactor Roller (when assessed against the established PPV limit). Sensitive lands as far as 35 metres may be adversely affected by vibrations levels of associated with the use of Vibratory Soil Compactor Roller (when assessed against the established RMS limit).

Four (4) Representative Sensitive Receptor (RSR) locations were identified and considered in this NVIR. The nearest RSR is located 50 metres away from the Construction Footprint. Impact assessment for noise and vibration were conducted to evaluate the construction noise and vibration levels at the identified RSR locations. Under the predictable worst-case emission scenario for the construction of the Facility, assuming simultaneous operation of all equipment, noise levels are predicted to exceed the applicable Metrolinx Guideline limits at RSR1 during daytime (07:00-23:00) during all stages of construction and at RSR2 for Stages 2-5 simultaneous activities scenario of construction. Noise levels are predicted to exceed the limits at all RSRs during night-time (23:00-07:00) periods for all construction stages. The vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages.

The noise impacts from the operation of the Facility were calculated using predictive acoustic modelling. The operational noise modelling included all noise sources associated with layover operation. Under the predictable worst-case hour scenario (LAeq-1hr), the modelled operational noise levels are predicted to meet the applicable MECP NPC-300 limit at the identified RSRs, during daytime and night-time periods. The operational vibration impacts are expected to be insignificant from slow moving trains due to the proximity of closest RSR being at least 100 metres away from the tracks.

9.0 Closing

This Noise and Vibration Impact Assessment Report was prepared for Metrolinx by Wood. The quality of information and conclusions contained herein is consistent with the level of effort involved in Wood's services and based on: i) information available at the time of preparation; ii) data supplied by outside sources; and iii) the assumptions, conditions and qualifications set forth in this report.

10.0 References

Metrolinx (2021). Metrolinx Environmental Guide for Noise and Vibration Impact Assessment.

MOEE/GO (1995). Draft Protocol for Noise and Vibration Assessment.

Ontario Ministry of the Environment and Climate Change (MOECC). (August 2013). Publication NPC-300, Noise Assessment Criteria for Stationary Sources and for Land Use Planning.

Federal Highway Administration, U.S. Department of Transportation (2006). Construction Noise Handbook, FHWA-HEP-06-015.

Federal Highway Administration, U.S. Department of Transportation (2006). Roadway Construction Noise Model User's Guide, FHWA-HEP-05-054.

Federal Transit Administration, U.S. Department of Transportation (2018). Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123.

City of Toronto By-law 514-2008, Construction Vibrations.

Appendix A

Construction Noise Assessment
Figures & Calculations

Construction Noise at Representative Sensitive Receptors Sample Calculation

Stage 2-5: Simultaneous Activities

Results Summary	RSR1		
Day-time LAeq	84	dBA	(07:00 to 23:00)

Parameters	Units	Value	
D0	meters	15.2	
D	meters	50	(from construction boundary to building façade)
Leq_Em	dBA	93.99	
Day Contract Limit	Leq-16h dBA	75	
Day LAeq	dBA	84	

Calculation Notes

References:

1 Construction Noise Handbook, Federal Highway Administration, U.S. Department of Transportation, August 2006, FHWA-HEP-06-015.

2 Roadway Construction Noise Model User's Guide, Federal Highway Administration, U.S. Department of Transportation, January 2006, FHWA-HEP-05-054.

3 Metrolinx (2020). Metrolinx Environmental Guide for Noise and Vibration Impact Assessment.

Parameters:

Equip_Actual The equipment description provided by the project team

Equip_FHWA The closest equipment matching Equip_Actual identified in references 1 & 2

U.F. Equipment usage factor from references 1 & 2

Lmax_Spec Equipment specified Lmax emission from references 1 & 2

Leq_Spec Equipment Reference Leq at D0,

$$Leq\_Spec = Lmax\_Spec + 10*\log10(U.F.)$$

Leq_Em Total Site Reference Leq at D0,

$$Leq\_Em = 10*LOG10(\sum 10^{(Leq\_Spec/10)})$$

LAeq Noise level at the sensitive receiver,

$$LAeq = Leq\_Em - 20*Log10(D/15.2)$$

Title	Equip #	Equip_Actual	Equip_FHWA	U.F.	Lmax_Spec	Leq_Spec
-	-	-	-	%	dBA	dBA
Stage 2-5	1	Track laying machine	All Other Equipment > 5 HP	50%	85	81.99
Stage 2-5	2	Compact Track Loader	Front End Loader	40%	80	76.02
Stage 2-5	3	Dump Truck	Dump Truck	40%	84	80.02
Stage 2-5	4	Dump Truck	Dump Truck	40%	84	80.02
Stage 2-5	5	Crane	Crane	16%	85	77.04
Stage 2-5	6	Flat Bed Truck	Flat Bed Truck	40%	84	80.02
Stage 2-5	7	Vibratory Soil Compactor Roller	Roller	20%	85	78.01
Stage 2-5	8	Compact Track Loader	Front End Loader	40%	80	76.02
Stage 2-5	9	Bulldozer	Dozer	40%	85	81.02
Stage 2-5	10	Backhoe Loader	Backhoe	40%	80	76.02
Stage 2-5	11	Grader	Grader	40%	85	81.02
Stage 2-5	12	Dump Truck	Dump Truck	40%	84	80.02
Stage 2-5	13	Dump Truck	Dump Truck	40%	84	80.02
Stage 2-5	14	Vibratory Soil Compactor Roller	Roller	20%	85	78.01
Stage 2-5	15	Vac-Truck	Vacuum Excavator (Vac-Truck)	40%	85	81.02
Stage 2-5	16	Crane	Crane	16%	85	77.04
Stage 2-5	17	Concrete Pump	Concrete Pump Truck	20%	82	75.01
Stage 2-5	18	Manlift	Crane	16%	85	77.04
Stage 2-5	19	Cement Truck	Concrete Mixer Truck	40%	85	81.02
Stage 2-5	20	Diesel Generator	Generator	50%	82	78.99
Stage 2-5	21	Air compressor	Compressor (air)	40%	80	76.02
Stage 2-5	22	Air compressor	Compressor (air)	40%	80	76.02
Stage 2-5	23	Vibratory Soil Compactor Roller	Roller	20%	85	78.01
Stage 2-5	24	Vibratory Soil Compactor Roller	Roller	20%	85	78.01
Stage 2-5	25	Dump Truck	Dump Truck	40%	84	80.02
Stage 2-5	26	Dump Truck	Dump Truck	40%	84	80.02
Stage 2-5	27	Asphalt Paver	Paver	50%	85	81.99
Stage 2-5	28	Asphalt Roller	Roller	20%	85	78.01
Stage 2-5	29	Flat Bed Truck	Flat Bed Truck	40%	84	80.02
Stage 2-5	30	Asphalt Disributor Truck	Dump Truck	40%	84	80.02

Noise Zone of Influence Calculation

Stage 1 - Site Preparation

Results Summary

Day-time ZOI	**170 meters**	(07:00 to 23:00)
Night-time ZOI	**536 meters**	(23:00 to 07:00)

Parameters	**Units**	**Value**
D0	**meters**	15.2
Leq_Em	**dBA**	90.95
ZOI decrement	**dB**	5
Day Contract Limit	**Leq-16hr dBA**	75
Day ZOI Limit	**Leq dBA**	70
Day ZOI	**meters**	170
Night Contract Limit	**Leq-8hr dBA**	65
Night ZOI Limit	**Leq dBA**	60
Night ZOI	**meters**	536

Calculation Notes

References:

1 Construction Noise Handbook, Federal Highway Administration, U.S. Department of Transportation, August 2006, FHWA-HEP-06-015.

2 Roadway Construction Noise Model User's Guide, Federal Highway Administration, U.S. Department of Transportation, January 2006, FHWA-HEP-05-054.

Parameters:

Equip_Actual	The equipment description provided by the project team
Equip_FHWA	The closest equipment matching Equip_Actual identified in references 1 & 2
U.F.	Equipment usage factor from references 1 & 2
Lmax_Spec	Equipment specified Lmax emission from references 1 & 2
Leq_Spec	Equipment Reference Leq at D0, Leq_Spec = Lmax_Spec + 10*log10(U.F.)
Leq_Em	Total Site Reference Leq at D0, Leq_Em = 10*LOG10(∑10^(Leq_Spec/10))
ZOI Distance	Distance to reach ZOI Limit, ZOI = 10^((Leq_Em-(ZOI Limit)+20*LOG10(D0))/20)

Title	**Equip #**	**Equip_Actual**	**Equip_FHWA**	**U.F.**	**Lmax_Spec**	**Leq_Spec**
-	-	-	-	**%**	**dBA**	**dBA**
Stage 1	1	Backhoe Loader	Backhoe	40%	80	76.02
Stage 1	2	Backhoe Loader	Backhoe	40%	80	76.02
Stage 1	3	Bulldozer	Dozer	40%	85	81.02
Stage 1	4	Bulldozer	Dozer	40%	85	81.02
Stage 1	5	Crane	Crane	16%	85	77.04
Stage 1	6	Crane	Crane	16%	85	77.04
Stage 1	7	Compact Track Loader	Front End Loader	40%	80	76.02
Stage 1	8	Compact Track Loader	Front End Loader	40%	80	76.02
Stage 1	9	Vibratory Soil Compactor Roller	Roller	20%	85	78.01
Stage 1	10	Dump Truck	Dump Truck	40%	84	80.02
Stage 1	11	Dump Truck	Dump Truck	40%	84	80.02
Stage 1	12	Flat Bed Truck	Flat Bed Truck	40%	84	80.02
Stage 1	13	Diesel Generator	Generator	50%	82	78.99
Stage 1	14	Diesel Generator	Generator	50%	82	78.99
Stage 1	15	Air Compressor	Compressor (air)	40%	80	76.02
Stage 1	16	Air Compressor	Compressor (air)	40%	80	76.02
Stage 1	17	Vac-Truck	Vacuum Excavator (Vac-Truck)	40%	85	81.02

RSR3

RSR4

RSR2

RSR1

IMAGERY EXTRACTED FROM GOOGLE EARTH

LEGEND

- Construction Footprint
- RSRs
- S1_Daytime 70 dBA ZOI
- S1_Night-time 60 dBA ZOI

Noise Zone of Influence: Stage 1 - Site Preparation

0 100 200 300 400 Metres

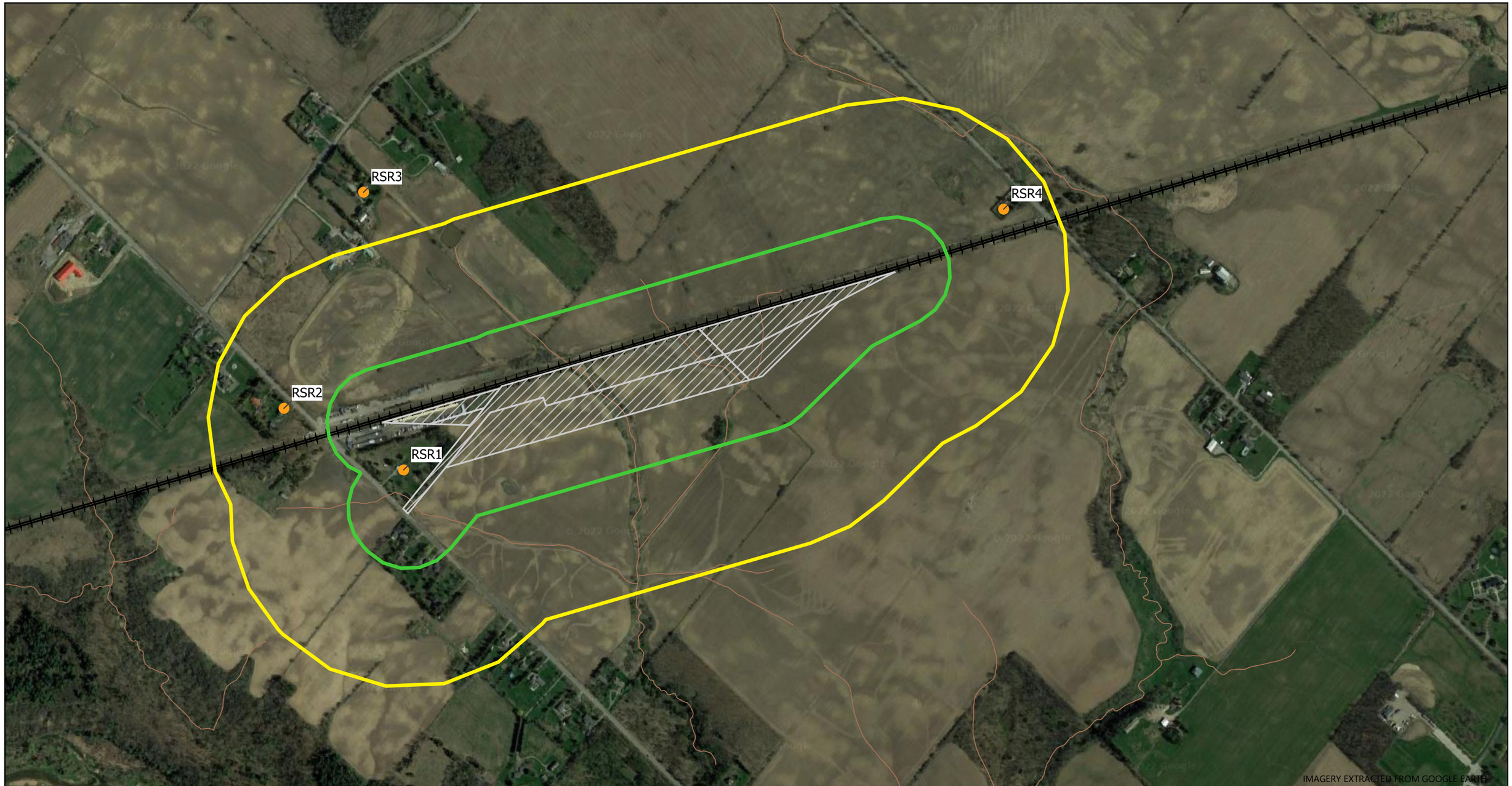
Datum & Projection:
NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 1
SCALE: 1:7944	DATE: March 2022



LEGEND

- Construction Footprint
- RSRs
- S2_Daytime 70 dBA ZOI
- S2_Night-time 60 dBA ZOI

Noise Zone of Influence: Stage 2 - Construction of rail tracks

0 100 200 300 400 Metres

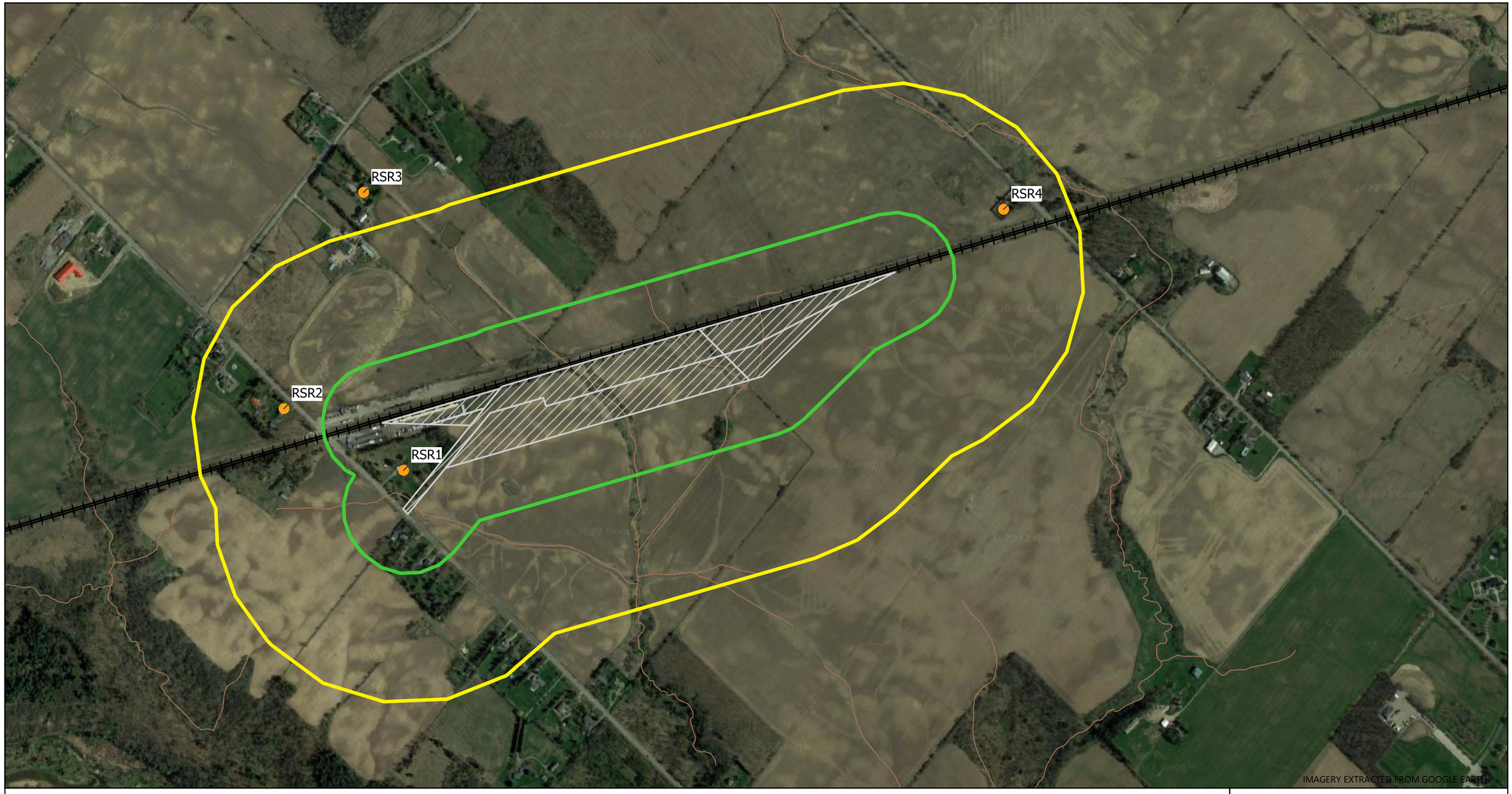
Datum & Projection:
NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 2
SCALE: 1:7944	DATE: March 2022



LEGEND

- Construction Footprint
- RSRs
- S3_Daytime 70 dBA ZOI
- S3_Night-time 60 dBA ZOI

Noise Zone of Influence: Stage 3 - Construction of access road

0 100 200 300 400 Metres

Datum & Projection: NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 3
SCALE: 1:7944	DATE: March 2022

RSR3

RSR4

RSR2

RSR1

IMAGERY EXTRACTED FROM GOOGLE EARTH

LEGEND

- Construction Footprint
- RSRs
- S4_Daytime 70 dBA ZOI
- S4_Night-time 60 dBA ZOI

Noise Zone of Influence: Stage 4 - Construction of layover area, parking lot, service areas

0 100 200 300 400 Metres

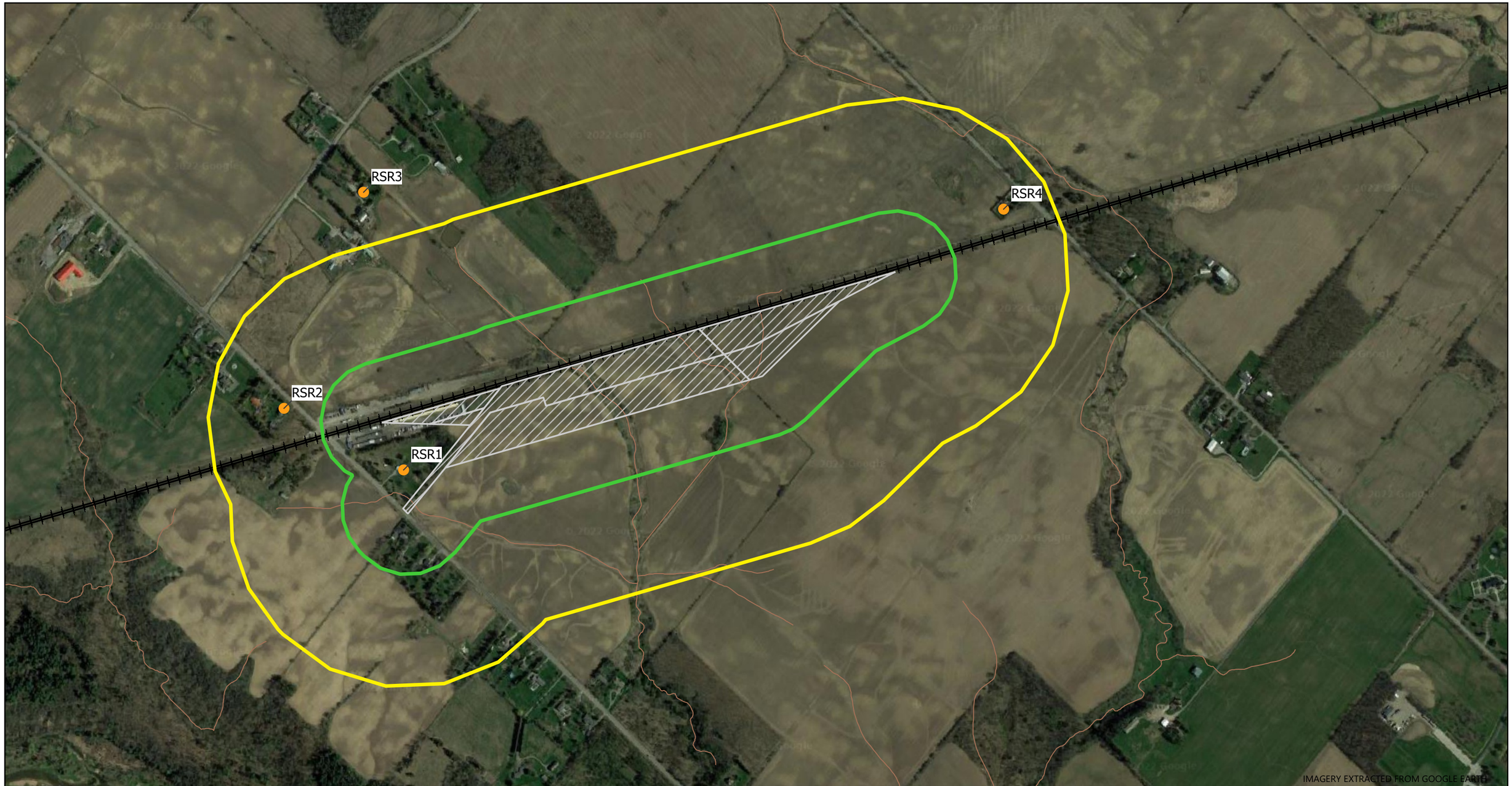
Datum & Projection:
NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 4
SCALE: 1:7944	DATE: March 2022



LEGEND

- Construction Footprint
- RSRs
- S5_Daytime 70 dBA ZOI
- S5_Night-time 60 dBA ZOI

Noise Zone of Influence: Stage 5 - Final site preparation activities

0 100 200 300 400 Metres

Datum & Projection:
NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 5
SCALE: 1:7944	DATE: March 2022

RSR3

RSR4

RSR2

RSR1

IMAGERY EXTRACTED FROM GOOGLE EARTH

LEGEND

- Construction Footprint
- RSRs
- S2-S5_Daytime 70 dBA ZOI
- S2-S5_Night-time 60 dBA ZOI

Noise Zone of Influence: Stage 2 to Stage 5 - Simultaneous Activities

0 100 200 300 400 Metres

Datum & Projection:
NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 6
SCALE: 1:9700	DATE: March 2022

Appendix B

Construction Vibration Assessment
Figures & Calculations

Vibration Zone of Influence Calculations

Stage 1 - Site Preparation

Results Summary

ZOI	**8 meters**	24 hours

Constants	**Units**	**Value**	
D0	**feet**	25	
ZOI Limit	**in/s**	0.20	* Based on most stringent of FTA and Toronto By-Law 514-2008
ZOI Limit	**mm/s**	5	

Calculation Notes

References:

1 Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, U.S. Department of Transportation, September 2018, FTA Report No. 0123.

2 City of Toronto By-law 514-2008, Construction Vibrations.

Parameters:

Equip_Actual The equipment description provided by the project team

Equip_FTA The closest equipment matching Equip_Actual identified in reference 1

PPV_ref Reference PPV for equipment at D0

Distance Distance to reach ZOI Limit for equipment

D = D0[ft] * (PPV_ref[in/s]/(ZOI Limit[in/s]))^(1/1.5)

Ttile	**Equip #**	**Equip_Actual**	**Equip_FTA**	**PPV_ref**	**Distance**	**Distance**
-	**-**	**-**	**-**	**in/s**	**feet**	**meters**
Stage 1	1	Backhoe Loader	Loaded Trucks	0.076	13.26	4.04
Stage 1	2	Backhoe Loader	Loaded Trucks	0.076	13.26	4.04
Stage 1	3	Bulldozer	Large bulldozer	0.089	14.73	4.49
Stage 1	4	Bulldozer	Large bulldozer	0.089	14.73	4.49
Stage 1	5	Crane	Loaded Trucks	0.076	13.26	4.04
Stage 1	6	Crane	Loaded Trucks	0.076	13.26	4.04
Stage 1	7	Compact Track Loader	Loaded Trucks	0.076	13.26	4.04
Stage 1	8	Compact Track Loader	Loaded Trucks	0.076	13.26	4.04
Stage 1	9	Vibratory Soil Compactor Roller	Vibratory Roller	0.21	26.10	7.96
Stage 1	10	Dump Truck	Loaded Trucks	0.076	13.26	4.04
Stage 1	11	Dump Truck	Loaded Trucks	0.076	13.26	4.04
Stage 1	12	Flat Bed Truck	Loaded Trucks	0.076	13.26	4.04
Stage 1	13	Diesel Generator	-	0	0.00	0.00
Stage 1	14	Diesel Generator	-	0	0.00	0.00
Stage 1	15	Air Compressor	-	0	0.00	0.00
Stage 1	16	Air Compressor	-	0	0.00	0.00
Stage 1	17	Vac-Truck	Loaded Trucks	0.076	13.26	4.04

Vibration Zone of Influence Calculation (Potential Public Annoyance)

Construction Stage 1 - Site Preparation

Results Summary

ZOI	**35**	**meters**	24 hours

Constants	**Units**	**Value**	
D0	**feet**	25	
ZOI Limit	**in/s**	0.005511811	
Vibration Limit	**mm/s**	0.14	Metrolinx Guideline for Potential Public Annoyance

Calculation Notes

References:

1 City of Toronto By-law 514-2008, Construction Vibrations.

2 Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, U.S. Department of Transportation, September 2018, FTA Report No. 0123.

Parameters:

Equip_Actual The equipment description provided by the project team

Equip_FTA The closest equipment matching Equip_Actual identified in reference 2

PPV_ref Reference PPV for equipment at D0

RMS_ref Reference RMS for equipment at D0, calculated based on PPV_ref and a crest factor of 4

Distance Distance to reach ZOI Limit for equipment

D = D0[ft] * (RMS_ref[in/s]/(ZOI Limit[in/s]))^(1/1.5)

Activity	Equip #	Equip_Actual	Equip_FTA	PPV_ref (in/s)	RMS_ref (in/s)	Distance (ft)	Distance (m)
	1	Backhoe Loader	Loaded Trucks	0.076	0.019	57.05	17.39
	2	Backhoe Loader	Loaded Trucks	0.076	0.019	57.05	17.39
	3	Bulldozer	Large bulldozer	0.089	0.02225	63.38	19.32
	4	Bulldozer	Large bulldozer	0.089	0.02225	63.38	19.32
	5	Crane	Loaded Trucks	0.076	0.019	57.05	17.39
	6	Crane	Loaded Trucks	0.076	0.019	57.05	17.39
	7	Compact Track Loader	Loaded Trucks	0.076	0.019	57.05	17.39
Site preparation	8	Compact Track Loader	Loaded Trucks	0.076	0.019	57.05	17.39
(preconstruction	9	Vibratory Soil Compactor Roller	Vibratory Roller	0.21	0.0525	112.34	**34.25**
activities, drainage, etc.)	10	Dump Truck	Loaded Trucks	0.076	0.019	57.05	17.39
	11	Dump Truck	Loaded Trucks	0.076	0.019	57.05	17.39
	12	Flat Bed Truck	Loaded Trucks	0.076	0.019	57.05	17.39
	13	Diesel Generator	-	-	-	-	-
	14	Diesel Generator	-	-	-	-	-
	15	Air Compressor	-	-	-	-	-
	16	Air Compressor	-	-	-	-	-
	17	Vac-Truck	Loaded Trucks	0.076	0.019	57.05	17.39

Construction Vibration at Representative Sensitive Receptors Sample Calculation

Stage 1 - Site Preparation

Results Summary	RSR1		
PPV	0.317	mm/s	24 hours
RMS	0.079	mm/s	

Constants	**Units**	**Value**
D0	**feet**	25
D	**m**	50
PPV Limit	**in/s**	0.20
PPV Limit	**mm/s**	5
PPV Limit	**in/s**	0.0055
PPV Limit	**mm/s**	0.14

Calculation Notes

References:

1 Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, U.S. Department of Transportation, September 2018, FTA Report No. 0123.

2 City of Toronto By-law 514-2008, Construction Vibrations.

3 Metrolinx (2021). Metrolinx Environmental Guide for Noise and Vibration Impact Assessment.

Parameters:

Equip_Actual The equipment description provided by the project team

Equip_FTA The closest equipment matching Equip_Actual identified in reference 1

PPV_ref Reference PPV for equipment at D0

ZOI Distance to reach ZOI Limit for equipment

ZOI = D0[ft] * (PPV_ref[in/s]/(ZOI Limit[in/s]))^(1/1.5)

PPV/RMS Vibration levels at a point of reception

PPV/RMS = PPV_ref*(D0/D)^1.5

Ttile	**Equip #**	**Equip_Actual**	**Equip_FTA**	**PPV_ref**	**RMS_ref**	**Distance (ft)**	**Distance (m)**	**Distance (PPV)**	**Distance (PPV)**
-	**-**	**-**	**-**	**in/s**	**in/s**			**feet**	**meters**
Stage 1	1	Backhoe Loader	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	2	Backhoe Loader	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	3	Bulldozer	Large bulldozer	0.089	0.02225	63.38	19.32	14.73	4.49
Stage 1	4	Bulldozer	Large bulldozer	0.089	0.02225	63.38	19.32	14.73	4.49
Stage 1	5	Crane	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	6	Crane	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	7	Compact Track Loader	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	8	Compact Track Loader	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	9	Vibratory Soil Compactor Roller	Vibratory Roller	0.21	0.0525	112.34	34.25	26.10	7.96
Stage 1	10	Dump Truck	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	11	Dump Truck	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	12	Flat Bed Truck	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04
Stage 1	13	Diesel Generator	-	0	0	0.00	0.00	0.00	0.00
Stage 1	14	Diesel Generator	-	0	0	0.00	0.00	0.00	0.00
Stage 1	15	Air Compressor	-	0	0	0.00	0.00	0.00	0.00
Stage 1	16	Air Compressor	-	0	0	0.00	0.00	0.00	0.00
Stage 1	17	Vac-Truck	Loaded Trucks	0.076	0.019	57.05	17.39	13.26	4.04

RSR3

RSR4

RSR2

RSR1

IMAGERY EXTRACTED FROM GOOGLE EARTH

LEGEND

- Construction Footprint
- RSRs
- S1-S3&S5 VZOI RMS
- S1-S3&S5 VZOI PPV

Vibration Zone of Influence: Stages 1-3 and 5

0 100 200 300 400 Metres

Datum & Projection:
NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 1
SCALE: 1:5000	DATE: March 2022



LEGEND

- Construction Footprint
- RSRs
- S4 VZOI PPV
- S4 VZOI RMS

Vibration Zone of Influence: Stage 4 - Construction of layover area, parking lot, service areas

0 100 200 300 400 Metres

Datum & Projection: NAD83 / UTM zone 17N

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

PROJECT NO: IM21405045	FIGURE: 2
SCALE: 1:5000	DATE: March 2022

Appendix C

Layover Operations Figures

RSR3

RSR4

RSR2

RSR1

IT2

IT1

IT3

IT4

IMAGERY EXTRACTED FROM GOOGLE EARTH

LEGEND

- RSRs
- Conceptual_Layout
- Idling Trains - WB

- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85

0 100 200 300 400 Metres

Layover Operations: Noise Contours Westbound (WB)

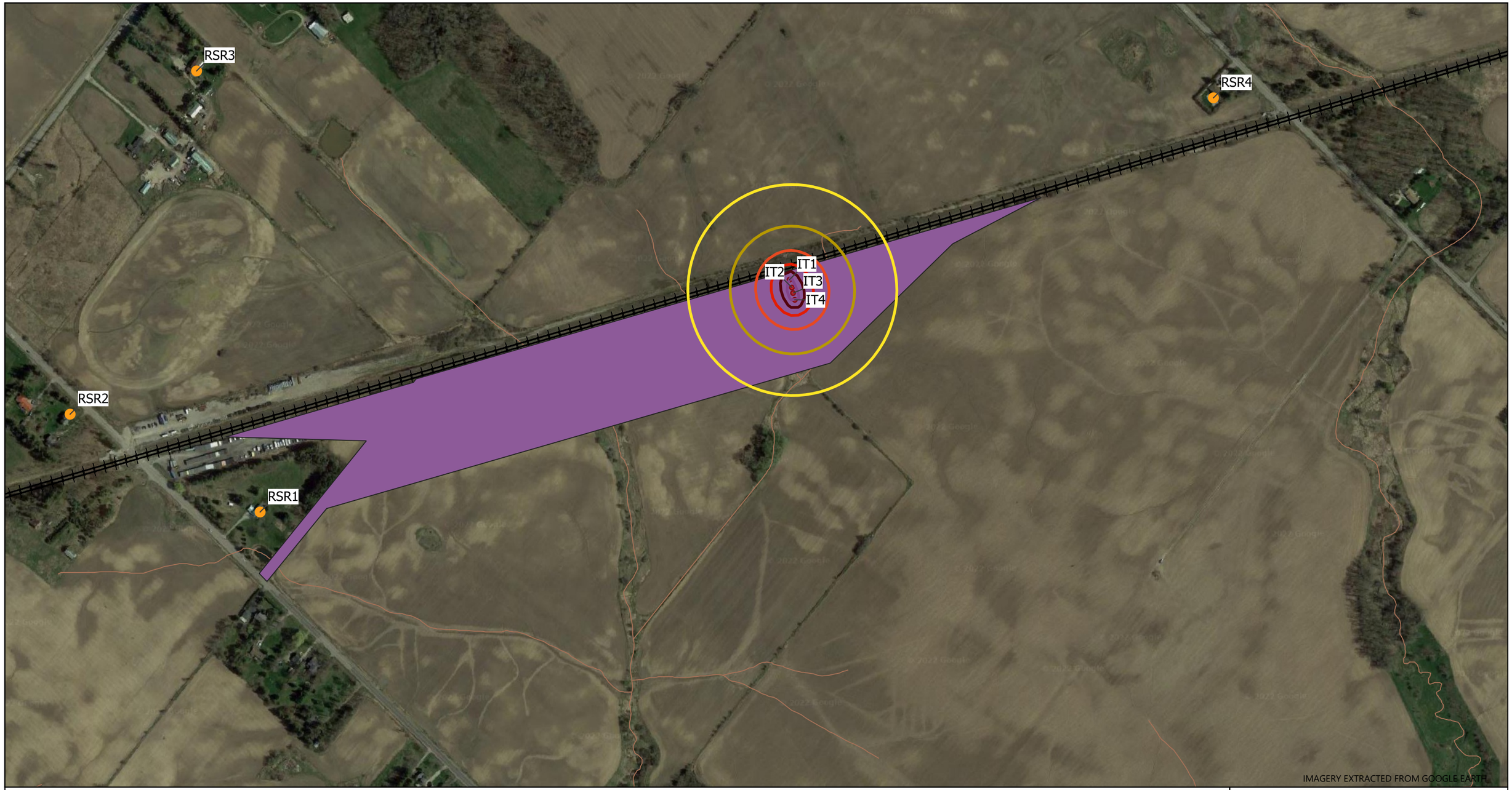
wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

Datum & Projection:
NAD83 / UTM zone 17N

PROJECT NO: IM21405045	FIGURE: 2
SCALE: 1:5000	DATE: March 2022



LEGEND

- RSRs
- Idling Trains - EB
- Conceptual_Layout

- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85

0 100 200 300 400 Metres

Layover Operations: Noise Contours Eastbound (EB)

wood.

Noise and Vibration Impact Assessment Report

HERITAGE ROAD LAYOVER

Datum & Projection: NAD83 / UTM zone 17N

PROJECT NO: IM21405045	FIGURE: 1
SCALE: 1:5000	DATE: March 2022

Appendix D

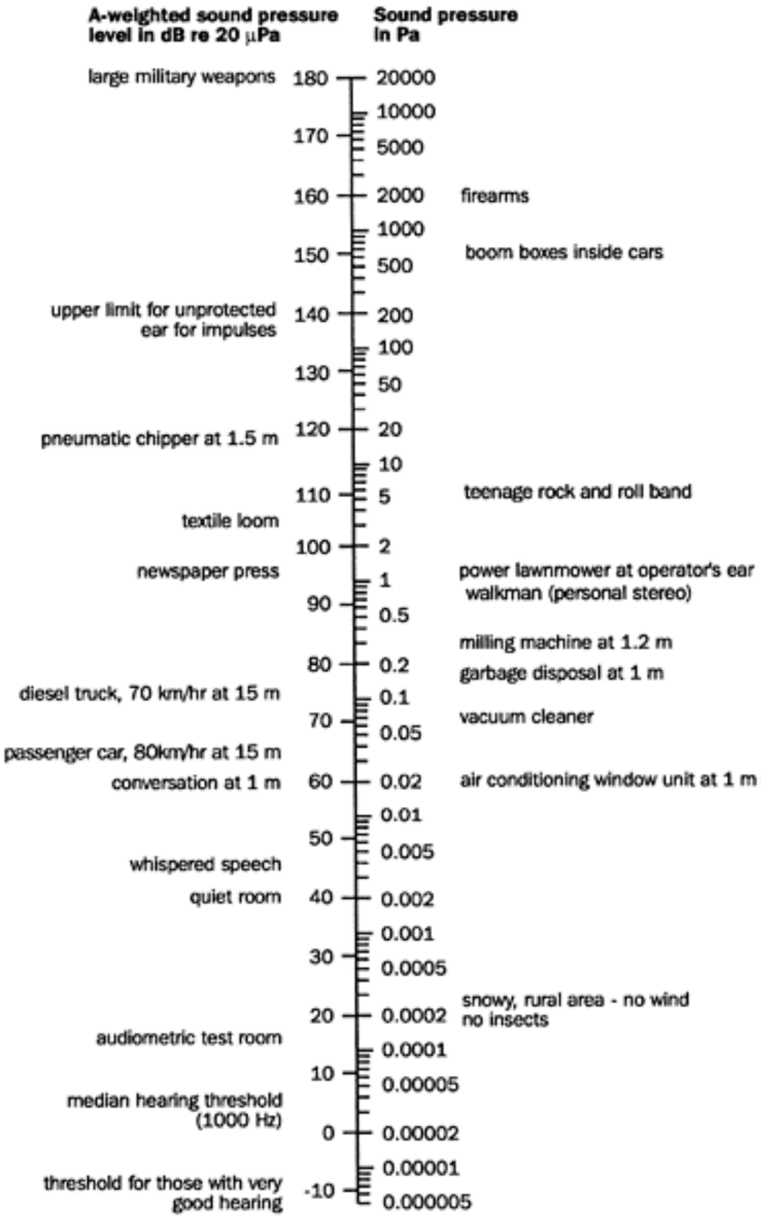
Technical Terms and Acoustical Descriptors

Technical Terms and Acoustical Descriptors

Frequency	Typically the rate in Hertz (Hz) - previously denoted cycles per second, at which an event is repeated. *Normal human hearing extends over a range of frequencies from about 15 Hz to about 15 kHz.*
A-Weighting Network	A frequency-response adjustment of a sound level meter that makes its reading conform to human response. The sensitivity of the human ear is frequency dependent. At low and high frequencies, the ear is not very sensitive, but between 500 Hz and 6 kHz the ear is very sensitive. The A-weighting filter is a broadband filter that covers the interval from 20 Hz to 20 kHz. The shape of the A-weighting curve approximates the frequency sensitivity of the human ear. So the A-weighted value of a noise source is an approximation to how the human ear perceives the noise. Written as dB(A) or dBA
Z-Weighting Network	Z for 'Zero' frequency weighting, which implies no frequency weighting. In reality the range is 10 Hz to 20 kHz ±1.5 dB. Introduced (IEC 61672 2003) to replace the Flat or Linear Filters. Written as dB(Z) or dBZ
Exponential Averaging	Generates a continuous running average where the most recently sampled levels have more influence on the average than older samples. This provides a convenient form to examine rapidly changing data with the benefit of some averaging to smooth the spectra.
Linear Averaging	The process of adding together a sequence of spectra measurements and then dividing the total by the number of samples. The result is a true arithmetic average on a sample by sample basis. Averaging smooths out random noise components in a spectrum.
Time Constants or Time Weightings	Time constants used for exponential averaging. Three time constants can be used and are defined as: • Fast "F" time constant corresponds to 125 ms; • Slow "S" time constant corresponds to 1s; and • Impulse "I" time constant corresponding to 35 ms while the signal level is increasing and 1,500 ms while the signal level is decreasing.
P(t) – "Sound Pressure"	The instantaneous difference between the actual pressure and the average barometric pressure at a given location.
Sound Pressure Level (SPL)	A measurement of instantaneous sound pressure and equal to 20 times the logarithm (base 10) of the ratio of the instantaneous

sound pressure of a sound divided by the reference sound pressure of 20 µPa (0 dB). Reported and measured in decibels (dB or dBA).

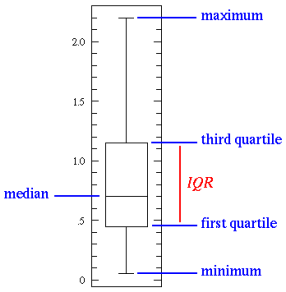
Some feeling for the relation between subjective loudness and sound pressure level may be gained by reference to the figure and table below. (Source: David A. Bies and Colin H. Hansen, *Engineering Noise Control Theory and Practice*, Third Edition)



Sound pressure level (dB re 20 µPa)	Description of sound source	Typical subjective description
140	Moon launch at 100 m; artillery fire, gunner's position	Intolerable
120	Ship's engine room; rock concert, in front and close to speakers	
100	Textile mill; press room with presses running; punch press and wood planers, at operator's position	Very noisy
80	Next to busy highway, shouting	Noisy
60	Department store, restaurant, speech levels	
40	Quiet residential neighbourhood, ambient level	Quiet
20	Recording studio, ambient level	Very Quiet
0	Threshold of hearing for normal young people	

$L_{xeq}(T)$ – "*Equivalent continuous sound level* with a frequency weighting, x"	The equivalent continuous sound level (also called time-average sound level), $L_{xeq}(T)$, is defined as twenty times the logarithm to base ten of the ratio of a root-mean-square sound pressure during a time interval (T) to the reference sound pressure, sound pressure being obtained with a frequency weighting, x. x can be replaced by: • A for A-weighted; • B for B-weighted; • C for C-weighted; or • Z for Z-weighted.
$L_{xymax}(T)$ – "*Maximum sound level,* with a frequency weighting, x, and *with a* time-weighting, y"	The maximum time-weighted sound level, $L_{xymax}(T)$, is defined as the greatest time-weighted sound level, $L_{xy}(t)$, within a measurement interval (T). x can be replaced by: • A for A-weighted; • B for B-weighted; • C for C-weighted; or

	• Z for Z-weighted. • Y can be replaced by: • S for slow time weighting, or • F for fast time weighting.
$L_{xymin}(T)$ – "*Minimum sound level,* with a frequency weighting, x, and *with a* time-weighting, y"	The minimum time-weighted sound level, $L_{xymin}(T)$, is defined as the smallest time-weighted sound level, $L_{xy}(t)$, within a measurement interval (T). x can be replaced by: • A for A-weighted, • B for B-weighted, • C for C-weighted, or • Z for Z-weighted. • Y can be replaced by: • S for slow time weighting, or • F for fast time weighting.
L_{xyN} – "*N^{th} Exceedance level,* with a frequency weighting, x, and *with a* time-weighting, y" *where N is between 0.1 to 99.9*	Is the sound pressure level which is exceeded N percent of the measurement time. The sound pressure being obtained with a frequency weighting, x and a time-weighting, y. x can be replaced by: • A for A-weighted; • B for B-weighted; • C for C-weighted; or • Z for Z-weighted. • Y can be replaced by: • S for slow time weighting, or • F for fast time weighting.
$L_{xpeak}(T)$ – "Peak sound level	The peak sound level, $L_{xpeak}(T)$, is defined as twenty times the logarithm to base ten of the ratio of the greatest absolute instantaneous sound pressure, $p_x(t)$, instantaneous sound pressure being obtained with a frequency weighting, x x can be replaced by: • A for A-weighted; • B for B-weighted; • C for C-weighted; or • Z for Z-weighted.

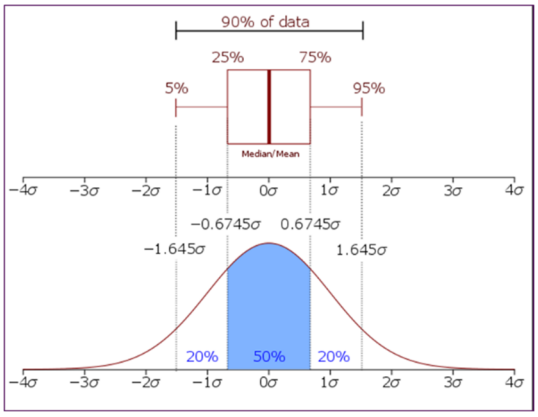
Octave Band	A band of frequencies where the upper limiting frequency (u.l.f.) is twice the lower limiting frequency (l.l.f.). *Octave bands are identified by their centre-frequencies. The octave bands standardized for acoustic measurements include those centered at 31.5, 63, 125, 250, 500, 1000, 2000, 4000, & 8000 Hz.*
Velocity	Rate of change in position, measured in distance per unit of time. When measuring vibration signals, velocity represents the rate of change in displacement. Units: Millimetres per second [mm/s].
Peak Particle Velocity (PPV)	Highest particle velocity which is recorded during a particular vibration event. Unit: Millimetres per second [mm/s].
Root Mean Square (RMS) Velocity	Square root of the average of the squared instantaneous vibration velocity (V) over a specified time interval or integration time (T) reported in millimeters per second (mm/s). For the purposes of vibration monitoring the integration time (T) is one second. Unit: Millimetres per second [mm/s].
1/N Octave Band	A band of frequencies integrally divided from an Octave Band. The u.l.f. equals $2^{1/N}$ times the l.l.f. *The most commonly used frequency band is the 1/3 octave band.*
Five-Number Summary	The five-number summary is a set of descriptive statistics that provide information about a dataset. It consists of the five most important sample percentiles: The sample minimum (smallest observation); The lower quartile or first quartile; The median (middle value); The upper quartile or third quartile; and The sample maximum (largest observation). 

Box plot Representation or Box plot Graph

Box plot (also known as a box-and-whisker plot) is a type of graph that is designed specifically to show the distribution of a set of data based on a five-number summary.

The representation of the box plot and data varies depending on the used. Alternates of the Five-Number Summary are generally used.

Box plots are uniform in their use of the box: the bottom and top of the box are always the first and third quartiles, and the band inside the box is always the median, but the ends of the whiskers can represent several possible alternative values.



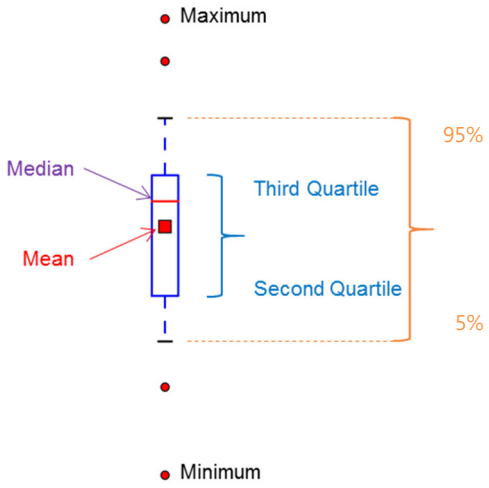
It should be noted that Box plots describe the sample and make no representation or assumptions regarding the population. Box plot data need not be normally distributed as represented in the figure above.

For the purpose of this report the type of representation chosen for the box plots represents a set of summary data that differs from the Five-Number Summary as follows:

The “whiskers” represent the 5 percentile and 95 percentile of the sample;

The red square indicated within the plot is the mean of the sample; and

The red dots represent any data points below or above the 5 and 95 percentiles respectively of the sample (including maximum and minimum of the sample).


Maximum
95%
Median
Third Quartile
Mean
Second Quartile
5%
Minimum

Appendix C

Natural Environment Existing Conditions and Impact Assessment Report – Heritage Road Layover

Heritage Road Layover
Natural Environment Report

Project # IM21405045

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

August 2022

Heritage Road Layover
Natural Environment Report

Project # IM21405045

Prepared for:

Metrolinx
277 Front Street West, Suite 400, Toronto, Ontario

Prepared by:

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August 18, 2022

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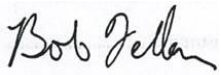
Document Revision History

Version	Date	Description
0	December 17, 2021	DRAFT for Metrolinx Review
1	January 31, 2022	UPDATED DRAFT for Metrolinx Review
2	February 11, 2022	UPDATED DRAFT for Metrolinx Review
3	June 30, 2022	Updated to address EPR comments
4	August 11, 2022	Updated to address Metrolinx comments
5	August 18, 2022	Final

Prepared by:	Michael Godard, Senior Fisheries Biologist		August 18, 2022
Reviewed by:	Bob Felker, B.E.S., M.C.I.P., R.P.P. Associate Environmental Planner		August 18, 2022

Executive summary

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project) is required to provide additional storage capacity to achieve the proposed level of service (two-way all-day service from Union Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

The purpose of the Natural Environment Report (NER), as described in the below report, is to consider site-specific impacts and mitigation measures that can be addressed in relation to the preferred design that is developed for the facility and associated infrastructure, as well as the construction implementation.

This report represents one deliverable to support the Transit Project Assessment Process (TPAP). The NER has been prepared through a desktop review using aerial imagery and available resources from the City of Brampton and Peel Region, the Town of Halton Hills, and the Credit Valley Conservation (CVC) resources. The Project Site refers to the physical footprint of the proposed layover facility and access road where direct disturbance is expected during the proposed construction works. The Project Site will include any staging/laydown areas and/or temporary haul routes. The Study Area refers to the Project Site plus the 120 m surrounding landscape. Background data collection was completed for any data that occurred within or overlapped the Study Area; targeted field studies will be limited to the Study Area. The Project Site was developed in coordination with the design team based on the proposed scope of work at the project site to ensure the inclusion of relevant areas.

The natural environment field investigation was initially delayed due to a lack of permission to enter (PTE) for the Project Site and Study Area. PTE for the Project Site and a portion of the Study Area was received, and the findings of these assessments will be included in an erratum to the EPR following the 30-day public comment period. One (1) ground-truthing survey was conducted on June 9, 2022 from accessible portions of the Study Area (the Project Site and the CN corridor) which will be used to inform Ecological Land Classification (ELC) delineation and identify vegetation constraints. A single season vascular plant survey was also completed; which involved the collection of a list of all vascular plants observed. This list will also be used to identify the presence of any provincially or regionally rare plants that may be present within the Project Site. Wood Ecologists completed data gathering for ELC, recorded incidental wildlife, conducted a Significant Wildlife Habitat assessment, as well as

searched for presence of species at risk (SAR), including Butternut and Barn Swallow. On July 4, 2022, Wood also completed a fish habitat assessment on three watercourse crossings identified within the Study Area; however, access was limited to the Project Site and 50 m upstream.

The Study Area extends from Winston Churchill Blvd to the west to Heritage Road to the east. To the north are railway tracks and a CN storage yard, and to the south is agricultural land. To the east of Winston Churchill Blvd but slightly west of the site is a U-Need Storage facility. The area is rural and located along the GO Kitchener Corridor.

However, it should be noted that the City of Brampton is adopted the Heritage Heights Secondary Land Use Plan for the westerly portion of the municipality, that includes the Project Site, bounded by Winston Churchill Boulevard and the Credit River, Mayfield Road, and Mississauga Road.

Information pertaining to the natural heritage legislation, policies, and planning components relative to federal, provincial, and municipal sections associated with the Study Area are summarized in the report. Under the *Metrolinx Act*, 2006, Metrolinx is exempt from municipal permitting and approval requirements within Metrolinx owned lands. Metrolinx is working with municipalities to meet the requirements of the municipal by-laws, when applicable and possible.

It is unlikely the Project will result in permanent effects during construction or operation. The Project may cause a minor short-term loss in tree canopy cover during construction. Still, the potential for effects during the operation phase will be limited or non-existent once the permanent infrastructure is established. It is anticipated that effects can be limited or avoided through mitigation and timing windows.

Given the relatively small scale of the Project and its location centred in a rural area, Species of Conservation Concern (SCC), and Species at Risk (SAR), impacts resulting from the Project are not expected to occur.

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Appendix A Species List

List of acronyms and abbreviations

ANSI	Area of Natural and Scientific Interest
AOI	Area of Investigation
ARA	Aquatic Resource Area
BMP	Best Management Practices
CAA	*Conservation Authorities Act, 1990*
cm	Centimetre(s)
CN	Canadian National Railway
CVC	Credit Valley Conservation
CWS	Canadian Wildlife Service
DBH	Diameter Breast Height
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
ELC	Ecological Land Classification
EPR	Environmental Project Report
ESA	*Endangered Species Act, 2007*
ESC	Erosion and sediment control
FWCA	*The Fish and Wildlife Conservation Act, 1997*
GGH	Greater Golden Horseshoe
GHTA	Greater Toronto and Hamilton Area
Growth Plan	*The Growth Plan for the Greater Golden Horseshoe: A Place to Grow (2019)*
ha	Hectare(s)
HADD	Harmful Alteration, Destruction, and Displacement of fish habitat
HDF	Headwater drainage feature
HDFA	Headwater Drainage Features Assessments
Kitchener Corridor	The Kitchener Corridor is a railway line for Metrolinx trains between Union GO Station and Kitchener GO Station. The Halton Subdivision of the Kitchener Corridor is owned by CN.
km	Kilometre(s)

L	Litre(s)
LCFSC	Licence to Collect Fish for Scientific Purposes
LID	Low Impact Development
LIO	Land Information Ontario
m	Metre(s)
MBCA	*Migratory Birds Convention Act, 1994*
MECP	Ministry of the Environment Conservation and Parks
MMAH	Ministry of Municipal Affairs and Housing
MNDMNRF	Ministry of Northern Department, Mines, Natural Resources and Forestry
MTO	Ministry of Transportation of Ontario
NER	Natural Environment Report
NHIC	Natural Heritage Information Centre
NHS	Natural Heritage System
OBBA	Atlas of the Breeding Birds of Ontario
ORAA	Ontario Reptile and Amphibian Atlas
O.Reg	Ontario Regulation
OSAP	Ontario Stream Assessment Protocol
PPS	*Provincial Policy Statement*
PTE	Permission to Enter
RfR	Request for Review
ROW	Right of way
SAR	Species at Risk
SARA	*Species at Risk Act, 2002*
SCC	Species of Conservation Concern
SWH	Significant wildlife habitat
the Project	Heritage Road Layover
Project Site	Refers to the physical footprint of the proposed layover facility and access road where direct disturbance is expected during the proposed construction works
Project Study Area	The Heritage Road Layover Project Site and surrounding 120 m from the outermost extent of the proposed Project Site.
the Province	Province of Ontario
PTE	Permission to Enter
Subwatershed Study	*Draft Heritage Heights Subwatershed Study, 2021*
TPAP	Transit Project Assessment Process
TPZ	Tree Protection Zone
TRCA	Toronto and Region Conservation Authority
Wood	Wood Environment & Infrastructure Solutions Canada Limited

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project) is required to provide additional storage capacity to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minue peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood), to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Project. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The Project Site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

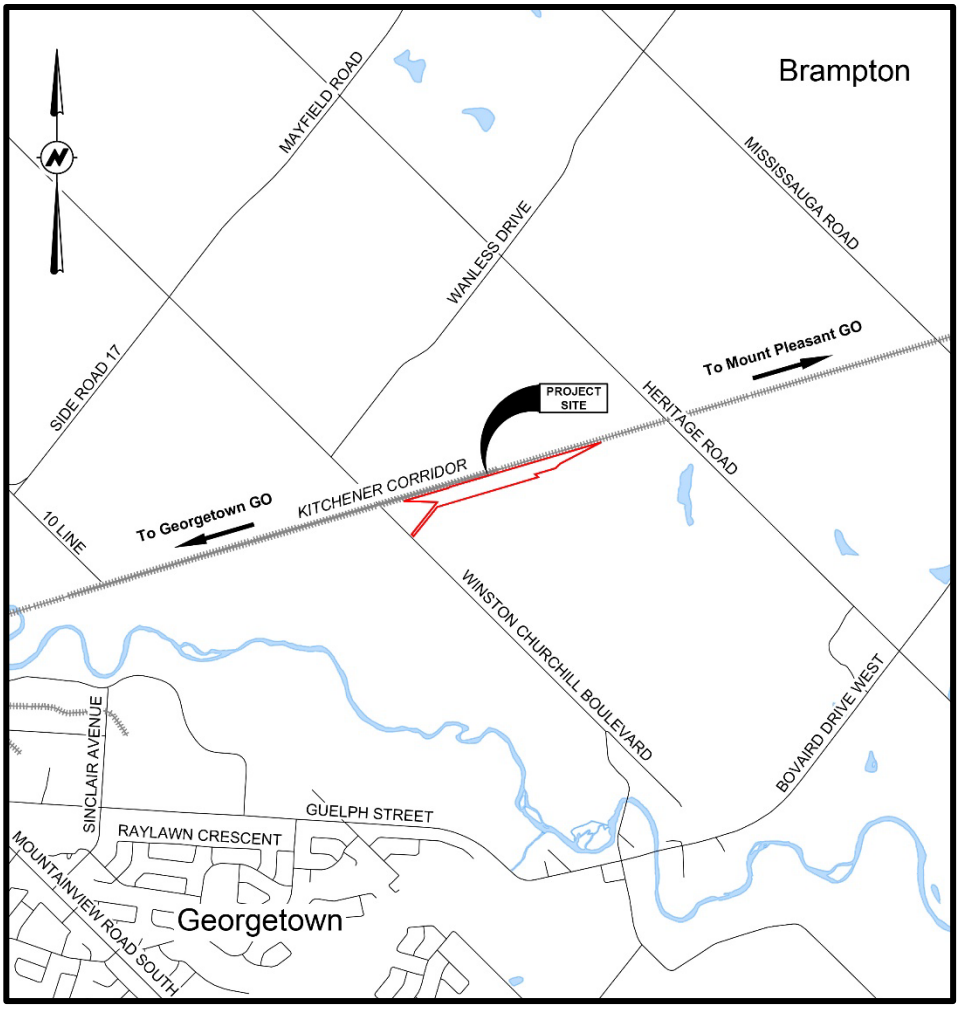

Figure 1-1: Project Site location

1.2 Study Area

For the purpose of the Natural Environment Report (NER), two Project-specific terms are defined below.

- "Project Site" refers to the physical footprint of the proposed layover facility and access road where direct disturbance is expected during the proposed construction works. The Project Site will include any staging/laydown areas and/or access routes.
- "Study Area" refers to the Project Site plus the 120 m surrounding landscape.

At the time of this report, fieldwork has been completed on the Project Site and portions of the Study Area where Permission to Enter (PTE) has been received. Data from these investigations will be included in an erratum to the EPR (Environmental Project Report) following the 30-day public comment period. Field investigations occurred, as noted below:

- Confirmation Ecological Land Classification (ELC) and Vascular Plant Survey (single season/visit) – June 9, 2022 – Project Site and Kitchener Corridor
- Species at Risk (SAR) Habitat Assessment - June 9, 2022 – Project Site and Kitchener Corridor
- Tree Survey - June 9, 2022 – Project Site and Kitchener Corridor
- Fish and Fish Habitat Assessment – July 4, 2022 – Project Site and 50 m upstream

A Natural Environment Report Field Studies Addendum report that summarizes the findings from the summer 2022 field surveys is currently under review and will be added to the EPR

2.0 Natural Heritage Policy Context

Information pertaining to the natural heritage legislation, policies, and planning components relative to federal, provincial, and municipal sections associated with the Project Site and Study Area are summarized below.

2.1 Federal Policy

2.1.1 Species at Risk Act, 2002 (as amended)

The purpose of the *Species at Risk Act, 2002* (SARA) is to prevent wildlife species in Canada from disappearing, to provide for the recovery of wildlife species, and to manage species to prevent further risk to their status. Only species listed as Threatened, Endangered, or Extirpated under Schedule 1 are afforded both individual and habitat protection under the SARA. Outside of federal lands, SARA legislation only applies to the following:

- Migratory birds (i.e., those species listed under Article I of the Migratory Birds Convention Act, 1994) that also fall under Schedule 1 of SARA. This does not include the species' critical habitat however does include residences of migratory birds which have residence descriptions; and
- Aquatic species that fall under Schedule 1 of SARA.

Notably, prohibitions can be applied if provincial legislation or voluntary measures do not adequately protect federally listed species and their residence.

Applicability to the Project

The Project Site is located immediately adjacent to the CN Rail corridor (Kitchener Corridor), and project works include components associated with CN Rail lands. To this extent, portions of the project will take place on Federally owned and regulated lands. The majority of the proposed works will take place on land owned by Metrolinx. The Species at Risk Act (SARA) applies differently depending on the land ownership.

On federal lands, SARA contains prohibitions that make it an offence to:

- kill, harm, harass, capture, or take an individual of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated;
- possess, collect, buy, sell or trade an individual of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated;
- damage or destroy the residence (e.g. nest or den) of one or more individuals of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated, if a recovery strategy has recommended the reintroduction of that extirpated species
- destroy any part of the Critical Habitat of a species listed under Schedule 1 of SARA.

As listed above, SARA contains prohibitions against the killing, harming, harassing, capturing, taking, possessing, collecting, buying, selling, or trading of individuals of species listed in Schedule 1 of the Act. The Act also contains a prohibition against the damage or destruction of their residences (e.g. nest or den). On provincial or private lands, these prohibitions apply to:

- All Extirpated, Endangered, and Threatened migratory birds (i.e., those species listed under Article I of the Migratory Birds Convention Act, 1994) listed in Schedule 1 of SARA. This does not include the species' critical habitat but does include the Residence of these species where it has been described; and
- All Extirpated, Endangered, and Threatened aquatic species that listed in Schedule 1 of SARA.

SARA prohibitions associated with federal lands can be applied on provincial/private lands through ministerial order if it is determined by the Minister that provincial legislation or voluntary measures do not adequately protect federally listed species, critical habitat, and/or residences.

2.1.2 Migratory Birds Convention Act, 1994 (as amended)

The federal *Migratory Birds Convention Act, 1994* (MBCA) was passed in 1917 and updated in 1994. The MBCA protects migratory bird populations by regulating potentially harmful anthropogenic activities. The MBCA and the Migratory Birds Regulations are federal legislative requirements that are binding on members of the public and all levels of government, including federal and provincial.

Protected species are listed under Article I of the MBCA. These species are native or naturally occurring in Canada and are species that are known to occur regularly in Canada. The legislation protects certain species, controls the harvest of others, and prohibits the commercial sale of all species. As described in Section 6 of the associated Migratory Bird Regulations:

> *"Subject to subsection 5(9), no person shall:*
>
> *(a) Disturb, destroy or take a nest, egg, nest shelter, Eider Duck shelter or duck box of a migratory bird, or*
>
> *(b) Have in his possession a live migratory bird, or a carcass, skin, nest or egg of a migratory bird except under authority of a permit therefor."*

The "incidental take" of migratory birds and the disturbance, destruction or taking of the nest of a migratory bird is prohibited. No permit can be issued for the incidental take of migratory birds.

Bird species not regulated under the MBCA include Rock Dove, American Crow, Brown-headed Cowbird, Common Grackle, House Sparrow, Red-winged Blackbird, and European Starling. Conversely, if the species identified is protected under *Ontario's Endangered Species Act, 2007* (ESA) or Canada's SARA, additional restrictions may apply.

Environment and Climate Change Canada (ECCC) and the Canadian Wildlife Service have compiled nesting calendars that show the variation in nesting intensity by habitat type and nesting zone, within broad geographical areas distributed across Canada (ECCC 2018). While this does not mean nesting birds will not nest outside of these periods, the calendars can be used to reduce the risk of encountering a nest.

Applicability to the Project

The MBCA applies to all of Canada. As such, the MBCA applies to the entire Project Site and Study Area. Therefore, if a protected species or their nest is encountered during future works, the Project must comply with the prohibitions of the MBCA. Tree removals should follow appropriate timing windows or Best Management Practices (BMPs).

2.1.3 Fisheries Act, 1985 (as amended)

The federal Fisheries Act was established in 1985, with the most recent amendments coming into effect on August 28, 2019. This Fisheries Act provides protection to fish and fish habitat such that:

> *"No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat"* (Section 35 (1)).

Fish habitat is defined by the Fisheries Act as:

> *"water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas"* (Section 2 (1)).

The Fisheries Act requires that any work, undertaking, or activity avoid harmful alteration, disruption or destruction of fish habitat (HADD) unless authorized by Fisheries and Oceans Canada (DFO) (Section 35.1).

Applicability to the Project

Any waterbody or watercourse that contains fish or is an area on which fish depend directly or indirectly to carry out their life processes as described in the *Fisheries Act*, is provided protection under the Act. Three watercourses flow through the Project Site and may be considered fish habitat, as such, the *Fisheries Act* applies to the Project.

Online guidance provided by DFO identifies a set of standard projects where impacts to fish and fish habitat can be avoided if certain mitigation measures can be followed. Watercourse realignments are not included in the standard list, as these projects require in-water works. As such, this Project shall follow the standard guidance procedure through project screening, and Request for Review (RfR).

2.2 Provincial Policy

2.2.1 Endangered Species Act, 2007 (as amended)

The Ontario Endangered Species Act (ESA) was passed into law in 2007 and came into effect on 30 June 2008. In 2019 as part of the More Homes, More Choice Act, the ESA was amended. The amendment resulted in various changes, ultimately in the governance of the ESA, and are not relevant in this summary.

Under the ESA, there are more than 200 species in Ontario that are identified as Extirpated, Endangered, Threatened, or of Special Concern. Section 9 of the ESA generally prohibits the killing or harming of a Threatened or Endangered species. Section 10 of the ESA prohibits the damage or destruction of the habitat of all Endangered and Threatened species. "Habitat" is broadly characterized within the ESA

as the area comprised of the habitat of the species or an area on which the species depends directly or indirectly, to carry on its life processes, including reproduction, rearing of young, hibernation, migration, or feeding.

Species listed as Special Concern are not afforded protection under Sections 9 and 10 of the ESA; however, they are afforded habitat protection if they are part of Significant wildlife habitat (SWH). As such, due diligence should be enforced if a Special Concern species is determined to be present.

Applicability to the Project

There is moderate to high-probability of SAR occurrence on-site (see Section 4.2.2 Table 4). If confirmed, and the Project works impact individuals or habitat, then permits or registration will be required.

2.2.2 Conservation Authorities Act, 1990 (as amended)

The *Conservation Authorities Act, 1990* (CAA) authorizes the formation of conservation authorities in Ontario and addresses their roles, responsibilities, and governance in resource management and environmental protection. The purpose of the CAA is:

> *"to provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario."*

Section 28 of the CAA sets out prohibited activities that include development in areas that could be unsafe for development because of natural processes associated with flooding or erosion, and interference with, or alterations to, watercourses, wetlands, or shorelines.

Currently, each of Ontario's 36 conservation authorities has its own Section 28 O. Reg. The core mandate of conservation authorities is to undertake watershed-based programs to protect people and property from natural hazards, including flooding, and to conserve natural resources for economic, social, and environmental benefits (Conservation Ontario, 2019). In the Project Site, the Conservation Authorities Act is more applied via Credit Valley Conservation Authority (CVC): Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses O. Reg. 160/06.

Applicability to the Project

Based on review of the CVC's online Mapping Tool, the three watercourses present within the Study Area are within regulated areas. Considering these factors (see Figure 2-1), the Project may require consultation with CVC under Ontario Regulation 160/06.

Credit Valley Conservation (CVC) in cooperation with the City of Brampton is preparing the draft Heritage Heights Subwatershed Study. Flooding and drainage characteristics as described in the subwatershed study will be taken into account in the design of the stormwater management facilities and site drainage. A section of the Project Site has been identified as a component of the Natural Heritage system. This designation will be utilized when determining vegetation compensation requirements.

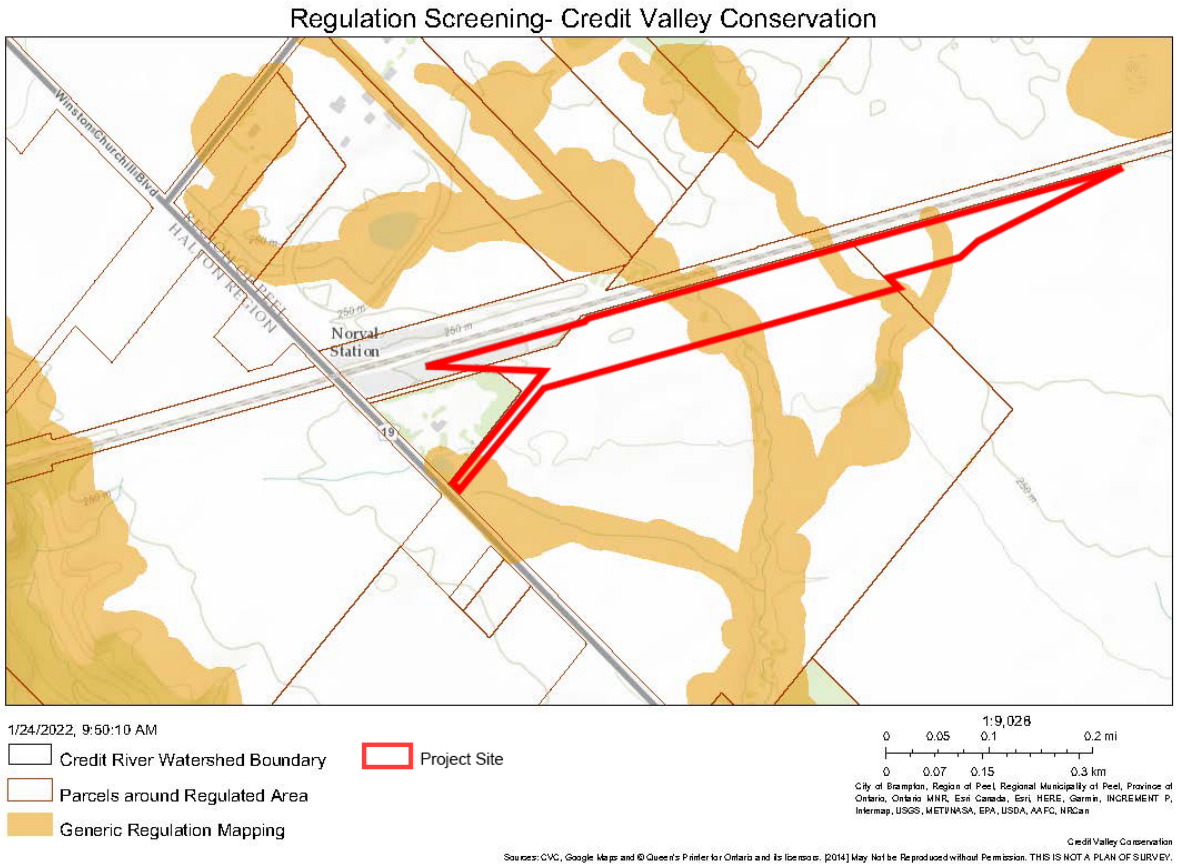

Figure 2-1: CVC Regulation Mapping

2.2.3 Greenbelt Plan, 2017

The Greenbelt Plan (2017) is an overarching document that serves to protect the Greenbelt area around the Greater Toronto and Hamilton Area (GTHA) from urbanization that would cause harm to its agricultural and ecological features (MMAH, 2017). The Greenbelt Plan is supported by The Growth Plan for the Greater Golden Horseshoe: A Place to Grow (2019), Niagara Escarpment Plan (2017) and based on the principles found in the Oak Ridges Moraine Conservation Plan. Under the Greenbelt Plan (under Ontario Regulation 59/05), "…infrastructure improvements are permitted if it serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing infrastructure connections among urban growth centers" (MMAH, 2017).

Applicability to the Project

The Project Site is situated adjacent to Protected Countryside but not within the Greenbelt Plan area. The rural lands of the Protected Countryside are intended to continue to accommodate a range of commercial, industrial, and institutional (including cemetery) uses serving the rural resource and agricultural sectors.

2.2.4 A Place to Grow: Growth Plan for the Greater Golden Horseshoe, Office Consolidation 2020

A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan) is issued under Section 7 of the Places to Grow Act, 2005 which enables the development of regional growth plans that guide government investments and land use planning policies, by the Ministry of Municipal Affairs and Housing (MMAH). This Plan also works in conjunction with the Provincial Policy Statement (PPS) and provides specific land use planning policies to address issues facing the specific geographic area of the Greater Golden Horseshoe (GGH) in Ontario. The policies which provides more protection to the natural environment applies.

Section 4 of the Growth Plan provides direction regarding hydrologic and natural heritage features and areas, cultural heritage resources, and valuable renewable and non-renewable resources. Within Official Plans, municipalities are to incorporate the NHS for the Growth Plan,which is mapped by the Province of Ontario (the Province). However, the provinical mapping does not apply until Official Plans incorporate it.

Applicabiliy to the Project

The Project Site is situated adjacent to the Natural Heritage System for the Growth Plan.

2.2.5 Fish and Wildlife Conservation Act, 1997 (as amended)

The Fish and Wildlife Conservation Act, 1997 (FWCA), applies to ‘wildlife’ which is defined as:

> *“an animal that belongs to a species that is wild by nature, and includes game wildlife and specially protected wildlife”* (Section 1 (1)).

Those species considered specially protected wildlife include those specially protected amphibians, birds, invertebrates, mammals, and reptiles, as identified within Schedules 6 to 11 under the FWCA. The FWCA is managed by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) and is applicable to all wildlife as defined under the FWCA. In instances where wildlife will require collection or relocation at any point in the project, (i.e., through trapping/collection and relocation), permits and approvals under the FWCA may be required.

Applicability to the Project

Permits under the FWCA are contractor specific, whereby the individual undertaking the work to rescue and relocate or collect wildlife and/or fish will be the responsible party required to obtain the necessary permits and approvals. The probability that wildlife is found in the Project Site and do not leave on their own accord is moderate, in addition, watercourses are present and may include fish. As such, permits/approvals under the FWCA are expected.

2.2.6 Planning Act, 1990 (as amended) and the Provincial Policy Statement, 2020

The Planning Act was passed into law in 1990 and was last amended in September 2019. The Planning Act is provincial legislation that sets out the ground rules for land use planning in Ontario. The Provincial Policy Statement, 2020 (PPS) is issued under

Section 3 of the Planning Act by MMAH. The PPS and came into effect in 1995 and has been amended several times since; in 1997, 2005, 2014, and most recently in 2019. The latest PPS came into effect on 1 May 2020. The PPS provides policy direction on matters of provincial interest related to land use planning and development (MMAH, 2014).

In Ontario, the long-term social and environmental health of the province is dependent on conserving biodiversity and protecting natural heritage and water resources, amongst others. The PPS defines seven (7) natural heritage features and provides planning policies for each under Natural Heritage, Policy 2.1. The Natural Heritage Reference Manual (MNR, 2010) is a technical document used to help assess the seven (7) natural heritage features in addition to the Significant Wildlife Habitat Ecoregion Criteria Schedule for each respective ecoregion (e.g., 5E, 6E, and 7E) (MNRF, 2015). Those natural heritage features identified within the PPS (MMAH, 2014) include:

- Significant wetlands (including coastal wetlands);
- Significant habitat of Endangered and Threatened species;
- Fish habitat;
- Significant woodlands;
- Significant valleylands;
- Significant Areas of Natural and Scientific Interest (ANSIs); and
- SWH.

Each of these features is afforded varying levels of protection subject to guidelines and, in some cases, regulations. Municipalities are the primary lead for implementing provincial policies, such as the PPS and other planning related policies, through their official plans, whereby special buffers and/or studies are prescribed on the basis of these natural heritage features and the land use proposed.

Applicability to the Project

From a review of available background information, two locally significant wetlands are present within the Study Area (see Figure 4-3); however, evaluation of data gathered through fieldwork is required to determine the applicability of the PPS. It is assumed that the Project is not anticipated to result in alterations to any natural heritage features under the *Planning Act* and would therefore be in compliance with the PPS Policy 2.1.

2.3 Municipal Policy

Under the Metrolinx Act, 2006, Metrolinx is exempt from municipal permitting and approval requirements within Metrolinx owned lands. Metrolinx is working with municipalities to meet the requirements of the municipal by-laws, when applicable and possible. Vegetation compensation will be implemented through Metrolinx's Vegetation Compensation Guideline (2020), at minimum. Metrolinx's Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation..

2.3.1 City of Brampton Official Plan (2006; 2020 Office Consolidation)

The *City of Brampton Official Plan* was adopted in 2006 and modified in 2008 to conform with the Growth Plan. In September 2020, *The Official Plan* was consolidated to include a series of amendments. *The Official Plan* is used to guide development and infrastructure decisions relating to land use, built form, transportation, and the environment within the municipality to 2031.

Section 4.6 of *The Official Plan* highlights policies aimed at conserving and protecting natural heritage features. The environmental objectives relevant to the Project include:

> c. Ensure that land use planning contributes to the protection, improvement, and restoration of land and water resources and that all new development, including intensification, shall have a minimum impact on the natural environment; and
>
> j. Identify, protect, and restore or where possible, enhance fish and wildlife populations, habitat and corridors within the City with a goal towards ensuring no net loss and achieving a net gain; and
>
> o. Work with the Province, Conservation Authorities and adjacent municipalities to address long term health and biodiversity of the natural heritage system.

In addition to the Official Plan, the City of Brampton created the Environmental Master Plan to focus on managing open spaces within the city, including green spaces, natural heritage areas, and agricultural fields. The purpose of the Environmental Master Plan, originally approved in 2014 and updated in 2020, is to improve environmental sustainability within the community. One of the core components is to manage the land to sustain the natural environment (City of Brampton, 2020). A new EMP Action Plan was created through a community consultation process, and a common theme was to forest natural heritage stewardship through the City of Brampton.

As per Schedule D: Natural Heritage Features and Areas from the Official Plan, two watercourses on the Project Site are designated as Valleyland/Watercourse Corridors. Section 4.6.6.20 of the Offical Plan emphasizes avoiding removal of natural heritage features, stating that removal must be justified by a watershed plan, subwatershed study, Environmental Implementation Report or natural heritage system study in consultation with CVC and other relevant agencies. Section 4.6.6.21 of the Official Plan also notes that the report should demonstrate no net loss, and if possible, a net gain in natural heritage system values and ecological functions.

2.3.2 Heritage Heights Secondary Plan (2022)

The City of Brampton undertook a Secondary Plan Review of the Secondary Plan Areas 52 (Huttonville North) and 53 (Mount Pleasant West). These areas are collectively referred to as the ‘Heritage Heights Community’ (City of Brampton, 2022). The City’s Planning and Development Committee endorsed a conceptual land use plan for the Heritage Heights Community in July 2020 (City of Brampton, 2022). The Heritage Heights Secondary Plan was adopted by City Council on April 6, 2022.

The Study falls within the Heritage Heights Secondary Plan, specifically within the Heritage Heights North Precinct and South Precinct. Both of these Precincts are located north and south of the Kitchener Corridor, respectively. The Heritage Heights

Secondary Plan proposes low to medium density residential units surrounding the Project Site and within the Study Area. It is identified as a high potential mineral aggregate resource area.

The following Principles from the Heritage Heights Secondary Plan are relevant to the natural environment within the Project Site:

> 5. Conserve the natural and cultural heritage of the area, creating a destination for local and regional visitors.
> 8. Integrate and connect green and open spaces into the design of neighbourhoods while being sensitive to existing ecological systems" (City of Brampton, 2022).

2.3.3 Town of Halton Hills Official Plan (2019 Office Consolidation)

The Study Area falls within the Greenbelt and it is designated Protected Countryside in the Town of Halton Official Plan. (Town of Halton Hills, 2019).

3.0 Methodology

This NER has been completed based on a desktop review of secondary source information as natural environment field investigations were delayed due to a lack of PTE.

The following were used to characterize the existing conditions and provide a base for the fieldwork:

- Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) database (Ontario Ministry of Natural Resources and Forestry, 2019) (17NJ9035, 17NJ135);
- Land Information Ontario (LIO) and Ontario GeoHub (Ontario Ministry of Natural Resources and Forestry, 2019);
- Atlas of the Breeding Birds of Ontario (Cadman, Sutherland, Beck, Lepage, & Couturier, 2007; Grid ID 17NJ93);
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2019; Grid ID 17NJ93);
- Ontario Butterfly Atlas (MacNaughton, 2019; Grid ID 17NJ93);
- iNaturalist (17 December 2021);
- Draft Heritage Heights Subwatershed Study Phase 1: Subwatershed Characterization and Integration Report (Wood, 2021);
- Draft Heritage Heights Subwatershed Study Phase 2: Subwatershed Impact Assessment (Wood, 2021); and
- Fisheries and Oceans Canada Species at Risk Mapping (2021).

The following protocols were followed to complete the fieldwork:

- Aquatic habitat characterization was carried out by following guidance as per the Environmental Guide for Fish and Fish Habitat (MTO, 2020).
- Confirmational Ecological Land Classification (ELC) and Plant List Collection followed the methods outlined in Ecological Land Classification for Southern Ontario (Lee et al., 1998).
- Significant Wildlife Habitat (SWH) and SAR Habitat assessment: Ecologists documented the existing conditions and collected information on habitat features associated with the Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E (MNRF, 2015).

Fieldwork was delayed until June and July of 2022 due to PTE restrictions. Also due to access restrictions fieldwork was only completed on the Project Site and portions of the Study Area. The terrestrial survey was completed on June 9, 2022, for the Project Site and the Kitchener Corridor. The aquatic survey was completed on July 4, 2022, for the Project Site and 50 m upstream. Findings from the field studies will be reported in an erratum to the EPR following the 30-day public comment period.

4.0 Existing Conditions

The following sections describe the existing natural environment conditions within the Study Area from background review.

4.1 Physical Environment

The current physical environment of the Project Site is entirely rural and the Study Area is dominated by agricultural land with row crop fields. The area around the Project Site is slated for low-density urban development under the Heritage Heights Secondary Plan. In the Town of Halton Hills, west of Winston Churchill Boulevard the 23 lot Churchill Valley Estates subdivision is under development.

Vegetation communities are generally limited within the Project Site and in the Study Area are associated with watercourse crossings, the rail corridor, and a residential property at the western limit of the study area. Historical Google Earth Imagery is accessible to November 2004. In this imagery, remnant hedgerows can be seen adjacent to the Winston Churchill Blvd crossing, rural residential property located south of the storage yard, and within the watercourses that pass through the Project Site. An isolated bluff of woodland is also present on the southwest edge of the Project, along the watercourse drainage in the field.

4.1.1 Landform and Physiography

According to the Physiography of Southern Ontario by Chapman and Putnam (1984), the Project Site and Study Area falls in the South Slope (a drumlinized till plain) Physiographic Regions. The South Slope is aptly named as it is the southern slope of the Oak Ridges Moraine (and also wraps under the Peel Plain). The area is morainic, mostly ground moraine with limited relief and irregular knolls and hollows. The shale content increases west of Toronto until a till consisting of nearly all red and grey shale (Georgian Bay and Queenston Formations) is reached. West of Brampton and particularly beyond the Credit River, red shale is characteristic.

4.1.2 Soil and Bedrock Geology

The type of natural vegetation found in an area is largely dependent on climatic and soil factors. Similarly, when vegetation is established, it exerts considerable influence on the development of soil. Therefore, understanding soil formation is an important factor in understanding vegetation characteristics. In the Project Site, the Soil Survey of Peel County (Hoffman and Richards, 1953) describes the area as a heavy textured till of the Chinguacousy and Oneida series. The clay loams are smooth and moderately sloping to gently sloping with few stones and good to imperfect drainage. The Oneida soil was developed on the reddish tills of the Trafalgar Moraine under a forest dominated by oak, hickory, and white pine. The Oneida and Chinguacousy clay loams are acidic, harder to work, and more limited in their adaptions to various crops. The greater soil group is Grey-Brown Podzolic. The watercourse present in the east of the Project Site is mapped as Bottom Land.

Where imperfect drainage occurs, tree associations would have likely been elm and soft maple with ash and oak associates. In the well-drained areas, oak, sugar maple, pine,

and beech are the tree species most commonly occurring in the woodlots, with elm occurring particularly at the bottom of the slopes.

4.2 Biophysical Environment

The Study Area is within the Lake Simcoe-Rideau Ecoregion (6E). Ecoregion 6E is the second most densely populated ecoregion in Ontario and more than 57% of the ecoregion exists as cropland (44.4%), and pasture and abandoned fields (12.8%). Water covers 4% of the ecoregion and the remaining area (38.8%) is forest; cover includes deciduous (16.0%), coniferous (5.3%), and mixed forest (8.8%) (Crins, Gray, & Uhlig, 2009).

4.2.1 Aquatic Environment

The following sections provide a summary of the aquatic environment based on a review of the draft Heritage Heights Subwatershed Study (the Subwatershed Study) Phase 1 (Wood, 2021) and other sources listed in Section 3.0.

An overview of the aquatic features within the Study Area based on background information is presented on Figure 4-1 Natural Heritage Aquatic Resources. A total of three watercourses run through the Project Site: CRT1-2, CRT1-2c, and CRT1-2b. Additionally, there are five (5) other watercourses that run through the Study Area.

The draft Subwatershed Study (Wood, 2021) identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch. As headwaters, the watercourses likely flow intermittently throughout the year and function as agricultural swales (i.e. convey overland flows from agriculture safely without causing erosion).

From 2007-2009, CVC conducted a fluvial geomorphic monitoring study of CRT1, a tributary from the Credit River West Branch that flows through the Project Site. CRT1 originates as a small headwater swale through an agricultural field north of Mayfield Road, which is located north of the Study Area. The swale transitions to a more defined channel south of Mayfield Road, where numerous swales drain into the tributary. North of the Kitchener Corridor, the tributary exhibited evidence of extensive modification (channelization) to support adjacent agricultural land use. There was a noticeable increase in channel width and sinuosity with distance downstream of the Kitchener Corridor crossing. Further downstream, CRT1 transitions to a confined, forested valley system prior to crossing Winston Churchill Boulevard.

Figure 4-1 displays the proposed headwater drainage features (HDF) Management Recommendations for the HDFs in the Study Area and their “Management Recommendations” from the 2014 HDFA (Headwater Drainage Features Assessments) Guidelines:

> C. Mitigation – Contributing Functions: e.g. contributing fish habitat with meadow vegetation or limited cover
>
> F. No Management Required – Limited Functions: e.g. features with no or minimal flow; cropped land or no riparian vegetation; no fish or fish habitat; and no amphibian habitat.

Table 1: Headwater Drainage Feature Assessment Summary for the Heritage Heights Draft Subwatershed Study

Subcatchment	Stream Reach	2021 Site Specific Proposed HDF Management Recommendation
CREDIT RIVER TRIBUTARY CRT1	CRT1-1d	No Management Required
	CRT1-2a	Mitigation
	CRT1-2b	No Management Required
	CRT1-2c	No Management Required
	CRT1-2d	No Management Required
	CRT1-2e	No Management Required
	CRT1-3a	Mitigation
	CRT1-3a1	No Management Required
	CRT1-3b	No Management Required

Fish communities within the Credit River Tributaries subwatersheds were surveyed in accordance with the OSAP fish community sampling procedures (Stanfield, 2010). Surveys were conducted using a Halltech HT2000 Backpack Electrofisher and involved a standard single pass sampling technique with one netter in 2017. The electrofisher was set to a frequency of 60 or 80 Hz with an output voltage dependant on the conductivity at each site. Fish community survey locations are shown in Figure 4-1. A summary of the species captured at each reach during the electrofishing surveys is provided in Table 2.

Table 2: Fish Community Sampling Electrofishing Data

Reach	Fish Captured	Date
CRT1-1	No Fish	July 5, 2017
CRT1-2	One adult unidentified minnow	July 5, 2017

The electrofishing effort confirmed that CRT1 provides direct fish habitat further upstream in the watershed than initially anticipated. These upper reaches are believed to provide direct seasonal fish habitat, based on the intermittently flow nature. Additional incidental observations collected during the HDFA fieldwork determined that seasonal habitat was present in CRT1-2, which is present within the Project Site. The communities present are warmwater small bodied generalist fish that tolerate a wide range of habitat conditions.

Previous fisheries data collection included:

- Several dead Brook Stickleback were observed within portions of reach CRT1-3a and CRT1-3 (2012). Minnow traps were placed within an upstream irrigation pond connected to CRT1-3a and CRT1-3 via a small CSP capturing a total of over 70 Brook Stickleback in four traps.
- CVC captured one Stickleback and one unidentified cyprinid downstream of the study area in 2010, on the west (downstream) side of Winston Churchill Boulevard in reach CRT1-1.

A 2022 review of the GeoHub Aquatic Resource Area (ARA) line segment data for the watercourses in the study area indicates Atlantic Salmon, Blacknose Dace, Brook Stickleback, Common Shiner, Creek Chub, Fantail Darter, Longnose Dace, and White Sucker may occur with these watercourses having a warmwater thermal regime.

A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Through consultation as part of the TPAP, Credit Valley Conservation Authority indicated that the Region of Peel is undergoing detailed design for a replacement crossing along Winston Churchill Blvd which includes considerations for fish passage and is aiming to remove any fish barrier at that crossing.

The Project Site is situated within Credit Valley Protection Area and therefore, the CTC Source Protection Plan may be applicable. The Project Manager at the CTC Source Protection Authority will be contacted to identify policies in source protection that may apply to the Heritage Road Layover Project. This will be done as part of the development of Detailed Design. Further information will also be presented in the Stormwater Management Study being completed as part of the project design.

4.2.1.1 Aquatic Habitat Assessment

Aquatic fieldwork took place on July 4, 2022. Due to PTE constraints the area of investigation (AOI) included 50 m upstream and the Project Site. No downstream reaches were accessible. Aquatic habitat characterization will be carried out by following guidance as per the Environmental Guide for Fish and Fish Habitat (MTO, 2020). Findings of the habitat assessment will be included in an erratum to the EPR following the 30-day public comment period.

4.2.1.2 Fish Community Surveys

A single pass electrofishing survey on the watercourses as per the Ontario Stream Assessment Protocol (OSAP; Stanfield, 2017) was proposed to provide an updated fish species list, as well as a qualitative assessment of species abundance within the AOI. However, due to low waterflow conditions there was not sufficient habitat to complete this survey. Existing habitat conditions were documented and mapped with an associated photographic record with information collected including a description of substrates, in-stream cover, widths, depths, and bank vegetation. Findings of the fish habitat assessment will be included in an erratum to the EPR following the 30-day public comment period.

589500 590000 590500 591000 591500 592000 592500 593000

4836000 4835500 4835000 4834500

SIDERD 17

CRT1-3l CRT1-3f CRT1-3g CRT1-3k CRT1-3j CRT1-3e

CITY OF BRAMPTON

TOWN OF HALTON HILLS

Huttonville Creek & Area Wetland Complex

WANLESS DR

CRT1-3d CRT1-3b CRT1-3a CRT1-3c CRT1-4 CRT1-3 CRT1-3a1

To Mount Pleasant GO

KITCHENER CORRIDOR

CRT1-2d CRT1-2e CRT1-2b CRT1-2c CRT1-2 CRT1-2a

HERITAGE RD

Huttonville Creek & Area Wetland Complex

To Georgetown GO

CRT1-1d CRT1-1c CRT1-1e

WINSTON CHURCHILL BLVD

CRT1-1

Credit River

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Locally Significant Riparian Wetland (0.5 -2 ha)
- Waterbody
- Watercourse
- Dug Pond
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, Railway, and Greenbelt Plan Designation Information retrieved from Land Information Ontario (LIO)
- Aquatic Resources Features - SAVANTA Heritage Heights Subwatershed Study

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 Kilometres

METROLINX wood.

HERITAGE ROAD LAYOVER

Natural Heritage Aquatic Resources

PROJECT N°: IM21405045 | FIGURE: 4-1

SCALE: 1:10,000 | DATE: July 2022

4.2.2 Terrestrial Environment

The following sections provide a summary of the terrestrial environment based on a review of the draft Heritage Heights Subwatershed Study (the Subwatershed Study) Phase 1 (Wood, 2021) and other sources listed in Section 3.0.

At the time of this report, the properties associated with the Project Site were not yet accessible. Figure 4-2 Natural Heritage Terrestrial provides a visual representation of previous studies and findings. The ELC and Vascular Plant Surveys were completed in June of 2022 and will be included in an erratum to the EPR following the 30-day public comment period. Figure 4-3 Natural Heritage Existing Ecological Conditions provides an overview of the significant features within the Study area and surrounding landscape.

Ecological Land Classification

Background reports identified in Section 3.0 suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site. Table 3 provides an overview of the ELC communities within the Study Area, presented on Figure 4-2. A narrow band of vegetation is found along the south edge of the rail corridor and is composed of primarily weedy, early successional/opportunistic species. A mix of graminoids, shrubs, and young trees inclines this community towards a cultural meadow/thicket designation (CUM1-1/CUT1). A total of 80 species were inventoried within the vegetation communities. A total of 54% of the plant species identified on site are considered native to Ontario while the remaining 46% are considered introduced and/or non-native to Ontario.

Table 3: ELC Vegetation Community Types within the Study Area

ELC Type	Description
CUM1-1 Dry-Moist Old Field Meadow	This is a large group of variously composed cultural meadows on abandoned agricultural land, many undergoing succession to open thickets. Crop grasses and weeds are mixed with exotics and several native species. Common plants include awnless brome, wild carrot, tufted vetch, Kentucky bluegrass, red clover, black medic, bird's-foot trefoil, tall goldenrod, and New England aster.
CUT Cultural Thicket	No information provided.
MAM2-2 Reed-canary Grass Mineral Meadow Marsh	These communities are dominated by reed-canary grass, often to the exclusion of other species. Occasionally, cattail, tall white aster, various sedges, and rushes may co-occur.
MAM2-11 Mixed Mineral Meadow Marsh	This is a group of rich meadows composed of numerous forb and graminoid species growing in various amounts and combinations. The usual leading species are great hairy willow-herb, dark-green bulrush, redtop, tall manna grass, tall white aster, and various sedges and rushes.

ELC Type	Description
SAM1-2 Duckweed Mixed Shallow Aquatic	No information provided.

Wildlife

The study area is predominantly within an agricultural landscape with limited habitat available for wildlife species. Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area. About 81% of the bird species observed are considered migratory and are regulated under the *Migratory Birds Convention Act* (MBCA), while an additional two (2) species are Protected under the *Fish and Wildlife Conventions Act*. Wildlife observations from the Wood, 2021 report are identified on Figure 4-2. While in the field, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.). This information will be used to aid the Significant Wildlife Habitat (SWH) screening/assessment in the final NER. The SWH Criteria Schedules For Ecoregion 6E (MNRF, 2015) identifies wildlife species, ecosites, and habitat features and will be used to identify various SWH types.

Candidate Significant Wildlife Habitat has been identified through review of background reports. Wood will complete supplementary field investigations required to confirm the presence of SWH and will complete a SWH screening specific to the Study area following targeted field investigations.

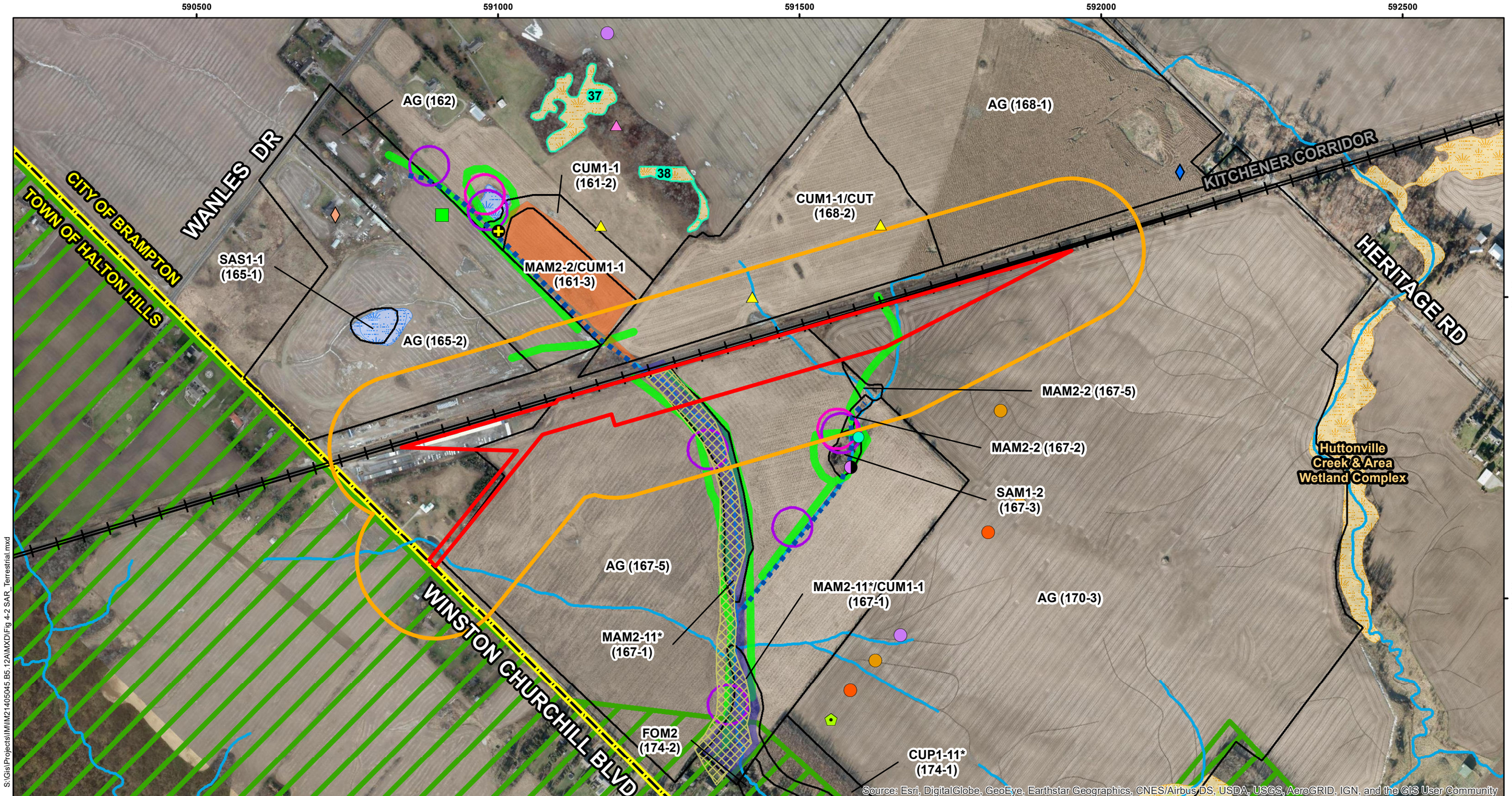
A review of MNDMNRF NHIC database square (1 km x 1 km) encompassing the Project Site (square 17NJ9135) provided Eastern Meadowlark and Butternut records. Eastern Meadowlark is listed provincially as ‘Threatened’ and Butternut is listed provincially as an ‘Endangered’. Eastern Meadowlark is also documented in the Atlas of the Breeding Birds of Ontario (OBBA). OBBA also lists three additional SAR; Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are Monarch and Snapping Turtle. Figure 4-2 shows the locations of Grassland and woodland SAR bird surveys, turtle nesting and basking surveys, snake hibernacula surveys and amphibian calling stations.

Background source data was only reviewed for species that had the potential to occur within the Study Area, such as those which are adapted to human-made structures (e.g., Barn Swallows) and not for species which have no habitat in the Study Area. Further species that require wetlands or continuous large tracts (over 10 ha) of forest are also not considered as potentially occurring in the Study Area. A summary of fauna and flora SAR, Species of Conservation Concern (SCC; provincially rare species), and locally rare species which have possible habitat in the Study Area is provided in Table 4.

As noted in Section 2.1.1, species listed as Special Concern are not afforded protection under Sections 9 and 10 of the ESA; however, they may be afforded protection as part of SWH designation. The probabilities provided in Table 4 are based on an assessment

of each species' habitat preferences / needs in conjunction with background information collected. The probabilities of occurrence are defined as 'Confirmed', 'High', 'Moderate', 'Low', and 'None' and are based on the following definitions:

- Confirmed: Documented record of a SAR within the defined Study Area and/or observed during field surveys.
- High: Those species recorded in the regional vicinity of the Project Site (typically within 10 km and recorded in the past 20 years) whose preferred habitat is abundant within the Study Area. Species with a high probability of occurrence would be expected to breed within or frequently use the habitats available within the Study Area.
- Moderate: Those species recorded in the vicinity of the Project Site (typically within 10 km and recorded in the past 20 years) whose preferred habitat is limited within the Study Area. Species with moderate probabilities of occurrence may not occur within the proposed Study Area frequently, but may intermittently use it for foraging, migration, or movement to other parts of their home-range.
- Low: Those species recorded in the vicinity of the proposed Project Site (typically within 10 km and recorded in the past 20 years) whose preferred habitat does not occur or is extremely limited within the Study Area. These species may intermittently move through the Study Area but are unlikely to become permanent residents.
- None: Those species whose preferred habitat is completely absent from the Study Area and may only migrate intermittently through.



LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Locally Significant Riparian Wetland (0.5 -2 ha)
- Waterbody
- Watercourse
- Dug Pond

Terrestrial Features

- 2017-2018 Turtle Basking Survey Locations
- 2017-2018 Turtle Nesting Survey Locations
- ELC Communities (Savanta Inc.)
- Locally Significant Wetland (> 2 ha)
- Locally Significant Wetland (0.5 - 2 ha)
- Headwater Drainage Feature
- 2018 Turtle Nesting Transect
- 2017 Basking Turtle Observations (Midland Painted Turtle)
- 2017 Bird Survey Stations - Grassland Species At Risk Survey
- 2017 Bird Survey Stations - Woodland Species At Risk Survey
- 2017 Snake Hibernacula Survey Areas
- 2018 Snake Hibernacula Proposed Survey Areas (Eastern Garter Snake Sighting)
- Anuran Calls Identified (Gray Treefrog, Green Frog)
- Anuran Calls Identified (Gray Treefrog, Wood Frog, Northern Leopard Frog, Green Frog)
- Coyote Track
- Coyote Trail
- Field Mouse Species Track
- Unknown Small Mammal Species Track

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, Railway, and Greenbelt Plan Designation Information retrieved from Land Information Ontario (LIO)
- Terrestrial Features - SAVANTA Heritage Heights Subwatershed Study

Datum: NAD83
Projection: UTM Zone 17N

0 0.5 1 Kilometres

METROLINX wood.

HERITAGE ROAD LAYOVER

Natural Heritage Terrestrial

PROJECT N°: IM21405045 | FIGURE: 4-2

SCALE: 1:6,000 | DATE: July 2022

590500 591000 591500 592000 592500

4835500

4835000

WANLES DR

CITY OF BRAMPTON

TOWN OF HALTON HILLS

KITCHENER CORRIDOR

HERITAGE RD

Huttonville Creek & Area Wetland Complex

WINSTON CHURCHILL BLVD

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond

Existing Ecological Conditions

- Core Greenland)Peel ROP 2013)
- Natural System Integration Unit (NSIU)
- ROPA 21B Core Valleyland and Stream Corridors
- Significant Wetlands
- Significant Wildlife Habitat Area
- Locally Significant Riparian Wetland (0.5 - 2 ha)
- Locally Significant Wetland (> 2 ha)
- Significant Woodland (CORE Woodland)
- Significant Woodland (NAC Woodland)
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Candidate and Significant Wildlife Habitat Point Location (Turtle Pond)

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, Railway, and Greenbelt Plan Designation Information retrieved from Land Information Ontario (LIO)
- Terrestrial Features - SAVANTA Heritage Heights Subwatershed Study

Datum: NAD83
Projection: UTM Zone 17N

0 0.5 1 Kilometres

N W E S

METROLINX wood.

HERITAGE ROAD LAYOVER

Natural Heritage Existing Ecological Conditions

PROJECT N°: IM21405045 | **FIGURE: 4-3**

SCALE: 1:6,000 | DATE: July 2022

Table 4: Species at Risk Screening

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Study Area
Plants		
Butternut (*Juglans cinerea*) SARA: Endangered ESA: Endangered S-Rank: S2? Source: NHIC	Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges (MNRF, 2016). Generally, grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky, and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows (MNRF, 2013).	**High** – Documented as an element occurrence in a 1km grid. Often occurs in hedgerows in the GTHA.
Birds		
Grasshopper Sparrow (*Ammodramus savannarum*) SARA: Special Concern ESA: Special Concern S-Rank: S4B Source: OBBA	Grasshopper Sparrows in Canada typically breed in large human created grasslands which are greater than 5 hectares (ha) in size. These grasslands include pastures and hayfields, and natural prairies and alvars (COSEWIC, 2013b). Grasshopper Sparrows breed in large grasslands, including both human-created pastures and hayfields as well as natural prairies and alvars. Habitats used are typically dry with relatively low and sparse vegetation. Large fields of 5 ha or more are usually required (COSEWIC, 2013).	**None** – Fields are row crops and not grasslands or pasture lands.
Eastern Wood-Pewee (*Contopus virens*)	Usually found in clearings and forest edges, this species breeds in nearly any type of wooded habitat including mature woodlands, urban shade trees, roadsides, and orchards, but typically prefers deciduous	**None** – No woodlands

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Study Area
SARA: Special Concern ESA: Special Concern S-Rank: S4B Source: OBBA	forest and to a lesser extent, open pine woodlands of the south and mixed hardwood-conifer forest of the north (CLO, 2015; McCarty, 1996). Migrants may occur in a wide variety of habitats (COSEWIC, 2012).	(hedgerows present).
Barn Swallow (*Hirundo rustica*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: OBBA	Often found feeding in a range of open habitats including fields, marshes, meadows, and ponds. They primarily use man-made structures such as building, bridges, and culverts for nesting (COSEWIC, 2011). Barn Swallows have shifted largely to nesting in and on artificial structures, including buildings, bridges, and road culverts, and prefer various open habitats for foraging including grassy fields, pastures, agricultural crops and over open water (COSEWIC, 2011).	**High** – Nesting is very common on buildings and structures.
Eastern Meadowlark (*Sturnella magna*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: OBBA, NHIC	A bird most common in native grasslands, pastures, and savannas. It also uses a wide variety of other anthropogenic grassland habitats. As with other grassland bird species, the suitability of grassland habitat for this species involves a combination of landscape and patch characteristics (COSEWIC, 2011a). Eastern Meadowlarks nest in a variety of open grassy habitats, preferring native grasslands, pastures, and savannahs. Larger tracts of grassland are preferred (COSEWIC, 2011).	**None** – Fields are row crops and not grasslands or pasture lands.

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Study Area
Herptiles		
Snapping Turtle (*Chelydra serpentina*) SARA: Special Concern ESA: Special Concern S-Rank: S3 Source: ORAA	Slow-moving water with a soft mud bottom and dense aquatic vegetation usually in ponds, sloughs, shallow bays or river edges and slow streams and wetlands (COSEWIC, 2008b). Snapping Turtles prefer slow-moving waters with a soft mud bottom and dense aquatic vegetation. Established populations are most often located in ponds, sloughs, shallow bays or river edges and slow streams and wetlands. Individuals can also exist in developed areas (e.g., golf course ponds, irrigation canals); however, it is unlikely that populations persist in such habitats. Snapping Turtles can occur in highly polluted waterways, but environmental contamination is known to limit reproductive success (COSEWIC, 2008).	**Moderate** – nesting habitat is limited in the GTHA and is well known in agricultural fields. Proximity to the West Branch Credit River could result in turtles travelling north for nesting opportunities.
Mammals		
Eastern Small-footed Myotis (*Myotis leibii*) ESA: Endangered S-Rank: S2S3	The species' preference for rocky habitats in summer may limit an individual's home range to those rocky areas which also contain hibernacula. Eastern Small-footed Myotis individuals are typically captured within 35 km from locations where the species is known to hibernate (Humphrey 2017). They generally roost on the ground under rocks and in crevices. Caves and mines are wintering habitat. Similar habitat requirements as other Myotis species (MNRF, 2011).	**Low** - closest caves are part of the Niagara escarpment. While may be found in crack of bridges or other human-made structures it is unlikely they migrate through the area.

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Study Area
Little Brown Myotis (*Myotis lucifugus*) ESA: Endangered S-Rank: S4	Roosts in tree cavities, including small spaces or crevices found in loose bark, hollow trees, rock faces and human structures such as attics, walls, and bat boxes. Hibernates in caves and abandoned mines during the winter months. Typically forages over water (COSEWIC, 2013b). Maternity roosts are primarily live deciduous trees and males, juveniles, and non-reproductive females can be found in dead trees, on average all trees are over 20 cm DBH (Humphrey and Fotherby, 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby, 2019).	**Low** - Live large DBH deciduous trees may be found on site in hedgerows but the small and fragmented hedgerows likely do not support roosting.
Northern Myotis (*Myotis septentrionalis*) ESA: Endangered S-Rank: S3	Roosts in canopies of deciduous trees, including small spaces or crevices found in loose bark, hollow trees. Rock faces and human structures can also be used. Hibernates in caves and abandoned mines during the winter months. Typically forages over water (COSEWIC, 2013, Humphrey and Fotherby, 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby, 2019).	**Low** - Live large DBH deciduous trees may be found on site in hedgerows but the small and fragmented hedgerows likely do not support roosting.
Tri-colored Bat (*Perimyotis subflavus*) ESA: Endangered S-Rank: S3?	Roosts in dead leaf clusters in the shape of an umbrella, dense clusters of live foliage, Arboreal lichens or epiphytes, and buildings (Humphrey and Fotherby, 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby, 2019).	**Low** - Live large DBH deciduous trees may be found on site in hedgerows but the small and fragmented hedgerows likely do not support roosting.

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Study Area
Insects		
Monarch (*Danaus plexippus*) SARA: Special Concern ESA: Special Concern S-Rank: S3 Source: OBA	Monarch is very widely distributed across North America and found in a wide variety of habitats. Populations fluctuate dramatically but have been generally declining likely due to habitat destruction on the hibernation grounds in Mexico, as well as pesticide use and other factors on the vast breeding grounds. Monarchs require Milkweeds (Asclepias) to lay their eggs and will use a variety of other flowers for adult food (COSEWIC, 2010b). Different milkweed species grow in a variety of environments which include fields, roadsides, open areas, wet areas, and urban gardens (COSEWIC, 2010e).	**None** – Meadows do not appear to be present. Individuals observed are likely migrating through.

Notes

S-Rank: The Natural Heritage provincial ranking system (provincial S-rank) is used by the MNDMNRF to set protection priorities for rare species and natural communities.

S1 - Extremely rare in Ontario; usually 5 or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.

S2 - Very rare in Ontario; usually between 5 and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.

S3 - Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.

S4 - Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.

S5 - Very common and demonstrably secure in Ontario.

SU - Unrankable. Due to low search effort or the cryptic nature of some species, there is not enough information to assign status ranks to some species. More data is needed before status ranks can be assigned to such species.

SNA - Not Applicable. A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

B - Breeding—Conservation status refers to the breeding population of the species in the nation or state/province.

N - Nonbreeding—Conservation status refers to the non-breeding population of the species in the nation or state/province.
? - Inexact or Uncertain—Denotes inexact or uncertain numeric rank. (The ? qualifies the character immediately preceding it in the S-rank.)

4.2.3 Significant Natural Heritage System Features

Access to the Study Area was delayed so assessment of the significance of features (e.g. significant woodlands or wetlands and significant wildlife habitat) was initially undertaken as a desktop screening which determined that the following provincial and municipal designations occur within proximity to, but outside of the Project Site:

- Protected Countryside of the Greenbelt Plan occurs along the west side of Winston Churchill Blvd.
- To the south of the Project Site, the Natural Heritage System of the Growth Plan for the Greater Golden Horseshoe occurs.

A review of background documents also identified two locally significant wetlands within the Study Area as shown on Figure 4-3. Findings of terrestrial fieldwork relating to Significant Natural Heritage System Features will be included in an erratum to the EPR following the 30-day public comment period.

4.2.4 Significant Wildlife Habitat

Wildlife habitat is defined as areas where plants, animals, and other organisms live and can find adequate amounts of food, water, shelter, and space needed to sustain their populations. Wildlife habitat is considered “significant” if it is deemed ecologically important in terms of feature, function, representation, or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System. The Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E, breaks SWH into the following categories:

- Seasonal concentration areas for animals;
- Rare vegetation communities;
- Specialized habitat for wildlife;
- Habitat for species of conservation concern; and/or
- Wildlife movement corridors.

SWH is defined when appropriate ecosites exist, and indicator wildlife species occur, or where conditions are otherwise acceptable and can be classified. Findings of terrestrial fieldwork relating to SWH will be included in an erratum to the EPR following the 30-day public comment period.

5.0 Environmental Effects, Assessment, Mitigation, and Monitoring

5.1.1 Proposed Works

From a review of the Conceptual Design, the Project will be designed with four (4) tracks, an access road from Winston Churchill Boulevard, and construction of three outbuildings and a pre-fabricated storage building. The layover facility and all of its associated works will occupy approximately 6 hectares (ha) of agricultural lands. The Conceptual Design also requires the addition of two culverts under the Layover Facility, conveying the existing flows from the culverts under the Kitchener Corridor right of way, in addition to a new culvert under the access road (see Figure 5-1). Details within the Conceptual Design do not include exact details of the culvert dimensions on the Project Site. The final sizes and locations of the culverts, planned for installation, are incorporated into the detailed design of the layover.

5.1.2 Assessment of Potential Impacts

The following analysis of potential interactions of the Project with the natural environment has been completed based on a review of background reports and professional judgement. The effects may change as the Project design changes, and negative impacts may be avoided or mitigated as the design progresses.

The potential environmental effects and impacts of the undertaking and the proposed environmental protection and mitigation measures are described separately for each natural heritage discipline under the following two categories:

- Construction Impacts – potential short-term or temporary disruption effects on the existing natural heritage features resulting from construction activities related to the Project; and
- Operations Impacts – potential long-term disruption effects on the existing natural heritage features resulting from on-going operations and maintenance of the Project.

Within the above categories, these impacts are further categorized as either Low, Moderate, or High, based on the following guidelines:

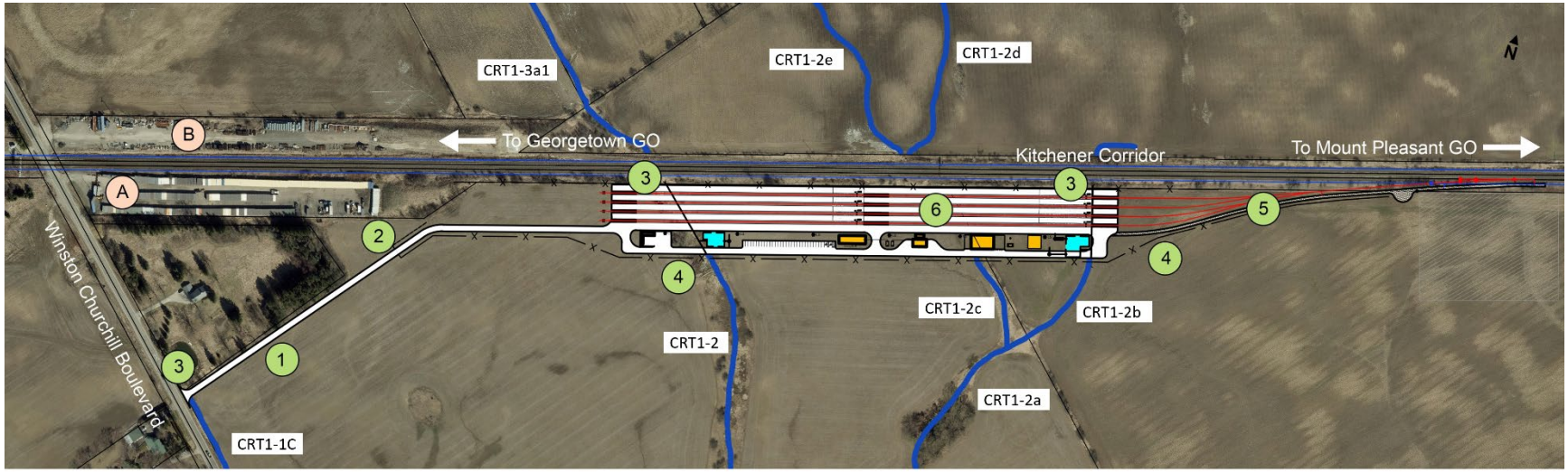
- No Impact
- Low – locally significant and highly localized, temporary, short duration, within regulatory guidelines, can be mitigated, and no monitoring required;
- Moderate – regionally significant, extended temporarily, moderate duration, broader extent, slight exceedance of regulatory guidelines, can partially be mitigated, and some monitoring required; and
- High – provincially significant, permanent, long duration, widespread extent, significant exceedance of regulatory guidelines, cannot be readily mitigated, and close monitoring required.

The following sections identify potential effects on the terrestrial and aquatic environments as a result of the proposed construction and operations of the Project. This includes recommended avoidance and mitigation measures, additional surveys,

future commitments and required monitoring based on the current understanding of the proposed Project works, and the existing conditions within the Project Site and surrounding Study Area, as determined through background information available at the time of the analysis. It should be noted that the effects assessment as presented herein was completed based on the Conceptual Design that was available at the time of preparation of this NER. Therefore, should any significant design changes occur as the Project develops through the preliminary and detailed design phases, additional field work, effects assessments, mitigation measures and monitoring, and permitting requirements may be required with respect to both terrestrial and aquatic environments. A more complete assessment will be performed once the field work has been completed in spring 2022 and/or summer 2022 and further details of the Project are available for review.

Furthermore, the potential for effects during the operation phase will be limited or non-existent once the permanent infrastructure is established. It is anticipated that negative effects can be limited or avoided through mitigation and timing windows. Potential effects are described below and summarized in Table 5, while corresponding mitigation measures and monitoring activities relating to the natural environment are described in Section 6.0 and Section 7.0.

Figure 5-1: Project Site Layout – Culvert Locations



Legend

1 Access Road
2 Gate
3 Culvert
4 Fence
5 Maintenance Road
6 Layover Tracks
A U-Need Storage
B CN Works Yard
Existing Watercourses

5.2 Aquatic Environment

5.2.1 Construction

Two of the three watercourses through the Study Area will be encapsulated within concrete box culverts. The addition of the new culverts will have direct and indirect impacts to the aquatic environment, specifically, the portions of watercourses CRT1-2, and CRT1-2b and CRT2-1c within the Project Site (see Figure 5-1). Through the use of appropriate mitigation, it is assumed that the works will not cause serious harm to the value of the fishery; however, further Project details (e.g. temporary and/or permanent site structures in or near water, the Project approach to construction, etc.) are required to determine the full extent of work with relation to the aquatic features within the Study Area and support any further permitting requirements, including the Fisheries Act. BMPs and mitigation measures may be recommended as Project details become available during further detailed design phases. The construction of the Project is expected to have moderate impact on the aquatic environment.

5.2.2 Operation

It is unlikely once the watercourses are altered that negative effects will occur due to operation, therefore, the impact of operations is expected to be low.

Winter snow removal and salt use at the Project Site have the potential to impact the watercourses in the Study Area. At a minimum, a Salt Management Plan should be prepared, and snow clearing operations should be carried out in a manner so that snow is stored as far away as possible from any watercourses. BMPs should be used as guidelines to protect these features, including the following examples:

- Government of Canada - Code of practice: Road salts environmental management (https://www.canada.ca/en/environment-climate-change/services/pollutants/road-salts/code-practice-environmental-management.html)
- Transportation Association of Canada – Salt Management Plans (https://www.tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/roadsalt-1.pdf)
- MOE Guidelines on Snow Disposal and De-icing Operations in Ontario

As potential spills from maintenance activities could impact the watercourses, the following mitigation measures should be implemented:

- Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment.
- Implement drip pans under equipment (e.g. generators, pumps, etc.) in operation within the work areas.
- Any refueling should be undertaken at least 30 m from any watercourse and any other surface drainage feature.

5.3 Wildlife and Wildlife Habitat

5.3.1 Wildlife

5.3.1.1 Construction

Generally, potential effects on wildlife and wildlife habitat from construction include direct mortality from construction vehicles, habitat destruction through vegetation removal, habitat degradation through spills, and sensory disturbance of wildlife during construction. However, the landscape within the Project Site precludes an abundance of wildlife and wildlife habitat. Wildlife potentially using the site is limited to those which may cross the site. The general disturbance from construction (such as noise and human presence) will cause species to avoid the area and have a low overall effect. There is potential for construction to disturb or destroy migratory birds' nests if the vegetated communities have succeeded enough to provide habitat.

Other temporary impacts to wildlife during construction may include increased noise and lighting in areas adjacent to the Project Site. Wildlife that has the potential to be present adjacent to active construction are species that are already acclimatized to human activity and impacts to these species from increased noise and lighting are expected to be low.

5.3.1.2 Operation

Structures such as the culvert installations and perimeter fencing may create a barrier to wildlife movement. Wildlife that have the potential to be present adjacent to the Project Site are species that are already acclimatized to human activity and impacts to these species from increased noise and lighting are expected to be low.

5.3.2 Migratory Breeding Birds and Nests

5.3.2.1 Construction

To prevent harm to nesting birds, the removal of woody vegetation (e.g. trees and shrubs) should be conducted outside of the typical bird nesting period between April 1 and August 31. These timing constraints should not be perceived as absolutes as this period represents the core breeding period and some species may nest in March and September. Ultimately, the objective from a compliance perspective is to not circumvent the MBCA and its regulations. Due diligence measures should be implemented and documented for any nest searching efforts, including record control, to ensure compliance with the MBCA.

For activities (including vegetation removal) that must occur during bird nesting season, surveys to identify nesting activity should be completed by an experienced avian biologist within 24 hours of scheduled work activities. The avian biologist conducting nest sweeps must be able to identify birds by species and be knowledgeable of nesting seasons and activities for appropriate species. Due to the uncertainty that lies with nest sweeps during construction, especially during leaf-on conditions, it is recommended that all vegetation clearing activities occur outside the bird nesting window. In the event that bird nests protected under the MBCA, FWCA, or ESA are encountered during construction, work must stop in the vicinity of the sighting until further direction is

provided. These species and their nests must not be disturbed, tormented, injured, destroyed, and/or separated from eggs, hatchlings, or chicks in any way. A protective buffer area should be established around the nest in consultation with a qualified avian biologist, as well as the MNDMNRF, MECP, and/or Canadian Wildlife Service (CWS). Nest surveys should only be completed in simple habitats such as singular trees or a small and well-defined area. Complex habitats such as vegetation communities with layers and dense foliage reduce the certainty of capturing all potential breeding. Should habit removal occur outside the nesting period there are no impacts anticipated. Should habitat removal occur during bird nesting season the impacts of construction on breeding and nesting birds are considered to be low.

5.3.2.2 Operation

It is not expected that the MBCA will be contravened during operations, therefore there will be no impact on breeding birds due to operations.

5.4 Species-at-Risk

5.4.1 General

5.4.1.1 Construction

The Project Site is narrow and restricted to the corridor or exceptionally disturbed areas. In the SAR screening, it was found that potential for Butternut, Barn Swallow, Snapping Turtle was moderate to high whereas all other species were identified as low to none and as such, these species are not discussed further as impacts are not anticipated. The SAR habitat is limited but if Butternut presence or Barn Swallow nesting occurs, impacts will have to be registered and mitigated accordingly.

Snapping Turtle is listed as Special Concern and therefore would receive habitat protection under SWH if individual use is documented. The construction impacts on SAR are considered to be low.

5.4.1.2 Operation

It is not anticipated that SAR will be affected by post-construction; Barn Swallow may find areas to nest on new structures. There is expected to be no impact on SAR due to operations.

5.4.2 Significant Wildlife Habitat

5.4.2.1 Construction

Most of the confirmed and candidate SWH is located outside the Project Site (see Figure 4-3). Impacts on SWH as a result of construction are assumed to be low.

The layover facility and access road may result in loss of habitat. Indirect loss of habitat may occur through hydrology changes, the introduction of non-native plant species, the introduction of sediments and other contaminants, and salt spray and runoff. The proposed Project works may act as a barrier to wildlife movement and may also result in an increased incidence of wildlife incidents and roadkill on the surrounding roadways (Significant Wildlife Habitat Mitigation Support Tool Version, 2014).

In addition, potential impacts include:

- Staging of equipment may encroach into adjacent natural areas beyond the proposed Project Site which may result in vegetation damage or loss;
- Disturbed areas and vegetation loss (e.g., trampling vegetation);
- Local clearing and grubbing of vegetation to promote access and demolition;
- Introduction of invasive and/or non-localized plant material from previous construction sites and disturbance activities;
- Dust from work activities may settle on vegetation;
- Contamination of vegetation communities due to the unplanned release or discharge of deleterious substances to the environment, including fuels (diesel and propane), lubricants (engine oil, transmission oil, etc.), and coolants (ethylene glycol);
- Changes to or contamination of the Significant Woodland (Core Woodland) downstream of the Study Area (as shown in Figure 4-3) from runoff of sediment exposed from construction, and vegetation removal; and
- Disturbance to wildlife through noise and possible mortality through conflicts with construction equipment.

5.4.2.2 Operation

As most of the SWH is outside of the Study Area, it is expected that impacts to SWH will be low.

5.5 Vegetation and Trees

5.5.1 Construction

The Project Site is narrow and restricted to the Kitchener Corridor or exceptionally disturbed areas. Disturbed areas appear to be entirely a result of anthropogenic disturbances and aggressive non-native invasive species. Construction in the Project Site is likely to re-disturb these areas. The effects are considered a temporary impact as aggressive non-native invasive species are likely to repopulate once active construction is over.

Any trees that occur within the Project Site will likely be removed or otherwise impacted. The impacts of construction are expected to be low based on the present conditions of the Project Site.

5.5.2 Operation

Any herbaceous vegetation established post-construction will not be negatively affected by the Project during operations, therefore there are no impacts from operations.

6.0 Mitigation

Mitigation measures to minimize or eliminate the negative effects on the natural environment pre-construction, during construction, and during the operation phase have been identified specific to the natural heritage features identified within the Study Area. A summary of mitigation measures is available in Table 5.

6.1 Pre-Construction and Construction

6.1.1 Erosion and Sediment Control

An Erosion and Sediment Control (ESC) Plan and A Spill Prevention and Response Plan will be developed to limit sedimentation and pollution of storm sewer infrastructure and should be designed based on construction staging in accordance with Erosion and Sediment Control Guidelines (TRCA 2019). The site-specific ESC Plan is expected to be comprehensive. All measures to eliminate or reduce environmental effects will be identified, and details related to the frequency of monitoring/testing will be included.

6.1.2 Timing Windows

To avoid the contravention of the MBCA, vegetation removal should be conducted before April and after August. Should vegetation need to be removed from April to August, a qualified avian biologist is to be retained to ensure no nesting is occurring. If nests are found, nests are to be left in place with appropriate setbacks.

If SAR bats are determined to be present, potential direct impacts may be avoided if tree removal is completed outside of the roosting period or active season (December 1 to March 14).

To protect the local fish community during critical life stages (e.g., spawning and rearing), in-water work will be permitted during the allowable timing window restriction. It is assumed to be from July 1 to February 28/29 of any given year; however, this will be confirmed through agency correspondence.

6.1.3 Tree Protection Zone

Private and public (municipally-owned) trees should be protected. Any tree adjacent to a construction area is to be appropriately protected by a Tree Protection Zone (TPZ) or permitted for removal and compensated for accordingly. Metrolinx Vegetation Guidelines must be followed at a minimum and Metrolinx will work with the Indigenous communities and Nations, City of Brampton, CVC, and other Stakeholders.

6.1.4 Tributaries and Fish Habitat

Habitat consists of seasonal fish habitat and predominantly herbaceous riparian communities including a locally significant riparian wetland south of the rail line surrounding CRT1-2 (see Figure 4-1). These channels contribute indirectly to the downstream fishery through seasonal flow contributions, benthic invertebrate production, and nutrient inputs. The proposed works will enclose the channels in an interim state until the surrounding proposed Heritage Heights Secondary Plan land development becomes implemented. When the Heritage Heights Secondary Plan lands become developed, the function of the tributaries will be replicated through stormwater

management, Low Impact Development (LID) measures or through other measures (e.g. combination of channels into one larger reconstructed channel).

Working in and around water has the potential to negatively impact fish and/or fish habitat. Project works such as using industrial equipment, ineffective ESC measures, excavation, in-water work, and riparian vegetation removal may negatively impact the aquatic ecosystem through several methods, including but not limited to:

- Introduction of sediments, concrete and other deleterious substances;
- Death of fish;
- Harmful alteration of fish habitat;
- Disruption of critical fish life stages; and
- Erosion and sedimentation due to the operation of machinery.

Negative impacts to fish may occur as direct acute toxic effects and/or delayed impacts resulting from chronic exposure. Given the nature of the proposed works, it is expected that any potential negative impacts associated with the Project can be mitigated through BMPs and appropriate mitigation measures to reduce and/or avoid potential negative impacts.

Although not applicable to any permitting or authorizations required by Metrolinx, these guidelines recommend the following mitigation for the loss of these features:

- Replicate or enhance functions through enhanced lot level conveyance measures (such as well-vegetated swales) to mimic wet vegetation pockets, or replicate through constructed wetland features connected to downstream areas;
- Replicate on-site flow and outlet flows at the top end of system to maintain feature functions with vegetated swales, bioswales, or similar structures;
- If catchment drainage has been previously removed due to diversion of stormwater flows, restore lost functions through enhanced lot level controls (such as restoring original catchment using clean roof drainage); and
- Replicate functions by lot level conveyance measures (e.g. vegetated swales) connected to the natural heritage system, as feasible and/or LID stormwater options (refer to Conservation Authority Water Management Guidelines)(CVC, 2010) for details.

6.1.5 Wildlife

As feasible, the Project Site construction zone will be surrounded by a silt (exclusion) fence within 48 hours of the commencement of construction activities to prevent wildlife from entering the site. The exclusion fencing will be examined daily and repaired as needed to ensure it functions as intended.

In order to prevent impacts to wildlife as a result of noise and vibrations, equipment idling should be kept to a minimum during construction. Minimizing equipment idling will also reduce carbon emissions and overall carbon footprint of construction. Construction outside of daylight hours should be avoided.

6.1.6 Significant Wildlife Habitat

The effects assessment for general wildlife (e.g. herpetofauna and mammals) and wildlife habitat as described in Section 4.2.4 are covered under the effects assessment and recommended mitigation measures are discussed below.

6.2 Operation

During the operation phase, mitigation measures will not be required to protect vegetation as a fence and slope occur on the south side of the Project Site and will not be altered by construction.

7.0 Monitoring

Inspections to ensure that work is completed according to BMPs are required at all stages. Where equipment is used between sites washing stations or other measures to limit invasive species spread must be implemented. Table 5 summarizes monitoring measures.

7.1 Pre-Construction and Construction

7.1.1 Erosion and Sediment Control

ESC measures should be installed before any vegetation removal or ground disturbance work. Environmental inspections and monitoring activities by qualified members of the construction team will be conducted regularly to ensure requirements detailed in the ESC Plan are fulfilled.

7.1.2 Tree Protection Zones

Tree Protection Zones should be installed before any vegetation removal or ground disturbance work. Environmental inspections and monitoring activities by qualified members of the construction team will be conducted regularly to ensure requirements detailed in the Tree Protection Plan are fulfilled, should tree saving measures be necessary.

7.2 Operation

Post-construction monitoring is required to ensure the success of compensation measures and landscaping and ensure that waste and surplus materials are removed.

8.0 Summary of Metrolinx Mitigation, Monitoring, and Future Commitments

Future fieldwork will assist in updating potential impacts. Potential impacts from the work related to the Heritage Road Layover have been identified in Table 5. Metrolinx will implement several mitigative measures and commitments to minimize or eliminate any potential impacts as a result of the works. Monitoring will also be incorporated into the Project to ensure that mitigation measures are effective or if additional mitigation measures are required.

Table 5: Potential Effects, Mitigation and Monitoring

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
Natural Environment (Wildlife and Wildlife Habitat)			
Wildlife	Disturbance, displacement or mortality of wildlife.	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat. For example, construction activities will cease or be reduced, and wildlife will be encouraged to move offsite and away from the construction area on its own. A qualified biologist will be contacted to define the appropriate buffer required from wildlife.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Significant Wildlife Habitat (SWH)	Indirect effects such as noise disturbance and incidental intrusion into candidate SWH may occur as result of construction.	• Mitigation measures as identified for vegetation cover and designated areas above for during construction apply herein. • Mitigation measures as identified for migratory breeding birds above for during construction apply herein. • Mitigation measures as identified for Wildlife above for during construction apply herein.	• Additional surveys will determine significance of the features within the Study Area.
Natural Environment (Species at Risk (SAR))			
General	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNDMNRF. • If SAR is present and conservation strategies have been developed by MNDMNRF/MECP, the commitments in the recover strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the procedure(s) to follow if an individual is encountered or injured.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.
Bats	Habitat loss, disturbance and/or mortality to bats.	• Per MECP guidance as part of the TPAP consultation: ○ If there are any structures or buildings on the subject lands that may be suitable for use by bats, surveys should be undertaken in accordance with the Ministry's protocols.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
		○ If SAR bats are determined to be present, potential direct impacts may be avoided if tree removal is completed outside of the roosting period or active season (December 1 to March 14)	minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Barn Swallow	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys will be undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met, including any registration, compensation, replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Eastern Meadowlark	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys will be undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Butternut	Habitat loss, disturbance or loss of butternut.	• Field surveys will be conducted by Wood biologists to visually search the Study Area for presence of butternut. If butternut are found, the location and general condition of any butternut observed will be recorded. However, a formal Butternut Health Assessment, completion of a Notice of Activity or authorizations under the ESA are not anticipated to be required.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required
Natural Environment (Aquatic Environment)			
Watercourses	Impacts to three watercourses in the Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site. • An Erosion and Sediment Control Plan will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the watercourses. • A Spill Prevention and Response Plan will be developed before work commences to ensure procedures and policies are in place during construction to minimize impacts to watercourses. • In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • A Salt Management Plan will be developed before work commences to ensure procedures and policies are in place during construction and operations to minimize impacts to watercourses.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
		• Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNDMNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNDMRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNDMNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation			
Vegetation Removal and Compensation Plans	Tree / Vegetation removal, injury and protection	• An Arborist Report will be prepared which meets regulatory requirements and is completed by an I.S.A. Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable. • The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and	• On site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
		boundary trees. Municipal by-laws will dictate the minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • Vegetation compensation will be implemented through Metrolinx's Vegetation Compensation Guideline (2020), at minimum. Metrolinx's Vegetation Guideline considers baseline, municipal and ecological compensation strategies, and Metrolinx will work with the Treaty/Rights Holders, CVC, and the City during detailed design to identify appropriate measures for tree compensation. .Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program.
	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with MNDMNRF Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On site inspection will be undertaken to confirm the implementation of the mitigation measures.
Designated Natural Areas	Permanent loss of vegetation due to construction of project components; permanent loss of Locally Significant Wetland; and permanent loss of Significant Wetland.	• Vegetation removal shall be kept to a minimum and limited to within the construction area. • Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the construction area and prevent accidental damage to vegetation, or intrusion to adjacent vegetated areas. • Any damaged trees will be pruned through the implementation of proper arboricultural techniques, under supervision of an Arborist or Forester. • Areas for vegetation removal will be refined during detailed design, and Provincially Significant Wetlands, ANSI, and/or Environmentally Significant Areas will be avoided. • All equipment and vehicles will be cleaned and inspected prior to arriving onsite to reduce the introduction and/or spread of invasive plant species in accordance with the Clean Equipment Protocol for Industry (Halloran et al., 2013)	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020).

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
		• Stockpiled materials or equipment will be stored within the construction footprint but shall be kept at least 30 m away from designated natural areas and watercourses. • Refuelling of equipment will occur at least 30 m away from the wetlands and all watercourses. • Exposed soils shall be stabilized and re-vegetated with suitable native species as soon as possible to reduce erosion; • Opportunities to incorporate bioswales medians and permeable paving materials into the surface parking area should be explored during detail design. • Salt tolerant species should be considered for all plantings.	
Integrated Vegetation Management (IVM)	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	Potential for the spread of Emerald Ash Borer, *Agrilus planipennis* (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, *Agrilus planipennis* (Fairmaire) (2014), as amended from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada.	• On site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.

***Notes:**

Regulations, standards and guidance documents referenced herein are current as of the time of writing and may be amended from time to time. If clarification is required regarding regulatory requirements, the Constructor is encouraged to consult with the appropriate regulatory agencies.

9.0 Permitting

A range of municipal permits and approvals may be required for the Project, particularly pertaining to municipally owned lands and infrastructure. Metrolinx will obtain all required permits and approvals. However, Metrolinx, as a Crown Agency of the Province of Ontario, is exempt from certain municipal processes and requirements. In these instances, Metrolinx will engage with the municipalities to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals.

9.1 Federal

Based on the planned disturbance on identified watercourses containing fish habitat, a Request for Review will be submitted to DFO to determine if a Fisheries Act authorization is required.

9.2 Provincial

It is not anticipated that any permits will be required under the Ontario *Endangered Species Act*; however, if Butternut and/or Barn Swallow are confirmed on or near the Project Site that may be affected by on-site activities, a Notice of Activity may be filed with MECP.

In advance of fieldwork, a Licence to Collect Fish for Scientific Purposes (LCFSC) under the Fish and Wildlife Act will be submitted as part of the requirement to capture and transport fish. During construction a LCFSC may be required for work around the watercourses and a Wildlife Collector's Authorization may also be required to relocate wildlife outside of the construction zone.

9.3 Municipal

Metrolinx is also exempt from the City of Brampton tree cutting by-laws within the Kitchener Corridor rail right-of-way, but will provide tree compensation according to their Vegetation Guidelines where applicable and appropriate. At the time of publication, no municipal permits or approvals have been identified as being required.

9.4 Conservation Authorities

While Metrolinx is not subject to municipal policies or approvals, CVC is being consulted as a review agency. No permits will be formally required under O.Reg 160/06, but Metrolinx will endeavour to comply with CVC requirements where possible.

10.0 Recommendations

As a component of this review, pertinent data gaps were evaluated. These evaluated gaps were then considered for recommendations to correct such deficiencies through future studies and processes to be applied before construction implementation of the Project. Future work is proposed to incorporate data collected as part of the field investigations which took place on June 9, 2022 and July 4, 2022:

- Update to the desktop Ecological Land Classification (ELC) using the methods outlined in Ecological Land Classification for Southern Ontario: First Approximation and Its Application (Lee et al. 1998).
- Plant List Collection: This list will be used to identify the presence of any provincially or regionally rare plants that may be present within the Project Site.
- Significant Wildlife Habitat (SWH) and SAR Habitat Assessment: Document specific habitat conditions for SAR which may be present within the Project Study Area as identified through the background information review and previously completed studies for the Project (LGL, 2016).
- Fish Habitat Assessment: Aquatic habitat characterization will be carried out by following guidance as per the Environmental Guide for Fish and Fish Habitat (MTO, 2020).
- Tree Inventory: Trees within the Project Study Area were inventoried following the Metrolinx Vegetation Guideline (Metrolinx, 2020) while also considering City of Brampton and Region of Halton standards.

11.0 Conclusions

The above assessment is completed for the current Project Site. The effects may change as the Project Site design changes, and therefore negative impacts may be avoided or mitigated. Given the relatively small scale of the Project and its location centred in the right of way (ROW) devoid of vegetation communities, SCC, and SAR, impacts resulting from the Project are not expected to occur. Consultation with the necessary provincial and municipal agencies and governing bodies can be completed to confirm this report's findings. Implementation of mitigation measures as required by these sources, and this NER will help minimize the small impacts expected and reduce the risk of residual effects.

12.0 Limitations of Assessment

This NER and the findings herein are based on the results of the fieldwork described within and Wood's interpretation of the background information reviewed. As such, existing conditions and associated species lists are not necessarily limited to the boundaries of the Study Area, as depicted in the report figures. Instead, the majority of resources have covered a larger area, and conclusions have been made regarding the applicability of the information to the Study Area based on site-specific existing condition data.

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[1] in preparation, public release pending

Appendix A

Species List

Species List

Broad Taxon Group	Narrow Taxon Group	Scientific Name	English Name	NHIC	ORAA	OBA	OBBA	iNat	G Rank (Global)	S Rank (Provincial)	SARA Schedule 1	ESA
Vertebrates	amphibians	*Anaxyrus americanus*	American Toad		x			x	G5	S5		
Vertebrates	amphibians	*Hyla versicolor*	Gray Treefrog		x				G5	S5		
Vertebrates	amphibians	*Lithobates catesbeianus*	American Bullfrog		x				G5	S4		
Vertebrates	amphibians	*Lithobates clamitans*	Green Frog		x				G5	S5		
Vertebrates	amphibians	*Lithobates pipiens*	Northern Leopard Frog		x				G5	S5		NAR
Vertebrates	amphibians	*Lithobates sylvaticus*	Wood Frog		x				G5	S5		
Vertebrates	amphibians	*Plethodon cinereus*	Eastern Red-backed Salamander		x			x	G5	S5		
Vertebrates	amphibians	*Pseudacris crucifer*	Spring Peeper		x				G5	S5		
Vertebrates	birds	*Accipiter cooperii*	Cooper's Hawk				x		G5	S4		NAR
Vertebrates	birds	*Actitis macularius*	Spotted Sandpiper				x		G5	S5		
Vertebrates	birds	*Agelaius phoeniceus*	Red-winged Blackbird				x		G5	S4		
Vertebrates	birds	*Ammodramus savannarum*	Grasshopper Sparrow				x		G5	S4B	SC	SC
Vertebrates	birds	*Anas platyrhynchos*	Mallard				x		G5	S5		
Vertebrates	birds	*Bombycilla cedrorum*	Cedar Waxwing				x		G5	S5B		
Vertebrates	birds	*Branta canadensis*	Canada Goose				x		G5	S5		
Vertebrates	birds	*Buteo jamaicensis*	Red-tailed Hawk				x		G5	S5		NAR
Vertebrates	birds	*Butorides virescens*	Green Heron				x		G5	S4B		
Vertebrates	birds	*Cardinalis cardinalis*	Northern Cardinal				x		G5	S5		
Vertebrates	birds	*Charadrius vociferus*	Killdeer				x		G5	S5B,S5N		
Vertebrates	birds	*Colaptes auratus*	Northern Flicker				x		G5	S4B		
Vertebrates	birds	*Columba livia*	Rock Pigeon (Feral)				x		G5	SNA		
Vertebrates	birds	*Contopus virens*	Eastern Wood-pewee				x		G5	S4B	SC	SC
Vertebrates	birds	*Corvus brachyrhynchos*	American Crow				x		G5	S5B		
Vertebrates	birds	*Corvus corax*	Common Raven				x		G5	S5		
Vertebrates	birds	*Cyanocitta cristata*	Blue Jay				x		G5	S5		
Vertebrates	birds	*Dumetella carolinensis*	Gray Catbird				x		G5	S4B		
Vertebrates	birds	*Empidonax alnorum*	Alder Flycatcher				x		G5	S5B		
Vertebrates	birds	*Empidonax minimus*	Least Flycatcher				x		G5	S4B		
Vertebrates	birds	*Empidonax traillii*	Willow Flycatcher				x		G5	S5B		
Vertebrates	birds	*Eremophila alpestris*	Horned Lark				x		G5	S5B		
Vertebrates	birds	*Falco sparverius*	American Kestrel				x		G5	S4		
Vertebrates	birds	*Geothlypis trichas*	Common Yellowthroat				x		G5	S5B		
Vertebrates	birds	*Haemorhous mexicanus*	House Finch				x		G5	SNA		
Vertebrates	birds	*Hirundo rustica*	Barn Swallow				x		G5	S5B	THR	THR
Vertebrates	birds	*Icterus galbula*	Baltimore Oriole				x		G5	S4B		
Vertebrates	birds	*Melanerpes carolinus*	Red-bellied Woodpecker				x		G5	S4		
Vertebrates	birds	*Meleagris gallopavo*	Wild Turkey				x	x	G5	S5		

Broad Taxon Group	Narrow Taxon Group	Scientific Name	English Name	NHIC	ORAA	OBA	OBBA	iNat	G Rank (Global)	S Rank (Provincial)	SARA Schedule 1	ESA
Vertebrates	birds	*Melospiza georgiana*	Swamp Sparrow				x		G5	S5B		
Vertebrates	birds	*Melospiza melodia*	Song Sparrow				x		G5	S5B		
Vertebrates	birds	*Molothrus ater*	Brown-headed Cowbird				x		G5	S4B		
Vertebrates	birds	*Passer domesticus*	House Sparrow				x		G5	SNA		
Vertebrates	birds	*Passerculus sandwichensis*	Savannah Sparrow				x		G5	S4B		
Vertebrates	birds	*Passerina cyanea*	Indigo Bunting				x		G5	S4B		
Vertebrates	birds	*Pheucticus ludovicianus*	Rose-breasted Grosbeak				x		G5	S4B		
Vertebrates	birds	*Picoides pubescens*	Downy Woodpecker				x		G5	S5		
Vertebrates	birds	*Podiceps grisegena*	Red-necked Grebe				x		G5	S3B,S4N		NAR
Vertebrates	birds	*Podilymbus podiceps*	Pied-billed Grebe				x		G5	S4B,S4N		
Vertebrates	birds	*Poecile atricapillus*	Black-capped Chickadee				x		G5	S5		
Vertebrates	birds	*Polioptila caerulea*	Blue-gray Gnatcatcher				x		G5	S4B		
Vertebrates	birds	*Pooecetes gramineus*	Vesper Sparrow				x		G5	S4B		
Vertebrates	birds	*Quiscalus quiscula*	Common Grackle				x		G5	S5B		
Vertebrates	birds	*Regulus calendula*	Ruby-crowned Kinglet				x		G5	S4B		
Vertebrates	birds	*Setophaga petechia*	Yellow Warbler				x		G5	S5B		
Vertebrates	birds	*Setophaga virens*	Black-throated Green Warbler				x		G5	S5B		
Vertebrates	birds	*Sitta carolinensis*	White-breasted Nuthatch				x		G5	S5		
Vertebrates	birds	*Spinus tristis*	American Goldfinch				x		G5	S5B		
Vertebrates	birds	*Spizella pallida*	Clay-colored Sparrow				x		G5	S4B		
Vertebrates	birds	*Spizella passerina*	Chipping Sparrow				x		G5	S5B		
Vertebrates	birds	*Spizella pusilla*	Field Sparrow				x		G5	S4B		
Vertebrates	birds	*Stelgidopteryx serripennis*	Northern Rough-winged Swallow				x		G5	S4B		
Vertebrates	birds	*Sturnella magna*	Eastern Meadowlark	x			x		G5	S4B	THR	THR
Vertebrates	birds	*Sturnus vulgaris*	European Starling				x		G5	SNA		
Vertebrates	birds	*Tachycineta bicolor*	Tree Swallow				x		G5	S4B		
Vertebrates	birds	*Thryothorus ludovicianus*	Carolina Wren				x		G5	S4		
Vertebrates	birds	*Toxostoma rufum*	Brown Thrasher				x		G5	S4B		
Vertebrates	birds	*Troglodytes aedon*	House Wren				x		G5	S5B		
Vertebrates	birds	*Turdus migratorius*	American Robin				x		G5	S5B		
Vertebrates	birds	*Tyrannus tyrannus*	Eastern Kingbird				x		G5	S4B		
Vertebrates	birds	*Vireo gilvus*	Warbling Vireo				x		G5	S5B		
Vertebrates	birds	*Zenaida macroura*	Mourning Dove				x		G5	S5		
Vascular plants	dicots	*Acalypha rhomboidea*	Common Three-seeded Mercury					x	G5	S5		
Vascular plants	dicots	*Juglans cinerea*	Butternut	x					G3	S2?	END	END
Vascular plants	dicots	*Verbascum thapsus*	Common Mullein					x	GNR	SNA		

Broad Taxon Group	Narrow Taxon Group	Scientific Name	English Name	NHIC	ORAA	OBA	OBBA	iNat	G Rank (Global)	S Rank (Provincial)	SARA Schedule 1	ESA
Invertebrates arthropods	insects	*Ancyloxypha numitor*	Least Skipper			x			G5	S5		
Invertebrates arthropods	insects	*Apis mellifera*	European Honey Bee					x	GNR	SNA		
Invertebrates arthropods	insects	*Cercyonis pegala*	Common Wood-Nymph			x			G5	S5		
Invertebrates arthropods	insects	*Coenonympha tullia*	Common Ringlet			x			G5	S5		
Invertebrates arthropods	insects	*Colias eurytheme*	Orange Sulphur			x			G5	S5		
Invertebrates arthropods	insects	*Colias philodice*	Clouded Sulphur			x			G5	S5		
Invertebrates arthropods	insects	*Cupido comyntas*	Eastern Tailed Blue			x			G5	S5		
Invertebrates arthropods	insects	*Danaus plexippus*	Monarch			x			G4	S2N,S4B	SC	SC
Invertebrates arthropods	insects	*Epargyreus clarus*	Silver-spotted Skipper			x			G5	S4		
Invertebrates arthropods	insects	*Erynnis baptisiae*	Wild Indigo Duskywing			x			G5	S4		
Invertebrates arthropods	insects	*Euphydryas phaeton*	Baltimore Checkerspot			x			G5	S4		
Invertebrates arthropods	insects	*Euphyes vestris*	Dun Skipper			x			G5	S5		
Invertebrates arthropods	insects	*Glaucopsyche lygdamus*	Silvery Blue			x			G5	S5		
Invertebrates arthropods	insects	*Lethe anthedon*	Northern Pearly-Eye			x			G5	S5		
Invertebrates arthropods	insects	*Lethe eurydice*	Eyed Brown			x			G5	S5		
Invertebrates arthropods	insects	*Libellula pulchella*	Twelve-spotted Skimmer					x	G5	S5		
Invertebrates arthropods	insects	*Limenitis archippus*	Viceroy			x			G5	S5		
Invertebrates arthropods	insects	*Limenitis arthemis arthemis*	White Admiral			x			G5T5	S5		
Invertebrates arthropods	insects	*Limenitis arthemis astyanax*	Red-spotted Purple			x			G5T5	S5		
Invertebrates arthropods	insects	*Megisto cymela*	Little Wood-Satyr			x			G5	S5		
Invertebrates arthropods	insects	*Nymphalis antiopa*	Mourning Cloak			x			G5	S5		
Invertebrates arthropods	insects	*Nymphalis l-album*	Compton Tortoiseshell			x			G5	S5		

Broad Taxon Group	Narrow Taxon Group	Scientific Name	English Name	NHIC	ORAA	OBA	OBBA	iNat	G Rank (Global)	S Rank (Provincial)	SARA Schedule 1	ESA
Invertebrates arthropods	insects	*Papilio canadensis*	Canadian Tiger Swallowtail			x			G5	S5		
Invertebrates arthropods	insects	*Papilio cresphontes*	Giant Swallowtail			x			G5	S4		
Invertebrates arthropods	insects	*Papilio glaucus*	Eastern Tiger Swallowtail			x			G5	S5		
Invertebrates arthropods	insects	*Papilio polyxenes*	Black Swallowtail			x			G5	S5		
Invertebrates arthropods	insects	*Phyciodes cocyta*	Northern Crescent			x			G5	S5		
Invertebrates arthropods	insects	*Phyciodes tharos*	Pearl Crescent			x			G5	S4		
Invertebrates arthropods	insects	*Pieris oleracea*	Mustard White			x			G5	S4		
Invertebrates arthropods	insects	*Pieris rapae*	Cabbage White			x			G5	SNA		
Invertebrates arthropods	insects	*Poanes hobomok*	Hobomok Skipper			x			G5	S5		
Invertebrates arthropods	insects	*Polites peckius*	Peck's Skipper			x			G5	S5		
Invertebrates arthropods	insects	*Polites themistocles*	Tawny-edged Skipper			x			G5	S5		
Invertebrates arthropods	insects	*Polygonia comma*	Eastern Comma			x			G5	S5		
Invertebrates arthropods	insects	*Polygonia interrogationis*	Question Mark			x			G5	S5		
Invertebrates arthropods	insects	*Pompeius verna*	Little Glassywing			x			G5	S4		
Invertebrates arthropods	insects	*Satyrium calanus*	Banded Hairstreak			x			G5	S4		
Invertebrates arthropods	insects	*Satyrium caryaevorus*	Hickory Hairstreak			x			G4	S4		
Invertebrates arthropods	insects	*Speyeria cybele*	Great Spangled Fritillary			x			G5	S5		
Invertebrates arthropods	insects	*Thymelicus lineola*	European Skipper			x			G5	SNA		
Invertebrates arthropods	insects	*Vanessa atalanta*	Red Admiral			x			G5	S5		
Invertebrates arthropods	insects	*Vanessa cardui*	Painted Lady			x			G5	S5		
Invertebrates arthropods	insects	*Vanessa virginiensis*	American Lady			x			G5	S5		
Vertebrates	reptiles	*Storeria dekayi*	DeKay's Brownsnake		x				G5	S5		NAR

Broad Taxon Group	Narrow Taxon Group	Scientific Name	English Name	NHIC	ORAA	OBA	OBBA	iNat	G Rank (Global)	S Rank (Provincial)	SARA Schedule 1	ESA
Vertebrates	reptiles	*Storeria occipitomaculata*	Red-bellied Snake		x				G5	S5		
Vertebrates	reptiles	*Thamnophis sirtalis sirtalis*	Eastern Gartersnake		x				G5T5	S5		
Vertebrates	turtles	*Chelydra serpentina*	Snapping Turtle		x				G5	S4	SC	SC
Vertebrates	turtles	*Chrysemys picta marginata*	Midland Painted Turtle		x				G5T5	S4		

Appendix D

Natural Environment Report
Field Studies Addendum

HERITAGE ROAD LAYOVER

NATURAL ENVIRONMENT REPORT FIELD STUDIES ADDENDUM

METROLINX

PROJECT NO.: IM21405045
DATE: NOVEMBER 2022

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WSP.com

“Effective September 21, 2022, Wood Environment & Infrastructure Solutions Canada Limited is now operating as WSP E&I Canada Limited. No other aspects of our legal entity, contractual terms or capabilities have changed in relation to this report submission.”

Heritage Road Layover
Natural Environment Report Field Studies Addendum

Project # IM21405045

Prepared for:

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November 8, 2022

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Document Revision History

Version	Date	Description
0	August 18, 2022	DRAFT for Metrolinx Review
1	September 8, 2022	DRAFT for Review
2	September 15, 2022	DRAFT for Review
3	October 31, 2022	Revised DRAFT for Review
4	November 8, 2022	FINAL

Prepared by:	Roxanne Dibbley, B.Sc. Biologist		November 8, 2022
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Reviewed by:	Michael Godard, B.Sc. Senior Fisheries Biologist		November 8, 2022

Executive summary

WSP E&I Canada Limited ("WSP") (formerly Wood Environment & Infrastructure Solutions Canada Limited), was retained by Metrolinx to conduct the Heritage Road Layover Project Transit Project Assessment Process (TPAP) and Detailed Layover Facility Design Project (the Project).

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.

WSP completed a Natural Environment Report (NER) for the proposed works; however, at the time of its preparation, permission to enter (PTE) was not available for the subject lands, and the NER was written based on a desktop review of secondary source information. Field investigations were scheduled for spring 2022 (i.e., confirmation of ecological land classification, plant and tree inventory, species at risk, significant wildlife habitat assessment, and fish and fish habitat assessments) were unable to be completed due to site access constraints during the preparation of the EPR addendum.

The purpose of this addendum is to provide the descriptions of the natural environment field investigations and update any changes to the analysis based on the results of the investigations. The field investigations completed as part of this addendum include the following:

- Confirmation of Ecological Land Classification (ELC) and Vascular Plant Survey;
- Tree Inventory;
- Significant Wildlife Habitat Assessment;
- Fish community survey and Fish Habitat Assessment; and,
- Species at Risk (SAR) Habitat Assessment.

To augment the secondary source and background information identified within the NER, field investigations were performed within the Study Area which included ELC delineation, inventory of botanical species, documentation of incidental wildlife observations, and inventory of trees directly adjacent to or that are likely to be impacted by the proposed works. Surveys to assess the aquatic habitat and potential for fish presence also occurred.

A summary of existing conditions is provided for terrestrial and aquatic species and habitat, features and ecological functions.

Field Study Findings

The following is a summary of the findings from the field studies undertaken for the Heritage Road Layover Project Site and adjacent lands:

- The Project Site is mainly surrounded by agricultural lands with some nearby rural residential properties. ELC classifications include, MAM2-2 – Reed-canary Grass, Mineral Meadow Marsh CUM1 – Mineral Cultural Meadow, and CUW1 – Mineral Cultural Woodland;
- Tree Inventory;
    - A total of 134 trees were counted in a targeted inventory of the Project Site and adjacent lands. Twenty different tree species are represented, with all species either apparently secure / secure, or non-native based on provincial ranking (S4, S5 and SNA) which refers to the trees' natural occurrences.
- Significant Wildlife Habitat Assessment;
    - Seasonal Concentration Areas of Animals - the CUM1 habitat and agricultural fields may provide potential Waterfowl Stopover and Staging Areas (Terrestrial). A spring survey will confirm if evidence of annual spring flooding from melt water or run-off is present that may facilitate this activity;
    - no candidate SWH rare vegetation communities are present within the Project Site.
    - Habitat for Species of Conservation Concern (excluding Endangered or Threatened species) - Although special concern and rare wildlife species were not observed during field investigations, several special concern and rare species were noted during the secondary source review to have element occurrences within the 1 km^2 and 10 km^2 databases encompassing the Study Area. Additionally, Milkweed were identified within the CUM1, though low in abundance
    - Based on a review of habitats and Ecosites documented during field investigations, there are no candidate SWH habitats for Animal Movement Corridors
- The Fish community survey and Fish Habitat Assessment could not be completed due to the dry conditions at the time of survey. A freshet survey is to be completed next Spring to obtain data under improved conditions that previous studies have indicated support seasonal
- Species at Risk (SAR) Habitat Assessment.
    - No Butternut were observed within the Project Site or accessible portion of the broader study area.
    - Suitable habitat for Barn Swallow may be present in the broader study area, within the neighbouring residential buildings.

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List of Acronyms and Abbreviations

AOI	Area of Investigation
cm	centimeters
CSP	Corrugated Steel Pipe
COSSARO	Committee on the Status of Species at Risk in Ontario
DBH	Diameter at Breast Height
ELC	Ecological Land Classification
ESA	Endangered Species Act
km	Kilometres
m	metres
MECP	Ministry of Environment, Conservation, and Parks
MTO	Ministry of Transportation
NER	Natural Environment Report
O.Reg	Ontario Regulation
PPS	Provincial Policy Statement
PTE	Permission to Enter
SAR	Species at Risk
SARA	Species at Risk Act
SARO	Species at Risk in Ontario
SWCHS	Significant Wildlife Habitat Criteria Schedules
SWH	Significant Wildlife Habitat
The Project	Heritage Road Layover
TPAP	Transit Project Assessment Process
WSP	WSP E&I Canada Limited (formerly Wood Environment & Infrastructure Solutions Canada Limited)

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained WSP E&I Canada Limited (WSP) (formerly Wood Environment & Infrastructure Solutions Canada Limited (Wood)) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Heritage Road Layover. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Heritage Road Layover (the Project) is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

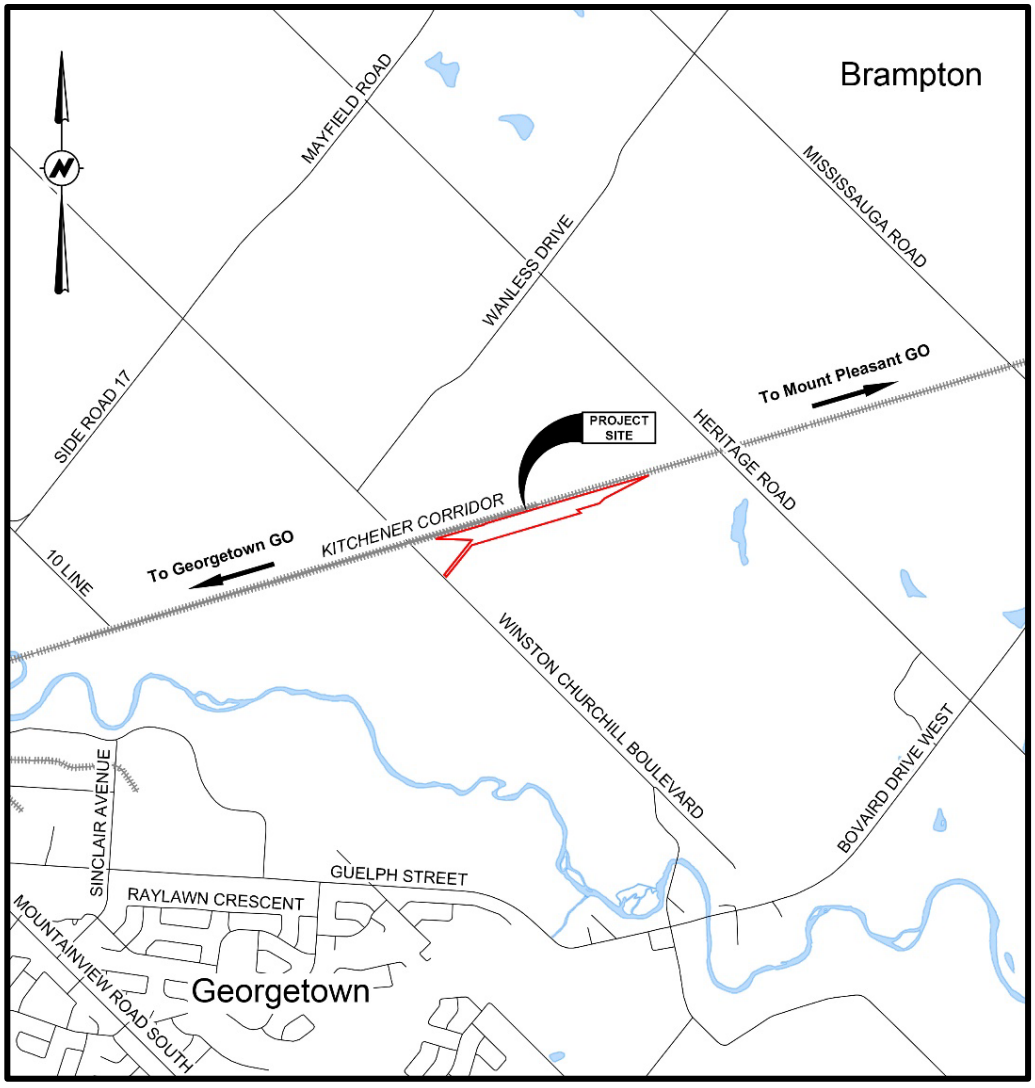

Figure 1-1: Project Site Location

1.2 Scope of Work

WSP completed a Natural Environment Report (NER) for the proposed works; however, at the time of its preparation, permission to enter (PTE) was not available for the subject lands, and the NER was written based on a desktop review of secondary source information. Field investigations scheduled for spring 2022 (i.e. confirmation of ecological land classification, plant and tree inventory, species at risk, significant wildlife habitat assessment, and fish and fish habitat assessments) were unable to be completed due to site access constraints during the preparation of the EPR addendum. Field investigations were completed in June and July 2022 once PTE was obtained to access properties within the proposed Project Site. PTE was not obtained to all properties within the Study Area (120 m surrounding the Project Site); thus the field investigations were limited to the Project Site itself.

The purpose of this addendum is to provide the descriptions of the natural environment field investigations carried out in June and July 2022 and update any changes to the analysis based on the results of the investigations. The field investigations completed as part of this addendum include the following:

- Confirmation of Ecological Land Classification (ELC) and Vascular Plant Survey;
- Tree Inventory;
- Significant Wildlife Habitat Assessment;
- Fish community survey and Fish Habitat Assessment; and,
- Species at Risk (SAR) Habitat Assessment.

2.0 Methodology

To augment the secondary source and background information identified within the NER, field investigations were performed within the Study Area which included ELC delineation, inventory of botanical species, documentation of incidental wildlife observations, and inventory of trees directly adjacent to or that are likely to be impacted by the proposed works. Surveys to assess the aquatic habitat and potential for fish presence also occurred. A summary of dates, weather, and surveyors is provided in Table 1. The Study Area, identifying where terrestrial and aquatic surveys occurred, is illustrated on Figure 2-1**.** Points of interest (wildlife sighting's, bird calls, etc.) observed during the field investigations are also identified on Figure 2-1.

Table 1: Summary of Surveys

Field Survey (s) Completed	Date	Weather	Surveyor
Tree Inventory	9 June 2022	Overcast, 18°C, wind 22 km/h NW, no precipitation	David Dunn
ELC	9 June 2022	Overcast, 18°C, wind 22 km/h NW, no precipitation	David Dunn
Aquatic Habitat Assessment	4 July 2022	Mostly sunny, 26°C, 8 km/h, no precipitation	Roxanne Dibbley Michael Godard

589500 590000 590500 591000 591500 592000 592500 593000

4836000 4835500 4835000 4834500

SIDERD 17

CRT1-3l CRT1-3f CRT1-3g CRT1-3k CRT1-3j CRT1-3e

CITY OF BRAMPTON

TOWN OF HALTON HILLS

Huttonville Creek & Area Wetland Complex

WANLESS DR

CRT1-3d CRT1-3b CRT1-3a CRT1-3c CRT1-4 CRT1-3 CRT1-3a1

CRT1-2d CRT1-2e CRT1-2b CRT1-2c CRT1-2 CRT1-2a

KITCHENER CORRIDOR

To Mount Pleasant GO

HERITAGE RD

Huttonville Creek & Area Wetland Complex

To Georgetown GO

CRT1-1d CRT1-1c CRT1-1e CRT1-1

WINSTON CHURCHILL BLVD

Credit River

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

S:\GIS\Projects\IM\IM21405045 B5 12A\MXD\Fig 4-1 Study Area.mxd

LEGEND

- Project Site
- Aquatic Habitat Study Area
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, Railway, and Greenbelt Plan Designation Information retrieved from Land Information Ontario (LIO)
- Aquatic Resources Features - SAVANTA Heritage Heights Subwatershed Study

Datum: NAD83
Projection: UTM Zone 17N

0 1 2 Kilometres

N W E S

METROLINX wood.

HERITAGE ROAD LAYOVER

Aquatic and Terrestrial Study Area

PROJECT N°: IM21405045	**FIGURE: 2-1**
SCALE: 1:10,000	DATE: September 2022

2.1 Vegetation Communities

Initial ELC and vegetation community (ecosite) delineation was undertaken through the review of satellite imagery. One field investigation was undertaken to delineate confirm and update the vegetation community boundaries and classification from the aerial imagery, converting the community delineations into Ecological Land Classifications (ELC, Lee et al. 1998; Lee et al. 2008). The First Approximation of ELC (Lee et al. 1998) was applied for the determination of ecosite type; however, the 2008 catalogue of ecosite types (Lee et al. 2008) was applied where ecosites could not be determined through the application of the First Approximation or were better matched with the updated catalogue.

The occurrence of ELC communities were cross-referenced with provincially significant vegetation communities as identified in the Significant Wildlife Habitat Criteria Schedules (SWCHS) for Ecoregion 6E (MNRF 2015) to determine whether these communities exist within the Project Site.

The botanical inventory included documenting all visible species observed in the ELC communities within the Project Site. Plant species occurrences were cross-referenced with the NHIC database to identify rare and locally classified species within the Project Site. Common names are used throughout this document, scientific names are provided in the data summary in Appendix D. Common and scientific names of plant species are based on the current nomenclature as listed in the NHIC database.

2.2 Tree Inventory

A desktop review of the proposed Project footprint and proposed limits of disturbance to facilitate future construction activities was undertaken. The footprint was used for the purposes of completing a targeted tree inventory for the Project Site.

Although the Metrolinx (2020) Vegetation Guideline suggests trees greater than 10 centimetres (cm) diameter at breast height (DBH) within the limit of disturbance be assessed, due to potentially different requirements from other municipalities, Indigenous communities and Nations and conservation authorities, a survey of all trees greater than 5 cm DBH was undertaken. A tree tag with a unique identifier (ID Number) was attached to trees within the work areas that may be impacted by the proposed works to ensure ease of future identification. Methods implemented as part of the tree inventory field investigations included noting the tree tag identifier, the tree location, tree species, DBH and providing an assessment on general tree health.

2.3 Significant Wildlife Habitat

Significant wildlife habitat (SWH) is defined as ecologically important in terms of features, functions, representation, or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System (MNR 2000). SWH is divided into four main categories:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities and Specialized Habitat for Wildlife;

- Habitat for Species of Conservation Concern (excluding Endangered or Threatened species); and
- Animal Movement Corridors.

To determine the existence of SWH within the Natural Heritage System, the MNRF has developed SWHCS for identifying ecosites and/or natural features suitable for wildlife to carry our critical life processes (listed within the four main categories as described above). The Project Site falls within Ontario Ecoregion 6E (Lake Simcoe-Rideau Ecoregion); accordingly, the SWHCS for Ecoregion 6E (MNRF 2015) were applied to document the occurrence of candidate SWH within the Project Site. Section 3.3.1 provides a summary of field investigation findings in reference to the SWCHS for Ecoregion 6E.

2.3.1 Species at Risk

In Ontario, SAR are those species whose individuals or populations are considered Extirpated, Endangered, Threatened, or Special Concern, as determined by the provincial Committee on the Status of Species at Risk in Ontario (COSSARO), and are regulated by the provincial *Endangered Species Act*, *2007* (ESA). Species listed as Special Concern are not afforded protection under the ESA; however, they are included in this report. The federal *Species at Risk Act, 2002* (SARA) applies to SAR in Ontario when projects are located on federally owned land and/or watercourses and waterbodies (conditions apply), otherwise the responsibility of SAR typically falls under the provincial ESA.

The potential for SAR and rare species to occur within the Study Area was determined based on a review of background information, agency consultation and field investigations. The background information included a review of the NHIC online database of significant floral and faunal species near the Study Area. The background information noted above in Section 2 (i.e., wildlife atlases) were also used to develop a complete list of SAR and rare species occurrences that may overlap the Study Area for the purpose of evaluating the potential for SAR occurrence based on habitat preferences for each species (see Table 2 in Section 3.3).

2.3.2 Aquatic Habitat Surveys

A summer aquatic ecosystem field survey program was undertaken, following protocols as described in the Ministry of Transportation (MTO) Environmental Guide for Fish and Fish Habitat (2020). Aquatic habitat characterization included substrate characterization, evidence of embankment erosion and instability, in-water habitat features and barriers to fish passage.

As per the MTO protocol, detailed aquatic habitat surveys were completed for CRT1-3a1, CRT1-2, CRT1-2e, CRT1-2d, CRT1-2c approximately 20 m upstream (north) and within the Project Site. Due to a lack of PTE the area approximately 200 m downstream (south) was not reviewed. A general habitat survey was also completed approximately 20 to 50 m upstream of the railroad tracks. The location of aquatic habitat characterization is illustrated in Figure 2-2 and Figure 4-1.

For CRT1-1d a high-level reconnaissance was completed for the approximately 14 m extent within the Project Site only due to a lack of PTE for both upstream and downstream (CRT1-1c) extents.

Aerial interpretation and background mapping indicated a potential watercourse CR1-2b; however, no culvert or watercourse was present at the location and as such, is not discussed further in this Addendum.

A fish community survey was proposed for all watercourses in the Project Site; however, as all watercourses were dry at the time of assessment, this was not completed and is not discussed further in this Addendum.

591000 591500 592000

4835500

4835000

WANLESS DR

Huttonville Creek & Area Wetland Complex

CRIT1-2b

CRIT1-2e

CRIT1-3a1

KITCHENER CORRIDOR

1 2 3 4 5

CITY OF BRAMPTON

TOWN OF HALTON HILLS

WINSTON CHURCHILL BLVD

P:\2021\Projects_Other\IM21405045_MX_Heritage_Layover\GIS\MXD\TerrestrialMapping\TErrestrialStudyArea_4-1.mxd

LEGEND

- Project Location
- Terrestrial Study Area (Project Location + 120 m buffer)
- Municipal Boundary
- Point of Interest (wood PLC., 2022)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Watercourse
- Aquatic Zone of Detailed Assessment (20 m upstream)
- Aquatic Zone of General Assessment (20 m to 50 m upstream)
- Flow Direction

Point ID	Comments
1	Willow Flycatcher, Red-winged Blackbird, Yellow Warbler, Common Yellowthroat (vocal calls)
2	Killdeer (vocal call)
3	Savannah Sparrow, Brown Thrasher (vocal calls)
4	Large dead Ash tree species with several holes and peeling bark in the upper branches (potential roosting bat habitat)
5	White-tailed Deer tracks

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, and Railway Information retrieved from Land Information Ontario (LIO)

Datum: NAD83
Projection: UTM Zone 17N

0 0.425 0.85 Kilometres

METROLINX wood.

HERITAGE ROAD LAYOVER

Terrestrial and Aquatic Features and Points of Interest

PROJECT N°: IM21405045 | **FIGURE: 2-2**

SCALE: 1:4,000 | DATE: August 2022

3.0 Existing Conditions

Conditions based on background review and field investigations are provided below. Field investigation photographs are included in Appendix A, data summaries are included in Appendix B and aquatic field sheets are included in Appendix C.

3.1 Terrestrial Summary

A summary of existing terrestrial conditions is provided in the following sections. ELC and Tree Inventory figures were prepared for the Study Area (Figures 3-1, and 3-2).

3.1.1 Vegetation Communities

The Project Site is mainly surrounded by agricultural lands with some nearby rural residential properties.

Characterization of the vegetation observed was undertaken by compiling a generalized botanical inventory then using that information to classify and characterize the vegetation communities according to the ELC protocol (Lee et al. 1998). The First Approximation of ELC (Lee et al. 1998) was applied for the determination of ecosite type; however, the 2008 catalogue of ecosite types (Lee 2008) was applied where ecosites could not be determined through the application of the First Approximation. It is important to note that vegetation communities often have variations within their boundaries. These variations have not been mapped except where necessary to depict a significant vegetation community or feature.

The descriptions detailed below present the predominant species and attributes of each of the vegetation communities observed during the 2022 field investigations and identified on Figure 3-1. Additional species occurrences are noted in a compiled plant list within Appendix D.

AG- Agricultural

The Agricultural areas surrounding the Project Site within the Study Area consisted of cultivated crops such as corn, as well as plowed field.

CUW1 – Mineral Cultural Woodland

There are two Cultural Woodland communities within the Study Area. The community on the west side of the study area that was located primarily on a residential property had a canopy that was dominated largely by Black Walnut and Manitoba Maple along the outer edges. The interior appeared to be largely represented by planted Eastern White Pine and Red Pine; however, access was limited as there was no permission to enter the residential property. The sub-canopy and the understory consisted primarily of Manitoba Maple and invasive European Buckthorn. Groundcover species included Garlic Mustard, Smooth Brome and Virginia Creeper. The small Cultural Woodland on the north side of the tracks consisted of Large Hawthorn species and old Common Apple trees over a groundcover of grasses and herbaceous plants such as Canada Goldenrod.

CUM1 – Mineral Cultural Meadow

The Cultural Meadow was the primary habitat within the Project Site which existed along both sides of the railway line. A sparse row of trees was present along the sides of the railway which included mainly Bur Oak along with the occasional American Elm. Several European Buckthorn shrubs also lined the railway line between the trees. The ground cover consisted of a mix of Smooth Brome, Canada Goldenrod, and invasive plants such as Dog-strangling vine and Reed Canary grass. The sloped sides of the railway were also often covered with patches of Poison Ivy.

MAM2-2 – Reed-canary Grass Mineral Meadow Marsh

The Meadow Marsh vegetation community exists within and along the sides of a shallow valley that intersects the middle of the Study Area. It is dominated by invasive Reed Canary grass but also includes Smooth Brome along with small patches of herbaceous plants such as Elecampane and Broad-leaf Cattail. Several large Hawthorn species also lined the sloped sides of the feature.

CVI_1 – Transportation

This area includes the railway and associated storage yard.

OAO – Open Aquatic

A small open pond was identified on the residential property on the west side of the Study Area. The area was not accessible.

CVR – Residential

The Residential area identified consists of one property on the west side of the study area. The area was not accessible.

3.1.2 Tree Inventory

The trees inventoried at each of the Project Sites represented 20 different tree species, with all species are either apparently secure / secure, or non-native based on provincial ranking (S4, S5 and SNA) which refers to the trees' natural occurrences.

A total of 134 trees were inventoried within the Project Site and are illustrated on Figure 3-2. A full summary of the tree inventory is provided in Appendix E.

3.1.3 Wildlife Summary

Inventories of wildlife were compiled from available literature, resource atlases, databases and incidental observations and provided within the NER. Incidental observations during the 2022 field investigations included:

- Willow Flycatcher (Empidonax traillii)
- Red-winged Blackbird (Agelaius phoeniceus)
- Yellow Warbler (Setophaga petechia)
- Common Yellowthroat (Geothlypis trichas)
- Killdeer (Charadrius vociferus)

- Savannah Sparrow (Passerculus sandwichensis)
- Brown Thrasher (Toxostoma rufum)
- White-tailed Deer (Odocoileus virginianus)

3.2 Aquatic Habitat

A summary of existing aquatic conditions is provided in the following sections. The watercourses generally run north to south; however, no water was present at the time of the survey. Agriculture is present north and south of the tracks within the Study Area (See Figure 3-3).

3.2.1 CRT1-3a1/CRT1-2

The dry channel runs north/south, upstream of the tracks within the Study Area and through the corrugated steel pipe (CSP) culvert under the railroad tracks. The channel continues parallel to the south side of the tracks, for an approximately 25 m length, east of the CSP, then turns south, with this section also dry at the time of assessment. The bankfull width and depth were 55 to 130 cm and 13 to 30 cm, respectively. Gravel, cobble and boulder were not observed within the channel. Dense reed canary grass surrounded the channel and was within the channel in some locations.

The channel runs through a small Mineral Cultural Woodland upland of the tracks and a narrow Reed Canary Grass Mineral Meadow Marsh downstream of the tracks, surrounded by agricultural field.

3.2.2 CRT1-2c (downstream), d and e (upstream)

No defined channel was present within the location of the identified watercourse and agricultural fields were present. South of the CSP, it appeared as though overland runoff runs parallel to the tracks, due to a narrow strip of decreased vegetation indicating possible water during periods of high water.

3.2.3 CRT1-1d

Within the Project Site CRT1-1d is a roadside drainage ditch within the right of way for Winston Churchill Boulevard that was dry at the time of the field investigation.

3.2.4 Fish and Fish Habitat

The only defined channel was recorded at CRT1-3a/CRT1-2 which was dry with vegetation growing in parts of it at the time of assessment. It is assumed that this agricultural swale receives flows part of the year (during periods of high flow); however, is lacking in fish habitat features. The lack of substrate, other than bare soil, limits suitability for fish.

591000

591500

592000

4835500

4835000

WAINLESS DR

Huttonville Creek & Area Wetland Complex

AG

CUM1

CVI_1

AG

CUW1

AG

CITY OF BRAMPTON

CUM1

KITCHENER CORRIDOR

CVI_1

MAM2-2

TOWN OF HALTON HILLS

AG

CUW1

CVR

WINSTON CHURCHILL BLVD

OAO

P:\2021\Projects_Other\IM21405045_MX_Heritage_Layover\GIS\MXD\TerrestrialMapping\ELC_5-1.mxd

LEGEND

- Project Location
- Terrestrial Study Area (Project Location + 120 m buffer)
- Ecological Land Classification (Wood PLC, 2022)
- Municipal Boundary
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Watercourse

Heritage Road Layover ELC Mapping

ELC Code	Description
AG	Agriculture
CVI_1	Transportation
CVR	Residential
CUW1	Mineral Cultural Woodland
CUM1	Mineral Cultural Meadow
MAM2-2	Reed-canary Grass Mineral Meadow Marsh
OAO	Open Aquatic

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, and Railway Information retrieved from Land Information Ontario (LIO)

Datum: NAD83
Projection: UTM Zone 17N

N W E S

0 0.425 0.85 Kilometres

METROLINX wood.

HERITAGE ROAD LAYOVER

Ecological Land Classification

PROJECT N°: IM21405045 | **FIGURE: 3-1**

SCALE: 1:4,000 | DATE: August 2022

591000

591500

592000

4835500

4835000

WANLESS DR

Huttonville Creek & Area Wetland Complex

CITY OF BRAMPTON

TOWN OF HALTON HILLS

KITCHENER CORRIDOR

WINSTON CHURCHILL BLVD

222 401 402 403 404 405 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 423 424 425 426 427 428 429 430 431 432 434 435 436 437 438 439 440 441 442 443 444 445 447 448 449 450 451 452 453 454 455 456 457 458

P:\2021\Projects_Other\IM21405045_MX_Heritage_Layover\GIS\MXD\TerrestrialMapping\TReeInventory_5-2.mxd

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Tree Location
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Watercourse

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, and Railway Information retrieved from Land Information Ontario (LIO)

Datum: NAD83
Projection: UTM Zone 17N

0 0.425 0.85 Kilometres

METROLINX wood.

HERITAGE ROAD LAYOVER

Tree Inventory

PROJECT N°: IM21405045 | **FIGURE: 3-2**

SCALE: 1:4,000 | DATE: August 2022

591100 591200 591300 591400 591500 591600 591700 591800

4835600 4835500 4835400 4835300

CRT1-2d (no defined channel, dry)

CRT1-2e (no defined channel, dry)

CRT1-3a1 (dry)

CRT1-2c (no defined channel, dry)

CRT1-2 (dry)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

S:\Gis\Projects\IM\IM21405045.B5.12A\MXD\Fig 5-1 Aquatic Habitat.mxd

LEGEND

- Aquatic Habitat Study Area
- Watercourse

0 0.175 0.35 Kilometres

NOTES:
- Aerial Imagery extracted from ESRI Basemaps, 2018 & 2019
- Waterbody, Watercourse, Wetland, Railway, and Greenbelt Plan Designation Information retrieved from Land Information Ontario (LIO)
- Aquatic Resources Features - SAVANTA Heritage Heights Subwatershed Study

Datum: NAD83
Projection: UTM Zone 17N

N W E S

METROLINX wood.

HERITAGE ROAD LAYOVER

Aquatic Habitat Study

PROJECT N°: IM21405045 | **FIGURE: 3-3**

SCALE: 1:1,750 | DATE: September 2022

3.3 Species at Risk

The OBBA lists species breeding within a square as possible, probable, or confirmed based on observed behaviour and/or nesting evidence. Species confirmed breeding in the appropriate OBBA square are included in this section, other OBBA records are not included. Records from other databases are included; however, they do not identify breeding evidence for birds While the NHIC utilizes provincial wide 1 km x 1 km (1 km^2) square grid system, the OBBA, AMO and ORAA utilize a 10 km x 10 km (100 km^2) square grid system. It is important to note that due to the large spatial extent (100 km^2), and the fact that the exact locations of species occurrences are not available from most of these resources, they do not necessarily confirm species presence and/or absence. Consequently, it is likely that many of these species do not occur within the Project Sites given the vegetative characteristics and lack of habitat suitability. Special Concern species are included though they are not protected under the ESA.

A summary of the SAR identified through background information review and field investigations is provided in Table 2: Species at Risk Screening. The probabilities provided in Table 2 are based on an assessment of each species' habitat preferences/needs in conjunction with existing conditions observed during the field investigations and background information and potential for SWH. Additional SAR may come into the areas or species already occurring in the areas may be up-listed at any time. For this reason, ongoing communication with the Ministry of Environment, Conservation, and Parks (MECP) is recommended to ensure compliance with the ESA. The probabilities of occurrence are defined as 'High', 'Moderate', 'Low', and 'None' and are based on the following definitions:

High: Those species recorded in the vicinity of the project (typically within 10 km and recorded in the past 20 years, where year is provided (NHIC does not provide the year and OBBA data is from 2001-2005)) and whose preferred habitat is abundant within the Project Site. Species with high probability of occurrence would be expected to breed within or frequently use the habitats available within the Project Site and would be known to have a high relative abundance within the region (i.e., compared to other regions in Ontario).

Moderate: Those species in the vicinity of the project but have limited suitable habitat within the Project Site. Species with moderate probabilities of occurrence may not occur within the Project Site frequently, but may intermittently use it for foraging, migration, or movement to other parts of their home-range.

Low: Those species recorded in the vicinity of the Project Site, but whose preferred habitat does not occur or is extremely limited within the Project Site. These species may intermittently move through the Project Site but are unlikely to become permanent residents.

None: Those species whose preferred habitat is completely absent from the Project.

Table 2: Species at Risk Screening

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Project Site
Plants		
Butternut (*Juglans cinerea*) SARA: Endangered ESA: Endangered S-Rank: S3? Source: NHIC	Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges (MNRF 2016). Generally, grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky, and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows (MNRF 2013).	**Low** – No Butternut observed within the Project Site or accessible portion of the broader study area. Documented as an element occurrence in NHIC 1 km^2 grid encompassing the Project Site.
Birds		
Bald Eagle (*Haliaeetus leucocephalus*) SARA: No Status ESA: Special Concern S-Rank: S4 Source: eBird	Eagles require large, stout-limbed, open-crowned trees to support their large bulky nests of sticks and provide perch and roost sites. Supercanopy trees are typically used because they are easily accessed. Trees near water, in forested areas are generally used for nesting (Armstrong 2014). Bald Eagles tend to nest in areas with low levels of human disturbance but have high levels of fidelity and typically use the same nest over successive years (Armstrong 2014).	**None** – Suitable nesting habitat is not present in the Project Site.
Bank Swallow (*Riparia riparia*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: NHIC, OBBA, eBird	Bank Swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable (COSEWIC 2013a).	**None** – Suitable nesting habitat is not present in Project Site.
Barn Swallow (*Hirundo rustica*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: OBBA	Often found feeding in a range of open habitats including fields, marshes, meadows, and ponds. They primarily use man-made structures such as building, bridges, and culverts for nesting (COSEWIC 2011a). Barn Swallows have shifted largely to nesting in and on artificial structures, including buildings, bridges, and road culverts, and prefer various open habitats for foraging including grassy fields, pastures, agricultural crops and over open water (COSEWIC 2011a).	**Moderate** – Nesting is very common on buildings and structures. Structures within the Project Site are mostly sea cans which do not provide sufficient overhead coverage for nesting unless left open. Suitable habitat may be present in the broader study area, within the neighbouring residential buildings
Bobolink (*Dolichonyx oryzivorus*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: NHIC, OBBA, eBird	Bobolink nest primarily in forage crops, hayfields and associated pastures are their preferred habitat. Bobolink also occur in wet prairie, graminoid peatlands and abandoned fields dominated by tall grasses, no-till cropland, small-grain fields, reed beds and irrigated fields in arid regions. The species does not generally occupy fields of row crops such as corn, soybean and wheat, pastures in valleys which high shrub density or intensively grazed pastures (COSEWIC 2010a).	**Low:** The land surrounding the Project Site is predominantly agricultural crops but some marginal habitat may be available along the edges of the fields within the small portions of the CUM1 that is not within the ditch line.
Canada Warbler (*Cardellina canadensis*) SARA: Threatened ESA: Special Concern S-Rank: S4 Source: eBird	Found in a variety of upland and wetland forest types, but it is most abundant in wet, mixed deciduous-coniferous forests with a well-developed shrub layer. Nests are typically located on or near the ground on mossy logs or roots, along stream banks or on hummocks (COSEWIC 2008a). Its primary breeding range is in the Boreal Shield, extending north into the Hudson Plains and south into the Mixedwood Plains. Although the Canada Warbler breeds at low densities across its range, in Ontario, it is most abundant along the Southern Shield (MECP 2021a).	**None** – Suitable nesting habitat is not present within the Project Site.

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Project Site
Chimney Swift (*Chaetura pelagica*) SARA: Threatened ESA: Threatened S-Rank: S4B, S4N Source: eBird	Chimney swifts forage aerially over virtually any habitat. Nesting and roosting take place in a dark sheltered spot with vertical surfaces to cling to. This may include large hollow trees, chimneys, and other structures. Mainly associated with areas where the birds can find chimneys to use as nesting and resting sites; however, it is likely that a small portion of the population continues to use hollow trees (COSEWIC 2007a).	**None** – Suitable nesting habitat is not present within the Project Site.
Eastern Meadowlark (*Sturnella magna*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: NHIC, OBBA	A bird most common in native grasslands, pastures and savannas. It also uses a wide variety of other anthropogenic grassland habitats. As with other grassland bird species, the suitability of grassland habitat for this species involves a combination of landscape and patch characteristics (COSEWIC 2011b). Eastern Meadowlarks nest in a variety of open grassy habitats, preferring native grasslands, pastures and savannahs. Larger tracts of grassland are preferred (COSEWIC 2011b).	**Low:** The land surrounding the Project Site is predominantly agricultural crops but some marginal habitat may be available along the edges of the fields within the small portions of the CUM1 that is not within the ditch line.
Eastern Wood-Pewee (*Contopus virens*) SARA: Special Concern ESA: Special Concern S-Rank: S4B Source: eBird	Usually found in clearings and forest edges, this species breeds in nearly any type of wooded habitat including mature woodlands, urban shade trees, roadsides and orchards, but typically prefers deciduous forest and to a lesser extent, open pine woodlands of the south and mixed hardwood-conifer forest of the north (McCarty 1996). Migrants may occur in a wide variety of habitats (COSEWIC 2012a).	**None** – No woodlands (hedgerows present) present within the Project Site.
Golden-winged Warbler (*Vermivora chrysoptera*) SARA: Threatened ESA: Special Concern S-Rank: S4B Source: eBird	Prefers to nest in areas with young shrubs surrounded by mature forest, in recently disturbed locations, such as field edges, hydro or utility right-of-ways, or logged areas. Nests are built on the ground. Diet includes only insects during the breeding season. Breeding has been recorded in central-eastern Ontario, with the species generally spending mid-May to late August/early September in Ontario. The Golden-winged Warbler inhabits warmer climates the rest of the year (MECP 2021b).	**None** – No mature forest present within the Project Site.
Red-headed Woodpecker (*Melanerpes erythrocephalus*) SARA: Threatened ESA: Endangered S-Rank: S4B Source: OBBA	Generally, inhabits open woodland and woodland edges and is often found in parks, golf courses and cemeteries. Typically found in areas with many dead trees, which are used by the Woodpecker for nesting and perching. Food includes plants, insects, and even small vertebrates. Most overwinter in the United States, some may overwinter in woodlands in southern Ontario if there are adequate supplies of nuts (MECP 2022).	**None** – The small Cultural Woodland (CUW1) that is present on the west side of the Study Area on the residential property is less than half a hectare in size and does not contain enough dead trees to provide sufficient foraging opportunities.
Whip-poor-will (*Antrostomus vociferus*) SARA: Threatened ESA: Threatened S-Rank: S4B Source: OBBA	Generally inhabits areas with a mix of open and forested areas, including savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests. Foraging occurs in the open areas while roosting and nesting occur in the forested areas. Eggs are laid directly on the forest floor. Winters are spent in warmer climates to the south (MECP 2021c).	**None** – The required combination of habitat features are not present within the Project Site.
Wood Thrush (*Hylocichla mustelina*) SARA: Threatened ESA: Special Concern S-Rank: S4B Source: NHIC, OBBA	Wood Thrush breed in mature or second growth deciduous and mixed wood forests. They prefer moist forests with dense understory and large continuous areas of forest but are not reliant on this. Habitat fragmentation due to human development and over-grazing by White-tailed Deer are the main threats to this species (COSEWIC 2012b).	**None** – No mature or second growth deciduous and mixed wood forests present is within the Project Site.

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Project Site
Herptiles		
Midland Painted Turtle (*Chrysemys picta marginata*) SARA: Special Concern ESA: Not Listed S-Rank: S5 Source: NHIC, ORAA	Inhabits waterbodies, such as ponds, marshes, lakes and slow-moving creeks, with a soft bottom and provide abundant basking sites and aquatic vegetation. This species often basks on shorelines or on logs and rocks that protrude from the water. Overwintering occurs on the bottom of waterbodies (Ontario Nature 2022).	**Low –** Preferred habitat is not within available within the Project Site.
Snapping Turtle (*Chelydra serpentina*) SARA: Special Concern ESA: Special Concern S-Rank: S3 Source: NHIC, ORAA	Slow-moving water with a soft mud bottom and dense aquatic vegetation usually in ponds, sloughs, shallow bays or river edges and slow streams and wetlands (COSEWIC 2008b). Snapping Turtles prefer slow-moving waters with a soft mud bottom and dense aquatic vegetation. Established populations are most often located in ponds, sloughs, shallow bays or river edges and slow streams and wetlands. Individuals can also exist in developed areas (e.g., golf course ponds, irrigation canals); however, it is unlikely that populations persist in such habitats. Snapping Turtles can occur in highly polluted waterways, but environmental contamination is known to limit reproductive success (COSEWIC 2008b).	**Low** – nesting habitat is limited in the Greater Toronto Area (GTA) and is well known in agricultural fields. Proximity to the West Branch Credit River could result in turtles travelling north for nesting opportunities.
Mammals		
Eastern Small-footed Myotis (*Myotis leibii*) ESA: Endangered S-Rank: S2S3 Source: BCI	The species' preference for rocky habitats in summer may limit an individual's home range to those rocky areas which also contain hibernacula. Eastern Small-footed Myotis individuals are typically captured within 35 km from locations where the species is known to hibernate (Humphrey 2017). They generally roost on the ground under rocks and in crevices. Caves and mines are wintering habitat (MECP 2021d).).	**Low** - closest caves are a part of the Niagara escarpment. While may be found in crack of bridges or other human-made structures it is unlikely they migrate through the area.
Little Brown Myotis (*Myotis lucifugus*) ESA: Endangered S-Rank: S4 Source: BCI	Roosts in tree cavities, including small spaces or crevices found in loose bark, hollow trees, rock faces and human structures such as attics, walls, and bat boxes. Hibernates in caves and abandoned mines during the winter months. Typically forages over water (COSEWIC 2013b). Maternity roosts are primarily live deciduous trees and males, juveniles, and non-reproductive females can be found in dead trees, on average all trees are over 20 cm DBH (Humphrey and Fotherby 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby 2019).	**Moderate** - Live large DBH deciduous trees may be found on site in hedgerows but the small and fragmented hedgerows likely do not support roosting. A dead Ash tree with holes and peeling bark identified in **Figure 2-2** on the residential property.
Northern Myotis (*Myotis septentrionalis*) ESA: Endangered S-Rank: S3 Source: BCI	Roosts in canopies of deciduous trees, including small spaces or crevices found in loose bark, hollow trees. Rock faces and human structures can also be used. Hibernates in caves and abandoned mines during the winter months. Typically forages over water (COSEWIC 2013b, Humphrey and Fotherby 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherb, 2019).	**Low** - Live large DBH deciduous trees may be found on site in hedgerows but the small and fragmented hedgerows likely do not support roosting.
Tri-colored Bat (*Perimyotis subflavus*) ESA: Endangered S-Rank: S3? Source: BCI	Roosts in dead leaf clusters in the shape of an umbrella, dense clusters of live foliage, Arboreal lichens or epiphytes, and buildings (Humphrey and Fotherby 2019). Maternity sites typically have sufficient protection from predators, an abundance of roosting locations, and adequate solar exposure (Humphrey and Fotherby 2019).	**Low** - Live large DBH deciduous trees may be found on site in hedgerows but the small and fragmented hedgerows likely do not support roosting.

Species Name, Status, and Data Source	Preferred Habitat	Potential for SAR Habitat/Occurrence within the Project Site
Insects		
Monarch (*Danaus plexippus*) SARA: Special Concern ESA: Special Concern S-Rank: S3 Source: OBA, iNaturalist	Monarch is very widely distributed across North America and found in a wide variety of habitats. Populations fluctuate dramatically but have been generally declining likely due to habitat destruction on the hibernation grounds in Mexico, as well as pesticide use and other factors on the vast breeding grounds. Monarchs require Milkweeds to lay their eggs and will use a variety of other flowers for adult food. Different milkweed species grow in a variety of environments which include fields, roadsides, open areas, wet areas, and urban gardens (COSEWIC 2010b).	**Moderate** – There is some potential for Monarch to be present within the Cultural Meadow (CUM1) habitat. Common Milkweed was identified but noted as rare in abundance.

Notes
S-Rank: The Natural Heritage provincial ranking system (provincial S-rank) is used by the MNDMNRF to set protection priorities for rare species and natural communities.
S1 - Extremely rare in Ontario; usually 5 or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation.
S2 - Very rare in Ontario; usually between 5 and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation.
S3 - Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. Most species with an S3 rank are assigned to the watch list, unless they have a relatively high global rank.
S4 - Common and apparently secure in Ontario; usually with more than 100 occurrences in the province.
S5 - Very common and demonstrably secure in Ontario.
SU - Unrankable. Due to low search effort or the cryptic nature of some species, there is not enough information to assign status ranks to some species. More data is needed before status ranks can be assigned to such species.
SNA - Not Applicable. A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
B - Breeding—Conservation status refers to the breeding population of the species in the nation or state/province.
N - Nonbreeding—Conservation status refers to the non-breeding population of the species in the nation or state/province.
? - Inexact or Uncertain—Denotes inexact or uncertain numeric rank. (The ? qualifies the character immediately preceding it in the S-rank.)

3.3.1 Significant Wildlife Habitat

Wildlife habitat is defined as areas where plants, animals and other organisms live and can find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitat of concern may include areas where species concentrate at a point in their annual life cycle, and those areas which are important to migratory and non-migratory species.

Under the Provincial Policy Statement (PPS), wildlife habitat is considered "significant" if it is deemed ecologically important in terms of feature, function, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System (MNDMNRF 2020). According to the Significant Wildlife Habitat Ecoregion Criteria Schedules for Ecoregion 6E (MNRF 2015), significant wildlife habitat (SWH) may consist of:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities and Specialized Habitat for Wildlife;
- Habitat for Species of Conservation Concern (excluding Endangered or Threatened species); and
- Animal Movement Corridors.

Seasonal Concentration Areas

Seasonal Concentration Areas for animals are habitats where large numbers of a single species or many species congregate at one (or several) times a year. The SWH Criterion Schedules for Ecoregion 6E outlines 16 wildlife habitats associated with Seasonal Concentration Areas including Waterfowl Stopover and Staging Areas (Terrestrial and Aquatic), Shorebird Migratory Stopover Areas, Raptor Wintering Area, Bat Hibernacula, Bat Maternity Colonies, Bat Migratory Stopover Areas, Turtle Wintering Areas, Reptile Hibernaculum, Colonially Nesting Bird Breeding Habitat (Bank and Cliff, Tree/Shrubs and Ground), Migratory Butterfly Stopover Areas, Landbird Migratory Stopover Areas, Deer Yarding Areas and Deer Winter Congregation Areas.

Based on a review of habitats and Ecosites documented during field investigations, the CUM1 habitat and agricultural fields may provide potential Waterfowl Stopover and Staging Areas (Terrestrial). A spring survey will confirm if evidence of annual spring flooding from melt water or run-off is present, as this is required for this SWH. Additionally, the narrow strip of CUM1 may not be suitable size for this SWH.

Rare Vegetated Communities and Specialized Habitat for Wildlife

Rare Vegetation Communities are habitats that contain provincially rare vegetation communities, or those which are rare to the area. The SWH Criterion Schedules for Ecoregion 6E outlines seven rare vegetation communities including Cliffs and Talus Slopes, Sand Barren, Alvar, Old Growth Forest, Savannah, Tallgrass Prairie and Other Rare Vegetation Communities.

Based on a review of habitats and Ecosites documented during field investigations, no candidate SWH rare vegetation communities are present within the Project Site.

Specialized habitats for wildlife are those which support wildlife that have highly specific habitat requirements (e.g., nesting habitat – vernal pools), those areas that contain high species and community diversity and those which provide habitat that can greatly enhance species survival (MNR 2000). The SWH Criterion Schedules for Ecoregion 6E outlines eight specialized habitats for wildlife including Waterfowl Nesting Area, Bald Eagle and Osprey Nesting, Foraging and Perching Habitat, Woodland Raptor Nesting Habitat, Turtle Nesting Areas, Seeps and Springs, Amphibian Breeding Habitat (Woodland and Wetland) and Woodland Area-sensitive Bird Breeding Habitat.

Based on a review of habitats and Ecosites documented during the field investigations, a potential Amphibian Breeding Habitat (Wetlands) is present. A small pond (<500 m^2) is present on the adjacent (west) residential property, approximately 10 m from the southwest limit of the Project Site. There was no access to this property during the field investigations, and no portion of this pond extends into the Project Site. No other candidate rare, vegetated communities and specialized habitat for wildlife was identified of the Project Site or Study Area.

Habitat for Species of Conservation Concern (Not including Endangered for Threatened Species)

Habitats for Species of Conservation Concern are habitats for wildlife species classified as rare or substantially declining in Ontario or have a high percentage of their global population in Ontario, as well as several other rare habitats. The SWH Criterion Schedule for Ecoregion 6E outlines five Habitats for Species of Conservation Concern including Marsh Bird Breeding Habitat, Open Country Bird Breeding Habitat, Shrub/Early Successional Bird Breeding Habitat, Terrestrial Crayfish, Special Concern and Rare (S1-S3) Wildlife Species.

Based on a review of habitats and Ecosites documented during field investigations, there may be potential for two SWH habitats: Terrestrial Crayfish, Special Concern and Rare Wildlife Species within the Study Area. Although special concern and rare wildlife species were not observed during field investigations, several special concern and rare species were noted during the secondary source review to have element occurrences within the 1 km^2 and 10 km^2 databases encompassing the Study Area. Additionally, Milkweed were identified within the CUM1, though low in abundance.

Animal Movement Corridors

Animal Movement Corridors are habitats that link two or more other wildlife habitats that are critical to the maintenance of a population of a particular species or group of species, particularly in highly fragmented landscapes (MNR 2000; MNRF 2015). The key ecological function of wildlife movement corridors is to enable wildlife to move between areas of significant habitat or core natural areas with minimum mortality. Wildlife movement corridors can provide critical links between shelter, feeding, watering, growing, and nesting locations (Lee et al. 1998). Wildlife and/or habitat corridors can help increase genetic diversity and aid in the re- establishment of populations after random events such as fires or disease outbreaks. These corridors can help to increase biodiversity and population stabilization (Lee et al. 1998). The SWH Criterion Schedules for Ecoregion 6E outline two animal movement corridors, including Amphibian Movement Corridors and Deer Movement Corridors.

Based on a review of habitats and Ecosites documented during field investigations, there are no candidate SWH habitats for Animal Movement Corridors.

4.0 Summary of Changes to the NER and Commitments to Future Work

Data collected during the 2022 field season confirmed that the information presented in the 2022 NER provides an accurate representation of the Study Area and Project Site. It also identified that both Butternut and Barn Swallow have a low likelihood of being present within the Study Area. Due to the lack of 2022 PTE, Metrolinx has committed to spring 2023 surveys including the following:

- Fish and Fish Habitat
    - Fish and Fish Habitat Assessment: Building upon WSP's review of relevant existing studies and background information, fish habitat assessments will be completed on the three watercourses within the study area during the spring freshet as committed to by Metrolinx. Aquatic habitat characterization will be carried out by following guidance as per the Environmental Guide for Fish and Fish Habitat (MTO, 2020). The area of investigation (AOI) will include the upstream and downstream reaches of the watercourses where Permission to Enter (PTE) allows. To update fish community records from the prior Aquatic Ecology fieldwork conducted by Savanta in 2017, WSP also proposes to conduct a single pass electrofishing survey on data deficient watercourses as per the Ontario Stream Assessment Protocol (OSAP; Stanfield 2017) to provide an updated fish species list, as well as a qualitative assessment of species abundance within the AOI. Existing habitat conditions will be documented and mapped with an associated photographic record with information collected will include a description of substrates, in-stream cover, widths, depths and bank vegetation.

5.0 References

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Appendix A

Field Investigation Photos



Dry channel upstream of railroad tracks



Facing upstream, channel through reed canary grass



Upstream end of culvert



Facing downstream of railroad tracks

CRT1-2, 4 July 2022



Downstream end of culvert



Facing east along south side of tracks



Downstream narrow channel parallel to tracks



Downstream narrow channel running north/south



Facing upstream of tracks toward CR1-2b, no channel or culvert



Facing downstream of tracks toward CR1-2b, no channel or culvert

CRT1-2b, 4 July 2022



Facing upstream of tracks toward CRT1-2d and e



Facing upstream of tracks toward CRT1-2d and e



Upstream end of culvert



Upstream end of east culvert

CRT1-2d and e, 4 July 2022



Downstream end of culvert



Agricultural field downstream of tracks, no defined channel



East of culverts, parallel to south side of tracks



Facing west toward culvert outlets

CRT1-2c, 4 July 2022

Appendix B

Field Data Summaries

General Ecological Land Classification (ELC) Polygons

ELC_Code_1	ELC_Code_2	Comment_1	Comment_2	GlobalID	Polygon_ID	SHAPE_Leng	SHAPE_Area	ATT_ID
Ag		Agricultural		{09D44122-7536-4449-9EA0-77ABFCED33E9}	1	1563.32255559000	-138461.50614600000	101
Co		Constructed		{89D7D1FD-197A-41DA-B80A-AA00A33A7DAE}	0	940.75926603600	-11975.97148840000	102
CUW1				{35FEAE99-BA6E-4983-8776-C2C04A97D515}	3	254.50961275100	-3042.32335209000	105
Ag		Agricultural		{4295C614-F54C-4047-8A15-94F8108CC4C7}	4	3870.69735272000	-413036.00322500000	113
CUM1				{2F517BB2-031A-4353-A54F-52CDFAA5D90B}	5	2758.63192318000	-42227.22910960000	114
Ag		Agricultural		{EB034261-B645-4B41-9F64-0613309865BA}	7	2837.96881015000	-271020.26517800000	119
MAM2-2				{9675F369-F43B-4B0B-9C3A-B122735CEE11}	6	1510.82671944000	-28408.01437380000	121
Ag		Agricultural		{0699A42B-B32B-439F-8A74-85F955F17331}	8	1852.25499864000	-201523.18008900000	126
CUW1				{61258B3F-2F7D-472D-9D54-1104F878C437}	9	425.52591635000	-5703.78794459000	127
OAO				{B5702BBE-9951-4E59-9330-C4F8630B9429}	0	82.12607899670	-441.12237582400	131
Co		Constructed		{F4811E72-7878-41D2-AF3E-8E93BDA1C504}	0	638.43084165800	-9843.15601249000	

Incidental Observations

Comments	GlobalID	Date_	ATT_ID	EAST	NORTH	LONG	LAT
Willow flycatcher, Redwing blackbird, yellow warbler, common yellow throat. Male calls	{819D50BA-EEDE-47CE-A72B-E4F117795BB5}	6/9/2022	0	591178.90180000000	4835374.02670000000	-79.86907153460	43.66577840010
Killdeer	{31BDE8F3-97B9-4719-A94E-8010465F8521}	6/9/2022	0	591580.24500000000	4835482.36040000000	-79.86407608380	43.66670429460
Savanna sparrow, Brown thrasher. Vocal	{5C0DB877-D4AB-41E5-BE38-AA47C64BB76B}	6/9/2022	0	591658.24120000000	4835505.99690000000	-79.86310482200	43.66690745960
Cavity Tree. Large dead Ash with several holes	{86D27815-F7F4-4CA2-B601-CA6DF05E0A36}	6/9/2022	159	590996.48050000000	4835193.76680000000	-79.87136415280	43.66417800950
Deer tracks	{1ECA1F94-A300-460E-89F4-B97796601928}	6/9/2022	160	590990.86220000000	4835163.11320000000	-79.87143899380	43.66390274480

Appendix C

Aquatic Field Sheets

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WATERCOURSE FIELD COLLECTION FORM

GENERAL INFORMATION			
Project # ~~Halton Bridges and Culverts~~ IM21405045 MX Heritage Layover TPAP Phase 2	Project Description: track widening		Date: 4 July 2022
Is Stream Realignment required for this section: ● Yes ○ No ○ Unknown			
Collectors: R. Dibbley M. Gadard		Time Started: 10:30	Time Finished: 11:00
Weather Conditions: Sunny			
Air Temp (°C): ~ 24	Water Temp (°C): —	Conductivity (µS/cm): —	Velocity (m/s): —
Photos Numbers And Descriptions:			

LOCATION			
Name of Waterbody: CR 1-2	Drainage System: Credit River	Crossing #: —	Station #: —
Location Of Crossing: ~ 528 m east of Winston Churchill Boulevard along tracks			
GPS Coordinates: 17T 591225 4835390(US) 591235 4835368(DS)		MTO Chainage: —	

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Township:	MNDMNRF District:
Georgetown	Aurora

LAND USE AND POLLUTION

Surrounding Land Use:	Sources of Pollution:
agriculture north & south of tracks	rail line overland flow

EXISTING STRUCTURE TYPE

Bridge	Box Culvert	Open Foot Culvert	CSP	N/A
O	O	O	●	O

Other O (Describe)	Size: (w x h) m^2

SECTION TYPE AND MORPHOLOGY

Section (Reach) Identifier:	Section Location: (Include On Habitat Map)
Associated Wetland	

Stream / River	Channelized	Permanent	Intermittent	Ephemeral
O	O	O	O	O

Total Section (Reach) Length (m): 50m US to 10m DS

Sub-Sections:	Run O	Pool O	Riffle O	Flats O	Culvert O	Other O
Percentage of Area:						
Mean wetted depth (m)		DRY				
Mean wetted width (m)						
Mean bankfull depth (m)						
Mean bankfull width (m)						

DRY U/S - WW = 22cm BF = 13cm high & 55cm wide
D/S - WW = 36cm, BF 15-30cm high, 130 cm wide
Access to 30ft wide downstream (south) of tracks

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Substrate (type & %) looks like soil, no cobble/gravel/boulder observed

Bedrock (Br)	Boulder (Bo)	Cobble (Co)	Gravel (Gr)	Sand (Sa)	Silt (Si)	Clay (Cl)	Muck (Mu)	Detritus (D)

BANK STABILITY

	Stable	Slightly Unstable	Moderately Unstable	Unstable
Left Bank	●	O	O	O
Right Bank	●	O	O	O
	Deposition Zone	Protected Bank	Vulnerable Bank	Eroding Bank
Left Bank	O	O	●	O
Right Bank	O	O	●	O

HABITAT

In-Stream Cover (% surface area):

Undercut banks:	Boulders:	Cobbles:	Organic Debris:	None
				●

Vascular Macrophytes:	Woody Debris:
Instream:	Instream:
Overhanging:	Overhanging:

Shore Cover (% stream shaded):

100-90%	89-60%	59-30%	29-1%	None
●	O	O	O	O

CR-1

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Vegetation Type:				
Vegetation Type (%)	Submergent:	Floating:	Emergent:	None ◉
Predominant Species:				

MIGRATORY OBSTRUCTIONS		
Permanent	Seasonal	None
possibly water level	DRY	

POTENTIAL CRITICAL HABITAT		
Spawning	Groundwater	Other
—	—	None

POTENTIAL ENHANCEMENT OPPORTUNITIES

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ADDITIONAL COMMENTS

Dense reed canary grass surrounding and sometimes within channel. Dry.
On downstream (south) side channel runs east along tracks then turns south.

U/S = upstream, D/S = downstream

Additional Notes Appended? ○ No ◉ Yes Number of Pages 5 for crossing to the east

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WATERCOURSE FIELD COLLECTION FORM

GENERAL INFORMATION			
Project # M + HL	Project Description: Heritage Layover IM21405045		Date: 4 July 2022
Is Stream Realignment required for this section: O Yes ☒ No O Unknown			
Collectors: MG + RD		Time Started: 10:00	Time Finished: 10:30
Weather Conditions: Sunny ~~24°~~ No cloud			
Air Temp (°C): 24	Water Temp (°C): —	Conductivity (µS/cm): —	Velocity (m/s): —
Photos Numbers And Descriptions:			

LOCATION			
Name of Waterbody: CR1-2C (D/S of tracks) N/A CR1-2E (U/S of tracks)	Drainage System: Credit River	Crossing #: —	Station #: —
Location Of Crossing: 821m east of Winston Churchill Blvd along tracks			
GPS Coordinates: 17T 591473 4835457 (US) 591501 4835443 (DS)		MTO Chainage: —	

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Township:	MNRF District:
Georgetown	Aurora

LAND USE AND POLLUTION

Surrounding Land Use:	Sources of Pollution:
Agriculture	overland flow / rail line

EXISTING STRUCTURE TYPE

Bridge	Box Culvert	Open Foot Culvert	CSP	N/A
O	O	O	⊗	O

Other O (Describe)	Size: (w x h) m^2

SECTION TYPE AND MORPHOLOGY

Section (Reach) Identifier:	Section Location: (Include On Habitat Map)
Associated Wetland	

Stream / River	Channelized	Permanent	Intermittent	Ephemeral
O	O	O	O	⊗

Total Section (Reach) Length (m):

Sub-Sections:	Run O	Pool O	Riffle O	Flats O	Culvert O	Other O
Percentage of Area:						
Mean wetted depth (m)						
Mean wetted width (m)						
Mean bankfull depth (m)						
Mean bankfull width (m)						

NO defined channel

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Substrate (type & %)								
Bedrock (Br)	***Boulder (Bo)***	***Cobble (Co)***	***Gravel (Gr)***	***Sand (Sa)***	***Silt (Si)***	***Clay (Cl)***	***Muck (Mu)***	***Detritus (D)***

BANK STABILITY

	Stable	Slightly Unstable	Moderately Unstable	Unstable
Left Bank	O	O	O	O
Right Bank	O	O	O	O
	Deposition Zone	**Protected Bank**	**Vulnerable Bank**	**Eroding Bank**
Left Bank	O	O	O	O
Right Bank	O	O	O	O

HABITAT

In-Stream Cover (% surface area):

Undercut banks:	Boulders:	Cobbles:	Organic Debris:	None
				O

Vascular Macrophytes:	Woody Debris:
Instream:	Instream:
Overhanging:	Overhanging:

Shore Cover (% stream shaded):

100-90%	89-60%	59-30%	29-1%	None
⊗	O	O	O	O

Ontario

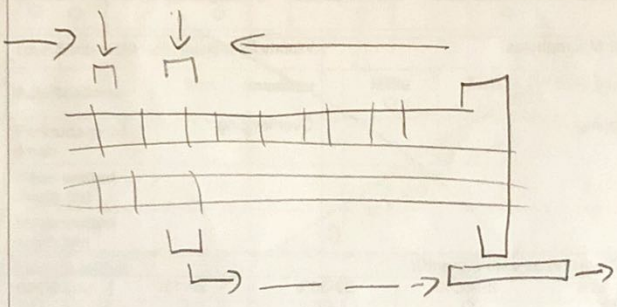
Ministry of Transportation

Vegetation Type:				
Vegetation Type (%)	Submergent:	Floating:	Emergent: 100	None O
Predominant Species:	/	/	Reed Canary grass	

MIGRATORY OBSTRUCTIONS		
Permanent	Seasonal X	None

POTENTIAL CRITICAL HABITAT		
Spawning /	Groundwater /	Other /

POTENTIAL ENHANCEMENT OPPORTUNITIES



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ADDITIONAL COMMENTS

- Ephemeral watercourse
- no observable channel
- appears to collect H2O within the Row only conveying under railway
- no observable connection to downstream; however, high veg cover made observations difficult
- double stack culvert on DS side
- two culverts on US side.
- no water / no fish

Additional Notes Appended? X No O Yes Number of Pages _____

5 pages for crossing to the west

Appendix D

Compiled Plant List

ObjectID	GlobalID	Plant Species Codes:	Plant Species Names	Canopy	Sub-canop	Understory	Ground Layer	ParentGlobalID
828	e6bf8bab-8	BROMINE	Bromus inermis / Smooth Brome				Dominant	CUM1
829	f34f6ae9-c	ULMUAME	Ulmus americana / White Elm	Rare				CUM1
830	a68491e0-3	DACTGLO	Dactylis glomerata / Orchard Grass				Abundant	CUM1
831	234ab697-(	SOLICAN	Solidago canadensis / Canada Goldenrod				Abundant	CUM1
832	3ca58ddd-4	PASTSAT	Pastinaca sativa / Wild Parsnip				Occassional	CUM1
833	9205980d-!	VICICRA	Vicia cracca / Tufted Vetch				Abundant	CUM1
834	8a803980-(	PHALARU	Phalaris arundinacea / Reed Canarygrass				Occassional	CUM1
835	28bf1762-f	SILELAT	Silene latifolia / White Campion				Occassional	CUM1
836	63134cd7-(	CONVARV	Convolvulus arvensis / Field Bindweed				Abundant	CUM1
837	9965bdf0-4	MEDISAT	Medicago sativa / Alfalfa				Abundant	CUM1
838	13615123-l	CIRSDIS	Cirsium discolor / Field Thistle				Abundant	CUM1
839	1eb820a7-3	LOTUCOR	Lotus corniculatus / Garden Bird's-foot Trefoil				Abundant	CUM1
840	6dac9502-3	EQUIARV	Equisetum arvense / Field Horsetail				Occassional	CUM1
841	4feea6be-8	INULHEL	Inula helenium / Elecampane				Occassional	CUM1
842	c5a20332-b	RUBUIDA	Rubus idaeus / Red Raspberry				Occassional	CUM1
843	32f53166-4	PARTQUI	Parthenocissus quinquefolia / Virginia Creeper				Occassional	CUM1
844	8bc9b653-9	RANUACR	Ranunculus acris / Common Buttercup				Occassional	CUM1
845	ee2e1ec5-b	GALIAPA	Galium aparine / Common Bedstraw				Occassional	CUM1
846	3133850e-3	VITIRIP	Vitis riparia / Riverbank Grape				Occassional	CUM1
847	5502fc06-f	CIRSVUL	Cirsium vulgare / Bull Thistle				Occassional	CUM1
848	be34b7b4-4	ATOCARM	Atocion armeria / Sweet William Catchfly				Rare	CUM1
849	5159ed7b-4	RUMECRI	Rumex crispus / Curled Dock				Occassional	CUM1
850	f4da4371-e	ARUNDIO	Aruncus dioicus / Common Goatsbeard				Occassional	CUM1
851	6cdba0c5-c	CICHINT	Cichorium intybus / Wild Chicory				Occassional	CUM1
852	74d1af10-c	LEUCVUL	Leucanthemum vulgare / Oxeye Daisy				Occassional	CUM1
853	19e95b7d-4	LEPICAM	Lepidium campestre / Field Peppergrass				Occassional	CUM1
854	38a79361-(	DAUCCAR	Daucus carota / Wild Carrot				Abundant	CUM1
855	6686b348-4	ASCLSYR	Asclepias syriaca / Common Milkweed				Rare	CUM1
856	6fd1ea43-6	RHAMCAT	Rhamnus cathartica / European Bu	Rare				CUM1
857	54a287a2-3	ROSA_SP	Rosa sp. / Rose Species				Rare	CUM1
858	d0d437f8-b	ARTEVUL	Artemisia vulgaris / Common Wormwood				Occassional	CUM1
859	dd21f8ba-f	MALUPUM	Malus pumila / Common Apple	Rare				CUM1
860	5ef660ea-1	CRAT_SP	Crataegus sp. / Hawthorn Species	Rare				CUM1
861	ade09897-(	DIPSFUL	Dipsacus fullonum / Common Teasel				Occassional	CUM1
862	3f66dff9-1	PRUNVIR	Prunus virginiana / Chokecherry	Rare			Rare	CUM1
863	fad718e9-f	TRIFPRA	Trifolium pratense / Red Clover				Rare	CUM1
864	c4dcefe0-0	APOCAND	Apocynum androsaemifolium / Spreading Dogbane				Occassional	CUM1
865	2b9a8d4e-3	SYMPOCC	Symphoricarpos occidentalis / Western Snowberry				Rare	CUM1
866	6dfac030-d	SYMPNOV	Symphyotrichum novae-angliae / New England Aster				Occassional	CUM1
867	8bb970b0-	CORNSER	Cornus sericea / Red-osier Dogwood				Rare	CUM1
868	fbde95b1-(	FRAGVIR	Fragaria virginiana / Wild Strawberry				Occassional	CUM1
869	1bd656e1-4	ARCTMIN	Arctium minus / Common Burdock				Occassional	CUM1
870	61d80ae0-(	PODOPEL	Podophyllum peltatum / May-apple				Rare	CUM1
871	8554d615-(	TOXIRAD	Toxicodendron radicans / Poison Ivy				Occassional	CUM1
872	7d4fc371-5	TARAOFF	Taraxacum officinale / Common Dandelion				Occassional	CUM1
873	5219c87c-5	GALIPAL	Galium palustre / Common Marsh Bedstraw				Rare	CUM1
874	df06cc9d-7	POPUDEL	Populus deltoides / Eastern Cotton	Rare				CUM1
875	145df42b-e	SALIALB	Salix alba / White Willow	Rare				CUM1
876	5bb93dbc-(	HESPMAT	Hesperis matronalis / Dame's Rocket				Rare	CUM1
877	b5d9107f-e	FRAXAME	Fraxinus americana / White Ash	Rare				CUM1
878	a27845e3-3	VINCNIG	Vincetoxicum nigrum / Black Swallowwort				Occassional	CUM1
879	b9cee876-5	TANAVUL	Tanacetum vulgare / Common Tansy				Rare	CUM1
880	d4c9c567-e	SALI_SP	Salix sp. / Willow Species	Rare				CUM1
881	c16226fa-2	QUERMAC	Quercus macrocarpa / Bur Oak	Rare				CUM1
882	ebb7488f-7	TUSSFAR	Tussilago farfara / Coltsfoot				Rare	CUM1
883	a12692aa-(	TYPHLAT	Typha latifolia / Broad-leaved Cattail				Rare	CUM1
884	18ec0605-f	NEPECAT	Nepeta cataria / Catnip				Rare	CUM1
885	247ce46d-5	SOLADUL	Solanum dulcamara / Bittersweet Nightshade				Rare	CUM1
886	1124ef91-1	VINCNIG	Vincetoxicum nigrum / Black Swallowwort				Abundant	CUM1
887	1706b72f-6	RHUSTYP	Rhus typhina / Staghorn Sumac		Rare			CUM1
888	40a6299e-4	ALLIPET	Alliaria petiolata / Garlic Mustard				Occassional	CUM1
889	10308aac-3	CRATPUN	Crataegus punctata / Dotted Hawth	Dominant				MAM2-2
890	b2412459-3	QUERMAC	Quercus macrocarpa / Bur Oak	Rare				MAM2-2
891	da0fd83b-c	PARTQUI	Parthenocissus quinquefolia / Virgi	Occassional				MAM2-2
892	ccaa2319-3	PHALARU	Phalaris arundinacea / Reed Canarygrass				Dominant	MAM2-2
893	140f2009-3	POA__SP	Poa sp. / Bluegrass Species				Abundant	MAM2-2
894	66a4ff76-1	INULHEL	Inula helenium / Elecampane				Abundant	MAM2-2

895	575e88cb-:	VICICRA	Vicia cracca / Tufted Vetch				Occassional	MAM2-2
896	c2693d8e-4	SOLICAN	Solidago canadensis / Canada Goldenrod				Abundant	MAM2-2
897	628708b7-:	CIRSDIS	Cirsium discolor / Field Thistle				Occassional	MAM2-2
898	781673b3-(	JUNC_SP	Juncus sp. / Rush Species				Occassional	MAM2-2
899	dabd1a01-(	CARE_SP	Carex sp. / Sedge Species				Occassional	MAM2-2
900	2d271d8e-(	SOLI_SP	Solidago sp. / Goldenrod Species				Abundant	MAM2-2
901	5e74f49f-b	TYPHANG	Typha angustifolia / Narrow-leaved Cattail				Occassional	MAM2-2
902	48b4e02e-(	TYPHLAT	Typha latifolia / Broad-leaved Cattail				Occassional	MAM2-2
903	993db689-:	SYMPNOV	Symphyotrichum novae-angliae / New England Aster				Occassional	MAM2-2
904	48e5959e-:	DIPSFUL	Dipsacus fullonum / Common Teasel				Occassional	MAM2-2
905	5ed95368-9	ALLIPET	Alliaria petiolata / Garlic Mustard				Occassional	MAM2-2
906	dc16ff2a-6	EPILHIR	Epilobium hirsutum / Hairy Willowherb				Rare	MAM2-2
907	4ab31b15-(	SOLADUL	Solanum dulcamara / Bittersweet Nightshade				Rare	MAM2-2
908	fb33d8e4-c	CARERET	Carex retroflexa / Reflexed Sedge				Rare	MAM2-2
909	dca6fc23-a	VITIRIP	Vitis riparia / Riverbank Grape				Occassional	MAM2-2
910	c0edf9bd-C	JUGLNIG	Juglans nigra / Black Walnut	Abundant	Abundant			CUW1
911	b6412e16-:	ACERRUB	Acer rubrum / Red Maple	Rare				CUW1
912	ad26a695-(	RHAMCAT	Rhamnus cathartica / European Buckthorn		Abundant	Abundant		CUW1
913	da078885-:	PICEPUN	Picea pungens / Blue Spruce	Occassional				CUW1
914	37935184-8	BROMINE	Bromus inermis / Smooth Brome				Abundant	CUW1
915	92f9b982-8	ROSAMUL	Rosa multiflora / Multiflora Rose			Occassional		CUW1
916	e2248039-(	VITIRIP	Vitis riparia / Riverbank Grape				Occassional	CUW1
917	185aabbf-b	FRAXAME	Fraxinus americana / White Ash	Rare	Occassional			CUW1
918	adb8d397-(	RHUSTYP	Rhus typhina / Staghorn Sumac			Occassional		CUW1
919	4c22df2c-9	SOLICAN	Solidago canadensis / Canada Goldenrod				Abundant	CUW1
920	b10cd7cd-8	PARTQUI	Parthenocissus quinquefolia / Virginia Creeper				Abundant	CUW1
921	31de1ae7-(	RUBUIDA	Rubus idaeus / Red Raspberry				Occassional	CUW1
922	3db9a657-9	ACERNEG	Acer negundo / Manitoba Maple	Occassiona	Occassiona	Occassional		CUW1
923	2975adb9-(	RUBUOCC	Rubus occidentalis / Black Raspberry				Occassional	CUW1
924	9d5cc585-1	ROSA_SP	Rosa sp. / Rose Species				Rare	CUW1
925	0da44b23-(	LEUCVUL	Leucanthemum vulgare / Oxeye Daisy				Occassional	CUW1
926	27df3549-e	HESPMAT	Hesperis matronalis / Dame's Rocket				Occassional	CUW1
927	277fbb2d-e	LONITAT	Lonicera tatarica / Tatarian Honeysuckle			Occassional		CUW1
928	a377d645-(	GEUMURB	Geum urbanum / Wood Avens				Abundant	CUW1
929	a663edd3-9	ALLIPET	Alliaria petiolata / Garlic Mustard				Abundant	CUW1
930	9cde0d9a-9	ACERPLA	Acer platanoides / Norway Maple	Occassional				CUW1
931	ada2a66b-9	ERIGANN	Erigeron annuus / Annual Fleabane				Occassional	CUW1
932	f947b321-c	PICEGLA	Picea glauca / White Spruce	Occassional				CUW1
933	fda2b6d4-f	PINURES	Pinus resinosa / Red Pine	Occassional				CUW1
934	4e2d2b7e-:	PINUSTR	Pinus strobus / Eastern White Pine	Abundant				CUW1

Appendix E

Tree Inventory

Tree_Tag	Tagged	Tree_Speci	DBH	Drip_Line	Tree_Cond_Structure	Tree_Cond_Health	Comments	GlobalID	ATT_ID	EAST	NORTH	LONG	LAT
401	Yes	American Elm	27, 18, 11	8.00000000000	F	F	Growing out of gravel pile. MS, BR1	{83B2D279-4B72-40FF-A29E-789AA5A3DA12}	2872	591103.47010000000	4835363.79840000000	-79.87000869230	43.66569557390
402	Yes	American Elm	15, 14	5.00000000000	G	G	MS, BSD	{A69B89B2-6B20-4F62-B123-5389EFFA4960}	2873	591117.11310000000	4835380.28700000000	-79.86983672020	43.66584233620
403	Yes	American Elm	16	5.00000000000	G	G	Unbalanced crown	{EDA47996-C0E9-49A6-A0AC-11E7C456BA40}	2874	591137.80830000000	4835376.39760000000	-79.86958073540	43.66580478480
404	Yes	Bur Oak	10	0.00000000000	G	G		{6E8ADBE4-F826-46E5-8040-B1D3079BBB42}	2875	591136.43680000000	4835381.88830000000	-79.86959681580	43.66585438180
405	Yes	Bur Oak	18	4.00000000000	G	G	SF	{3E00DC01-665E-465E-B920-3F8E9F3952CD}	2876	591147.78180000000	4835372.31380000000	-79.86945774380	43.66576679800
	No	American Elm	15	5.00000000000	G	G	No access. Estimated DBH	{EF63847C-93DE-4674-AE64-560C913786F4}	2877	591211.37270000000	4835396.37190000000	-79.86866508410	43.66597557290
407	Yes	Common Apple	20, 13, 12	5.00000000000	F	F	MS, GTF	{89F6A97C-9C5C-4FB7-9A84-D225AE64BDD8}	2878	591196.23480000000	4835379.80600000000	-79.86885561070	43.66582830000
	No	Azerole	12, 12 10	6.00000000000	F	F	No access.	{D7C54CFB-221A-4200-B35E-B095D721DB74}	0	591190.92610000000	4835382.04400000000	-79.86892106570	43.66584909860
	No	Common Apple	12, 10	5.00000000000	F	G	No access	{D84EAA57-13C4-4047-BFF2-B185F8BF9510}	2879	591185.22540000000	4835387.66240000000	-79.86899081060	43.66590037660
	No	Common Apple	11	5.00000000000	G	G	No access	{45EC658A-F498-4459-B178-210EE1275A5C}	0	591180.67300000000	4835385.41650000000	-79.86904764470	43.66588071700
	No	Common Apple	10, 10, 10	4.00000000000	F	G	No access, UC	{EB777278-5AC8-4186-8DFB-50C518929608}	2880	591177.03930000000	4835385.93760000000	-79.86909261830	43.66588585390
	No	Common Apple	10, 10	5.00000000000	G	G	DBH estimated. No access	{C4637265-AF21-47BF-837F-B54643586498}	2881	591168.35680000000	4835386.28470000000	-79.86920023170	43.66589004390
	No	Common Apple	13, 10, 10	4.00000000000	F	F	Unbalanced crown, estimated DBH. No access	{A96B9152-29DC-4AE9-A47E-2D154A35DB97}	2882	591163.27040000000	4835376.59000000000	-79.86926494670	43.66580339350
	No	Hawthorn species		5.00000000000	G	G	No access. LS, UC	{9419DCAA-75ED-49F8-9C2D-3B28DE35E569}	2883	591147.46240000000	4835386.60810000000	-79.86945928940	43.66589551850
	No	American Elm	10	3.00000000000	P	F	GTF, ML	{87CED668-6C7E-428B-93C0-A95499DC79AC}	2884	591247.00390000000	4835394.45770000000	-79.86822354340	43.66595396630
407	Yes	American Elm	10	3.00000000000	P	F	ML, rubbing branches	{E0CB8B2D-DD43-4C43-B8B3-E0BA1F47D3DB}	2885	591253.81750000000	4835395.10540000000	-79.86813893800	43.66595896030
408	Yes	American Elm	12	3.00000000000	F	G	GTF	{56617C75-62A7-4D29-9C86-5287B02E25BF}	2886	591320.00990000000	4835415.16270000000	-79.86731468720	43.66613139000
409	Yes	American Elm	10, 10	3.00000000000	G	G	IB	{30672E1C-FB10-45FD-98A7-2B6A85193C3E}	2887	591344.78820000000	4835424.44260000000	-79.86700583800	43.66621188470
410	Yes	American Elm	12	4.00000000000	G	G	UW	{C55E770F-EF2A-4DD1-A253-A71B2FAF5B0E}	2888	591346.58990000000	4835424.99370000000	-79.86698340160	43.66621662440
	No	American Elm	10	3.00000000000	G	G	Poison ivy at base	{687756E9-0062-4659-ADCF-ACEF2BEF69B9}	2889	591520.99660000000	4835473.12460000000	-79.86481240150	43.66662845130
	No	American Elm	14	5.00000000000	G	G	GTF	{8D834A8C-AC56-4477-B5AC-EFF37EFA8DB6}	2890	591535.69390000000	4835473.96920000000	-79.86462999440	43.66663424420
N	No	American Elm	16	5.00000000000	F	G	Poison ivy at base, UW	{1EBD857B-155F-4B1E-AEDC-D8CFA7860D5A}	2891	591536.42450000000	4835474.07080000000	-79.86462091690	43.66663506880
	No	Common Apple	13, 10	5.00000000000	F	G	No access	{673733D1-69C5-4D68-8A02-EB17F2C2AAA7}	2892	591584.45980000000	4835496.97160000000	-79.86402133440	43.66683530900
	No	White Ash	10	3.00000000000	F	G	Limited access, CT	{78C8062D-85F5-4A1C-90BA-566001B977A9}	2893	591657.47400000000	4835508.35370000000	-79.86311393580	43.66692877080
411	Yes	Bur Oak	11	4.00000000000	G	G	GTF, UW	{721DDD63-68D4-453A-B0E0-0E26C90BC7B6}	2894	591706.71910000000	4835532.48390000000	-79.86249913350	43.66713992100
412	Yes	American Elm	10	5.00000000000	G	G	GTF, UW	{B4EDF821-DA3C-45F0-AB92-0251C468C4AE}	2895	591850.50220000000	4835572.92410000000	-79.86070915460	43.66748621450
	No	Bur Oak	32	8.00000000000	G	G	BR2	{E152AC17-973D-4031-89D5-CE3CF2ADC299}	0	592031.81460000000	4835602.07350000000	-79.85845566650	43.66772618970
	No	Bur Oak	20, 24	8.00000000000	F	F	TD, several broken branches	{1B3D0DFA-F498-4BA2-B482-E8FE345882D4}	0	592027.46180000000	4835597.75300000000	-79.85851038440	43.66768783460
	No	Bur Oak	25, 24, 17, 15, 14, 13	9.00000000000	F	F	ML, many broken branches	{5B307982-04E4-43F5-BF50-A5A01239F313}	0	591971.70740000000	4835581.49420000000	-79.85920458760	43.66754837210
	No	Bur Oak	26, 19, 14, 18	7.00000000000	F	F	Many broken branches, ML	{7F9E8FCE-4303-4882-905B-2D63724CF69C}	0	591968.26430000000	4835580.53240000000	-79.85924745070	43.66754013990
	No	Bur Oak	28, 23, 20, 14	8.00000000000	F	F	Many broken branches	{4303AB9A-3B41-4256-86C2-D9F1A92C8665}	0	591966.47270000000	4835579.41690000000	-79.85926985910	43.66753031970
413	Yes	Bur Oak	25	7.00000000000	F	F	1SD, VC, BR	{9C0B0F59-9653-4FE1-ADD9-039278B3B573}	0	591938.12920000000	4835573.93460000000	-79.85962229090	43.66748447420
414	Yes	Bur Oak	19, 27	8.00000000000	F	F	SL	{3AEBF2C6-8529-4A43-BAE3-BDF5D24874B8}	0	591936.83270000000	4835572.68570000000	-79.85963858210	43.66747339170
415	Yes	Bur Oak	25, 11, 14	8.00000000000	F	G	SL, MS, BR1	{D1C281DB-9385-44BD-89B4-962C4002E064}	2896	591936.55210000000	4835572.39940000000	-79.85964211070	43.66747084910
416	Yes	Bur Oak	26, 38	9.00000000000	F	G	IB, CB	{C232B6E3-FE22-4A4C-9CF3-206CD9802D3F}	0	591934.76660000000	4835571.85500000000	-79.85966434610	43.66746616920
417	Yes	Bur Oak	28, 26	9.00000000000	F	G	IB, ML	{E99429A7-26C7-4F08-A19B-48F9CD311F07}	0	591933.32140000000	4835571.52870000000	-79.85968232410	43.66746341050
418	Yes	Bur Oak	19, 15	4.00000000000	F	P	CD	{1798D1B9-C6A9-4D2A-B727-35AB891CBB2D}	0	591930.65610000000	4835570.48530000000	-79.85971555520	43.66745434740
419	Yes	Bur Oak	14, 15, 15, 20, 13	7.00000000000	P	F	SL, ML, IB	{2AE4E01C-C19F-4113-8BDA-9AAFF89B760E}	0	591929.14170000000	4835568.80100000000	-79.85973462280	43.66743937220
420	Yes	Bur Oak	13, 12	4.00000000000	F	G	SL, ML	{71FF63CA-DD7B-4C56-BC16-BBBA53663150}	0	591928.56500000000	4835569.14010000000	-79.85974171690	43.66744249620
421	Yes	Bur Oak	25, 16, 10	7.00000000000	F	G	ML	{9EA1E25E-523E-4FAB-984F-006F67491A8F}	0	591928.43590000000	4835568.70060000000	-79.85974339280	43.66743855570
222	Yes	Bur Oak	16	4.00000000000	F	G	UC	{0216AF80-F911-427C-8072-CCBFC60D2CE9}	0	591928.15290000000	4835568.80750000000	-79.85974688410	43.66743955310
423	Yes	Bur Oak	18, 18, 15	0.00000000000				{82964AF3-D7DE-45DA-BF99-E3222DE7DDA3}	0	591923.61760000000	4835567.77660000000	-79.85980330360	43.66743083370
424	Yes	Bur Oak	16	5.00000000000	G	G		{04A004C4-501B-4AC6-9708-A70F1CE2370A}	0	591920.03330000000	4835565.91640000000	-79.85984807060	43.66741453120
425	Yes	Bur Oak	29, 30, 20, 20, 16	10.00000000000	F	G	ML, BR5	{36F0EA49-AACB-4140-892B-1046AB160229}	2897	591905.43520000000	4835563.17880000000	-79.86002957270	43.66739169230
426	Yes	Bur Oak	12	4.00000000000	P	F	RFS, ML	{D7629722-F590-42ED-B2C6-34A0898D5793}	0	591885.77220000000	4835557.13680000000	-79.86027444900	43.66733973250
427	Yes	Bur Oak	18	5.00000000000	G	G	BR2	{7494F28C-28E8-41C5-9C94-8794596C0257}	0	591879.75070000000	4835553.35660000000	-79.86034976740	43.66730644680
427	Yes	Bur Oak	18	5.00000000000	G	G	BR2	{38623BA1-BFB1-4A8A-89D3-2C008E483C07}	0	591879.75070000000	4835553.35660000000	-79.86034976740	43.66730644680
428	Yes	Bur Oak	31	7.00000000000	F	F	Several broken branches	{806998D8-824E-4AAA-9948-D579B2C6E080}	0	591872.45670000000	4835552.69010000000	-79.86044033600	43.66730134870
429	Yes	Burr Oak	35	9.00000000000	F	G	TD, several broken Branches	{9E698970-9EFC-4655-971E-0276D223CC37}	0	591834.95590000000	4835541.92660000000	-79.86090722710	43.66720908870
430	Yes	Manitoba Maple	32, 35, 30	7.00000000000	P	P	Previous crown failure. 2 trunks broken	{1CCB8D8E-C106-4750-8194-8539A6AC8B34}	2898	591820.38830000000	4835537.17410000000	-79.86108869300	43.66716810580
	No	Elm	30	0.00000000000	D	D		{851C6B35-010C-4501-991D-28C293040755}	2899	591737.21530000000	4835512.54290000000	-79.86212433330	43.66695664260
	No	English Hawthorn	17	5.00000000000	P	P	Broken crown	{EC98A21B-7EE6-4B3D-B7F2-90BABB68F5FC}	2900	591361.54950000000	4835402.92350000000	-79.86680162410	43.66601610320
431	Yes	Green Ash	11	4.00000000000	G	G	BOB	{DC375CB5-C6A9-4897-80C9-FF94B3663191}	2901	591042.48780000000	4835306.05010000000	-79.87077468060	43.66518318110
432	Yes	Common Apple	11	3.00000000000	P	F	LS, SL	{7CDE5658-0C62-4CC2-9DAB-641BFD61471E}	0	591043.09350000000	4835306.43910000000	-79.87076710370	43.66518660880
432	Yes	Common Apple	12, 10	4.00000000000	P	F	BOB, BSD	{3FDE7A59-960A-4ED3-88B4-2E55A7F0792D}	0	591048.45890000000	4835308.28830000000	-79.87070025580	43.66520259850
434	Yes	Manitoba Maple	15	4.00000000000	P	P	Main trunk broken. BOB	{7E761BFB-06D3-44F2-8A7A-D0C645F7EC15}	2902	591052.06680000000	4835308.48360000000	-79.87065548160	43.66520391460
435	Yes	Common Apple	21, 10, 13, 20	6.00000000000	P	G	MOB, crossing Branches, ST	{701D0834-7546-455F-ACD3-9619664B1C81}	0	591252.93140000000	4835363.57740000000	-79.86815526000	43.66567524530
436	Yes	Bur Oak	21	7.00000000000	G	G		{CC1E6341-D848-44BB-AC46-480F23A300F4}	0	591299.58040000000	4835330.71120000000	-79.86758232870	43.66537364460
		Dotted Hawthorn	13, 12, 12	0.00000000000				{415E06D0-A21B-47E9-AC2F-2F834C3E0AA3}	0	591298.38300000000	4835328.73940000000	-79.86759751130	43.66535604100
	No	Dotted Hawthorn	13	0.00000000000				{99A85F99-7179-4A47-8106-BDDD8D722DF7}	0	591301.43390000000	4835324.59300000000	-79.86756037910	43.66531833920
	No	Dotted Hawthorn	18, 11	0.00000000000				{7A994324-0190-4492-8E5A-0183034BD129}	0	591295.96070000000	4835330.16690000000	-79.86762730850	43.66536918940
	No	Dotted Hawk	15	0.00000000000				{78BB2A08-1159-47EC-96F1-61E1AF6A51A3}	0	591295.52980000000	4835326.54120000000	-79.86763326570	43.66533660280
	No	Dotted Hawthorn	13	0.00000000000				{8D80E653-444F-4539-A42D-94031F832B08}	0	591299.23110000000	4835322.71300000000	-79.86758801400	43.66530168550
437	Yes	Bur Oak	19	5.00000000000	G	G		{D78F7B73-ED2E-44F8-A14C-C9DBB60F2D1D}	0	591302.86820000000	4835325.75910000000	-79.86754239510	43.66532866050
		Dotted Hawthorn	15	0.00000000000				{7F509E23-3BE6-490C-B566-69BDDAA4C77E}	2903	591303.57800000000	4835322.48920000000	-79.86753414640	43.66529913670
	No	Dotted Hawthorn	12, 12, 13	0.00000000000				{2CCDAFBE-26C5-4FA5-8D23-1A4F0E341B0B}	2904	591270.74420000000	4835351.53370000000	-79.86793640140	43.66556463690
	No	Dotted Hawthorn	17, 15, 11	0.00000000000				{CC1390FE-042C-408C-BF86-5C3CF78A6C0F}	0	591261.46270000000	4835359.46830000000	-79.86805015860	43.66563720630
438				0.00000000000				{D7893A48-8483-474F-A48C-82FCE090028B}	0	591234.45500000000	4835365.42020000000	-79.86838407410	43.66569410340
438	Yes	American Elm	25	7.00000000000	G	G	Broken branches, branches running	{DEC10167-43D6-46ED-9213-A8BDE0EF8667}	2905	591234.45500000000	4835365.42020000000	-79.86838407410	43.66569410340
439	Yes	Manitoba Maple	39	9.00000000000	P	F	LNM, Broken Crown, Trunk Damage	{3B247902-C376-456E-A0DA-9DD751DFADC4}	2906	591204.03790000000	4835356.03320000000	-79.86876286360	43.66561333290
440	Yes	Norway Maple	11, 10	5.00000000000	G	G	MS	{D004F599-63B0-4EDD-85C2-DC63A9E1E381}	2907	591169.45700000000	4835345.97430000000	-79.86919340090	43.66552702340
				0.00000000000				{3FB78D61-5098-43DF-8A36-09A74C5FE88E}	0	591135.22290000000	4835336.02660000000	-79.86961961750	43.66544167070
	No	Hawthorn Sp.	15, 12, 13	3.00000000000	P	P	Broken crown. 2 trunks broken	{F44B7293-59FA-41D3-B93E-CA8C0B932F77}	2908	591135.22290000000	4835336.02660000000	-79.86961961750	43.66544167070
443	Yes	American Elm	17	6.00000000000	G	G	VC	{5F62070A-832F-4980-ABED-B25C9BA00642}	2909	591095.70840000000	4835314.90320000000	-79.87011320210	43.66525635700
444	Yes	American Elm	33	7.00000000000	G	G	IB, BOB	{FB89BAE1-6686-4D04-A2AA-09286AA3E06F}	2910	591087.37170000000	4835307.71180000000	-79.87021779920	43.66519263990
445	Yes	American Elm	14	5.00000000000	F	G	MOB, BSD	{3164CEAD-E16F-495B-B920-245613365F71}	0	591086.37140000000	4835307.13720000000	-79.87023030080	43.66518758980
442	Yes	American Elm	18	6.00000000000	F	F	UC, MOB, BSD	{1A491949-AF50-4908-B5BA-85C7C546A1A3}	2911	591085.91660000000	4835306.90850000000	-79.87023597930	43.66518558670
445	Yes	American Elm	20	5.00000000000	F	G	BSD	{8E0368BC-A5BE-494F-9DEA-9E56C23464BD}	0	591087.19470000000	4835306.81950000000	-79.87022014480	43.66518462880
441	Yes	American Elm	16	5.00000000000	F	G	MOB, BSD	{B555F7FD-A148-48E8-9784-EE623A5A1DFA}	0	591087.32070000000	4835306.86890000000	-79.87021857390	43.66518505810
447	Yes	American Elm	23	6.00000000000	G	G		{502CF2DE-9CF1-4745-B6C7-AF25053C30CB}	0	591084.86210000000	4835301.04940000000	-79.87025004540	43.66513297060
448	Yes	Black walnut	10	3.00000000000	F	F	LS, VC	{51099522-65CB-4727-88BA-4F4F4142113F}	0	591078.71680000000	4835296.71600000000	-79.87032698420	43.66509471340
449	Yes	American Elm	21, 20	8.00000000000	F	F	VC, MOB	{9C15D73C-42DE-4911-B041-765F7452E820}	0	591076.92770000000	4835296.26170000000	-79.87034924740	43.66509084290
450	Yes	American Elm	16	5.00000000000	F	G	SL	{9FEEF2A9-08D8-4BF7-9E7E-2D168F55AC31}	0	591068.83400000000	4835287.73030000000	-79.87045105660	43.66501503270
451	Yes	American Elm	23	5.00000000000	F	G	MOB	{ABCE8FF2-CD27-4EA0-8D36-CA51747DBF42}	0	591067.76020000000	4835288.08060000000	-79.87046431360	43.66501831780
452	Yes	American Elm	27	7.00000000000	G	G	BOB	{DF927A35-28D6-41E2-8649-747A2533B668}	2912	591059.22480000000	4835281.26410000000	-79.87057131060	43.66495799970
453	Yes	Manitoba Maple	18	6.00000000000	G	G		{B79E37AF-305F-49B9-95CF-B8722BB6BE2C}	0	591054.50370000000	4835283.56640000000	-79.87062946760	43.66497930420
454	Yes	American Elm	31	8.00000000000	G	G		{F9FC987C-8A7F-4E24-95FF-1AD5FC4E4DDC}	2913	591048.59320000000	4835274.31440000000	-79.87070432450	43.66489673920
455	Yes	White Ash	14, 11, 11	6.00000000000	F	P	EAB	{52CA0A3D-C473-42E2-AFDD-AE75B1A5067F}	2914	591025.39860000000	4835269.43350000000	-79.87099278070	43.66485564150
456	Yes	White Ash	12, 12, 11	6.00000000000	P	P	EAB	{8F5C4C3C-BB54-4A8B-83D8-CB02A972EAAF}	0	591021.38540000000	4835270.01960000000	-79.87104244890	43.66486140930
457	Yes	Black walnut	11	5.00000000000	G	G		{7191ED40-9A30-4ASC-87FD-57FA51274125}	2915	590986.61030000000	4835252.83130000000	-79.87147658830	43.66471093390

458	Yes	Siberian Elm	10	4.000000000000	G	G		{DAC25646-8637-41CE-B557-928152C90B24}	2916	590974.97010000000	4835249.05840000000	-79.87162157250	43.66467839430
	No	White Ash	16	8.000000000000	P	F	No access, UC,	{44FE6DA6-91F4-4655-848C-D0CEA2DCDB5C}	0	591003.36270000000	4835207.54550000000	-79.87127648440	43.66430120660
	No	Black Walnut	10	6.000000000000	F	G	UC	{D2A7C739-9996-4BF7-88C9-EF90A1100E7B}	2917	591001.94100000000	4835204.66900000000	-79.87129459970	43.66427548560
	No	Black Walnut	15	6.000000000000	F	G	UC	{2F8F8E90-DBF8-4DBA-8E5F-A0C244706054}	2918	591001.81900000000	4835200.19020000000	-79.87129686810	43.66423518110
	No	Eastern Cottonwood	13	6.000000000000	G	G	VC	{6AD82DB3-C406-4F7D-8D85-A58839BC94A9}	0	591000.81470000000	4835196.85160000000	-79.87130988530	43.66420524910
	No	Ash		0.000000000000	D	D	No access. Large dead ash	{72AE62D6-FB44-4C11-953C-2E2B316EC9C7}	2919	590995.85490000000	4835191.54720000000	-79.87137228510	43.66415810470
	No	Eastern Cottonwood	13	5.000000000000	F	G	No access	{5257BB06-3932-4219-A316-593A742A47E7}	2920	590995.34920000000	4835187.21940000000	-79.87137928610	43.66411920650
	No	Manitoba Maple	13	6.000000000000	P	G	LNM, CT	{DC09DA14-57DC-437A-815D-3779CFA673BC}	0	590994.27000000000	4835186.36920000000	-79.87139281230	43.66411168490
	No	Black Walnut	13	6.000000000000	G	G		{2AA4B73F-E525-4AE1-966B-D25AE4C9B502}	0	590994.73170000000	4835184.12820000000	-79.87138746490	43.66409145420
	No	Manitoba Maple	30	10.000000000000	P	F	Broken trunk	{F9E794BB-DCCA-4827-A86E-812B70C3FA14}	0	590991.94010000000	4835181.41230000000	-79.87142254070	43.66406734670
	No	Eastern Cottonwood	43	12.000000000000	P	P	DW, CD	{28FB6A03-5D41-4684-BC9B-09EEDA727A54}	2921	590988.56430000000	4835177.88250000000	-79.87146499830	43.66403598370
	No	Black Walnut	41	13.000000000000	G	G		{379C4E62-F120-46C0-B7B7-7F633D1350EB}	2922	590983.16190000000	4835175.00900000000	-79.87153247630	43.66401077710
	No	Manitoba Maple	16	9.000000000000	P	F	CT	{1BAA3BB0-5286-45DB-B0A3-894CE8B15710}	0	590983.66030000000	4835169.33860000000	-79.87152725210	43.66395966950
		Black Walnuts	18	8.000000000000	G	G		{074DE98D-6D5A-481E-9D37-3F1441E0CF32}	0	590986.84980000000	4835166.50560000000	-79.87148817800	43.66393377550
		Black Walnut	11	5.000000000000	G	G	SL	{357E16F8-1501-4BE7-A1AA-4B1ED6664CC4}	0	590983.74010000000	4835165.49840000000	-79.87152691020	43.66392508910
		Manitoba Maple	20, 20, 20	10.000000000000	F	G	MS, CT	{E45A30A6-2B09-4CCC-B9DA-A363026E4CC8}	0	590983.13070000000	4835165.74050000000	-79.87153442630	43.66392734320
	No	Black Walnut	16	9.000000000000	G	G		{7D63D15E-2958-44A5-BA02-3F70076334F0}	0	590982.23480000000	4835166.99240000000	-79.87154532490	43.66393872280
	No	Black Walnut	11	6.000000000000	G	G		{8C62E166-0453-48D1-BE52-FABE11A3EC90}	0	590980.85950000000	4835166.91510000000	-79.87156239260	43.66393819530
	No	Manitoba Maple	26	10.000000000000	P	G	CT	{969019A4-9374-4773-959D-1BAC44EA6DA1}	0	590983.11940000000	4835164.72740000000	-79.87153473730	43.66391822430
	No	Black Walnut	12	5.000000000000	P	F	Maple leaning on crown	{5BFA1867-8C5C-4628-85C3-A30B6248E149}	0	590983.00600000000	4835163.83340000000	-79.87153629430	43.66391019020
	No	Black Walnut	14	7.000000000000	G	G	No access	{743FCF96-F801-4BAD-B132-956712AB81A7}	0	590980.02260000000	4835164.13650000000	-79.87157323930	43.66391328400
	No	Black Walnut	16	7.000000000000	G	G	GTF	{7847365C-CF94-4DA9-9BCB-E625A147154B}	2923	590981.23060000000	4835163.03110000000	-79.87155844570	43.66390318500
	No	Black Walnut	16	9.000000000000	G	G		{075C707E-7215-4828-A861-EB91DA9C3519}	0	590976.77150000000	4835157.65820000000	-79.87161464750	43.66385536250
	No	Black Walnut	25	10.000000000000	G	G		{0A5600D1-2AB8-4EC2-8B66-D4654706AE65}	0	590976.24980000000	4835159.39550000000	-79.87162082390	43.66387106600
	No	Black Walnut	15	7.000000000000	G	G		{F30E9D5A-C008-428A-8A8D-237F29607C98}	0	590977.03000000000	4835160.21380000000	-79.87161101090	43.66387833710
	No	Black Walnut	48	13.000000000000	G	G	No Access	{26EB6229-E879-429D-B4CA-EAA24EF55969}	2924	590974.73720000000	4835163.16580000000	-79.87163894530	43.66390519260
	No	Black Walnut	16	0.000000000000	G	G	VC	{5C7D0B7C-A934-4E70-80FD-0D880720E8F6}	0	590977.40340000000	4835156.24990000000	-79.87160704900	43.66384260720
	No	Black Walnut	15	6.000000000000	G	G	GTF	{0D282ED3-FCC7-4A29-B059-57DC6E7763E8}	2925	590973.68090000000	4835156.48240000000	-79.87165317120	43.66384515600
	No	White Ash	20	0.000000000000	D	D	EAB	{9B9E60F3-BD3D-45AD-8E8A-66AE19DE43AA}	2926	590971.02570000000	4835157.55460000000	-79.87168591650	43.66385513320
	No	Eastern Cottonwood	31	12.000000000000	G	F	CD	{768AE90C-D733-4D04-976D-74F190A5F246}	0	590968.95690000000	4835150.50270000000	-79.87171276010	43.66379190320
	No	Norway Spruce	35	8.000000000000	G	G		{F15382BD-1FD5-441E-A17B-BF58B13EECB6}	0	590962.07380000000	4835148.26710000000	-79.87179849170	43.66377262020
	No	Red Pine	40	8.000000000000	G	G	No Access, IB	{971BB3E6-9C3E-436D-BB8D-6C8D8FB5BB23}	2927	590963.57600000000	4835150.92320000000	-79.87177941570	43.66379634740
	No	Norway Spruce	35	7.000000000000	G	G	UC	{DDF43565-0B8A-4D4D-84B8-439699076952}	0	590960.91710000000	4835145.14010000000	-79.87181336270	43.66374461170
	No	Black Walnut	13, 10	5.000000000000	G	G	ML	{0E055EBF-F93A-4984-A59C-FD4E2A790FC7}	0	590969.40250000000	4835147.52480000000	-79.87170773650	43.66376504080
	No	Black Walnut	16	9.000000000000	G	G	VC	{F05FE40E-01E9-47C4-ACA3-C06BE9886EDE}	2928	590956.41070000000	4835134.45300000000	-79.87187104670	43.66364895480
	No	Black Walnut	14	5.000000000000	G	G		{42B47ABE-9713-4EC7-840A-79700F05805E}	0	590951.85660000000	4835133.65060000000	-79.87192765550	43.66364228880
	No	Black Walnut	38	13.000000000000	G	G	No access	{97ED1D9A-00B4-41BB-A55D-9903036DD954}	0	590947.49360000000	4835125.25120000000	-79.87198317530	43.66356720890
	No	Blue Spruce	28	7.000000000000	G	G	No access	{8806039A-F2C6-44F0-AA1B-931368B3AF31}	2929	590939.49590000000	4835113.16060000000	-79.87208438940	43.66345934450
	No	Blue Spruce	35	7.000000000000	G	G	No access	{99425799-B234-45F9-9941-92E0B4A249CF}	2930	590933.33560000000	4835110.19120000000	-79.87216128100	43.66343336690
	No	Black Walnut	10	5.000000000000	G	G		{85723D53-F836-49E6-B269-490D8058EEA9}	0	590938.33600000000	4835105.96870000000	-79.87209998510	43.66339474280
	No	Red Oak	50	14.000000000000	G	G	No Access, SF	{41513882-BEE0-4CBB-82FF-A67CF27924A5}	2931	590931.18440000000	4835106.37630000000	-79.87218860010	43.66339928720
	No	Red Oak	50	13.000000000000	G	G	No Access	{0FD07897-A812-48E6-B24F-20C2039E882E}	0	590928.02400000000	4835109.45140000000	-79.87222727250	43.66342735690
	No	Tamarack	30	8.000000000000	G	G	No Access	{AA455C3C-85E2-4576-AFF7-922092D024C9}	2932	590922.73580000000	4835093.28260000000	-79.87229557400	43.66328244760
	No	Blue Spruce	30	7.000000000000	G	G	No Access	{1E203D58-86DF-4271-A199-5217768780D8}	2933	590916.48780000000	4835095.00550000000	-79.87237276210	43.66329872210
	No	Scotch Pine	25	5.000000000000	P	P	Sparse crown, no access. Close to power lines	{3F5B171E-97E8-4323-9F0C-343153251 2B1}	2934	590891.48360000000	4835070.76210000000	-79.87268691170	43.66308353430
	No	Scotch Pine	20	5.000000000000	F	P	Sparse crown	{A4E15676-9E57-4F39-A1E8-6E51193A0D4B}	0	590895.19310000000	4835069.65090000000	-79.87264109930	43.66307307730

Notes:

Condition Rating: Two condition ratings are provided, tree structure (including both trunk integrity and canopy structure) and tree health. Tree structure refers to architecture, such as codominant trunks, branch arrangement, and asymmetry. The health condition of the tree is based on several biological and mechanical factors, including size, species, condition, location, root system, trunk, branching, twigs and foliage, disease evidence, and the overall health and vigour of the tree. Each tree was provided with a condition as outlined in the following categories as defined by Metrolinx (2020):

- o E – Excellent: Good structural form or no apparent health problems;
- o G – Good: Minor problems with structural form or health form;
- o F – Fair: More serious problems with structural form or health form;
- o P – Poor: Major problems with structural form or health form; and
- o D – Dead: Currently dead; includes trees that have epicormic growths from the base.

Metrolinx. (2020). Metrolinx Vegetation Guideline. Metrolinx.

Appendix E

Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report – Heritage Road Layover

HERITAGE ROAD LAYOVER

ENVIRONMENTAL PROJECT REPORT

METROLINX

PROJECT NO.: IM21405045
DATE: OCTOBER 2022

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“Effective September 21, 2022, Wood Environment & Infrastructure Solutions Canada Limited is now operating as WSP E&I Canada Limited. No other aspects of our legal entity, contractual terms or capabilities have changed in relation to this report submission.”

Heritage Road Layover
Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report

Project # IM21405045

Prepared for:

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Prepared by:

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October 21, 2022

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Document Revision History

Version	Date	Description
0	December 7, 2021	DRAFT for Metrolinx Review
1	January 25, 2022	Updated Draft for Metrolinx Review
2	February 15, 2022	DRAFT for GRT Review
3	March 14, 2022	DRAFT for GRT Review
4	March 31, 2022	DRAFT for GRT Review
5	July 4, 2022	Updated DRAFT based on GRT Review Comments
6	August 10, 2022	Updated DRAFT based on GRT Review Comments
7	August 18, 2022	Final
8	October 21, 2022	Final Revised

Prepared by:	Aniqa Shams, MCIP Human Environment Consultant		October 21, 2022
Reviewed by:	Bruce Vincent, M. Sc. Human Environment Group Lead		October 21, 2022

Executive summary

WSP E&I Canada Limited (“WSP”) (formerly Wood Environment & Infrastructure Solutions Canada Limited), was retained by Metrolinx to conduct the Heritage Road Layover Project Transit Project Assessment Process (TPAP) and Detailed Layover Facility Design Project (the Project).

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.

This Socio-Economic and Land Use Characteristics Report represents one deliverable to support program delivery for the Project. Two study areas were established for the Socio-economic and Land Use Characteristics Report. The Local Study Area will be restricted to 300 metres (m) from the edge of the Project footprint and was defined based on the geographic area of influence that is most likely to experience potential Project-related effects. The Regional Study Area encompasses Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills.

The report evaluates the existing and future socio-economic and land use conditions of the Heritage Road Layover study area(s) and assesses effects associated with the proposed work. A review of federal, provincial and municipal policies and plans, and regulatory requirements was carried out to determine relevance and applicability to the Project.

In summary, the study findings conclude that there will be permanent changes in land use for properties within the Project Site through permanent property acquisition. The Project may result in temporary in land use, property ownership and nuisance effects from construction of the Project. 10827 Winston Churchill Boulevard, a residential rural property, is adjacent to the layover and will potentially be affected by construction and operation. A zoning by-law amendment and Interim Control By-Law exemptions will be required and consultation should occur with the City of Brampton, as the local study area is primarily zoned Agricultural. Separate studies completed for the Project for Air Quality, Noise and Vibration, and Transportation and Traffic have assessed impacts and prescribed mitigation and monitoring measures that are reported here.

For visual aesthetics, there will be temporary nuisance effects from increased dust, as well as visual effects from the construction activities and components. Some tree and vegetation removals will occur, and the site will be graded, resulting in alteration in construction and operation viewscapes.

Prescribed mitigation measures to address aesthetics/visual characteristics include:

- The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road.
- Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape
- A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.

Construction activities may also result in temporary road or lane closures, such as during the construction of the access road. Traffic Control and Management Plan(s) will be developed to maintain reasonable access through work zones and traffic impacts will be monitored. There may be increased traffic levels in the operations phase, however, this is anticipated to be minimal.

Although the Project is anticipated to have temporary socio-economic effects, these will be mitigated to the extent possible through compliance with regulations and standard best practices for construction. Permanent benefits will include more efficient transit services. The Project will also enable Metrolinx to meet regional transportation demand now and into the future.

As future commitments, a Communications Plan, Complaints Protocol and Lighting Plan will be developed. The number of complaints will be tracked, as well as resolutions.

Note that the Tree Inventory report is currently pending for this project. This report will be updated information from the Tree Inventory report when it becomes available.

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Appendix A Heritage Road Layover Renderings

List of Acronyms and Abbreviations

Brampton	City of Brampton
CN	Canadian National Railway
EPR	Environmental Project Report
GGH	Greater Golden Horseshoe
GTA	Greater Toronto Area
GTHA	Greater Toronto and Hamilton Area
Halton Hills	Town of Halton Hills
km	Kilometres
LRT	Light Rail Transit
LSA	Local Study Area
m	metres
MECP	Ministry of Environment, Conservation, and Parks
MMAH	Ministry of Municipal Affairs and Housing
O.Reg	Ontario Regulation
Peel	Region of Peel
PPS	Provincial Policy Statement
RER	GO Regional Express Rail
ROW	Right-of-way
RSA	Regional Study Area
The Project	Heritage Road Layover
TIA	Traffic Impact Assessment
TMP	Transportation Master Plan
TPAP	Transit Project Assessment Process
WSP	WSP E&I Canada Limited (formerly Wood Environment & Infrastructure Solutions Canada Limited)

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained WSP E&I Canada Limited (WSP) (formerly Wood Environment & Infrastructure Solutions Canada Limited) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Heritage Road Layover. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Heritage Road Layover (the Project) is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

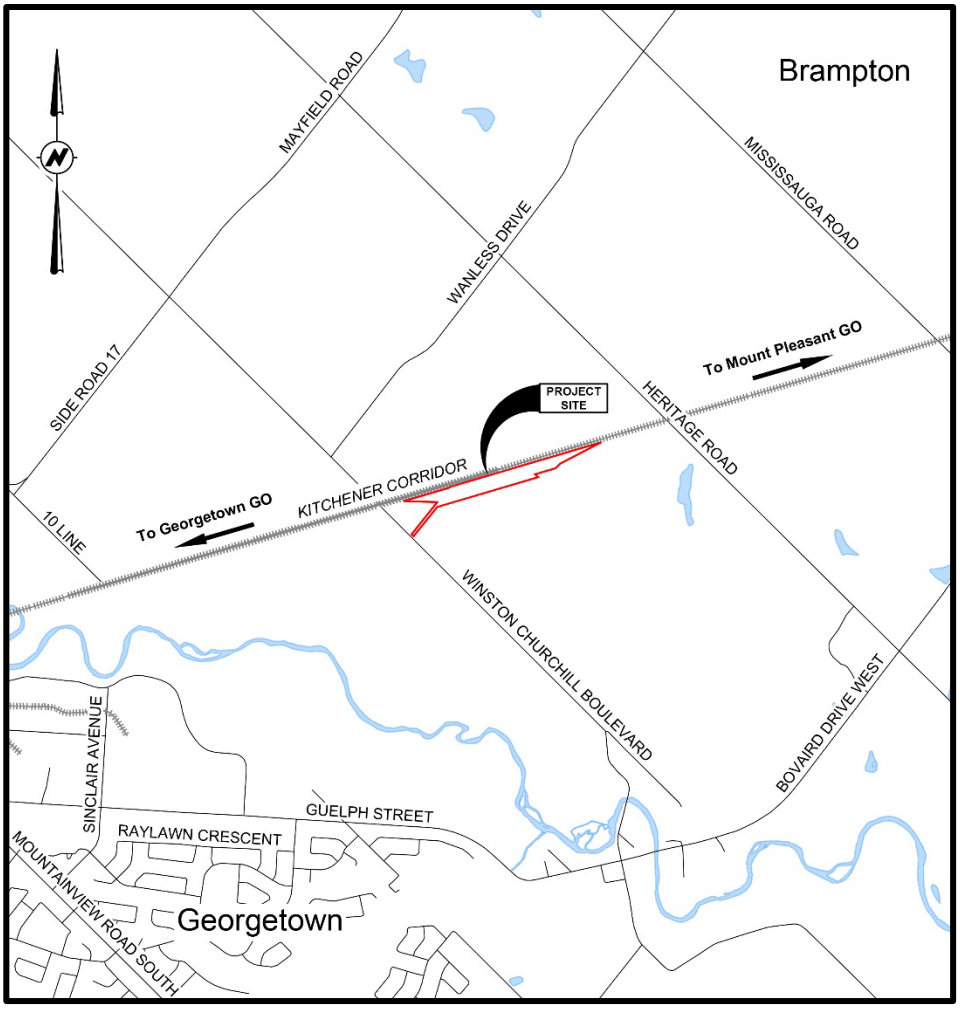


Figure 1-1: Project Location

1.2 Socio-Economic and Land Use Characteristics Report Baseline Conditions and Impact Assessment

This Socio-Economic and Land Use Characteristics Baseline Conditions and Impact Assessment Report was prepared for the Project located in the City of Brampton on the Kitchener Corridor. It documents socio-economic conditions within the Study Area and provides an impact assessment based on construction, operation and maintenance phases. The description of existing conditions provides a review of municipal / regional and provincial statistical data, municipal and provincial land use policy and planning documents, existing and future land uses, community services, amenities and resources and documents the current visual aesthetic characteristics. The impact assessment identifies potential Project effects on socio-economic and land use conditions and consider effects on property use and enjoyment, land use, aesthetic and visual, light intrusion, traffic and vehicular access impacts. Based on the impacts identified, several mitigation measures were determined for various Project phases.

1.3 Methodology

1.3.1 Study Area

Two (2) Study Areas have been established to analyse the socio-economic and land use characteristics related to the Project. The Local Study Area (LSA) will be restricted to 300 metres from the edge of the Project Site and was defined based on the geographic area of influence that is most likely to experience potential Project-related effects (positive and/or adverse) such as traffic, noise and impacts to residents (Figure 1-2: Local Socio-economic and Land Use Study Area).

The Regional Study Area (RSA) encompasses socio-economic features for which information is primarily available at a larger geographic level (Figure 1-3). The RSA encompasses Ward 6 in the City of Brampton that includes the Heritage Heights Secondary Plan Area, made up of Secondary Plan Areas 52 (Huttonville North) on the area of the Project Site and 53 (Mount Pleasant West) north of the Kitchener Corridor. The RSA also encompasses a portion of Ward 2 in the Town of Halton Hills east of the Credit River.

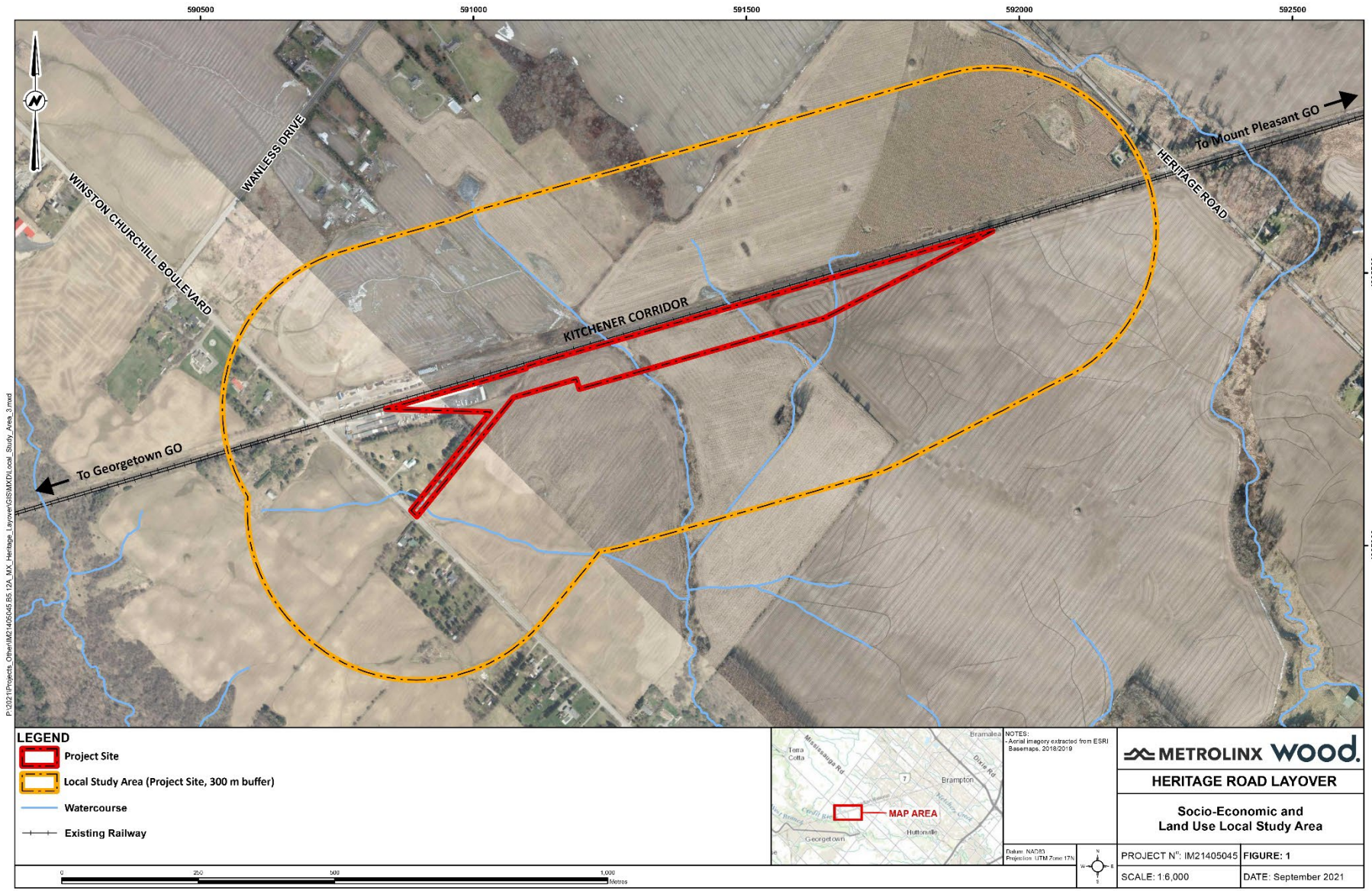


Figure 1-2: Local Socio-economic and Land Use Study Area

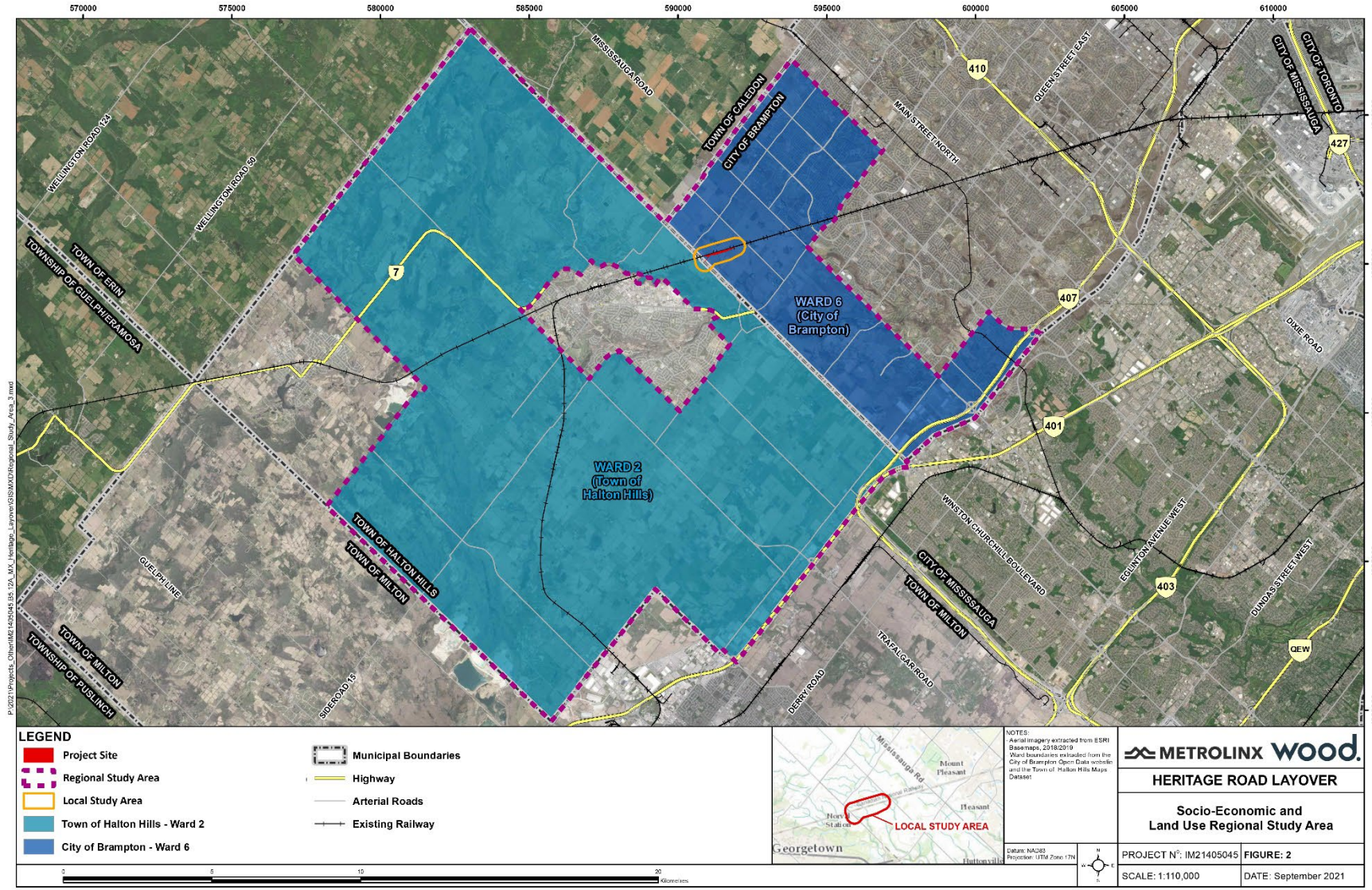


Figure 1-3: Regional Socio-economic and Land Use Study Area

1.3.2 Data Collection

Qualitative and quantitative data sources were reviewed to identify socio-economic characteristics as well as existing and proposed land use within the LSA. The population for the City of Brampton has been derived from the most recent undercoverage rate utilized by Peel Region. The undercoverage rate accounts for the total population of an area beyond the population within the 2021 Statistics Canada Census results. The undercoverage population was unavailable for the Town of Halton Hills and Ontario.

1.3.2.1 Desktop review

A desktop review of publicly available information, such as government documents and Statistics Canada census data was undertaken to inform the understanding of baseline conditions and identify preliminary Project-related effects. Data sources considered are presented in Table 1-1.

Table 1-1: Data Sources

Valued Socio-economic and Land Use Components	Indicators	Information Sources
Population and Demographics	• Population (current and projected)	• Statistics Canada: 2016 Census of Population • City of Brampton Ward Boundaries and Population Projections (2021) • Region of Peel Mid-Year Population Forecasts 2011 to 2031 • *Halton Region Official Plan (2018)*
Economy, Labour and Business	• Income levels • Employment characteristics	• Statistics Canada: 2016 Census of Population • Statistics Canada: 2021 Census of Population
Land Use	• Existing land use • Future / proposed land use • Schools, daycare facilities, retirement homes • Government offices and facilities • Police stations and other emergency response services	• Municipal Secondary Plan Land Use Schedules • Cycling and Transportation Master Plans • *City of Brampton Official Plan (updated 2020 Office Consolidation)* • *Town of Halton Hills Official Plan (Updated 2019 Office Consolidation)*

Valued Socio-economic and Land Use Components	Indicators	Information Sources
		• *Heritage Heights Secondary Plan (2022)*

1.3.2.2 Data requests/interviews with municipal staff

The Heritage Heights Community Secondary Land Use Plans were received from the City of Brampton. No information was requested from Halton Hills. No interviews were arranged with Municipal Staff.

1.3.2.3 Field Reconnaissance

No field reconnaissance was required for this study, since existing conditions could be adequately described using available policies, reports, data, and satellite imagery.

1.3.3 Effects Assessment

An effects assessment was completed considering potential effects during the construction and operations stages. The results of various technical disciplines, such as Noise and Vibration, Air Quality and Traffic and Transportation were considered in this assessment. A mitigation and monitoring summary was presented for the construction and operation stages (see Section 3.0).

2.0 Description of Existing Conditions

2.1 Planning Policy

The following section focuses on studies and policies relevant to the Project.

2.1.1 Provincial

2.1.1.1 Provincial Policy Statement (2020)

The *Provincial Policy Statement (2020)* (PPS) issued by the Ministry of Municipal Affairs and Housing (MMAH) provides direction for planning and development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The PPS supports improved land use planning and management, which contributes to a more effective and efficient land use planning system (Ministry of Municipal Affairs and Housing, 2020b). Table 2-1 identifies relevant policies from the PPS applicable to the Project.

Table 2-1: Policies from the Provincial Policy Statement Relevant to the Project

Section	Policies Relevant to the Project
Section 1.1 Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns	
Subsection 1.1.1	"Healthy, liveable and safe communities are sustained by: e. promoting the integration of land use planning, growth management, *transit-supportive* development, *intensification* and *infrastructure* planning to achieve cost-effective development

Section	Policies Relevant to the Project
	patterns, optimization of transit investments, and standards to minimize land consumption and servicing costs; g. Ensuring that necessary infrastructure public service facilities are or will be available to meet current and projected needs. i. Preparing for the regional and local impacts of a changing climate.”
Section 1.6 - Infrastructure and Public Service Facilities	
Subsection 1.6.1	“Infrastructure and public service facilities shall be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs.”
Subsection 1.6.1	“Planning for infrastructure and public service facilities shall be coordinated and integrated with land use planning and growth management so that they are: a. financially viable over their life cycle, which may be demonstrated through asset management planning; and, b. available to meet current and projected needs.”
Section 1.6.7 - Transportation Systems	
Subsection 1.6.7.1	“Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.”
Subsection 1.6.7.2	“Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible.”
Subsection 1.6.7.3	“As part of a multimodal transportation system, connectivity within and among transportation systems and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries.”
Section 1.6.8 Transportation and Infrastructure Corridors	
Subsection 1.6.8.1	“Planning authorities shall plan for and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs.”
Section 2.1 Natural Heritage	
Subsection 2.1.2	“The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.”

Source: (Ministry of Municipal Affairs and Housing, 2020b)

2.1.1.2 The Growth Plan for the Greater Golden Horseshoe (2020)

The *Growth Plan for Greater Golden Horseshoe (2019)* was prepared and approved under the *Places to Grow Act (2005)* and amended in 2020 to include more details regarding growth targets for transit corridors and station areas, employment forecasts and population projections for municipalities. This plan supplements and builds upon the PPS in providing more specific land use planning policies relating to specific geographic areas in Ontario (Ministry of Municipal Affairs and Housing, 2020a).

The following sections focus on studies and policies relevant to the Project:

- Section 3.2.2. Transportation General, notably:
  "The transportation system within the GGH [Greater Golden Horseshoe] will be planned and managed to:
  a) provide connectivity among transportation modes for moving people and for moving goods; and,
  f) provide for the safety of system users" (Ministry of Municipal Affairs and Housing, 2020a).

2.1.1.3 A Made-in-Ontario Environment Plan (2018)

The *A Made-in-Ontario Environment Plan (2018)* issued by the Ministry of the Environment, Conservation and Parks (MECP), replacing the *Ontario Climate Action Plan (2016),* outlines various actions and solutions to conserve and protect land, air and water, while reducing waste, litter and greenhouse gas emissions. The Plan aims to protect species at risk, conserve and manage parks and greenspaces and assist communities in addressing climate change concerns (Ministry of the Environment, Conservation and Parks, 2018).

The following sections of the Plan are relevant to the Project:

- Government Leadership (Actions): "Improve public transportation to expand commuter choices and support communities".
- Government Leadership (Actions): "Support green infrastructure projects".
- Government Leadership (Actions): "Early actions: GO Train Service Increase" (Ministry of the Environment, Conservation and Parks, 2018).

2.1.1.4 The Greenbelt Plan (2017)

The Greenbelt Plan (2017) is an overarching document that serves to protect the agricultural and ecological features of the Greenbelt area from the effects of increased urbanization. The *Greenbelt Plan* is supported by *The Growth Plan for the Greater Golden Horseshoe: A Place to Grow (2020), Niagara Escarpment Plan (2017)* and based on the principles found in the *Oak Ridges Moraine Conservation Plan*. Under the *Greenbelt Plan* (under Ontario Regulation 59 / 05), "…infrastructure improvements are permitted if it serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing infrastructure connections among urban growth centers" (Ministry of Municipal Affairs and Housing, 2017).

2.1.1.5 Infrastructure for Jobs and Prosperity Act (2015)

The *Infrastructure for Jobs and Prosperity Act (2015)* provides direction for long-term infrastructure planning that supports job creation and training opportunities. The overall goal of the *Infrastructure for Jobs and Prosperity Act* is to encourage economic development, while protecting the environment (Government of Ontario, 2015).

Section 3.1.6 (Infrastructure Planning Principles) of the Act outlines principles that are relevant to this Project and notes that these are to be considered when making infrastructure-related decisions, namely:

- "9. Where provincial or municipal plans or strategies have been established in Ontario, under an Act or otherwise, but do not bind or apply to the Government or the broader public sector entity, as the case may be, the Government or broader public sector entity should nevertheless be mindful of those plans and strategies and make investment decisions respecting infrastructure that support them, to the extent that they are relevant. Examples of plans and strategies to which this paragraph may apply include,
  i. policy statements issued under section 3 of the Planning Act, and provincial plans as defined by that Act,
  ii. municipal water sustainability plans submitted under the Water Opportunities Act, 2010,
  iii. the Lake Simcoe Protection Plan established under the Lake Simcoe Protection Act, 2008, and
  iv. transportation plans adopted under the Metrolinx Act, 2006."
- "13. Infrastructure planning and investment should promote community benefits, being the supplementary social and economic benefits arising from an infrastructure project that are intended to improve the well-being of a community affected by the project, such as local job creation and training opportunities (including for apprentices, within the meaning of section 9), improvement of public space within the community, and any specific benefits identified by the community" (Government of Ontario, 2015).

2.1.2 Regional

2.1.2.1 The 2041 Regional Transportation Plan (2018)

The *2041 Regional Transportation Plan* is the second transportation plan for the Greater Toronto and Hamilton Area (GTHA) and expands on the goals outlined in *The Big Move*, which resulted in the $30 billion investment in rapid transit. The *2041 Plan* provides an outline of an integrated approach from various stakeholders such as government, transit agencies, businesses, civic organizations and the public to help create an efficient system. The goal is to ensure a higher quality of life and a more prosperous and competitive economy, while protecting the environment (Metrolinx, 2018).

The *2041 Regional Transportation Plan* outlines five (5) main strategies:

1. Complete the delivery of current regional transit projects.
2. Connect more of the region with frequent rapid transit.

3. Optimize the transportation system.
4. Integrate transportation and land use.
5. Prepare for an uncertain future (Metrolinx, 2018).

Of these five (5) strategies, this Project is supported by Strategy 1 and 2. The focus of Strategy 1 is to develop the GO Regional Express Rail (RER), now known as GO Expansion, which aims to eventually convert the GO rail system from commuter-based service to a two-way, all-day service (Metrolinx, 2018).

Additionally, Strategy 2 focuses on GO Expansion to meet travellers' future needs to 2041 and defines frequent rapid transit network as: "A seamless and reliable network of transit services running at least every 10-15 minutes all-day, every day. The Frequent Rapid Transit Network will consist of transit routes and corridors that ensure fast and reliable service through the use of dedicated infrastructure, design elements, and other supporting investments as required (e.g., full grade separation, exclusive right-of-way, HOV lanes, queue jump lanes, wider stop spacing than conventional transit routes, signal priority, or other transportation systems management measures) (Metrolinx, 2018)."

The Big Move resulted in completion of nine (9) major transit projects with 14 currently in engineering design phase or under construction. Under the current *2041 Regional Transportation Plan,* the remaining 14 projects from the Big Move and an additional 13 projects, which are currently in the planning and design stage, will be completed (Metrolinx, 2018).

2.1.2.2 The Big Move (2008)

Metrolinx developed the first regional transportation plan for the GTHA entitled *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area (The Big Move; 2008)* in response to the projects proposed in *MoveOntario 2020*. The goal of the plan was to reduce traffic congestion and increase public transportation use across Ontario, specifically in southern Ontario (Metrolinx, 2008).

The Big Move outlined 13 goals and 37 objectives. The relevant objectives supporting the development of the Project were:

- Objective 1: "Increased transportation options for accessing a range of destinations";
- Objective 4: "Improved transportation experience and travel time reliability";
- Objective 5: "Faster, more frequent and less crowded transit";
- Objective 27: "Improved connections and service within the GTHA and to/from interregional, interprovincial, and international terminals and facilities"; and
- Objective 31: "Increased productivity of the transportation system" (Metrolinx, 2013)

2.1.2.3 Region of Peel Official Plan (2018; 2021 Office Consolidation)

The Region of Peel Official Plan outlines a policy framework for guiding growth and development in Peel, while protecting the environment (Region of Peel, 2022).

The following sections identify objectives related to transit:

- Section 5.6.19.9: “Work jointly with the Ministry of Transportation, Metrolinx, and local municipalities to identify additional transit stations that may be approved in the future, through initiatives such as the GTA West Transportation Corridor Environmental Assessment and additional transit stations that will support growth and the movement of people in Designated Greenfield Areas, as Major Transit Station Areas on Schedule E-5 of the Region of Peel Official Plan.”
- Section 5.10.34.32: “Work with the Province, local municipalities, and other regions and municipalities in the Greater Golden Horseshoe to implement the Metrolinx Regional Transportation Plan and contribute to future updates of the Regional Transportation Plan.”

2.1.2.4 Halton Regional Official Plan (2018 Office Consolidation)

The Halton Regional Official Plan (*The Regional Plan*) is in place to solidify past decisions and to give clear direction as to how physical development should take place in Halton to meet the current and future needs of its people and landscape. *The Regional Plan* clarifies and assists in the delivery of Regional services and responsibilities as set out in the Planning Act, the Municipal Act, and other pertinent Provincial legislation (Regional Municipality of Halton, 2018).

The Regional Plan notes the goal for transportation “…is to provide a safe, convenient, accessible, affordable and efficient transportation system in Halton, while minimizing the impact on the environment and promoting energy efficiency” (Regional Municipality of Halton, 2018).

2.1.2.5 Town of Halton Hills Official Plan (2019 Office Consolidation)

The LSA falls within the Greenbelt and it is designated Protected Countryside in the *Town of Halton Official Plan*. (Town of Halton Hills, 2019).

2.1.3 Municipal

2.1.3.1 City of Brampton Official Plan (2006; 2020 Office Consolidation)

The *City of Brampton Official Plan* was adopted in 2006 and modified in 2008 to conform with the *Places to Grow – Growth Plan for the Greater Golden Horseshoe*. In September 2020, *The Official Plan* was consolidated to include a series of amendments. *The Official Plan* outlines land-use decision making processes within the municipality to 2031. *The Official Plan* is used to guide development and infrastructure decisions relating to land use, built form, transportation and the environment. The purpose of *the Official Plan* is to provide clear direction on how physical development and land-use decisions take place in Brampton to meet the needs of current and future residents (City of Brampton, 2020).

Section 2.4.1 of *The Official Plan* highlights the development of modern transportation systems and indicates three (3) main objectives:

a. “Create an integrated and expanded transportation network to provide a high level of service tied to the rate of distribution of growth within the City and to enhance accessibility for all residents including persons with disabilities”;

b. “Expand public transit service for Brampton’s residents including persons with disabilities and employers and to provide seamless connections to popular destinations within the GTA”; and,

c. “Build a pathway system that is accessible to all including persons with disabilities through a series of walking, cycling and multi-use trails that connects Brampton’s major destinations and links with other trails systems outside Brampton” (City of Brampton, 2020).

Section 4.5 of *the Official Plan* notes the intricate relationship between transportation, land use, the environment and physical form. The notable objectives to this Project are as follows:

d. “To promote a high standard of environmental management and aesthetic quality in the routing, design and construction of transportation and associated structures, including green infrastructure and stormwater management practises in the right-of-way of new and retrofitted existing roads”; and,

e. “To work cooperatively with the Region of Peel, neighbouring municipalities and other regional municipalities, the Province and its agencies (e.g. Metrolinx) to develop an integrated transportation plan” (City of Brampton, 2020).

Section 4.5.4.32 of *the Official Plan* discusses Brampton’s intention to encourage Metrolinx to improve commuter services by:

i. “Introducing all-day, two-way service for commuters travelling to and from Brampton”;

ii. “Providing adequate off-peak service”;

iii. “Ensuring better connections with subway and other transit nodes”;

iv. “Expanding and enhancing access to all existing Commuter Rail stations”;

v. “Providing adequate parking lots/spaces”; and,

vi. “Improving pedestrian access and providing bicycle facilities” (City of Brampton, 2020).

Further, as per Schedule D: Natural Heritage Features and Areas from the Official Plan, two watercourses on the Project Site are designated as Valleyland/Watercourse Corridors. Section 4.6.6.20 within the Official Plan emphasizes avoiding removal of natural heritage features, stating that removal must be justified by a watershed plan, subwatershed study, Environmental Implementation Report or natural heritage system study in consultation with CVC and other relevant agencies. Additionally, Section 4.6.6.21 of the Official Plan notes that the report should demonstrate no net loss, and if possible, a net gain in natural heritage system values and ecological functions.

2.1.3.2 City of Brampton’s Transportation Master Plan (2015)

The Transportation Master Plan (TMP) is the City of Brampton’s long-term strategy to achieve a balanced transportation network to accommodate the growth and development needs of the region until 2041. The implementation of the Hurontario-Main Light Rail Transit (LRT) and two-way, all-day GO Rail service to Bramalea GO,

Brampton GO, and Mount Pleasant GO stations is an essential component to the vision of the TMP. The TMP emphasizes on shifting travel to transit and other sustainable modes of travel.

The TMP is reviewed every five years to reflect updated plans, policies, and best practices utilizing the following guiding principles:

- Enhance mobility and travel options for people and goods;
- Advance multi-modal transportation equity;
- Integrate transportation and land use planning;
- Protect public health and safety;
- Improve environmental sustainability;
- Leverage technology; and
- Emphasize community engagement and collaboration.

The TMP notes that the modal share of transit trips during the PM peak period is 9%, with a goal of achieving 20% by 2040 (City of Brampton, 2015).

The TMP Update for 2022 will focus on direction from the Brampton 2040 Vision and emergency Complete Street principles. The 2040 Vision for “Transportation and Connectivity” states that the City of Brampton “will be a mosaic of safe, integrated transportation choices and new modes, contributing to civic sustainability, and emphasizing walking, cycling and transit”. The Project directly aligns with improving frequency of GO Transit through Brampton and modifying population shift to multi-modal transportation (City of Brampton, 2021).

2.1.3.3 City of Brampton By-laws

The Project must adhere to the City of Brampton Noise By-law 93-84:

The following sounds and noises are specifically permitted by this by-law, and the presence of these sounds and noises is not to be considered a contravention of this by-law:

- 10. “any sound arising from road work and road improvements undertaken by or on behalf of the Ministry of Transportation (Ontario) or the Region of Peel (202-2006)” (The Corporation of the City of Brampton, 1984).

2.1.3.4 Secondary Plans

The City of Brampton undertook a Secondary Plan Review of the Secondary Plan Areas 52 (Huttonville North) and 53 (Mount Pleasant West). These areas are collectively referred to as the ‘Heritage Heights Community’ (City of Brampton, n.d.-b). The City’s Planning and Development Committee endorsed a conceptual land use plan for the Heritage Heights Community in July 2020 (City of Brampton, n.d.-b). The Heritage Heights Secondary Plan was adopted by City Council on April 6, 2022.

Heritage Heights Secondary Plan (2022)

The LSA falls within the Heritage Heights Secondary Plan, specifically within the Heritage Heights North Precinct and South Precinct. Both of these Precincts are located north and south of the Kitchener Corridor, respectively. The Heritage Heights Secondary Plan consists of low to medium density residential units surrounding the Project Site. It is identified as a high potential mineral aggregate resource area. The Heritage Heights Secondary Plan also includes an urban boulevard where Highway 413 (described in Section 2.6) is proposed for the section through the Heritage Heights Area (City of Brampton Motion C363-2020).

The following Principles were created to guide future policies, design, and growth in Heritage Heights:

1. "Create walkable communities for people to gather, recreate, work, and live.
2. Development should be compact and diverse to achieve walkable and affordable active neighbourhoods.
3. Implement sustainable and resilient plans, technologies, and design approaches.
4. Include arts and cultural uses that will leverage Brampton's diversity and attract investment.
5. Conserve the natural and cultural heritage of the area, creating a destination for local and regional visitors.
6. Foster a competitive environment for employment and economic development.
7. Plan for wellbeing - physical, mental, social - through the design of people-centric spaces that are safe and age-friendly.
8. Integrate and connect green and open spaces into the design of neighbourhoods while being sensitive to existing ecological systems" (City of Brampton, n.d.-b).

Section 10.7 of the Secondary Plan notes that City Transit services will be provided in accordance with *the Official Plan.* Notably, the Secondary Plan identifies Major Transit Stations Areas and states that development and improvements in the vicinity of these stations will be designed to "…promote opportunities for the design of these transit stations and infrastructure to be integrated with development and the public realm". Additionally, the Council-adopted Heritage Heights Secondary Plan states that the area is to be planned to accommodate approximately 124,000 people and 43,000 jobs (City of Brampton, 2022).

2.2 Community Features

2.2.1 Socio-economic Characteristics

The City of Brampton (Brampton), located in the Region of Peel, was officially designated as a city in 1974. Brampton has experienced population growth since it was established as a settlement in the 1800s. In 1853, the population was 500 and as of 2021, the population has reached 656,480 residents as per Census Canada, and 680,820 residents with the undercoverage rate. Brampton is recognized as the second fastest growing city in Canada, and the ninth largest city across the country. Located immediately north of Lester B. Pearson Airport, Brampton is home to more than 8,000 businesses, with the manufacturing industry being the largest employer. Brampton is

made up of ten (10) wards. The LSA falls within Ward 6, which is located at the western edge of Brampton and is bordered by Caledon to the north, Mississauga to the south and Georgetown to the west (City of Brampton, n.d.-a).

The Town of Halton Hills (Halton Hills), within the Region of Halton, is made up by two (2) urban areas, Georgetown and Acton, and historic hamlets, Glen Williams, Norval, Limehouse and Hornby (Town of Halton Hills, n.d.). Halton Hills has four (4) wards and had a total population of 62,951 in 2021 (Statistics Canada, 2022). Winston Churchill Boulevard, directly to the west of the LSA, is the western boundary between the Town of Halton Hills and City of Brampton. The LSA is located east of Ward 2 in Halton Hills.

2.2.2 Current Population

The population of Ward 6 in Brampton was 76,220 in 2016 and 50,820 in 2006, indicating a 50% increase in population growth. In 2016, the population of Halton Hills at 12,700 was less than Brampton Ward 6 (Region of Peel, 2021a) (Region of Peel, 2021d). Data were not available for the 2006 population of Halton Hills Ward 2 (Ashby, 2018).

Table 2-2: Summary of Population and Population Change in Brampton, Ward 6 and Halton Hills, Ward 2, 2006 to 2016.

Location[1]	2006 Population	2016 Population	% Change
Brampton, Ward 6	50,820	76,220	50.0
Halton Hills, Ward 2	-	12,700	-

Sources: (Ashby, 2018), (Region of Peel, 2021a), (Region of Peel, 2021d)

Note:

[1] Results are derived from a 25% sample of the population, which differs from the 100% sample available with standard Census releases.

The population of Brampton, reported at 656,480 in the 2021 Census, had a greater percentage increase than Halton Hills and the Province of Ontario between 2016 and 2021 (Statistics Canada, 2022). Table 2-3 shows population growth in Brampton from 2016 to 2021 in comparison with the population growth within Halton Hills and the Province of Ontario over the same period.

Table 2-3: Summary of Population and Population Change in Brampton, Halton Hills and Ontario, 2016 to 2021

Location	2016 Population	2021 Population	% Change (2016-2021)
Brampton	593,638	656,480[1]	10.6
Halton Hills	61,161	62,951	2.9
Ontario	13,448,494	14,223,942	5.8

Source: (Statistics Canada, 2022)
Note:

[1] With the undercoverage rate, the population for Brampton is 680,820 residents. The undercoverage population was unavailable for Halton Hills and Ontario.

Brampton's population has a similar age distribution to Halton Hills and Ontario. However, the median age of Brampton residents is slightly lower. Table 2-4 provides the percentage breakdown of Brampton, Halton Hills and Ontario's population by age and gender (Statistics Canada, 2017). Complete data is not available for Brampton Ward 6 and Halton Hills Ward 2.

Table 2-4: Population Distribution and the Median Age in Brampton Ward 6, Halton Hills Ward 2, Brampton, Halton Hills and Ontario by Age and Gender, 2016

Location[2]	Age Group	Total (%)	Male (%)	Female (%)
Brampton, Ward 6	0-14 years	24.3	-	-
	15-64 years	68.73	-	-
	65 years and older	7.0	-	-
	Median age	-	-	-
Halton Hills, Ward 2	0-14 years	15.0	-	-
	15-64 years	70.0	-	-
	65 years and older	16.0	-	-
	Median age	47.3	-	-
Brampton	0-14 years	20.3	21.2	19.3
	15-64 years	68.6	68.3	68.8
	65 years and older	11.2	10.5	11.8
	Median age	35.8	34.9	36.7
Halton Hills	0-14 years	18.7	19.4	18.0
	15-64 years	67.9	68.4	67.5
	65 years and older	13.4	12.2	14.6
	Median age	41.3	40.5	42.0
Ontario	0-14 years	16.4	17.3	15.6
	15-64 years	66.8	67.3	66.4
	65 years and older	16.7	15.5	17.9

Location[2]	Age Group	Total (%)	Male (%)	Female (%)
	Median age	41.3	40.2	42.2

Source: (Statistics Canada, 2017), (Ashby, 2018), (Region of Peel, 2021a)

Note:

2 Figures may not add to 100% due to rounding.
3 At the time of this report, the updated 2021 age and gender breakdown for the City of Brampton Ward 6 and Town of Halton Hills Ward 2 was unavailable.

2.2.3 Projected Population Growth

Population projections for Brampton's Ward 6 from 2016 to 2031 show a higher rate of growth (117.1%) compared to Brampton as a whole (30%). The *Halton Region Official Plan* (2018) provides the projected population increase from 2006 to 2031 for Halton Region and the lower tier municipalities. An increase of 62.1% is projected for Halton Hills from 2006 to 2031 (Regional Municipality of Halton, 2018). Table 2-5 provides the projected population growth estimates for Brampton and Halton Hills. At the time of desktop research, population projections were not available for Halton Hills Ward 2.

Table 2-5: Projected Population Growth in Brampton Ward 6, Halton Hills Ward 2, Halton Hills and Brampton, 2016-2031

Geographic Area	Population			% Change (2016 to 2031)
	2006	2016	2031	
Brampton, Ward 6	-	76,280	166,080	117.7
Halton Hills, Ward 2	-	-	-	-
Halton Hills	58,000	-	94,000	62.1
Brampton	-	577,000	865,000	49.9

Source: (Regional Municipality of Halton, 2018), (Hemson Consulting Ltd., 2021), (Region of Peel, 2021c)

2.2.4 Family Household Size

The population of Halton Hills resides primarily in private households (98.4%), with an average household size of 2.9 persons. The population of Brampton also resides primarily in private households (99.5%), with an average household size of 3.5 persons (Statistics Canada, 2017). As shown in Table 2-6, the average household size in Halton Hills and Brampton is slightly greater than that of Ontario.

Table 2-6: Average Household Size in Brampton, Halton Hills, and Ontario, 2016

Household Size	Brampton	Halton Hills	Ontario
Average Household Size	2.9	2.9	2.6

Source: (Statistics Canada, 2017)

2.2.5 Income Statistics

Median after-tax income of households in 2015, as reported in the 2016 census, was compared between Brampton, Halton Hills and Ontario. Table 2-7 shows the median 2015 after-tax household income was higher in both Brampton and Halton Hills, compared with Ontario households overall (Statistics Canada, 2017). At the time of desktop research, data were not available on the after-tax income of households in Brampton Ward 6 and Halton Hills Ward 2.

Table 2-7: Median After-Tax Income for Private Households in Brampton, Halton Hills, and Ontario, 2016

Location	Median After-Tax Household Income
Brampton	$77,156
Halton Hills	$90,041
Ontario	$65,285

Source: (Statistics Canada, 2017)

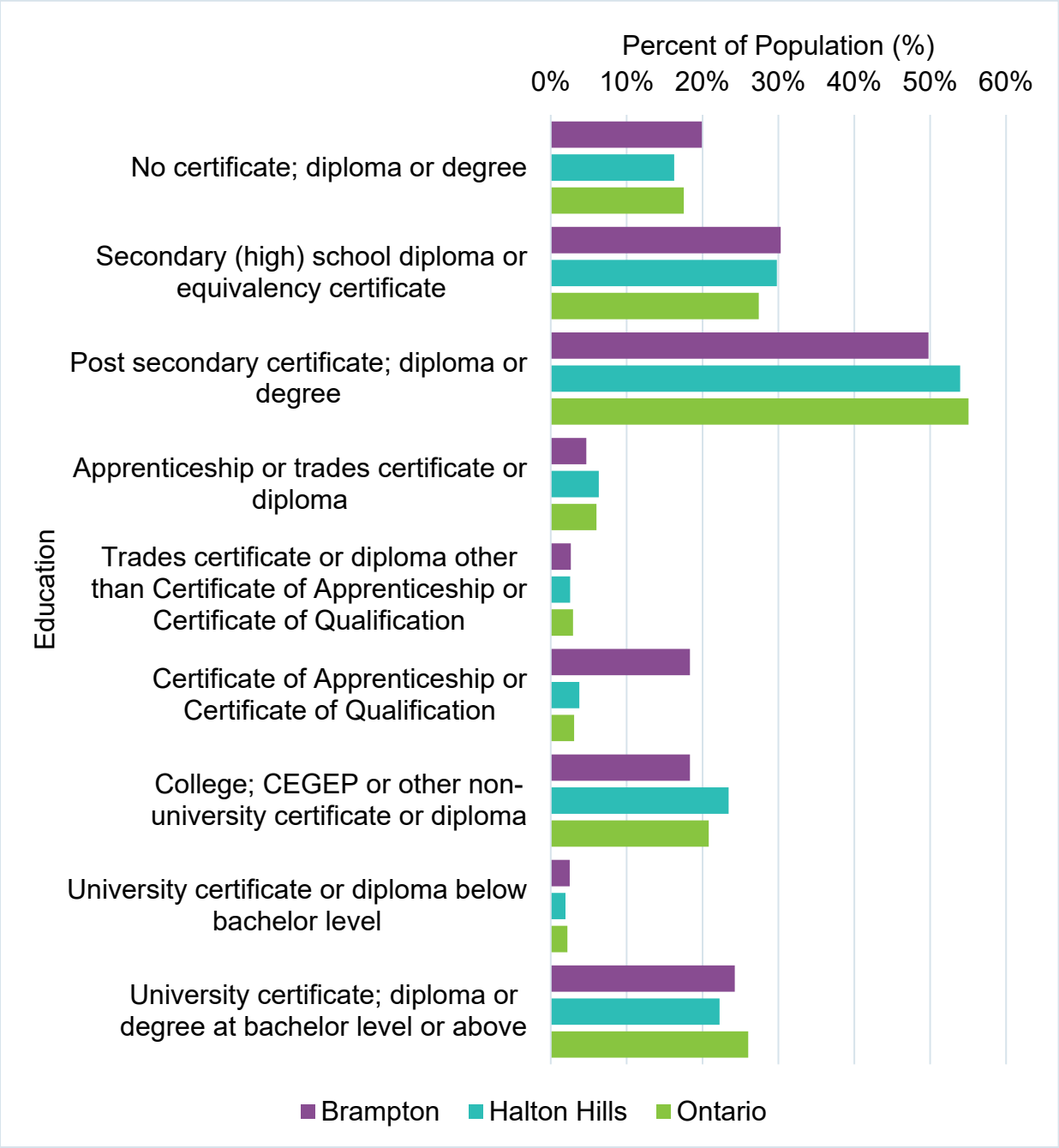
2.2.6 Labour Force and Employment Profile

In 2016, Brampton had a total of 470,765 residents 15 years of age and older who reported varying adult or post-secondary educational attainments. In comparison, Halton Hills had a total of 48,756 residents 15 years of age and older in 2016 who reported varying adult or post-secondary educational attainments (Statistics Canada, 2017).

The percentage of individuals with a secondary (high) school diploma or equivalency certificate for Brampton and Halton Hills is slightly higher compared to provincial averages.

Figure 2-1summarizes the education characteristics (as percentages) for Brampton, Halton Hills and Ontario residents.

Figure 2-1: Households in Brampton, Halton Hills and Ontario, 2016

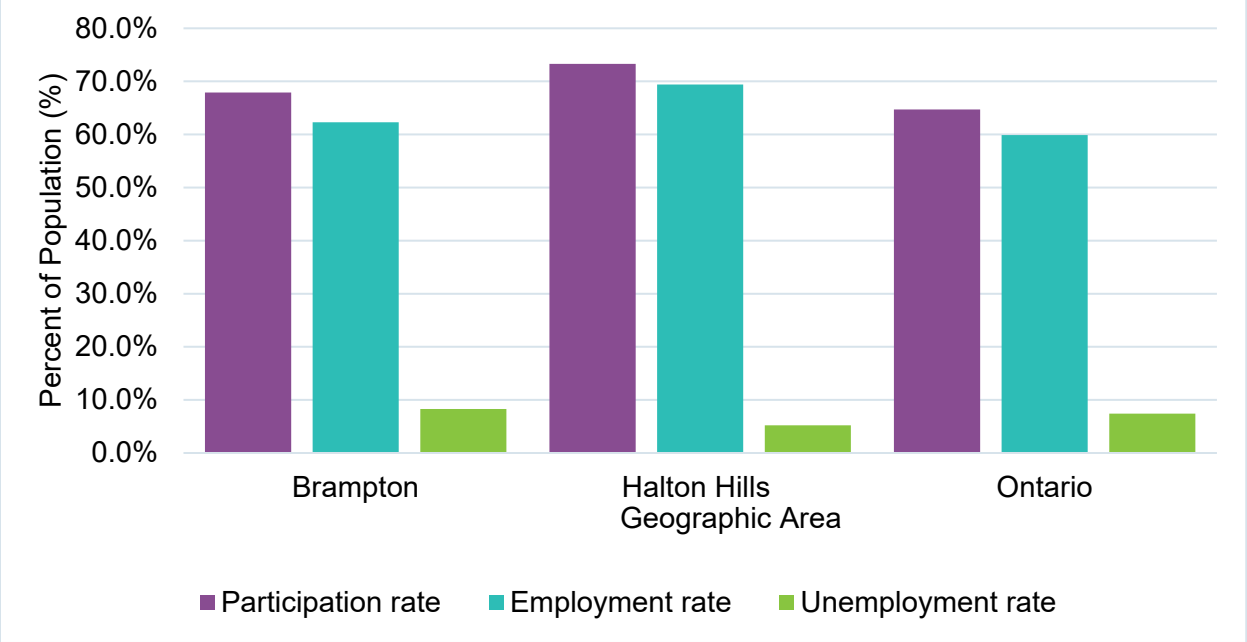


Source: (Statistics Canada, 2017)

In 2016, Halton Hills had a higher employment participation rate and higher employment rate compared to Brampton and Ontario. Halton Hills had a lower unemployment rate compared to Brampton and Ontario for the reporting period (Statistics Canada, 2017).

Figure 2-2 provides a summary of participation, employment and unemployment rates for residents in Brampton, Halton Hills and Ontario. At the time of desktop research, data were not available for Brampton Ward 6 and Halton Hills Ward 2.

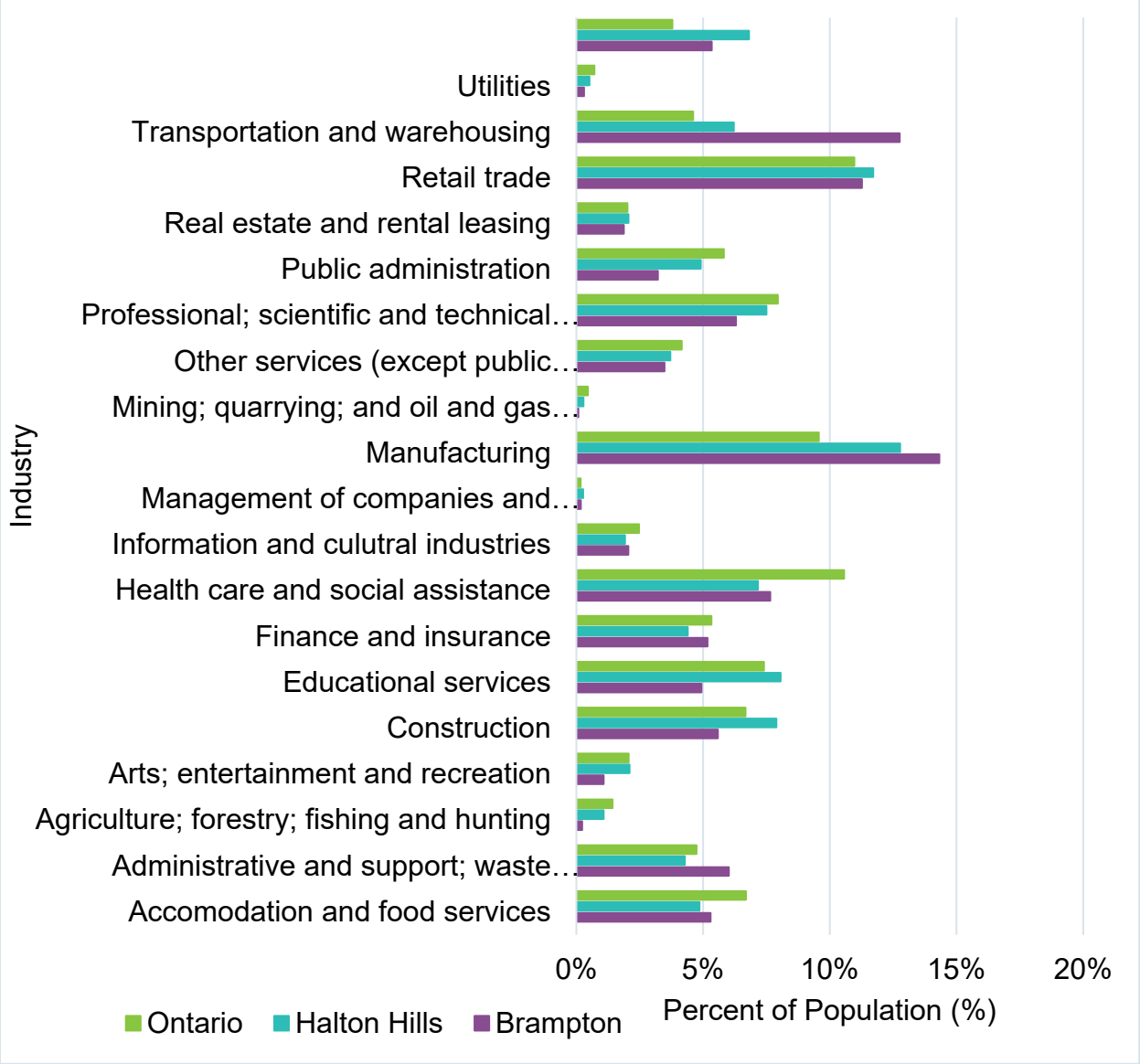
Figure 2-2: Labour Force Status for Population Aged 15 Years and Over in Brampton, Halton Hills and Ontario, 2016



Source: (Statistics Canada, 2017)

The largest three (3) industry sectors in Brampton are manufacturing, transportation and warehousing and, retail trade. The three (3) largest industry sectors in Halton Hills are manufacturing, retail trade and, educational services. Figure 2-3 identifies the number of people employed by industry type in Brampton, Halton Hills and Ontario in 2016 (Statistics Canada, 2017).

Figure 2-3: Number of People Employed by Industry Type for Population Aged 15 Years and Over in Brampton, Halton Hills, and Ontario, 2016



Source: (Statistics Canada, 2017)

2.2.7 Employment Projections

Employment projections for Brampton and Halton Hills are provided in Table 2-8. Employment rates are expected to increase by approximately 13% between 2021 and 2041 in Brampton (Region of Peel, 2021b). Employment rates are expected to increase by approximately 90% in Halton Hills between 2021 and 2041 (Watson & Associates Economists LTD, 2020). This indicates the need for investment in infrastructure to support the growing economy.

Table 2-8: Employment Projections from 2021 to 2041 in Brampton and Halton Hills

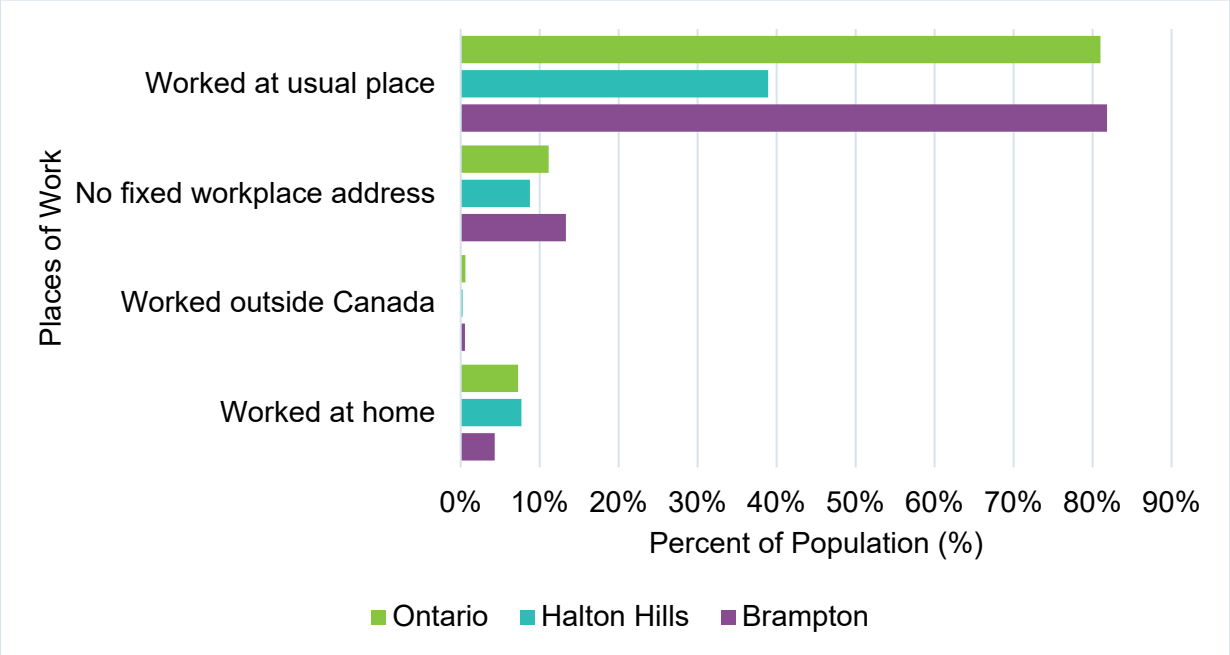
Location	Employment Projections				% Change
	2021	2026	2031	2041	
Brampton	210,500	250,200	276,400	314,900	13.9%
Halton Hills	27,800	34,500	42,000	53,000	90.6%

Source: (Region of Peel, 2021b), (Watson & Associates Economists LTD, 2020)

2.2.8 Place of Work and Commuting Statistics

Place of work status for the working age population (15 years and older) in Brampton, Halton Hills and the Province are detailed in Figure 2-4. Most people in all three (3) geographic areas reported working at their usual place of work (fixed address) in 2016 (Statistics Canada, 2017). At the time of desktop research, data on place of work for Brampton Ward 6 and Halton Hills Ward 2 were not available.

Figure 2-4: Place of Work for Population Aged 15 Years and Over in Brampton, Halton Hills and Ontario, 2016

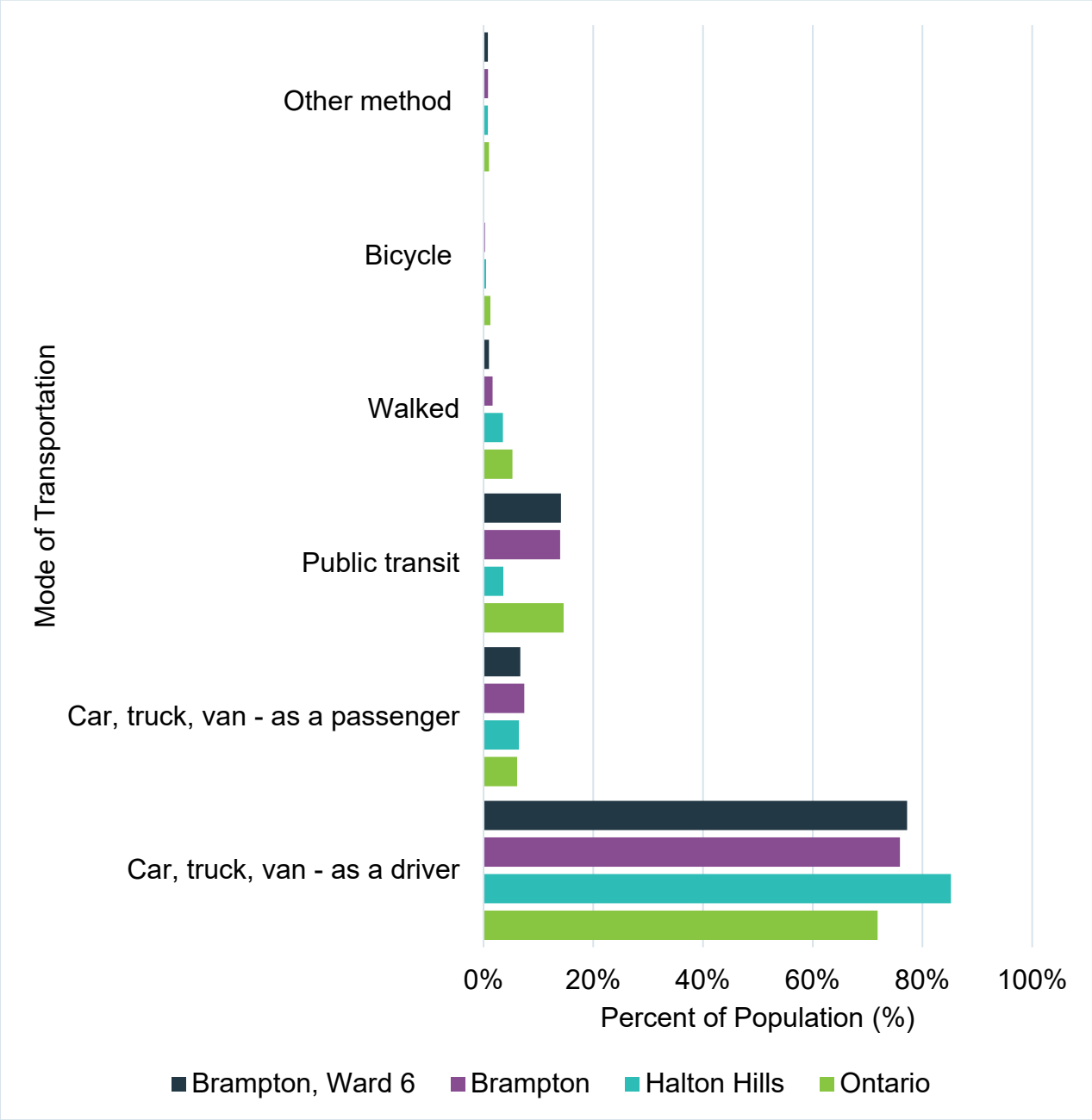


Source: (Statistics Canada, 2017)

The 2016 census reported individuals as the primary driver of a car, truck or van as the most common method of transportation in Brampton Ward 6, Brampton, Halton Hills and Ontario. Public transit is the second most common method of travelling among Brampton Ward 6, Brampton and Ontario. However, there is a substantial difference in the first and second most common method. In Halton Hills, approximately 4% reported using public transit, which is less than those that walk and ride as a passenger in a car, truck or van (Statistics Canada, 2017). At the time of desktop research, data on Halton Hills Ward 2 modes of transportation were not available.

Figure 2-5 summarizes (in percentages) the modes of transportation used to commute to work, either by car, truck, van, public transit, walking or cycling for Brampton Ward 6, Brampton, Halton Hills and Ontario.

Figure 2-5: Modes of Transportation (percentages) for the Employed Labour Force for the Population Aged 15 Years and Over in Brampton Ward 6, Brampton, Halton Hills and Ontario, 2016



Source: (Statistics Canada, 2017)

In 2016, 36.2% residents of Brampton commuted within their census subdivision to their place of work, 30.6% residents traveled by commuting to another census subdivision

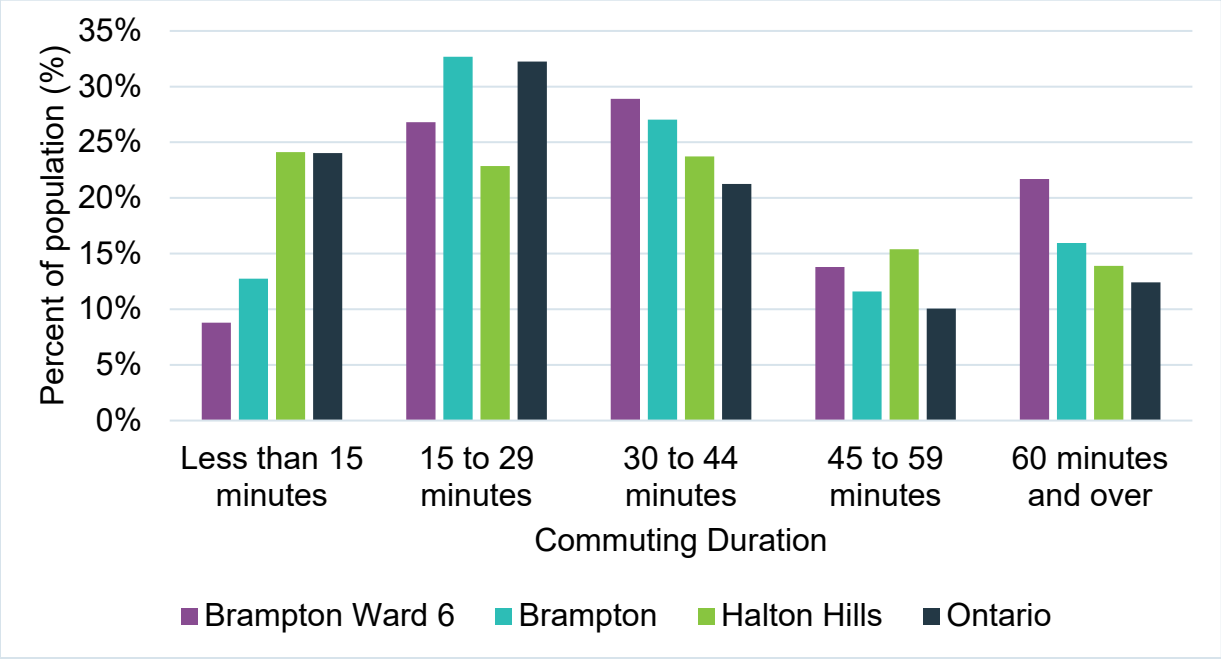
and 33.0% travelled by commuting to outside both their census subdivision and their census division (Statistics Canada, 2017). In 2016, 0.2% residents of Brampton reported commuting to a different province or territory for work.

In 2016, 32.1% residents of Halton Hills commuted within their census subdivision to their place of work, 12.3% residents traveled by commuting to another census subdivision, and 55.4% travelled by commuting to outside both their census subdivision and their census division (Statistics Canada, 2017). In 2016, 0.2% residents of Halton Hills were reported as commuting to a different province or territory for work.

The reported commute time for Brampton Ward 6 residents in 2016 ranged from less than 15 minutes to over 60 minutes, with the majority, 29% of residents commuting more than 30 minutes (Region of Peel, 2021a).

The reported commute time for Brampton and Halton Hills residents in 2016 ranged from less than 15 minutes to over 60 minutes. Most residents (36.7%) in Brampton commuted 15 to 29 minutes, while most residents (24.1%) in Halton Hills commuted less than 15 minutes. Figure 2-6 shows that 9% of the residents of Brampton Ward 6 have a commuting time of less than 15 minutes. This is lower than the provincial average and suggests a more local workforce.

Figure 2-6: Commuting Duration for the Employed Labour Force Aged 15 Years and Over in Private Households with a Usual Place of Work or No Fixed Workplace Address in Brampton Ward 6, Brampton, Halton Hills and Ontario, 2016



Source: (Statistics Canada, 2017)

2.3 Existing Land Use and Development Applications

2.3.1 Zoning

The majority of the LSA is zoned as Agricultural, and subject to the Interim Control By-law 306-2003. The by-law states the following: "…shall not have any buildings or structures erected thereon, except for those existing on the date of enactment of this by-law". The areas bordering the CN Rail tracks is zoned as Public Ownership and Utilities (City of Brampton, n.d.-d). Within the Project footprint, the area zoned as Public Ownership and Utilities is 11,549.5 m^2 and within the LSA, Public Ownership and Utilities accounts for 70,585.8 m^2.

2.3.2 Residential Uses

The LSA includes a small portion of area designated as Country Residential zoning within Halton Hills.

2.3.3 Commercial Uses

No commercial use areas are located within the LSA with the exception of the self-storage business located at 10861 Winston Churchill Blvd.



Figure 2-7: Commerical Use within Heritage Road Layover Local Study Area

2.3.4 Mixed Uses

No mixed uses are located within the LSA.

2.3.5 Institutional Uses

No institutional uses are located within the LSA.

2.3.6 Employment Uses

No employment uses are located within the LSA.

2.3.7 Recreational Uses

No recreational uses are located within the LSA.

2.3.8 Agricultural Uses

The LSA is designated as an agricultural area within the City of Brampton. Agricultural land also surrounds parts of the LSA and exist within the RSA.

2.3.9 Parks and Open Spaces

The LSA primarily consists of open spaces. It is designated as Protected Countryside in Halton Hills.

2.3.10 Development Applications

An Application for Site Plan Control has been approved for 10884 Winston Churchill Boulevard, which is located immediately north of the CN Rail Tracks, at Winston Churchill Boulevard and the CN Rail Tracks. The application is a proposal for a 40 m monopole telecommunications tower for Signum Wireless Corporation. The applicant is the Fontur International CN Rail.

An Official Plan Amendment was also approved for the entire northwest Brampton Urban Development Area to remove the shale resources protection policies in the official plan. The applicant was the Heritage Heights Landowners Group.

The Churchill Valley Estates submitted a Subdivision Application to the Town of Halton Hills for 10672 Winston Churchill Boulevard for a subdivision with 23 single detached lots. This development is scheduled for completion by the summer of 2022 (Buzz Buzz Homes, 2021).

2.4 Aesthetics / Visual Character

Renderings have been prepared that show the aesthetics/visual character of the site and surrounding landscape as it exists and with the layover facility in place, see Appendix A. The following photos depict the site and surrounding landscapes from publicly accessible roads.



Figure 2-8: Self-storage facility and track crossing at Winston Churchill Blvd (see location on Figure 2-7).



Figure 2-9: Agricultural fields surrounding the LSA.



Figure 2-10: CN Works Yard just north of the LSA (see location on Figure 2-7).



Figure 2-11: CN Rail Tracks through the LSA.

2.5 Utilities

No existing utilities are located within the LSA. However, the Northwest GTA Transmission Corridor, which is currently planned adjacent to the proposed Highway 413 will fall just outside of the LSA. The purpose of the Transmission Corridor Study is to identify an appropriate corridor of land to accommodate the electricity needs of the growing population of the nearby regions.

2.6 Transportation

The Province of Ontario is currently undertaking the environmental assessment and preliminary design for the proposed Highway 413 for the GTA West Corridor. Highway 413's proposed route is through York, Peel and Halton Regions and is expected to include four (4) to six (6) lanes, on a 59 kilometre (km), 400 series highway. Highway 413 is proposed to connect to Highway 400, 427, 410, 401 and 407 toll road and will include 11 interchanges at municipal roads. The Highway 413 proposed route currently runs just outside the LSA to the east of the Project Site between Heritage Road and Mississauga Road. It is of note that the City of Brampton has proposed an urban boulevard in lieu of Highway 413 through the Heritage Heights area.

2.6.1 Road Traffic Volumes and Operations

A Traffic Impact Assessment (TIA) has been completed for the Project, analysing both existing and future considerations for traffic conditions for the Project. The TIA Study Area covers 11 intersections including the proposed site access to Heritage Road Layover facility and analyzed for the following time horizons:

- Existing Year (2022).
- Opening Year (2025); and
- Ultimate Horizon Year (2030).

Traffic operations were assessed for the weekday morning and weekday afternoon peak hours for the existing year. The analysis results indicate minor to moderate operating problems at the intersections of Winston Churchill Boulevard & Guelph Street, Mississauga Road & Bovaird Drive West, Heritage Road & Wanless Drive, and Heritage Road & Bovaird Drive.

2.6.2 Public Transit Service

No existing local public transit bus stops are located within the LSA. The proposed layover will improve efficiencies and reliability of the GO Transit service, which in turn, will support the delivery of GO Expansion. GO Expansion will improve public transit across southern Ontario and increase ridership

2.6.3 Active Transportation

No existing active transportation facilities are within the LSA. A boulevard multi-use trail is planned on Winston Churchill Boulevard, as per the Halton Region Active Transportation Master Plan (Halton Region, 2015). Nearby the Project between Bovaird

Drive and Mayfield Road, the Region of Peel's Long Range Transportation Plan has plans for a new cycling facility.

Pedestrian counts are very low for all TIA Study Area intersections and traffic counts the closest intersection to the Project Site (Wanless Drive and Winston Churchill Boulevard) shows zero pedestrians during the peak hours.

The LSA is currently predominantly rural, without sidewalks or pathways for pedestrians. Sidewalks are anticipated to be added within the Heritage Heights Secondary Plan Area in conjunction with future development in the area.

3.0 Effects Assessment, Mitigation and Monitoring of the Preferred Design

The following section identifies the potential effects on construction and operation, based on impacts to land use and property, aesthetics / visual character, light pollution, utilities, and transportation. It also describes mitigation and monitoring measures for the impacts.

3.1 Potential Effects and Corresponding Mitigation and Monitoring Commitments

The potential effects, as well as corresponding mitigation and monitoring measures on the construction and operation of the Project are assessed based on the impacts to land use and property, aesthetics / visual character, light pollution, utilities and transportation within the LSA and its surrounding areas. Renderings of the Project Site that showcase existing conditions and the future proposed Heritage Road Layover are available in Appendix A.

3.1.1 Construction

3.1.1.1 Land Use and Property

Effects

The Heritage Road Layover will result in permanent changes in land use for properties within the Project Site through permanent property acquisition. The Project may result in temporary changes in land use, property ownership and nuisance effects from construction of the Project.

Temporary nuisance effects from increased noise, dust and vibration may be experienced on lands in the vicinity of the layover facility. Emissions from fuel combustion and fugitive dust during construction activities could temporarily decrease air quality. The vibration levels are predicted to meet the applicable limits during all construction stages. Nearby residents may experience effects resulting from increased noise and vibrations levels due to construction equipment and activities.

10827 Winston Churchill Boulevard (PIN 143620012), a residential rural property, is adjacent to the layover and will potentially be affected by construction and operation.

As the current zoning for the LSA is zoned primarily Agricultural, a zoning by-law amendment and Interim Control By-law exemptions will be required.

Mitigation and Monitoring

The Project will comply with regulated noise and vibration limits for construction activities. Additional mitigation and monitoring measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables.

Studies have been completed to assess the impacts to 10827 Winston Churchill Boulevard (PIN 143620012) and identify mitigation measures. For the properties impacted, specifics requirements will be further identified during detailed design. In regard to access to properties, ongoing consultation is currently occurring and will continue during detailed design with affected landowners. This will help identify appropriate site-specific mitigation measures.

Select staging / laydown areas will be utilized in accordance with Metrolinx standard procedures. These staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors. Metrolinx guidance will also be adhered to with respect to monitoring requirements at construction staging / laydown areas. In addition, temporary lighting and wayfinding signs, including cues for navigation will be provided on the construction site.

The Project will also have a Communications Plan developed which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. A Complaints Protocol plan will also be developed, which identifies how, when and where complaints will be gathered and responded. In terms of monitoring, the number of complaints will be tracked, as well as resolutions.

The Project will require consultation with the City of Brampton in relation to the zoning, development and the Interim Control By-law 306-2003.

3.1.1.2 Aesthetics / Visual Character

Effects

Visual quality depends on various factors including existing conditions, terrain, observation point, lighting / shadow, development pattern and neighbourhood character.

It is expected that during construction, there will be temporary nuisance effects from increased dust that may have aesthetic effects on nearby residences.

The residential properties in the vicinity of the layover facility may also experience temporary visual effects because of construction activities and components including temporary storage sites for equipment, staging / laydown areas and stockpiling of materials. During construction, trees may need to be removed, which may change the views from residential properties in the area. Construction activities may be visible from residential properties, which will temporarily alter the nature of viewscapes. The Project will have a setback from the roadway which will minimize construction effects for the residential properties (see Table 3-3-1).

Mitigation and Monitoring

The Project has been designed to minimize effects, to the extent possible, on existing land use and development. A screened enclosure for the construction site will be

provided, which will have particular attention to the waste disposal and material storage areas. In regard to monitoring, construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.

At the end of construction, temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed and no longer affect the viewscape. Due to this, these impacts on the aesthetics / visual characters will be short-term in nature.

3.1.1.3 Light Pollution

Effects

It is expected that during construction, there will be temporary nuisance effects from increased lighting, required for construction activities that may have an effect on nearby residences.

Mitigation and Monitoring

A lighting plan will be developed, in order to reduce the effects of light pollution. As per the Complaints Protocol, the number and resolution of complaints received regarding lighting will be tracked.

3.1.1.4 Utilities

Effects / Mitigation and Monitoring

No existing utilities (storm sewers, sanitary sewers, watermain, hydro and communication) are within the LSA. Thus, there are no projected impacts during construction.

3.1.1.5 Transportation

Effects

A Traffic Impact Assessment (EPR Appendix H) was completed to determine the impacts of the layover during construction and operations phase. There are five (5) construction stages expected. Construction traffic volume estimates are expected to be refined in later planning stages but are estimated at this point to be less than 20 trucks per day. Construction shifts would start and end outside of the peak hours for road traffic, resulting in minimal impact on traffic movements along Winston Churchill Boulevard during peak hours. At this time, except for short term lane closures of less than a day that may be required to facilitate large trucks entering and exiting the site, construction related road closures are not expected.

The Region of Peel is planning a reconstruction of Winston Churchill Boulevard from south of Mayfield Road to north of the Credit River Bridge, scheduled in Spring 2024 with a completion in December 2025. Coordination of the construction schedule for the Heritage Road Layover and for the reconstruction of Winston Churchill is recommended to reduce any impacts to the surrounding communities during construction.

Mitigation and Monitoring

A Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. Potentially affected residents, tenants and business owners will be notified of initial construction schedules, and corresponding traffic detours, if required, as well as modifications to these schedules as they occur. Traffic impacts will be monitored in accordance with the Traffic Control and Management Plan and will be adjusted as necessary during the construction period.

3.1.2 Operations

3.1.2.1 Land Use and Property

Effects

Land use will be impacted due to the loss of agricultural land. The extent of land available for future low-medium density residential housing, as per the Heritage Heights Secondary Plan, will also be reduced.

10827 Winston Churchill Boulevard (PIN 143620012), a residential rural property, is adjacent to the layover will potentially be affected by operation. The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of 10827 Winston Churchill Boulevard (PIN 143620012) being at least 100 metres away from the tracks. Increase in volumes of train and vehicular traffic may decrease air quality but are anticipated to remain within the Ministry of Environment, Conservation, and Parks (MECP) allowable air quality limits.

Trees within the Project Site may be removed during construction, resulting in alteration of viewscapes. A Tree Inventory Plan is in progress based on recent field investigations. In concert with the detailed design, information on tree and vegetation removal will inform potential visual impacts.

Mitigation and Monitoring

Studies are currently underway to assess the impacts to 10827 Winston Churchill Boulevard (PIN 143620012) and identify mitigation measures.

3.1.2.2 Aesthetics / Visual Character

Effects

During the operation phase, the storage and maintenance of more trains at the layover facility will impact viewscapes via the introduction of trains and supporting infrastructure where only agricultural areas currently exist. Trains and infrastructure may be visible from some nearby rural residences.

Mitigation and Monitoring

As the Project Site is offset from publicly accessible property and not within close proximity of rural residential homes, the visual impact of operation is considered insignificant.

3.1.2.3 Light Pollution

Effects

Permanent lights will be installed for operations of the site.

Mitigation and Monitoring

The lights will be installed in accordance with municipal by-laws. The lights would be designed to minimize off-site light pollution. As per the Complaints Protocol, the number and resolution of complaints received regarding lighting will be tracked.

3.1.2.4 Utilities

Effects / Mitigation and Monitoring

No existing utilities (storm sewers, sanitary sewers, watermain, hydro and communication) are within the LSA and as such, there are no projected impacts during operation.

3.1.2.5 Transportation

Effects

The Region of Peel and City of Brampton have widening plans within the timeline for the Project for Mississauga Road, Mayfield Road, Bovaird Drive, Wanless Drive, and Heritage Road surrounding the LSA. These widenings will relieve or reduce some of the existing operating problems and accommodate future trips to be generated by the Heritage Heights development.

Vehicle trips to and from the Heritage Road Layover will be relatively low, with 20 or fewer total (including inbound and outbound) trips during each of the weekday morning and weekday afternoon peak hours. The facility's operation will have a negligible impact on the road network. The access will operate acceptably with single lane approaches.

Mitigation and Monitoring

The impacts from increased traffic are projected to be minimal, as such no specific mitigation and monitoring measures are proposed.

3.2 Summary of Potential Effects, Mitigation and Monitoring

Table 3.1 provides a summary of the potential effects, mitigation measures and monitoring activities for the socio-economic features impacted by the Project.

Table 3-3-1: Summary of Potential Effects, Mitigation and Monitoring

Environmental Component	Potential Effect	Mitigation Measure(s)	Monitoring
Property	Property acquisition – permanent and temporary	• Specific property requirements will be confirmed during design. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	• Number and resolution of complaints received.
All land uses and adjacent lands	Nuisance effects from construction activities	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Develop a Communications Protocol which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
	Land use and access disruption	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site. • Consultation required with the City of Brampton in relation to the zoning, development and the Interim Control By-law 306-2003	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	Visual effects from construction / operations areas / activities	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	Light trespass, glare and light pollution effects	• Develop a plan to reduce the effects of light pollution with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • The lights would be designed to minimize off-site light pollution during operations.	• Number and resolution of complaints received.
Utilities	No impacts	• No mitigation measures required.	• No monitoring required
Transportation / Traffic	Construction may result in the need for temporary road or lane closures	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period.

4.0 Summary and Conclusion

The GO Expansion Program will provide increased train frequency and availability throughout Southern Ontario and improve the efficiency and reliability of the GO Transit service. This Project, which is required to meet the goals of GO Expansion, is consistent with relevant provincial, regional and municipal land use policies.

Although the Project is anticipated to have temporary environmental and/or socioeconomic effects, these will be limited to typical nuisance effects experienced during construction, which will be mitigated to the extent possible through compliance with regulations and standard best practices for construction.

Permanent benefits will include more efficient transit services. The Project will also enable Metrolinx to meet regional transportation demand now and into the future.

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Appendix A

Heritage Road Layover Renderings

Ground-level view of existing conditions and proposed Heritage Road Layover:





Aerial view of existing conditions and future proposed Heritage Road Layover:





Appendix F

Cultural Heritage Existing Conditions and Preliminary Impact Assessment – Heritage Road Layover

Heritage Road Layover
Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment

Heritage Road Layover Project, Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel

Project # IM21405045

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

August 2022

Heritage Road Layover
Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment

Heritage Road Layover Project, Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel

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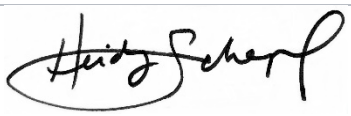
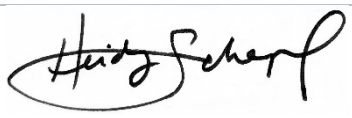
Reviewed by:	Heidy Schopf, MES, CAHP		August 12, 2022
Issued by:	Heidy Schopf, MES, CAHP		August 12, 2022

Executive Summary

Wood Environment & Infrastructure Solutions Canada Limited (Wood) was retained by Metrolinx to conduct a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) as part of the Heritage Road Layover Project Transit Project Assessment Process (TPAP) and Detailed Layover Facility Design Project (the Project). The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (the "Study Area").

This Cultural Heritage Report was initiated by Metrolinx as part of the requirements for the Heritage Road Layover Project TPAP triggered under the *Environmental Assessment Act*. It was prepared in accordance with Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) guidance document titled *Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment EPR under TPAP for Proponents and their Consultants* (MHSTCI 2019).

The purpose of this Cultural Heritage Report is to establish the historical context of the Study Area, identify known and potential built heritage resources and cultural heritage landscapes through information gathering and fieldwork, create an inventory of built heritage resources and cultural heritage landscapes, conduct a preliminary impact assessment, and recommend mitigation measures.

Background research and field investigations identified a total of three heritage properties in the Study Area, including:

- One known cultural heritage landscape:
    - CHR 1 (McNichol Cemetery, 10510 Heritage Road, intention to designate under Part IV of the *Ontario Heritage Act*)
- Two potential built heritage resources:
    - CHR 2 (10827 Winston Churchill Boulevard, previously identified)
    - CHR 3 (10746 Winston Churchill Boulevard, identified during field review)

A preliminary impact assessment of the potential impacts resulting from the Project to the identified built heritage resources and cultural heritage landscapes determined that the Project:

- No impacts to CHR 1 (McNichol Cemetery, 10510 Heritage Road) are anticipated from a cultural heritage perspective. However, the close proximity of the proposed work to this cemetery poses a risk for land disturbance.
- Indirect impacts are anticipated to CHR 2 (10827 Winston Churchill Boulevard) due to the introduction of a new access road and construction of the layover

facility, which may result in the isolation of the property from the surrounding rural context.

- No impacts are anticipated to CHR 3 (10746 Winston Churchill Boulevard).

Based on the results of the impact assessment, the following recommendations are made:

1) Indirect adverse impacts are anticipated to CHR 2 (10827 Winston Churchill Boulevard). Accordingly, post-construction landscaping is recommended to screen the proposed access road and Heritage Road Layover facility from the residential property. Options for vegetation screening will be explored during detailed design.

2) No direct or indirect impacts are anticipated to CHR 1 (McNichol Cemetery, 10510 Winston Churchill Boulevard) from a cultural heritage perspective. However, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, the recommendations to conserve the cemetery contained in the Stage 1 Archaeological Assessment prepared for this project must be followed, including guidance on the installation of protective fencing and appropriate buffers (Wood 2021b).

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List of Acronyms and Abbreviations

BHR	Built Heritage Resource
Brampton	City of Brampton
CHER	Cultural Heritage Evaluation Report
CHL	Cultural Heritage Landscape
CHR	Cultural Heritage Resource
CHSR	Cultural Heritage Screening Report
CHVI	Cultural Heritage Value or Interest
CN	Canada National Railway
Cultural Heritage Report	Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment

EA	Environmental Assessment
EA Act	Environmental Assessment Act
EHS	East Hurontario Street
EPR	Environmental Project Report
GTR	Grand Truck Railway
Halton Hills	Town of Halton Hills
HIA	Heritage Impact Assessment
MHSTCI	Ministry of Heritage, Sport, Tourism and Culture Industries
MTO	Ministry of Transportation
O. Reg	Ontario Regulation
OHA	Ontario Heritage Act
OHT	Ontario Heritage Trust
PHP	Provincial Heritage Property
PHPPS	Provincial Heritage Property of Provincial Significance
PPS	Provincial Policy Statement
ROW	Right-of-way
SCHV	Statement of Cultural Heritage Value
The Checklist	Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes: A Checklist for the Non-Specialist
The Inventory	Inventory of built heritage resources and cultural heritage landscapes
The Project	Heritage Road Layover
The Province	Province of Ontario
TPAP	Transit Project Assessment Process
WHS	West Hurontario Street
Wood	Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union GO Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counter peak service for stations between Bramalea GO to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Heritage Road Layover (the Project). Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

Only the property included in the red outlined in Figure 1-1 and boundaries shown in Figure 1-2 will be acquired by Metrolinx as part of the proposed Project. The total Project Site is approximately 5 hectares (50 000 m^2). No additional property outside of the boundaries will be acquired or controlled (permanently or temporarily to support construction) by Metrolinx.

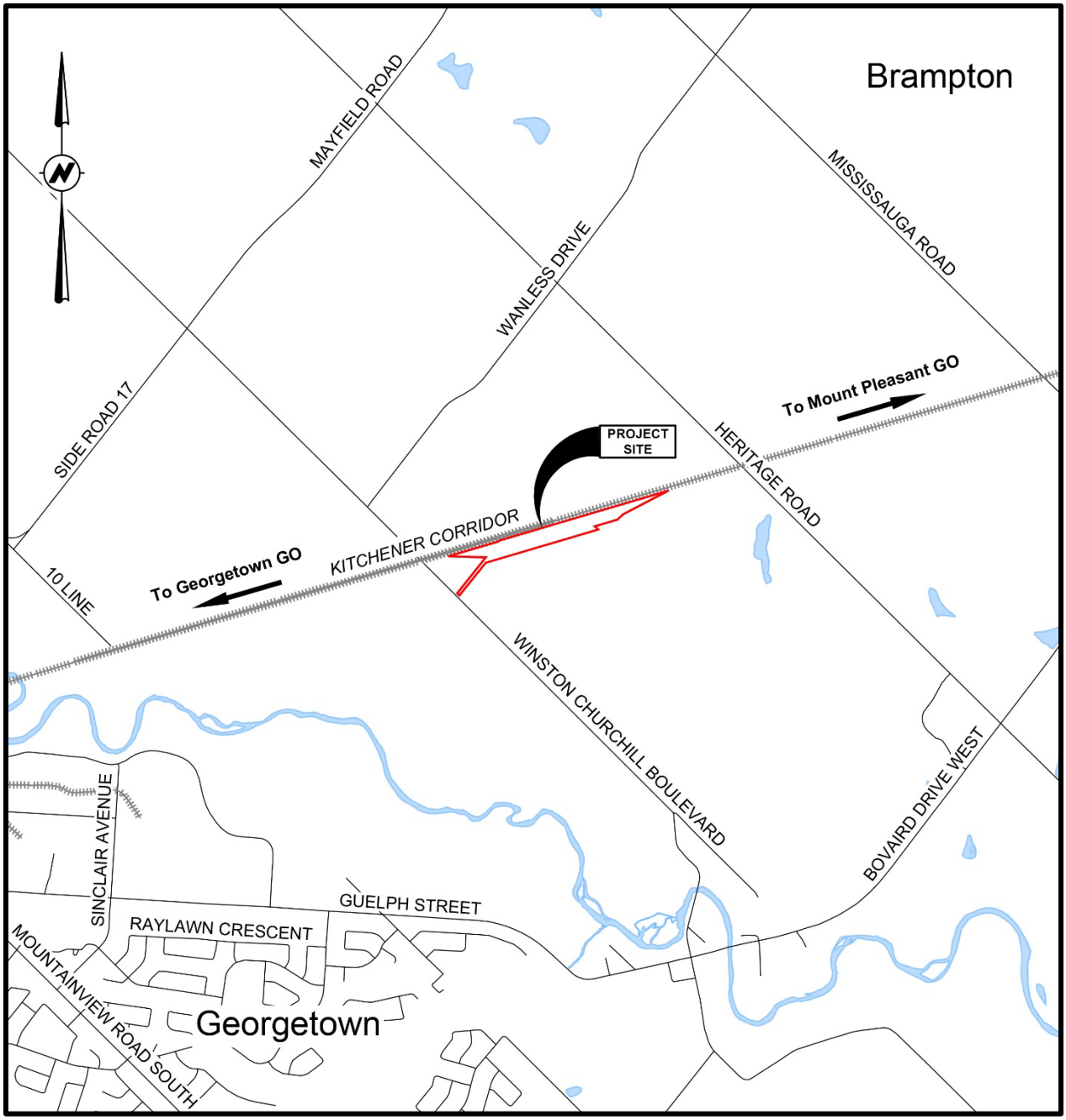


Figure 1-1: Location of Project Site

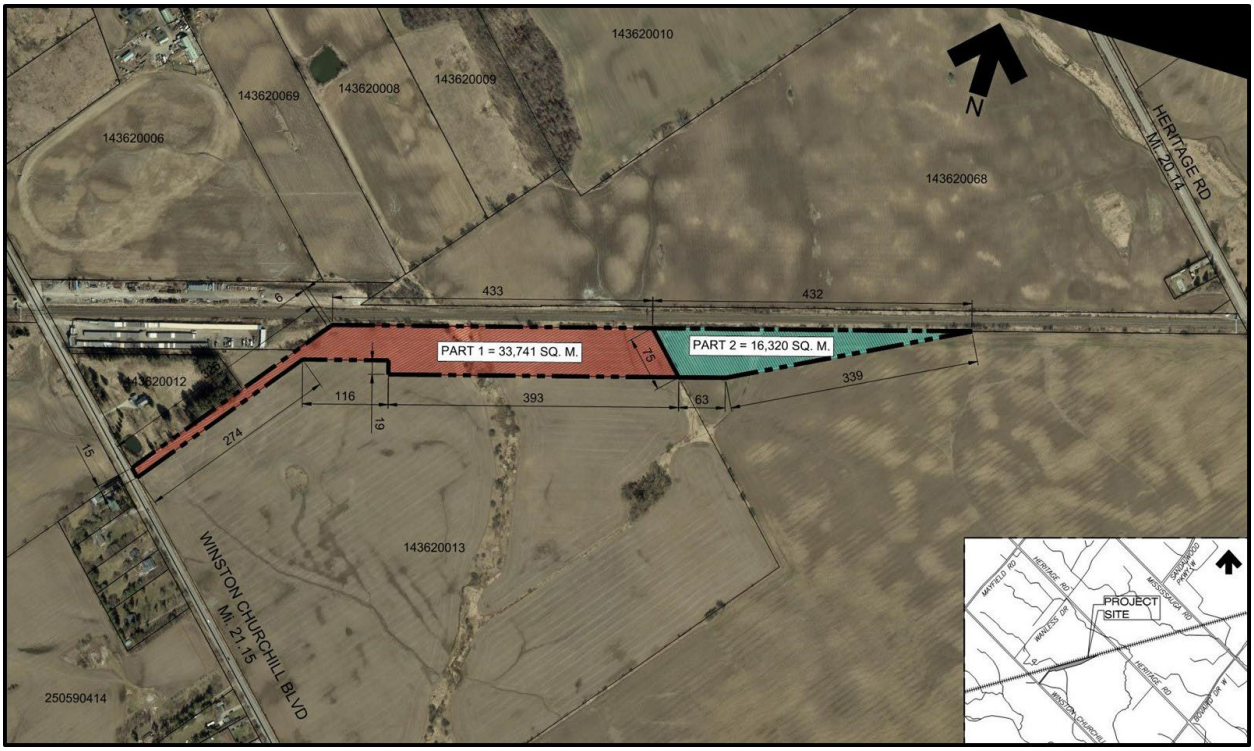


Figure 1-2: Location of Property Parcels

1.2 Cultural Heritage Report Purpose

This Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) was initiated by Metrolinx as part of the requirements for the Heritage Road Layover Project TPAP and was prepared in accordance with Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) guidance document titled *Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment EPR under TPAP for Proponents and their Consultants* (MHSTCI 2019). Wood was retained by Metrolinx to conduct the Cultural Heritage Report for the Study Area.

The purpose of this Cultural Heritage Report is to establish the historical context of the Study Area, identify known and potential built heritage resources and cultural heritage landscapes through information gathering and fieldwork, create an inventory of built heritage resources and cultural heritage landscapes, conduct a preliminary impact assessment, and recommend mitigation measures.

A Cultural Heritage Report will recommend further studies, as appropriate. For TPAP projects, this includes:

- Where a known or potential built heritage resource or cultural heritage landscape may be directly and adversely impacted, and where it has not yet been evaluated for Cultural Heritage Value or Interest (CHVI), completion of a Cultural Heritage Evaluation Report (CHER) is required to fully understand its CHVI and level of significance. The CHER must be completed within the TPAP.
- If a built heritage resource or cultural heritage landscape is found to be of CHVI, then a Heritage Impact Assessment (HIA) will be undertaken by a qualified

person. The HIA will be completed in consultation with MHSTCI and the proponent as early as possible during detail design, following the TPAP.

The requirements to consider cultural heritage under the Environmental Assessment (EA) process are found in the Provincial Policy Statement (PPS) 2020 (Government of Ontario 2020) and the Environmental Assessment Act R.S.O. 1990, c. E.18 (EA Act).

The PPS provides policy direction on matters of provincial interest related to land use planning and development (Government of Ontario 2020:1). The PPS is applicable to the entire Province of Ontario (the Province). Under the PPS, the conservation of cultural heritage is identified as a matter of provincial interest. Section 2.6 of the PPS gives direction on the consideration of cultural heritage and archaeology (Government of Ontario 2020:31). Specifically, the following direction is given regarding built heritage resources, cultural heritage landscapes, and protected heritage properties:

> *2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved*
>
> *2.6.3 Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property except where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.*
>
> (Government of Ontario, 2020)

The EA Act sets out planning and decision-making process so that potential environmental effects are considered before a project begins (Government of Ontario 2019). The EA Act applies to provincial ministries and agencies, municipalities, and public bodies. In regard to transit work, Ontario Regulation (O. Reg.) 231/08: Transit Projects and Metrolinx Undertakings, of the EA Act outlines the requirements for transit projects undertaken by Metrolinx, a prescribed public body.

The *Ontario Heritage Act*, R.S.O. 1990, c. O.18, provides a framework for the protection of cultural heritage resources in the Province. It gives municipalities and the provincial government powers to protect heritage properties and archaeological sites. O. Reg. 157/10 of the *Ontario Heritage Act* lists prescribed public bodies that must follow the Standards and Guidelines for Provincial Heritage Properties. Presently, there are 12 prescribed public bodies in Ontario, including Metrolinx (Government of Ontario 2014). As a prescribed public body, Metrolinx is responsible for establishing a cultural heritage process for the identification, management, and conservation of provincial heritage properties.

The *Ontario Heritage Act* includes two regulations for determining Cultural Heritage Value or Interest (CHVI): Ontario Regulation (O. Reg.) 9/06 and O. Reg. 10/06. O. Reg. 9/06 provides criteria to determine the CHVI of a property at a local level while O. Reg. 10/06 provides criteria to determine if a property has CHVI of provincial significance.

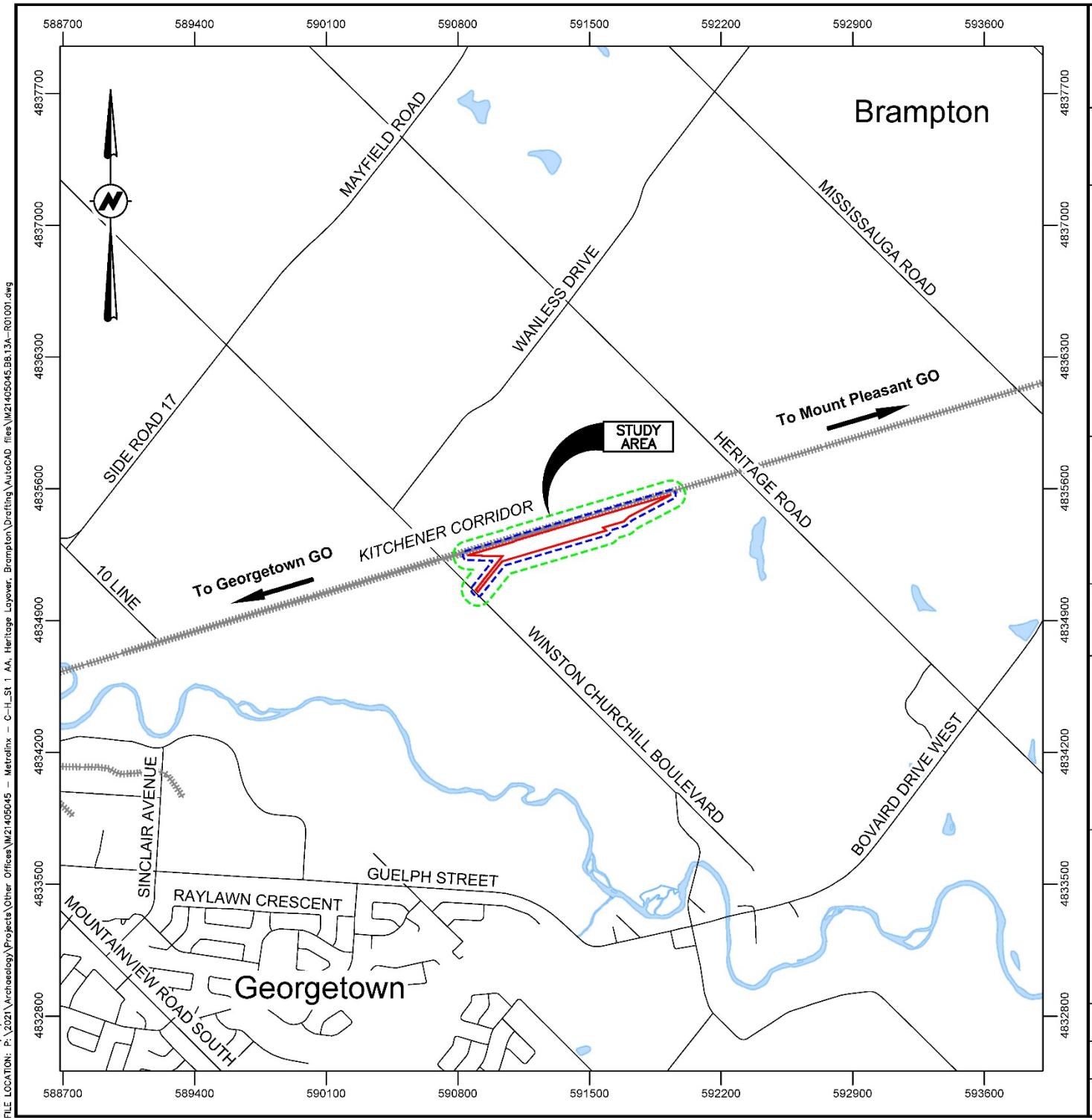
1.3 Cultural Heritage Study Area

Per MHSTCI guidance, this Cultural Heritage Report uses Section 4.1 of the Ministry of Transportation Ontario's (MTO) *Environmental Guide for Built Heritage and Cultural*

Heritage Landscapes (MTO 2007:13) to define the Study Areas. Per Section 4.1 of MTO's guide, the Study Area is defined as follows:

- Project Site: A ROW Study Area comprised of the lands to be developed for the proposed project component. In this Cultural Heritage Report, the 'ROW Study Area' is identified as the 'Project Site' and includes the footprints of the proposed layover and associated project components.
- 25 Metre Study Area: Located immediately beside the Project Site and has potential for direct impacts to identified built heritage resources and cultural heritage landscapes. Possible impacts to known or potential heritage properties within the 25 metre zone may include: property acquisition, land disturbance, demolition of a heritage attribute, unsympathetic alterations, alterations for access requirements, introduction of new elements, the removal or planting of trees or other natural features, a change in land use, and/or continued intensification. Where present, these direct impacts have the potential to diminish the integrity of a heritage property.
- 50 Metre Study Area: Located immediately beside the 25 Metre Study Area and includes lands where direct impacts are unlikely to occur but indirect impacts to built heritage resources and cultural heritage landscapes may be identified. Possible indirect impacts within the 50 metre zone may include: introduction of shadows, isolation, vibration damage, and/or obstruction of a significant view. Where present, these indirect impacts have the potential to diminish the integrity of a heritage property.

Together the Project Site, 25 Metre Study Area, and 50 Metre Study Area, which together make a total 75 m buffer from the Project Site forms the Cultural Heritage Study Area (Study Area). This area was judged sufficient to capture potential direct and indirect impacts to identified built heritage resources and cultural heritage landscapes within, and adjacent to, the proposed work (Figure 1-3 to Figure 1-5).



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PROJECT: CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:

LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA
- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM21405045.B8.13A.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: $8\frac{1}{2}$ x 11.

REFERENCES:
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Metrolinx
277 FRONT STREET WEST, SUITE 400
TORONTO, ONTARIO, M5V 2X4

METROLINX

Wood
Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3W8
905-335-2353

wood.

DWN BY:	CHK'D BY:	DATE:
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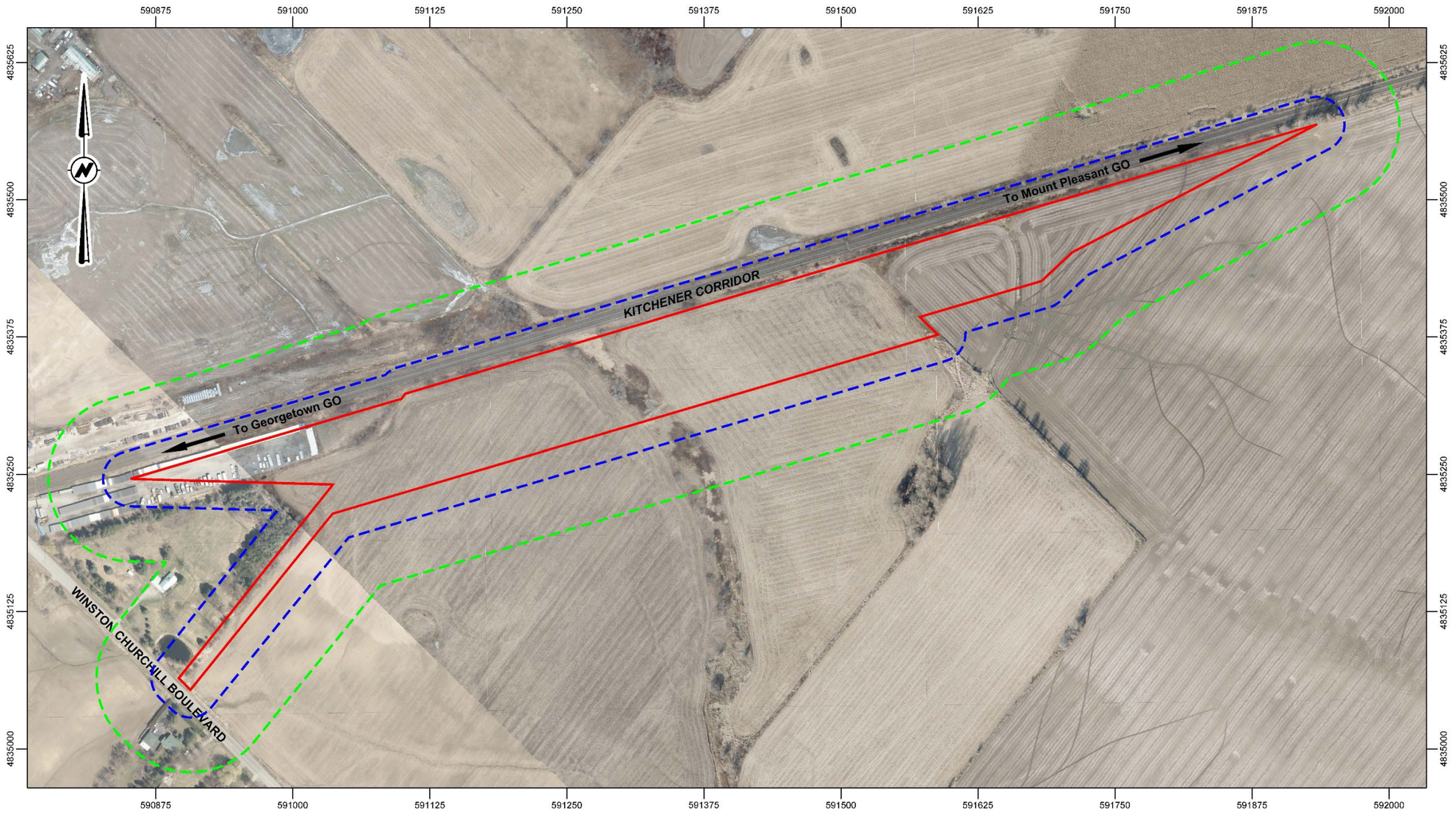

PROJECT:
CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:
AERIAL PHOTOGRAPH SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA
- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM21405045.B8.13A.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 8½ x 11.

REFERENCES:
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Metrolinx
277 FRONT STREET WEST, SUITE 400
TORONTO, ONTARIO, M5V 2X4

METROLINX

Wood
Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3WS
905-335-2353

wood.

DWN BY:	CHK'D BY:	DATE:
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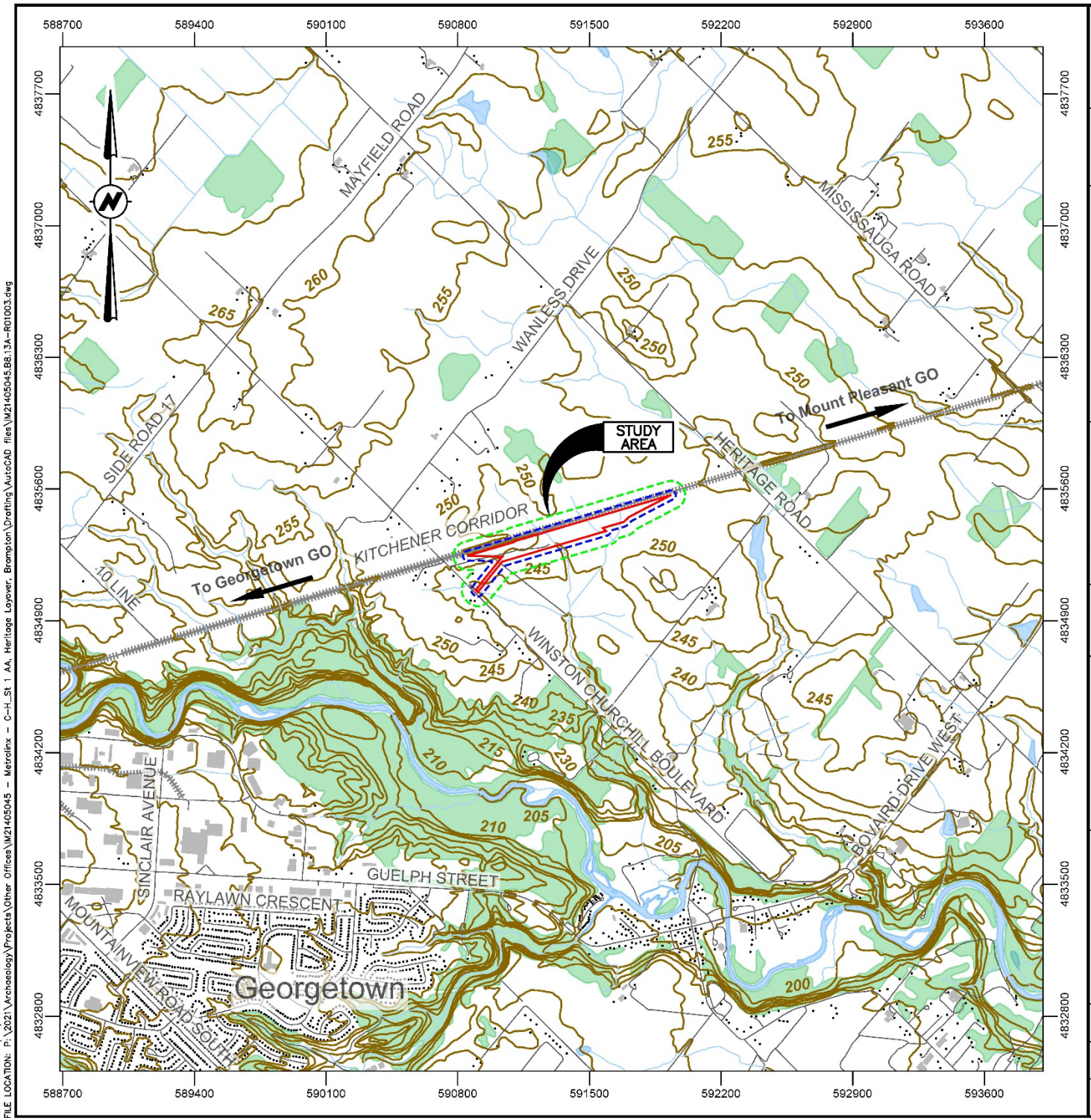

PROJECT: CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:

TOPOGRAPHIC MAP SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA

- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM21405045.B8.13A.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 8½ x 11.

REFERENCES:
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SCALE 1:30000

Metrolinx
277 FRONT STREET WEST, SUITE 400
TORONTO, ONTARIO, M5V 2X4

METROLINX

Wood
Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3WS
905-335-2353

wood.

DWN BY:	CHK'D BY:	DATE:
SJL	CD	DEC. 3, 2021
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM21405045.B8.13A
REV No:		FIGURE No:
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2.0 Methodology

The following section provides an overview of the methodology followed to collect and document cultural heritage existing conditions information within the Study Area.

2.1 Cultural Heritage Guidance Documents

The MHSTCI is responsible for the administration of the *Ontario Heritage Act* and has developed checklists, information bulletins, standards and guidelines, and policies to support the conservation of Ontario's cultural heritage resources, including built heritage resources, cultural heritage landscapes, and archaeological sites.

The MHSTCI 2019 guidance document titled *Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment and Environmental Project Reports (EPR) under Transit Project Assessment Process (TPAP) for Proponents and their Consultants* was used to guide the preparation of this report, including the definition of the Study Area, creating the inventory of built heritage resources and cultural heritage landscapes, and presenting the results of the impact assessment. In addition, the MHSTCI *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes: A Checklist for the Non-Specialist* (the Checklist) was used to guide the identification of known and potential properties with cultural heritage value.

2.2 Data Collection and Analysis

2.2.1 Data Gap Analysis

A review of available background information (e.g., previously completed studies and/or reports) was undertaken to identify any data gaps, if relevant. This data gap analysis identified areas where data was non-existent from previous studies, and/or new data needed to be collected, and/or existing available data required review and updating or augmenting. The results of this data gap analysis are presented in **Error! Reference source not found.**.

Gaps in data pertaining to this project include the need to confirm the heritage status of the McNichol Cemetery through information gathering and the need to update an impact assessment pertaining to the McNichol Cemetery. Another gap is the need to confirm the presence or absence of heritage properties adjacent to the Study Area.

Table 2-1: Cultural Heritage Data Gap Analysis

Data Reviewed	Summary	Gaps Identified
DRAFT Metrolinx Cultural Heritage Screening Report, Proposed Heritage Road Rail Layover Facility Site, (Lots 14 & 15, Concession 6 WHS, Geographic Township of Chinguacousy), City of Brampton, Ontario	• Cultural Heritage Screening Report (CHSR) prepared by Unterman McPhail in 2016. Report finds that the proposed Heritage Road Rail Layover Facility Site is not a Potential Provincial	• Screening report does not account for adjacent properties and appears to be a desktop exercise only. • No impact assessment completed.

Data Reviewed	Summary	Gaps Identified
(Unterman McPhail Associates 2016)	Heritage Property, and a Cultural Heritage Evaluation Report (CHER) is not required. • Screening checklist notes that the McNichol Cemetery is not yet listed or designated but that the City of Brampton is pursuing designation. • Recommendations include 1) do not complete a CHER for the Heritage Road Layover Facility and 2) Review during detail design to confirm impacts to the McNichol Cemetery.	• CHSR discusses the McNichol Cemetery but does not consider any other adjacent properties. • The CHSR notes that the City of Brampton intends to designate the McNichol Cemetery, but the CHSR does not classify the cemetery as a protected heritage property.
Municipal Register of Cultural Heritage Resources Designated Under the Ontario Heritage Act: Designated Properties (City of Brampton 2021)	• McNichol Cemetery pending heritage designation • No other designated properties on Wanless Drive, Heritage Road, or Winston Churchill Boulevard.	• Confirm heritage status of McNichol Cemetery through information gathering with the City of Brampton, Ontario Heritage Trust, and MHSTCI. • Updated impact assessment required for McNichol Cemetery.
Municipal Register of Cultural Heritage Resources: 'Listed' Heritage Properties (City of Brampton 2021)	• No listed properties identified on Wanless Drive, Heritage Road, or Winston Churchill Boulevard.	• Confirm presence/absence of listed heritage properties through information gathering with City of Brampton, Ontario Heritage Trust, and MHSTCI.

2.2.2 Background Research

Background research was carried out during the preparation of this Cultural Heritage Report to gain a thorough understanding of the historical context of the Study Area. Primary sources, secondary sources, historical maps, and aerial photographs were

consulted, as appropriate, to identify historical themes relevant to the Study Area. Specifically, research regarding the physiography, survey and settlement, and 19th and 20th-century land use of the Study Area was completed. A review of historical mapping and aerial photographs was also conducted to identify settlements, structures, and landscape features within, and adjacent to, the Study Area. Historical maps from 1858, 1859, 1877, 1909, 1942, 1963, 1973, and 1974 were reviewed as well as aerial photography from 1954. In addition, Google Earth imagery was reviewed to identify recent changes within the Study Area.

The results of the background research are presented in Section 3.0 of this report.

2.2.3 Information Gathering and Community Engagement

Information gathering requests were completed out to identify protected built heritage resources and cultural heritage landscapes in the Study Area. For this Cultural Heritage Report, the City of Brampton, Ontario Heritage Trust, and the MHSTCI were contacted directly via email and/or phone to determine the presence of listed, designated, or protected heritage properties within the Study Area.

The results of information gathering requests are presented in Section 4.1 of this report, along with a description of plans for further community engagement.

2.2.4 Inventory of Built Heritage Resources and Cultural Heritage Landscapes

Once the results of the background research, background review, data gap analysis, information gathering, and field review were compiled, an inventory of built heritage resources and cultural heritage landscapes (the Inventory) within the Study Area was developed. The Inventory includes both protected and potential heritage properties. Further, the Inventory includes built heritage resources (BHR) and cultural heritage landscapes (CHL). Archaeological resources are not considered in this Cultural Heritage Report and are assessed in a separate Stage 1 Archaeological Assessment Report prepared by Wood (Appendix G of the EPR).

2.2.5 Preliminary Impact Assessment

A preliminary impact assessment was completed to evaluate whether the proposed undertaking will impact–positively or negatively, and directly or indirectly–identified built heritage resources and cultural heritage landscapes. For the purposes of this document, an impact is a change in an identified cultural heritage resource resulting from a particular activity (MHSTCI 2019).

To make predictions about potential impacts, additional factors were considered, including the scale or severity of impacts, and whether they are to be temporary or permanent, reversible, or irreversible (MHSTCI 2019).

As outlined in the MHSTCI TPAP guidance, a direct adverse impact would have a permanent and irreversible negative effect on the CHVI of a property or result in the loss of one or more heritage attributes on all or part of the property. Examples of direct adverse impacts include, but are not limited to:

- Removal or demolition of all or part of any heritage attribute.

- Removal or demolition of any building or structure on the property whether or not it contributes to the CHVI of the property (i.e., non-contributing buildings).
- Any land disturbance, such as a change in grade and/or drainage patterns that may adversely affect the property, including archaeological resources.
- Alterations to the property in a manner that is not sympathetic, or is incompatible, with the CHVI of the property. This may include necessary alterations, such as new systems or materials to address health and safety requirements, energy-saving upgrades, building performance upgrades, security upgrades or servicing needs.
- Alterations for access requirements or limitations to address such factors as accessibility, emergency egress, public access, security.
- Introduction of new elements that diminish the integrity of the property, such as a new building, structure or addition, parking expansion or addition, access or circulation roads, landscape features changing the character of the property through the removal or planting of trees or other natural features, such as a garden, or that may result in the obstruction of significant views or vistas within, from, or of built and natural features.
- Change in use for the property that could result in permanent, irreversible damage to, or negate, the property's CHVI.
- Continuation or intensification of the use of a property without prior conservation of its heritage attributes.

An indirect adverse impact would be the result of an activity on or near the property that may adversely affect its CHVI and/or heritage attributes. Examples of indirect adverse impacts include, but are not limited to:

- Shadows that alter the appearance of a heritage attribute or change the visibility of an associated natural feature, or plantings, such as a tree row, hedge, or garden.
- Isolation of a heritage attribute from its surrounding environment/context, or from other significant cultural heritage features.
- Vibration damage to a structure due to construction or activities on, or adjacent to, the property.
- Alteration or obstruction of a significant view of, or from, the property from a key vantage point.

Positive impacts are those that may positively affect a property by conserving or enhancing its CHVI and/or heritage attributes. Examples of positive impacts may include, but are not limited to:

- Changes or alterations that are consistent with accepted conservation principles, such as those articulated in MHSTCI's *Eight Guiding Principles in the Conservation of Historic Properties* and *Heritage Conservation Principles for*

Land Use Planning, and Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada*.

- Adaptive re-use of a property–alteration of a heritage property to fit new uses or circumstances of the property in a manner that retains its CHVI.
- Public interpretation or commemoration of the heritage property.

The results of the preliminary impact assessment are presented in Section 6.2 of this report.

3.0 Background Research

3.1 Introduction

To gain a thorough understanding of the history of the Study Area, a review was completed of its physiography, Indigenous land use, survey and settlement, and 19th and 20th century land use. A review of historical mapping and aerial photographs was also conducted to identify settlements, structures, and landscape features within and adjacent to the Study Area.

3.2 Physiography

The Study Area is situated within the South Slope physiographic region of Ontario (Chapman and Putnam 1984:113). The South Slope region encompasses the southern slope of the Oak Ridges Moraine and includes the strip south of the Peel Plain from the Niagara Escarpment to the Trent River (Chapman and Putnam 1984:172). Limestone of the Verulam and Lindsay Formations and shales of the Georgian Bay and Queenston Formations are located within this region (Chapman and Putnam 1984:172). The Peel Plain physiographic region consists of approximately 777 square km (300 square miles) of clay soils that cover the central portion of the Regional Municipality of York, Regional Municipality of Peel, and Regional Municipality of Halton (Chapman and Putnam1984:174). The underlying geological material consists of shale and limestone. According to Chapman and Putman (1984), this area would have been covered by hardwood forests (Chapman and Putnam 1984:175).

3.3 Indigenous Land Use

The history of Indigenous peoples in southern Ontario spans thousands of years. The following synopsis therefore provides only a brief summary of this extensive time span but aims to illustrate the major developments in Indigenous life as revealed through oral history, archaeology, and ethnohistory. In this summary, “culture” —the term archaeologists use to describe a shared material culture that identifies a time period or group— is substituted with “way of life” to reflect the direct Indigenous lineage from those living in the earliest periods to the present day (Julien *et al.* 2010).

The cultural history of southern Ontario began after the end of the Wisconsin Glacial Period, approximately 11,000 years ago. The earliest people to move into what is now Ontario followed what archeologists refer to as the Paleo way of life with small, highly mobile bands taking advantage of seasonally available resources and following the migration patterns of large mammals, including now extinct megafauna.

As the climate changed and people following a Paleo way of life grew familiar with their surroundings, they developed local adaptions around 9,500 years ago known as the Archaic way of life. Seasonal mobility continued, but more emphasis was placed on adapting to smaller territories and broadening the resource base. The archaeological record suggests that in general the social structures of Archaic people became increasingly complex, with Late Archaic archaeological sites showing evidence of exchange networks stretching as far away as the Mid-Atlantic as well as defined cemeteries with individuals buried with varied grave goods, indicative of a stratified society (Ellis, Kenyon and Spence 1990:69).

The transition from an Archaic to Woodland way of life is marked by the introduction of ceramics. While hunter-gathering continued as the primary economy among some groups, others adopted agriculture and lived in larger, more sedentary groups living in villages and establishing broad trade networks. By the time of contact with Europeans, southern Ontario was a culturally dynamic area, populated by distinct Iroquoian and Algonkian-speaking groups (Englebrecht 2003; Trigger 2000; Schmalz 1991). As European colonization intensified from the 18th century onwards, Indigenous ways of life have adapted to change in complex and varied ways.

The Study Area is located within Treaty 19 (Ajetance Purchase) 1818, signed by the British Government and the Mississauga Nation. Presently it is acknowledged that the Study Area is situated on the Treaty Lands and Traditional Territory of the Mississaugas of the Credit First Nation and the traditional territory of the Huron-Wendat and Haudenosaunee peoples as well as the Métis.

The Study Area is located approximately 1 km north of the Credit River. A small intermittent watercourse runs through the Study Area and connects to the Credit River just north of Norval in the Town of Halton Hills. Historically, the Credit River was of critical importance to Indigenous peoples and was the focus for traditional land use activities, such as fishing and hunting, and was also used as a travel and trade route. Natural heritage elements, such as native flora and fauna, are known to have cultural heritage significance to Indigenous peoples. The presence of the nearby Credit River indicates that the Study Area has historical land use connections to Indigenous Nations.

3.4 Euro-Canadian Township Survey and Settlement

Historically, the Study Area is located within Lots 14-15, Concession 6 West of Centre Road, Township of Esquesing, Halton County and Lot 14-15 Concession 11, Township of Chinguacousy, Peel County.

3.4.1 Chinguacousy Township, County of Peel

The Study Area is partially within the former Chinguacousy Township, County of Peel. Chinguacousy Township was part of the 648,000-acre Mississauga Tract that had been “purchased” through the Ajetance Purchase (Treaty Number 19) with the Mississauga Anishinaabeg people on October 28, 1818 (PAMA n.d.). Lieutenant Governor Sir Peregrine Maitland took the name Chinguacousy from the Anishinaabeg word for the Credit River meaning “young pine” (Rayburn 1997:68).

The first land surveys used the “double-front” system, which established concessions from a baseline laid through the centre of the township (today Hurontario Street). This led to naming concessions in relation to Hurontario Street as either east (EHS) or west (WHS). In the double-front system only the concession roads were surveyed, and their width specified at 66 feet (20 m) wide. Between these and side roads were five lots of 200 acres (80 ha.), each 30 chains wide and 66.7 chains deep. These lots were then divided in half to provide land grants of 100 acres, all of which had road access (Schott 1981).

The earliest Euro-Canadian settlers were primarily second-generation United Empire Loyalists from Niagara, although the area also attracted families from New Brunswick, the United States, and other parts of Upper Canada (Walker & Miles 1877:90). Although

the population in 1821 was only 412, in the twenty years this number grew exponentially to 3,965 with many settling in villages such as Brampton and Cheltenham. By 1846 it was reported that Chinguacousy was the "one of the best settled townships in the County, containing excellent land and many good farms" (Smith 1846:32).

In the 1850s, a combination of failed harvests in Europe and trade routes disrupted by the Crimean War created a market for Canadian wheat producers, then centred in Ontario, to meet global demand. This economy was further strengthened by the 1854 Canadian American Reciprocity Treaty, which prompted farmers to take up livestock rearing for the export market (Scheinman 2009:6-2). Transporting these products to consumers was aided by the railways, first the Toronto & Guelph line of the Grand Trunk Railway laid in 1856 (which follows the route of the CN line immediately north of the Study Area) then the Credit Valley Railway in the 1870s. An indication of the township's growth is reflected in the 1877 census, which recorded 6,129 inhabitants (Walker & Miles 1877:90).

Historical mapping was examined for evidence of early Euro-Canadian use of the Study Area. The 1859 *Tremaine's Map of the County of Peel, Canada West* (Tremaine 1859) indicates that at that time the Lot 14 portion of the Study Area was owned by Duncan McNicol while the Lot 15 portion was owned by Alex Campbell (Appendix A: Figure 6). Historical features are not illustrated within the Study Area. The roadway of Winston Churchill Boulevard is located immediately south of the ROW and within the Study Area, and the "Grand Trunk Railway" line is within the Study Area. What is probably the south terminal of the Norval railway station is adjacent to the west corner of the Study Area.

By the time the 1877 *Illustrated Historical Atlas of the County of Peel* (Pope 1877) was published the southern Lot 14 portion of the Study Area was owned by Jonathan Orr and a house, orchard and large outbuilding are depicted immediately south of the Study Area. The northern Lot 14 portion of the Study Area was owned by Andrew Dolson, but there are no features illustrated within the Study Area; a house, outbuilding complex, and orchard is drawn north of the rail line. The Lot 15 portion of the Study Area was owned by the "Estate of Jonathan Shaw" and although there are no features illustrated within the Study Area, what is probably the Norval railway station (a north terminal is no longer present) is adjacent to the west corner of the Study Area. Once again, the roadway of Winston Churchill Boulevard is located immediately south of the Study Area, and the "G.T.R." line is adjacent to the north boundary of the Study Area.

3.4.2 Esquesing Township, Halton County

A portion of the Study Area is located in Esquesing Township, Halton County. In the late 18th century, when the Halton area began to be settled by Euro-Canadians, much of Ontario was divided into four districts: Lunenburg, Mecklenburg, Nassau and Hesse. Approximately ten years after these districts were decided upon, the Provincial Act of 1792 renamed the same divisions as Eastern, Midland, Home and Western. Halton County was part of the Home District (Walker & Miles 1877). By 1817, Halton contained four churches, 18 grist mills, 41 sawmills and three medical practitioners. The County of Halton encompassed the Townships of Esquesing, Trafalgar, Nelson and Nassagaweya (Walker & Miles 1877). In 1853 the counties of Halton and Wentworth became separate municipalities. The major towns/cities that resided in the County of Halton include

Milton, Oakville, Georgetown and Acton. While Milton and Oakville are still present the towns of Georgetown and Acton were amalgamated on January 1, 1974, to become what is now identified as Halton Hills (Mika and Mika 1981: 218-219).

The township of Esquesing, which translates to either 'Last Creek Out' or 'Land of the Tall Pines' was originally surveyed in 1819 by Richard Bristol and had a population of 424 by 1821. The first post office opened in 1832 with Henry Fyfe as the postmaster (Mika and Mika 1977: 686-687). The year 1856 saw the arrival of the Grand Trunk Railway within the township which encouraged the development of many of Halton Hills rural clusters into industrial centres. One of the major industries within Esquesing was the Barber Paper Mills, originally opened in 1854, which became a local source of economic stability and employment until 1991 when the Provincial Papers (formerly the Barber Paper Mill) ceased operations. Today the economy of Halton Hills is centred on small and medium size businesses and as of 2016 the population was 61,161 (Morrison & Young 2017).

3.4.3 Village of Norval

The Study Area historically was located north of the Village of Norval in the Township of Esquesing. Located in the valley of the Credit River, Norval is located 4.8 km east of Georgetown. Norval was founded by James McNabb who arrived alongside his parents John and Janet McNabb (Mika and Mika 1977: 89-90). His brother Alexander McNabb raised sheep on the hills to the east of the village (Ruggle 1991). In 1820, James McNabb erected a dam across the Credit River and established flour, saw and flax mills in the area which would later be sold to General Peter Adamson in 1838. Adamson was a knight of the Portuguese Order of the Tower and Sword and born September 23, 1779 (Gastle 2009). The first Post Office was opened in 1840 in Colonel William Clay's General Store with Clay as the first listed postmaster. It was at this time that the name of this hamlet became Norval, likely named after Norval Creek in Vermont, where many early settlers travelled from. Norval became a popular stop-over, but business declined in the 1850s when the Grand Trunk Railway was introduced and bypassed the village. Norval Station was erected near the town line where the rails crossed and enabled the village to handle various shipments and remained in operation until 1926 (Mika and Mika 1977: 89-90).

In the 1860s the old McNabb mills, previously sold to General Peter Adamson in 1838 and later bought by his son-in-law Colonel James Mitchell, was seized by the Bank of Ontario (Ruggle 1991). It would later be purchased by Robert Noble in 1868 who converted the mill to a five-storey brick building and converted operations from stone milling to roller process. The Village of Norval at one point was home to several businesses including: a bakeshop, a saddlery, a broom factory, a harness shop, a carriage manufactory, two cobbler shops and three blacksmiths. In 1878 a new Presbyterian church replaced the earlier building which was erected outside the village in 1839. Other notable churches found within the Village of Norval include St. Paul's Anglican Church, built in 1846 and a Methodist brick church, originally built in 1853 and later replaced in 1889 by a Gothic brick building, which was renamed Norval's United Church in 1925 (Mika and Mika 1977: 89-90). Lucy Maud Montgomery, author of *Anne of Green Gables*, lived in Norval from 1926 to 1935.

3.5 Historical Map Review

3.5.1 19th Century Land Use

Historical records and mapping were examined to gain an understanding of 19th century land use in the Study Area. A summary of these historical records is presented below in **Error! Reference source not found.**.

Table 3-1: Review of 19th Century Historical Mapping

Year	Map Title(s)	Historical Feature (s)

1858 & 1859
(Figure 3-1)
	1858 Tremaine's Map of the County of Halton (Tremaine 1858)
	and
	1859 Tremaine's Map of the County of Peel (Tremaine 1859)
		The map lists the following property owners and features:
		• Esquesing Township
		  ○ Lot 14: Duncan McNicol
		  ○ Lot 15: Alexander Campbell
		• Chinguacousy Township
		  ○ Lot 14: John Orr
		  ○ Lot 15: D. Frazer
		Other feature(s):
		• Grand Trunk Railway and Norval Station

1877
(Figure 3-2)
	1877 Illustrated Historical Atlas of the Counties of Halton (Walker and Miles 1877a)
	and
	1877 Illustrated Historical Atlas of the Counties of Peel (Walker and Miles 1877b)
		The map lists the following property owners:
		• Esquesing Township
		  ○ Lot 14: John Orr
		  ▪ One homestead and orchard
		  ○ Lot 15: James S. Nixon
		  ▪ One homestead and orchard
		• Chinguacousy Township
		  ○ Lot 14: John Orr
		  ▪ One homestead and orchard
		  ○ Lot 15: Estate of John Shaw
		Other feature(s):
		• Grand Trunk Railway and Norval Station
		• Upper Norval illustrated within Lot 15, Esquesing Township

3.5.2 20th Century Land Use

A review of recent aerial photographs was completed to gain an understanding of 20th century land use in the Study Area. A summary of the review is provided in **Error! Reference source not found.** and **Error! Reference source not found.**. Aerial photographs are provided Appendix A.

Table 3-2: Review of 20th Century Historical Records

Year	Map Title(s)	Features
1909 (Figure 3-3)	1909 Topographic Map of Ontario, Brampton Sheet (Department of Militia and Defense 1909)	• Norval Station/Grand Trunk Railway within the Study Area • Three (3) wood structures within 300 m of the Study Area
1942 (Figure 3-4)	1942 Topographic Map of Ontario, Brampton Sheet (Department of Militia and Defense 1942)	• Norval Station/CN Railway (formally Grand Trunk Railway) within the Study Area • Five (5) structures within 300 m of the Study Area
1973 & 1974 (Figure 3-5)	1973 Topographic Map of Ontario, Georgetown Sheet (Surveys and Mapping Branch, Department of Energy, Mines and Resources 1973) and 1974 Topographic Map of Ontario Brampton Sheet (Surveys and Mapping Branch, Department of Energy, Mines and Resources 1974)	• Norval Station/Grand Trunk Railway within the Study Area

Table 3-3: Review of 20th Century Aerial Imagery

Year	Features
1954 (University of Toronto 1954) (Appendix A)	• Norval Station/CN Railway (formally Grand Trunk Railway) within the Study Area • No visible structures within the Study Area • Structures visible to the southwest of the Study Area

3.6 Previously Completed Cultural Heritage Studies

Previously completed cultural heritage studies within or adjacent to the Study Area were reviewed as part of this project. A summary of findings pertinent to the current study is provided below.

> *DRAFT Metrolinx Cultural Heritage Screening Report, Proposed Heritage Road Rail Layover Facility Site, (Lots 14 & 15, Concession 6 WHS, Geographic Township of Chinguacousy), City of Brampton, Ontario (Unterman McPhail Associates 2016)*

This draft 2016 Cultural Heritage Screening Report found that the proposed Heritage Road Rail Layover Facility Site is not a potential Provincial Heritage Property, and a

Cultural Heritage Evaluation Report (CHER) was not recommended. The report notes the 1850s McNichol Family Cemetery with four burials located in the west half of Lot 14, Concession 6 WHS (about 200 feet south of the rail line, one mile east of Norval Station). The report recommends that the proposed work should be confirmed during detail design to ensure no impacts to the McNichol Cemetery.

> *Heritage Designation of All Heritage Cemeteries in the City of Brampton, Planning, Design & Development Committee (2005)* (City of Brampton 2005)

This report includes the McNichol Cemetery in a list of pioneer cemeteries recommended for heritage designation. The report offers a brief synopsis of the general rationale behind designating pioneer cemeteries in the area but does not list specific heritage attributes pertaining to the McNichol Cemetery.

> *McNichol Cemetery, Heritage Road, Report Evaluation by Jim Leonard (April 2005), Supplied by the City of Brampton Heritage Planner* (Leonard 2005)

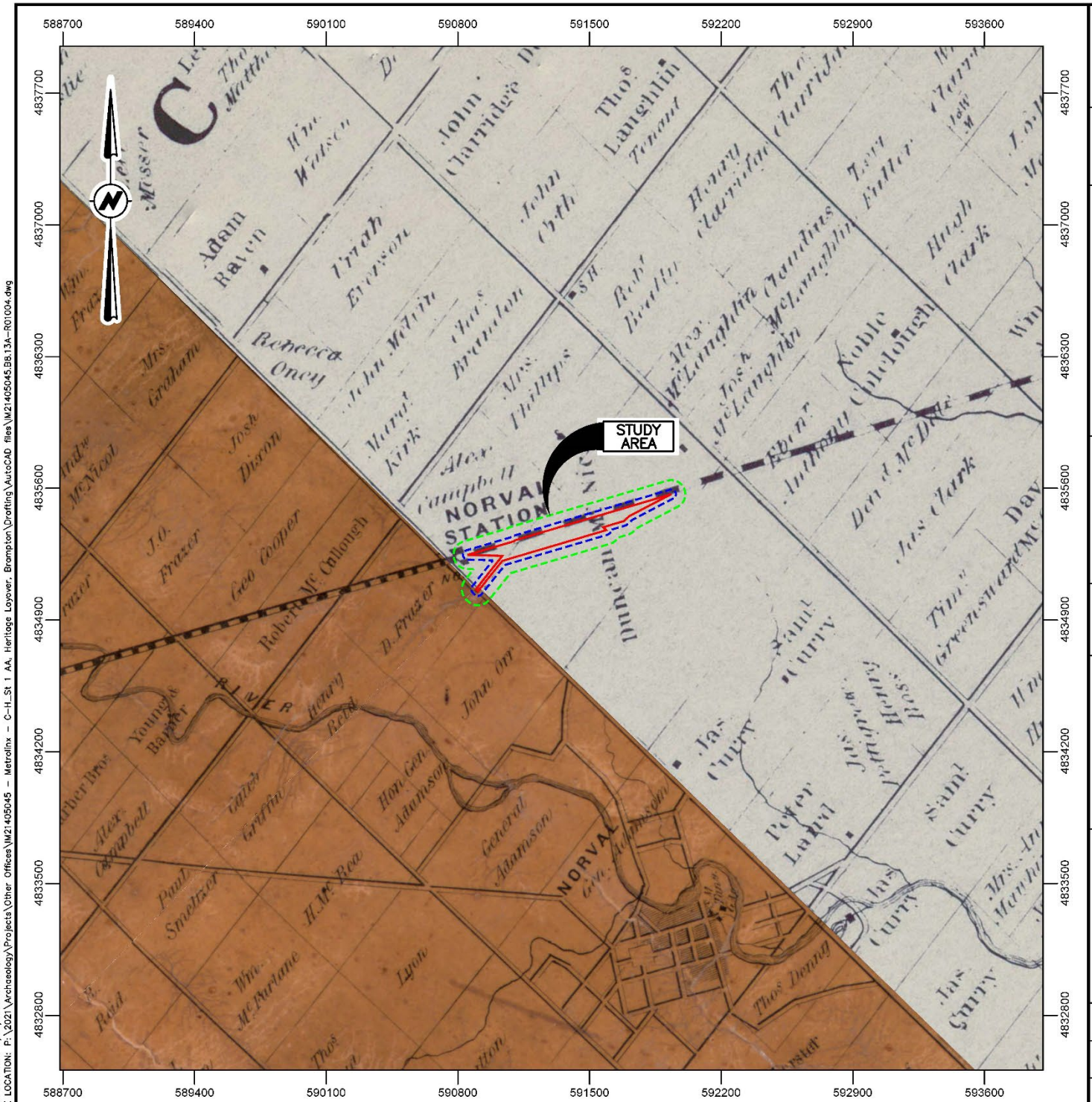
This report notes that the McNichol Cemetery is a cultural heritage landscape. The report notes that the heritage cemetery is plough disturbed and cites archival research of the names and dates of four internments at the McNichol Cemetery. Three of the names cited are McNichol, with one McCloud and all of the internments are mid-19th century. The report includes photographs and offers a brief description of the condition of the cemetery.

> *Heritage Inventory Report, West Brampton, City of Brampton, Ontario* (Unterman McPhail Associates 2011)

This Heritage Inventory Report details the findings of a windshield survey that was completed in 2005 by Unterman McPhail Associates. A total of 25 properties were indicated to be 40 years or older. The property located at 10827 Winston Churchill Boulevard is included in this inventory. The report notes that the form and massing of the structure suggests it may be more than 40 years old, but that it appears to have undergone recent alterations. The 2005 Unterman McPhail report does not specify these alterations, although the accompanying photograph shows what appears to be a recent garage and sunroom addition to the front elevation of the structure. The garage has a corrugated metal door while the sunroom is lit by vinyl windows and sliding glass doors. The report notes that the property is Class A on the City of Brampton Heritage Register.

> *Cultural Heritage Study, Built Heritage Resources and Cultural Heritage Landscapes; Heritage Heights Cultural Heritage Study Lots 5-17 Con. V WHS Lots 7-17, Concession VI WHS, Geographic Township of Chinguacousy, City of Brampton, Regional Municipality of Peel, Ontario.* (ASI 2018)

A total of 23 heritage resources were identified within the Study Area considered in this report. The property located at 10827 Winston Churchill Boulevard is included in this inventory. It describes the structure and notes the ownership of the lot in 1859 and 1877. The report considers the property to be a representative example of a mid-nineteenth century two storey timber-frame vernacular Georgian style house. It also notes that it supports the rural character of the area.



PROJECT: CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:
1859 TREMAINE'S MAP OF THE COUNTY OF PEEL, CANADA WEST SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA
- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM21405045.B8.13A.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 8½ x 11.

REFERENCES:
G.R. & G.M. TREMAINE, 1859; CANMAP STREETFILES V2008.4.

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SCALE 1:30000

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277 FRONT STREET WEST, SUITE 400
TORONTO, ONTARIO, M5V 2X4

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Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3WS
905-335-2353

wood.

DWN BY:	CHK'D BY:	DATE:
SJL	CD	DEC. 3, 2021
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM21405045.B8.13A
REV No:		FIGURE No:
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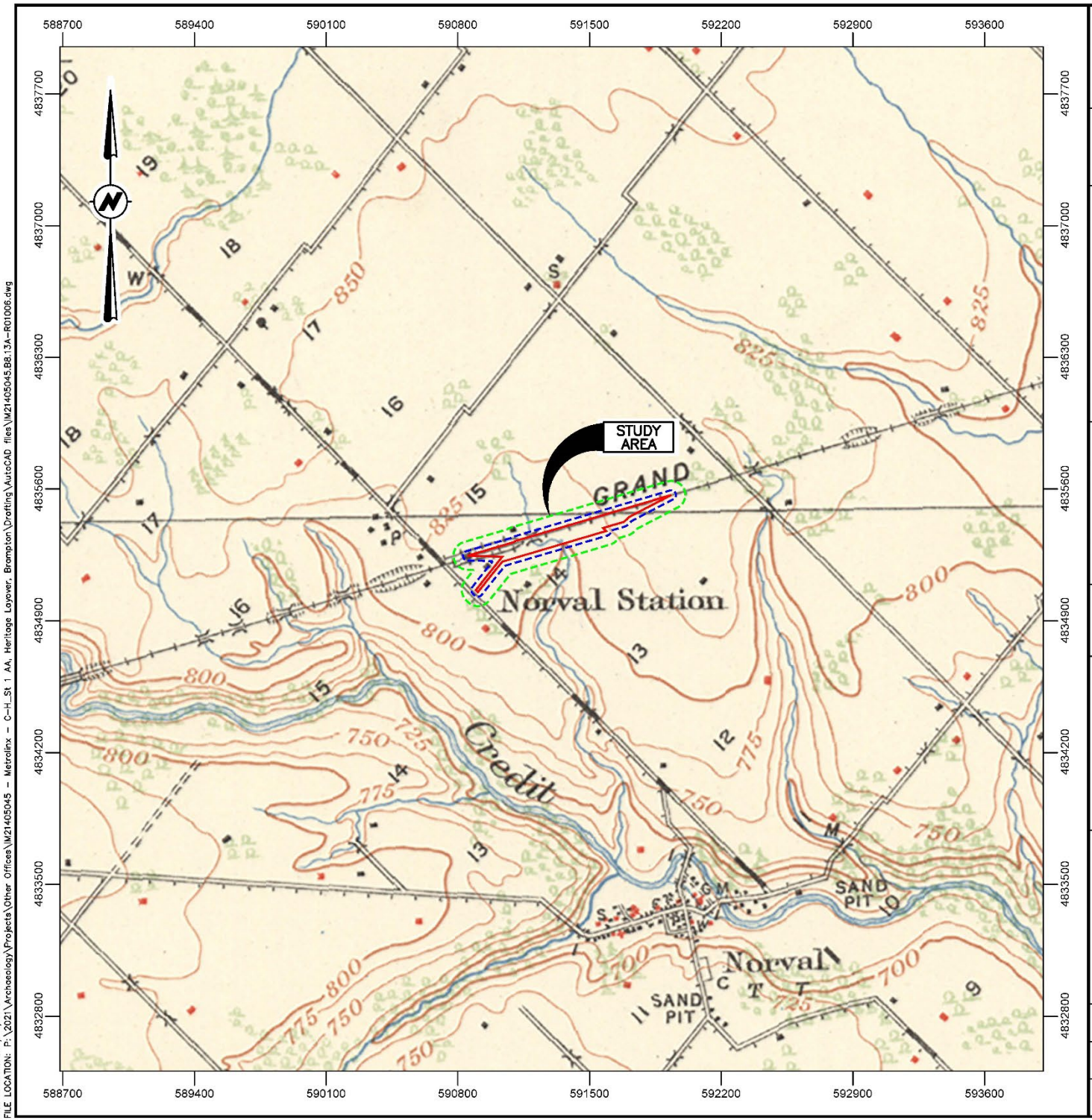
4832800
STUDY AREA
NORVAL VILLAGE
Jno. S. Leslie
W.J. Dixon
Geo. Frazer
Robt. Cooper
Dr. Robt. M'Cullough
Jas. S. Nixon
John Orr
Henry
Reid
Jas. Barber
Robt. Campbell
Robt. Reid
Jas. Lyon
Jno. Cameron
Sam'l Currie
Jas. A. Currie
Peter Laird
Rob't Currie
D. Currie
Jas. Currie
Rob't Noble
Thos. Montgomery
Jas. M'Clure
Jno. Orr
Andrew Dolson
Rob't Beatty
Henry J. Clarridge
Hugh Clarridge
Jno. T. Fuller
Hugh Clark
Jas. Anthony
D. M'Dowell
Jno. M'Clure
Isaac Groenwood
Jno. Hass
Jno. Orr
Est. of Jno. Shaw
Est. of Jas. Anthony
Est. of Jas. Currie
Dan'l Watkins
Mrs. M. Kirk
Thos. Leslie
Jno. Orr
Jno. Clarridge
Jno. Hass
Jno. Mc Laughlin
Thos. Montgomery
Jno. Mc Laughlin
Jno. Orr
Jno. Clarridge



PROJECT: CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE: 1909 TOPOGRAPHIC MAP OF ONTARIO, BRAMPTON SHEET SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA
- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

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REFERENCES:
DEPARTMENT OF MILITIA AND DEFENCE, 1909; CANMAP STREETFILES V2008.4.

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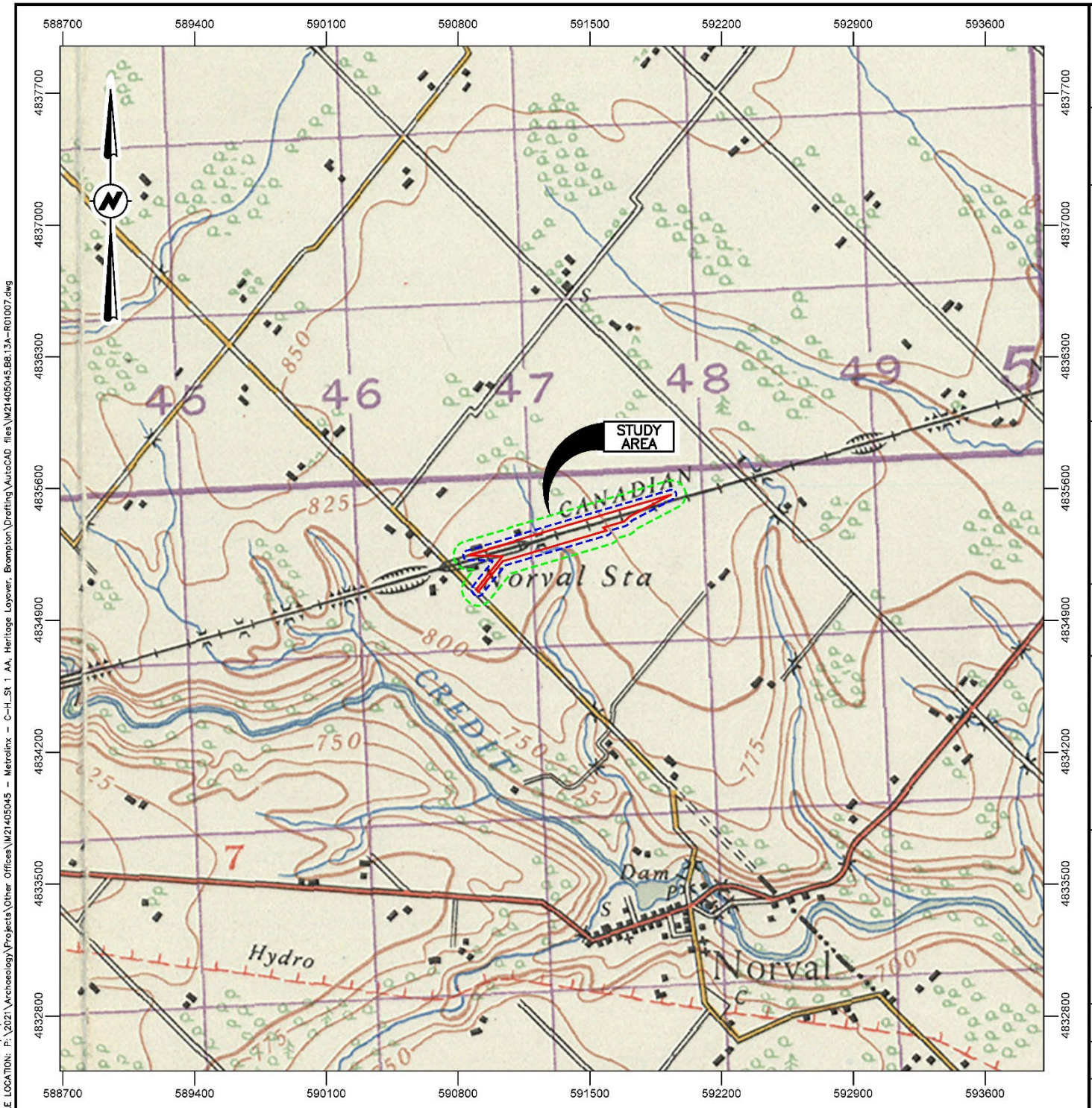

PROJECT: CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE: 1942 TOPOGRAPHIC MAP OF ONTARIO, BRAMPTON SHEET SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA

- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

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REFERENCES:
DEPARTMENT OF NATIONAL DEFENCE, 1942; CANMAP STREETFILES V2008.4.

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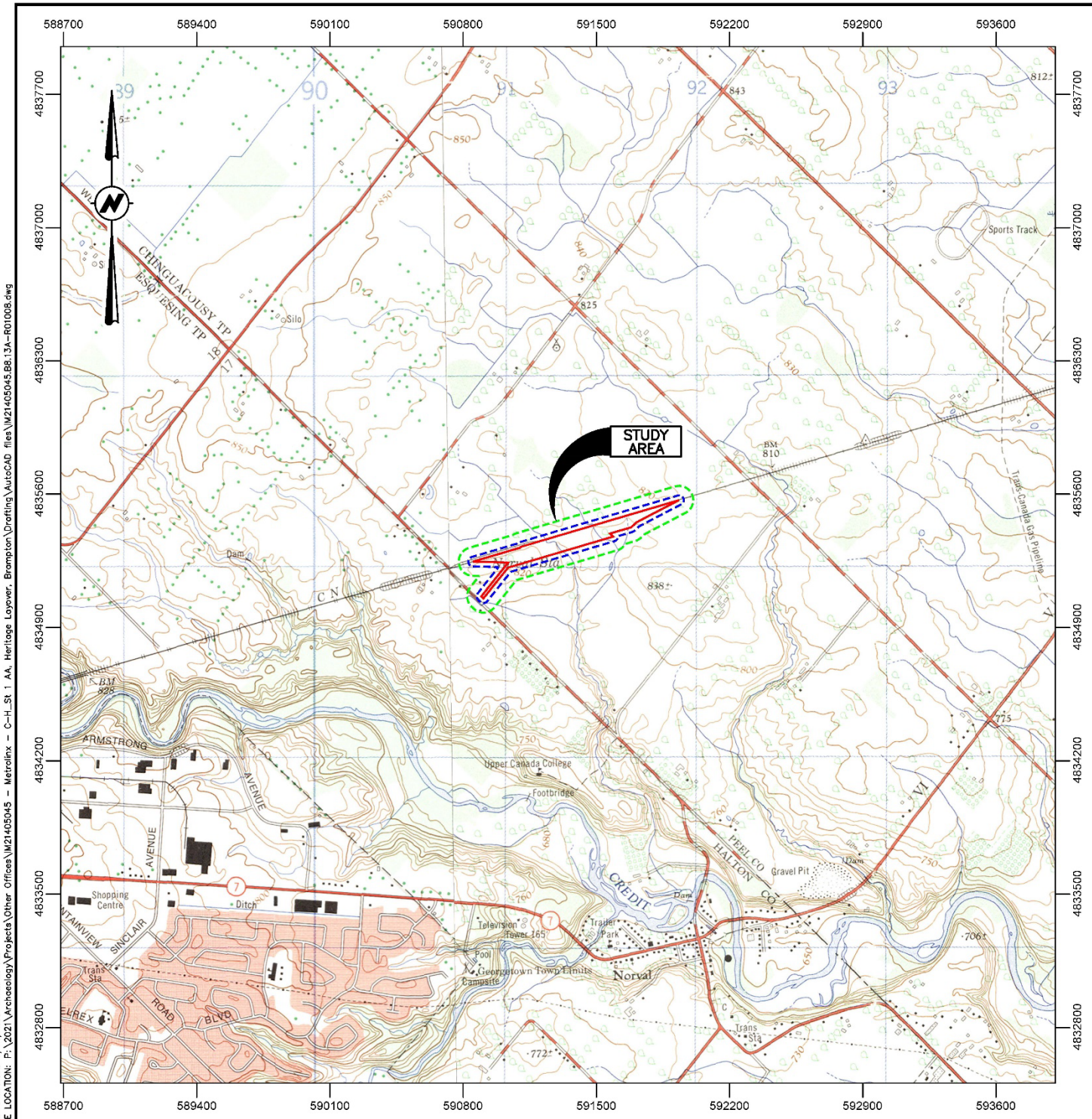

PROJECT: CULTURAL HERITAGE ASSESSMENT
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE: 1973/1974 TOPOGRAPHIC MAP OF ONTARIO, GEORGETOWN AND BRAMPTON SHEETS SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA

- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA

NOTES:

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ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 8½ x 11.

REFERENCES:
DEPARTMENT OF ENERGY, MINES AND RESOURCES, 1973/1974;
CANMAP STREETFILES V2008.4.

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wood.

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4.0 Existing Conditions

4.1 Information Gathering Results

To identify existing heritage protections, information gathering requests were sent to the MHSTCI, Ontario Heritage Trust, the City of Brampton, and Region of Peel.

Karla Barboza, Team Lead of the Heritage Planning Unit at the MHTSCI reported on 6 December 2021 through email that MHTSCI is not aware of any provincial heritage properties within or adjacent to the Study Area.

Charlton Carscallen, Principal Planner/Supervisor – Heritage at the City of Brampton, reported on 2 December 2021 that the City is aware of the McNichol Cemetery and that the City would like to see a heritage evaluation done for the potential heritage property at 10827 Winston Churchill Boulevard as it was identified in a previous heritage study.[1] Merissa Lompart, Assistant Heritage Planner at the City of Brampton, replied to Wood's request for further information pertaining to the McNichol Cemetery and 10827 Winston Churchill Boulevard. Ms. Lompart supplied multiple resources pertaining to both resources.

At the time of writing, no response has been received from the Ontario Heritage Trust or Region of Peel.

Community engagement is being carried out as part of the overall project, including a consultation with the Technical Advisory Committee (TAC), and two Public Information Centres (PICs). The results of this Cultural Heritage Report will be incorporated into the overall community engagement strategy and feedback received will be used to inform and finalize this report.

4.2 Field Review Results

The Study Area is located between Winston Churchill Boulevard and Heritage Road, south of Wanless Drive within the City of Brampton, Regional Municipality of Peel. A small portion of the Study Area buffer extends west of Winston Churchill Boulevard into the Town of Halton Hills, Regional Municipality of Halton. The Study Area is set along the former Grand Trunk Railway, now Halton Subdivision portion of the Kitchener Corridor of the CN line, from Winston Churchill Boulevard to Heritage Road in a generally rural setting (Photo 1 to Photo 3).

4.2.1 Context

The closest road east of the Study Area is Heritage Road (Photo 3 to Photo 5). This rural road has multiple listed heritage properties. The closest listed heritage property is located at 10294 Heritage Road and is known as the Samuel Currie Farmhouse (Photo 6) (City of Brampton 2019). The west end of the Study Area is located along Winston Churchill Boulevard, which has several listed heritage properties (Photo 7 and Photo 8). The closest listed heritage properties along Winston Churchill Boulevard is a one and half storey front gabled Victorian style house with gingerbread trim southwest of the

[1] Since Metrolinx will not be utilizing or acquiring 10827 Winston Churchill Boulevard, a heritage evaluation will not be completed as part of this Project.

Study Area at 10712 Winston Churchill Boulevard. A five bay Ontario Cottage style house located is located further from the Study Area to the northwest at 11154 Winston Churchill Boulevard (Photo 9 and Photo 10). In addition to the listed heritage properties in the vicinity, two houses with possible CHVI were identified along Winston Churchill Boulevard as part of this field review. These houses include a large Victorian style house with a detached garage located at 10886 Winston Churchill Boulevard and a small Victory style house located at 10746 Winston Churchill Boulevard (Photo 11 and Photo 12).

4.2.2 Study Area

The east end of the Study Area buffer terminates approximately 300 m from Heritage Road in what is currently an agricultural field planted with corn (Photo 13). Background information indicates that the McNichol Cemetery is located along the south side of the railway between Heritage Road and Winston Churchill Boulevard approximately 367 m from Heritage Road. The cemetery is located approximately 18 m outside of the proposed ROW within the 25 m Study Area buffer. At the time of field assessment permission to enter the Study Area was not granted. Photo 3, Photo 13 and Photo 14 offer views in the general direction of the cemetery from the public right-of-way and illustrate the general flat agricultural setting of the area.

The northwest portion of the Study Area is set back from Winston Churchill Boulevard where it intersects with the railway tracks near the former location of Norval Station. The general area is a rural agricultural setting, although in the vicinity of the railway tracks and Winston Churchill Boulevard there is a slightly higher density of residential structures and some light industrial land use (Photo 1 and Photo 17). The Study Area includes a storage facility located at 10861 Winston Churchill Boulevard situated along the south side of the railway tracks and CN owned lands along the north side of the railway tracks (Photo 15 and Photo 16). Both properties have a light industrial character and house storage containers and equipment. The western limit of the Study Area buffer extends across Winston Churchill Boulevard to the west into a residential area. Photo 12 and Photo 18 show the residences that are included within the buffer on the west side of Winston Churchill Boulevard. Note that Photo 12 shows 10746 Winston Churchill Boulevard, which has been identified as a potential heritage resource.

The southwest portion of the Study Area is associated with a future access road connecting Winston Churchill Boulevard to the proposed layover facility. This portion of the Study Area includes a treed residential lot and agricultural field. The residential lot is located at 10827 Winston Churchill Boulevard and has been identified by the City of Brampton as a potential heritage resource. The property is skirted by the ROW but falls within the Study Area buffer (Photo 2, Photo 19, and Photo 20).



Photo 1: View looking at the northwest extent of the Study Area, facing east.



Photo 2: View of conditions along southwest limit of the Study Area showing where there is a proposed location of the service road connecting the proposed layover and Winston Churchill Boulevard. The treed area also defines the southern property boundary of 10827 Winston Churchill Boulevard.



Photo 3: Panoramic view from Heritage Road showing the agricultural setting of the Study Area, facing southeast.



Photo 4: View looking southeast of Heritage Road from the northwest end of the Study Area.



Photo 5: View looking northwest of Heritage Road from the southeast end of the Study Area.



Photo 6: View of the 10294 Heritage Road, a listed heritage property known as the Samuel Currie Farmhouse, facing west.



Photo 7: View of Winston Churchill Boulevard facing southeast from immediately south of the railway tracks.



Photo 8: View of Winston Churchill Boulevard facing southeast from north of the Study Area.



Photo 9: View of the listed heritage property at 10712 Winston Churchill Boulevard, facing west.



Photo 10: View of listed heritage property at 11154 Winston Churchill Boulevard, facing west.



Photo 11: View of potential heritage property identified during field review at 10886 Winston Churchill Boulevard, facing northwest.



Photo 12: View of potential heritage property identified during field review at 10746 Winston Churchill Boulevard, facing west.



Photo 13: View looking at the east end of the Study Area from Heritage Road, facing east.



Photo 14: View looking toward the Study Area from Wanless Drive showing rural conditions in the area, facing south-southeast.



Photo 15: Storage facility located on the south side of the railway tracks at the west end of the Study Area, facing east.



Photo 16: CN lands located on the north side of the railway tracks at the west end of the Study Area, facing east.



Photo 17: View from the east side of Winston Churchill Boulevard north of the Study Area looking at the Study Area in the distance.



Photo 18: View of 10774 Winston Churchill Boulevard, facing west.



Photo 19: View of the east side of Winston Churchill Boulevard, facing northeast. 10827 Winston Churchill Boulevard is obscured by trees.



Photo 20: View of potential heritage property at 10827 Winston Churchill Boulevard, facing east.

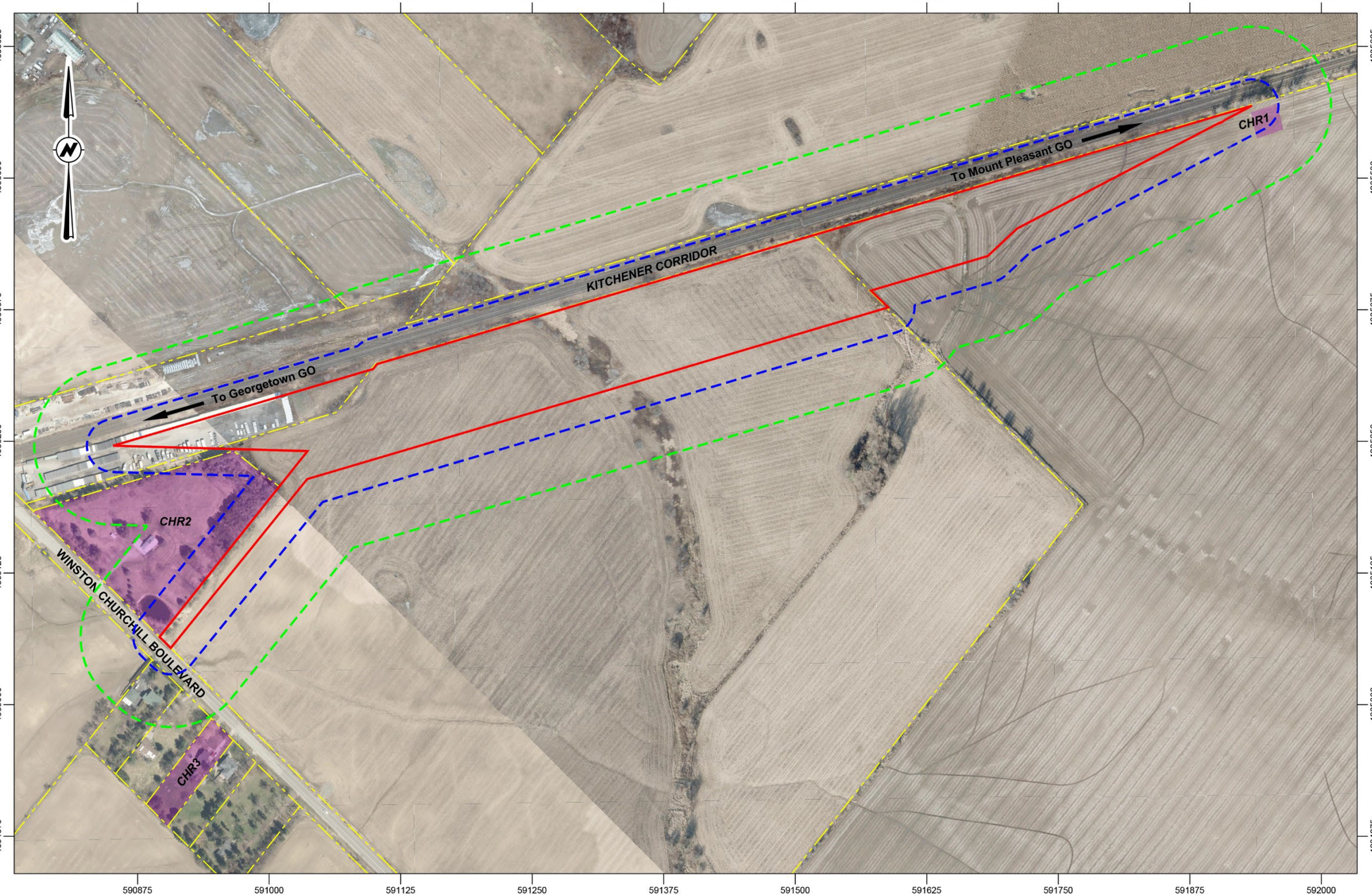
5.0 Inventory of Built Heritage Resources and Cultural Heritage Landscapes

Following the completion of the background research and field review, an 'Inventory of Built Heritage Resources and Cultural Heritage Landscapes' (the Inventory) within the Study Area was compiled. The field assessment was completed by Luke Fischer, Cultural Heritage Specialist with Wood on December 1, 2021. The Inventory is provided in Table 5-1. The locations of identified built heritage resources and cultural heritage landscapes in relation to the Study Area are depicted in Figure 5-1.

Table 5-1: Inventory of Built Heritage Resources and Cultural Heritage Landscapes

CHR No.	Type	Location	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)	Photographs/Digital Image
CHR 1	-CHL -McNichol Cemetery	10510 Heritage Road	-Listed on the City of Brampton Heritage Register -Intention to Designate under Part IV of the Ontario Heritage Act	The McNichol Cemetery is a previously identified heritage resource characterized as a small pioneer family burial cemetery located adjacent to the CNR railway, approximately 367 m from Heritage Road. It has undergone extensive changes since its establishment and is now an unmarked cemetery. The grave memorials were relocated to Alloa Cemetery during the 1970s and their bases were moved off the land in the mid-2000s. There are grave markers at the site today, but the burials remain in situ. The land on which the cemetery is situated was first owned and farmed by a Scottish pioneer named Archibald McNichol. The cemetery was used by McNichol family during the mid-19th century (Wood 2021b) (City of Brampton 2021). A Stage 3 site-specific archaeological assessment conducted by Archeoworks in 2017 defined the limits of the McNichol Cemetery, and noted it contained five unmarked burials. It is understood that the burials are unmarked and that a perimeter was staked around the cemetery limits including a minimum buffer zone of five metres past the furthest identified grave shaft, to ensure long-term protection of the cemetery (Wood 2021b).	
CHR 2	-BHR -Residence	10827 Winston Churchill Boulevard	Identified by the City of Brampton in a review of the Heritage Heights Community. Previously identified in a Heritage Inventory Report (Unterman McPhail 2011) Previously identified in a Cultural Heritage Study as having CHVI(ASI 2018)	The property at 10827 Winston Churchill Boulevard was identified in a review conducted by the City of Brampton (Project Correspondence; Brampton Heritage Planner; 2021). A Heritage Inventory Report conducted in 2011 noted that the form and massing of this structure suggested that it may be more than 40 years old and that further study was required (Unterman McPhail 2011). A Cultural Heritage Study conducted in 2018 by ASI characterized residence as a representative example of a mid-19th century, two storey, timber-frame, vernacular Georgian style house. The report noted in addition that the rural residential property contributes to the rural nature of this portion of Winston Churchill Boulevard and supports the rural character of the area" (ASI 2018). Wood's preliminary review of historical mapping indicates that the existing residence on this property was likely constructed between 1954 and 1973. The structure features	

CHR No.	Type	Location	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)	Photographs/Digital Image
				two-bays and a medium front gabled roof. A large garage extends from the main block to create an L-shaped plan. The structure is set back from the east side of the street with a long driveway. The lot contains mature trees lining portions of the road frontage, north property boundary, and east property boundary. The property is bound to the north by a light industrial storage facility obscured by trees and to the east and south by agricultural lands. Property Elements: • Two bays • Two floors • Medium front gable roof • Long driveway • Pond • Mature deciduous and coniferous • Established tree lots • Established tree lines on property boundaries	
CHR 3	BHR -Residence	10746 Winston Churchill Boulevard	Identified during field review	The property at 10746 Winston Churchill Boulevard was identified during field review conducted as part of this assignment. Review of background information indicates this Victory style structure was constructed during the mid-20th century based on the historical map review and architectural style. The one-storey side gable structure is three bays across and features a front portico. It is set back considerably from the street and is lined on both sides by mature trees. The house is located on the west side of Winston Churchill Boulevard and is surrounded by houses of varying age. Exterior Elements: • Three bays • One storey • Central front portico • Long driveway • Mature trees lining the lot	



PROJECT: CULTURAL HERITAGE REPORT:
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:

LOCATION OF BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPES

LEGEND:

STUDY AREA
- PROJECT SITE
- 25m STUDY AREA
- 50m STUDY AREA
- PROPERTY LINE
- INVENTORIED PROPERTY

NOTES:

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS REPORT No. IM21405045.B8.13A.

ALL LOCATIONS ARE APPROXIMATE.

ORIGINAL PAPER SIZE: 8½ x 11.

REFERENCES:
2021 AERIAL PHOTOGRAPHS BY THE TOWN OF HALTON HILLS; CANMAP STREETFILES V2008.4.

0 40 120 200m
SCALE 1:4000

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905-335-2353

wood.

DWN BY:	CHK'D BY:	DATE:
SJL	CD	DEC. 3, 2021
DATUM:	PROJECTION:	PROJECT No:
NAD83	UTM Zone 17	IM21405045.B8.13A
REV No:		FIGURE No:
0		5-1

DATE PLOTTED: 12/6/2021, 3:44:16 PM
FILE LOCATION: P:\2021\Archaeology\Projects\Other Offices\IM21405045 – Metrolinx – C-H_St 1 AA, Heritage Layover, Brampton\Drafting\AutoCAD files\IM21405045.B8.13A–R01009.dwg

6.0 Preliminary Impact Assessment

The MHSTCI (2017) *Standards & Guidelines for Conservation of Provincial Heritage Properties–Information Bulletin 3: Heritage Impact Assessment for Provincial Heritage Properties* (Information Bulletin 3) gives guidance on the how to complete impact assessments for public bodies prescribed under the *Ontario Heritage Act*, such as Metrolinx (Government of Ontario 2014). The purpose of the impact assessment is to identify and assess the proposed activity to determine impacts (positive or negative, direct or indirect) that the proposed activity may have on a property's CHVI. For the purpose of this preliminary impact assessment, the following definitions of direct, indirect, and positive impacts are used:

- **Direct Adverse Impact:** A permanent or irreversible that negatively affects the CHVI of a property or results in the loss of one or more heritage attributes on all or part of the provincial heritage property.
- **Indirect Adverse Impact:** An impact that is the result of an activity on or near the property that may adversely affect its CHVI and/or heritage attributes.
- **Positive Impact:** An impact that may positively affect a property by conserving or enhancing its CHVI and/or heritage attributes (Government of Ontario 2017).

A description of the proposed work for the Project is provided below and a detailed preliminary impact assessment and proposed mitigation measures are provided in Section 6.2.

6.1 Description of the Proposed Work

The scope of work to be completed for the Project includes, but is not limited to:

- Acquisition of properties located within the Project Site.
- Expanded wider footprint of the existing mainline railway track.
- Four new layover tracks located south of the existing railway tracks between Heritage Road and Winston Churchill Boulevard.
- Infrastructure to support the new layover tracks including a concrete pad relating to a transformer station, transformer yard, storage facilities, propane tanks.
- Installation of holding tanks, trailers, and water well.
- Maintenance access road along the east portion of the new tracks.
- A new fence along the perimeter of the layover facility.
- A proposed facility entrance from Winston Churchill Boulevard to the proposed layover facility.

Drawings depicting the proposed work are provided in Appendix B.

6.2 Preliminary Impact Assessment

A preliminary impact assessment to evaluate the potential impacts of the proposed work on built heritage resources and cultural heritage landscapes in the Study Area is contained in Table 6-1. This table also contains proposed mitigation measures and recommendations for further work. This preliminary impact assessment was prepared based on the drawings contained Appendix B.

All CHRs identified in this report are outside of the Project Site and will not be acquired or controlled by Metrolinx for the purposes of this Project.

Table 6-1: Preliminary Impact Assessment

CHR No.	Property Type	Location	Heritage Recognition	Type and Description of Potential/Anticipated Impact[2]	Mitigation Measures: ii. Mitigation Options ii. Mitigation Recommendation
CHR 1	-CHL -McNichol Cemetery	10510 Heritage Road	-Listed on the City of Brampton Heritage Register (Designation in Process)	**Anticipated Impacts:** Work is planned in close proximity to the McNichol Cemetery relating to: • Construction of the proposed Layover Facility on the south side of the rail line. Type of Impact: • No direct adverse impacts are anticipated to the McNichol Cemetery from a cultural heritage perspective. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	**Preferred Option:** *Avoidance:* The proposed work should be planned in a manner that avoids the cemetery. The cemetery should be noted on project drawings as a "potential heritage property" to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx 's selection procedures, which includes avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. *Archaeological Assessment:* Wood has prepared a Stage 1 Archaeological Assessment for this Project under a separate cover (Wood 2021b). The mitigation measures to conserve the cemetery contained in this report should be followed, including recommendations for protective fencing and site buffers.
CHR 2	BHR 1	10827 Winston Churchill Boulevard	-Identified as a possible heritage resource by the City of Brampton in a review of the Heritage Heights Community. -Previously identified in a Heritage Inventory Report as requiring further study (Unterman McPhail 2011) -Previously identified in a Cultural Heritage Study as having CHVI (ASI 2018)	**Anticipated Impacts:** Work is planned adjacent to 10827 Winston Churchill Boulevard relating to: • Proposed access road located six metres from the south property limit. • Proposed Layover Facility north and east of the property. **Type of Impacts:** *Indirect Adverse Impact:* • Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship	**Preferred Option:** *Continued Avoidance:* The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a "potential heritage property" to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx 's selection procedures, which includes avoiding the property wherever possible or effectively mitigating impacts where not possible. *Post-Construction Landscaping:* Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design. **NOTE:** Since Metrolinx will not be utilizing or acquiring the 10827 Winston Churchill Boulevard, a heritage evaluation will not be completed as part of this Project

[2] See section above for information on direct vs. indirect impacts.

CHR No.	Property Type	Location	Heritage Recognition	Type and Description of Potential/Anticipated Impact[2]	Mitigation Measures: ii. Mitigation Options ii. Mitigation Recommendation
CHR 3	BHR 2	10746 Winston Churchill Boulevard	Identified during field review conducted for this report.	None. The residence is located approximately 110 metres from the proposed work.	None

7.0 Recommendations

The purpose of this Cultural Heritage Report is to establish the historical context of the Study Area, identify known and potential built heritage resources and cultural heritage landscapes through information gathering and fieldwork, create an inventory of built heritage resources and cultural heritage landscapes, and conduct a preliminary impact assessment, and recommend mitigation measures.

Background research and field investigations identified a total of three heritage properties in the Study Area, including:

- One known cultural heritage landscape:
    - CHR 1 (McNichol Cemetery, 10510 Heritage Road, intention to designate under Part IV of the *Ontario Heritage Act*)
- Two potential built heritage resources:
    - CHR 2 (10827 Winston Churchill Boulevard, previously identified)
    - CHR 3 (10746 Winston Churchill Boulevard, identified during field review)

A preliminary impact assessment of the potential impacts resulting from the Project to the identified built heritage resources and cultural heritage landscapes determined that the Project:

- No impacts to CHR 1 (McNichol Cemetery, 10510 Heritage Road) are anticipated from a cultural heritage perspective. However, the close proximity of the proposed work to this cemetery poses a risk for land disturbance.
- Indirect impacts are anticipated to CHR 2 (10827 Winston Churchill Boulevard) due to the introduction of a new access road and construction of the layover facility, which may result in the isolation of the property from the surrounding rural context.
- No impacts are anticipated to CHR 3 (10746 Winston Churchill Boulevard).

Based on the results of the impact assessment, the following recommendations are made:

1) Indirect adverse impacts are anticipated to CHR 2 (10827 Winston Churchill Boulevard). Accordingly, post-construction landscaping is recommended to screen the proposed access road and Heritage Road Layover facility from the residential property. Options for vegetation screening will be explored during detailed design.

2) No direct or indirect impacts are anticipated to CHR 1 (McNichol Cemetery, 10510 Winston Churchill Boulevard) from a cultural heritage perspective. However, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, the recommendations to conserve the cemetery contained in the Stage 1 Archaeological Assessment prepared for this project must be followed, including guidance on the installation of protective fencing and appropriate buffers (Wood 2021b).

8.0 Assessor and Qualifications

This report was prepared and reviewed by the undersigned, employees of Wood. Wood is one of North America's leading engineering firms, with more than 50 years of experience in the earth and environmental consulting industry. The qualifications of the assessors involved in the preparation of this report are provided in Appendix C.

9.0 Closure

This report was prepared for the exclusive use of Metrolinx and is intended to provide a Cultural Heritage Report (Existing Conditions and Preliminary Impact Assessment) of the Study Area. The Study Area for this Cultural Heritage Report the proposed Metrolinx Heritage Road Layover facility, located on the east side of Winston Churchill Boulevard (south of Wanless Drive) in the City of Brampton, Ontario.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from Wood will be required. With respect to third parties, Wood has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The report is based on data and information collected during the cultural heritage assessment conducted by Wood. It is based solely a review of historical information, a property reconnaissance conducted in November and December 2019 and data obtained by Wood as described in this report. Except as otherwise may be specified, Wood disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Wood after the time during which Wood conducted the cultural heritage assessment. In evaluating the Study Area, Wood has relied in good faith on information provided by other individuals noted in this report. Wood has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the current owner/occupant. Wood accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Wood makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Respectfully Submitted,

Wood Environment & Infrastructure Solutions Canada Limited

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Prepared by:



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Reviewed by:



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Senior Cultural Heritage Specialist

Reviewed by:



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Built Heritage and Cultural Heritage Landscape Team Lead

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Appendix A

Aerial Photographs



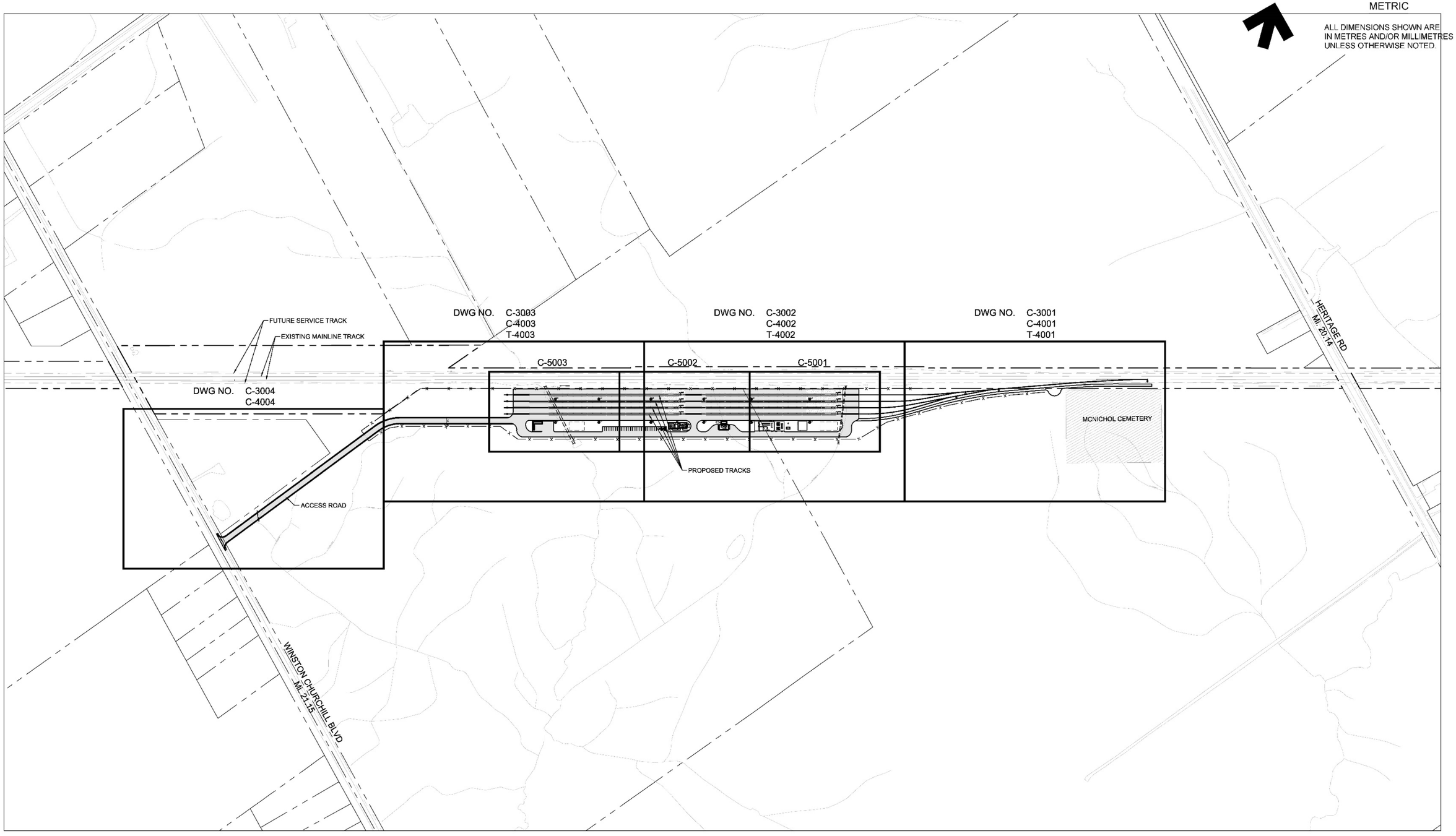
Aerial Photograph
Dated: 1954
Metrolinx Heritage Layover CHR
Plate: B1

Appendix B

Proposed Work

METRIC

ALL DIMENSIONS SHOWN ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE NOTED.



NOT FOR CONSTRUCTION

METROLINX PROJECT NO. 149708

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CHECKED BY: C.BALTI 2021/12/15	APPROVED BY: C.HUMA 2021/12/15
SCALE: 1:2500m FULL SIZE ONLY	

0 20 H 1:2500 120m
0 2 V 1:250 12m

wood.
PROJECT NO. IM21405045

METROLINX

HERITAGE ROAD LAYOVER
NEW LAYOVER FACILITY
CIVIL
KEY PLAN

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ-2020-CMLE-486	CPG_149708_C-1002	A	X/X

METRIC

ALL DIMENSIONS SHOWN ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE NOTED.

FOR CONTINUATION SEE DWG.
MATCHLINE
C-3002

EXISTING PROPERTY LINE (TYP.)

PROPOSED #10 TURNOUT (TYP.)

FUTURE #12 LH TURNOUT POWER SWITCH, CONNECTION TO FUTURE MAINLINE TRACK (BY OTHERS)

NEW #20 LH TURNOUT POWER SWITCH, CONNECTION TO MAINLINE TRACK (BY OTHERS)

FUTURE SERVICE TRACK

EX. MAINLINE TRACK 1

EX. MAINLINE TRACK 2

FUTURE SERVICE TRACKS

EX. DITCH

32+950 32+900 32+850 32+800 32+750 32+700 32+650

PT: 32+976.706
PC: 32+971.501
PC: 32+957.924
PI: 32+927.872
BP: 32+917.257
PI: 32+881.890
BP: 32+871.515
PT: 32+769.310
PC: 32+744.977
PI: 32+691.463
BP: 32+672.858
PC: 32+993.004
PC: 32+984.826
PI: 32+938.233
BP: 32+927.858

32+872 32+873

12.00

MAINTENANCE VEHICLE SIDE TURNING HEAD

MAINTENANCE ACCESS ROAD

NEW 1.80m HIGH SECURITY FENCE (TYP.)

MCNICHOL CEMETERY

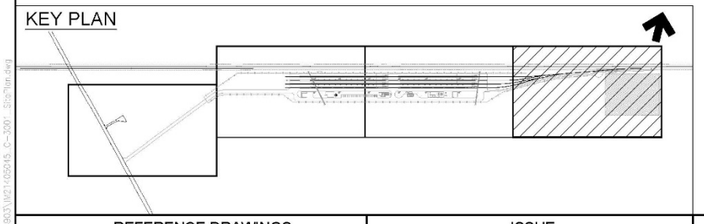
APPROXIMATE LOCATION 367m FROM HERITAGE ROAD

LOCATION TO BE VERIFIED IN SUBSEQUENT PHASES

EX. WATERCOURSE

EX. WATERCOURSE

KEY PLAN



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		A	2021/09/20	PRELIMINARY DESIGN SUBMISSION			
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DRAWN BY: J.WU 2021/09/07	DESIGNED BY: J.WU / R.VIADO 2021/09/07
CHECKED BY: C.BALTI 2021/12/15	APPROVED BY: C.HUMA 2021/12/15
SCALE: 1:500 FULL SIZE ONLY	0 5 1:500 25m

wood.
PROJECT NO. IM21405045

METROLINX

HERITAGE ROAD LAYOVER
NEW LAYOVER FACILITY
CIVIL
SITE PLAN - 1

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ-2020-CMLE-486	CPG_149708_C-3001	B	X/X

Dec 13, 2021 - 3:39pm
Drawing Name: C:\Users\rkhy\Utrs\5683\IM21405045_C-3001_SitePlan.dwg
Login name: ramonc.lo.viado

METRIC

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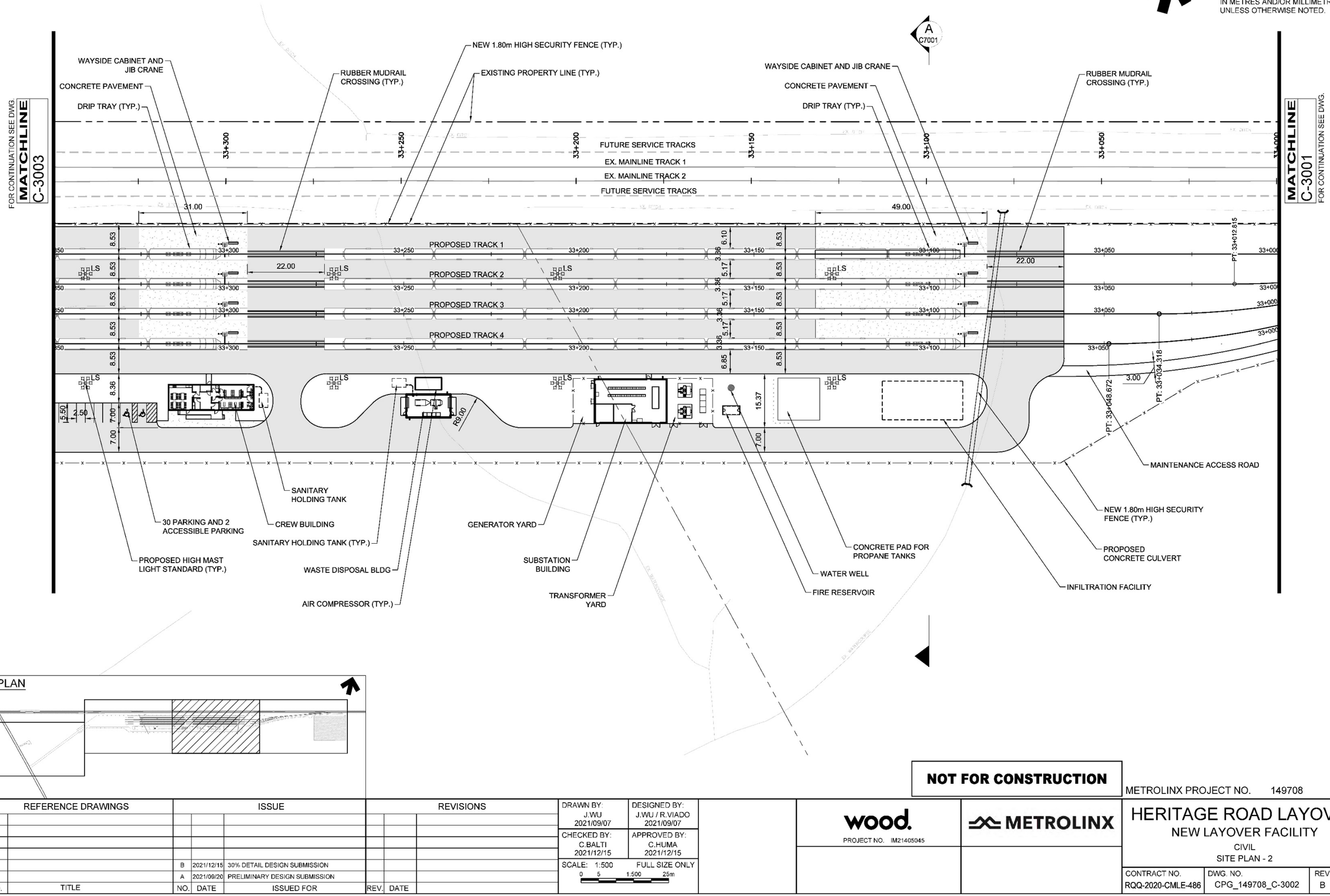

KEY PLAN

NOT FOR CONSTRUCTION

METROLINX PROJECT NO. 149708

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		A	2021/09/20	PRELIMINARY DESIGN SUBMISSION			
DWG NO.	TITLE	NO.	DATE	ISSUED FOR	REV.	DATE	

DRAWN BY: J.WU 2021/09/07	DESIGNED BY: J.WU / R.VIADO 2021/09/07
CHECKED BY: C.BALTI 2021/12/15	APPROVED BY: C.HUMA 2021/12/15
SCALE: 1:500	FULL SIZE ONLY
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wood.
PROJECT NO. IM21405045

METROLINX

HERITAGE ROAD LAYOVER
NEW LAYOVER FACILITY
CIVIL
SITE PLAN - 2

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ-2020-CMLE-486	CPG_149708_C-3002	B	X/X

METRIC

ALL DIMENSIONS SHOWN ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE NOTED.

B C7001

FOR CONTINUATION SEE DWG. MATCHLINE C-3004

MATCHLINE C-3002 FOR CONTINUATION SEE DWG.

33+650 33+600 33+550 33+500 33+450 33+400 33+350

FUTURE SERVICE TRACKS

EX. MAINLINE TRACK 1

EX. MAINLINE TRACK 2

FUTURE SERVICE TRACKS

EXISTING PROPERTY LINE (TYP.)

EXISTING PROPERTY LINE (TYP.)

NEW 1.80m HIGH SECURITY FENCE (TYP.)

BUMPING POST (TYP.)

EP. 33+537.972

33+538

33+500

33+450

33+400

22.00

R9.00

PROPOSED TRACK 1

PROPOSED TRACK 2

PROPOSED TRACK 3

PROPOSED TRACK 4

6.10 3.36 5.17 3.36 5.17 3.36 6.85

8.53 8.53 8.53 8.53 8.53 8.36 7.00 7.00

1.68

LS

R9.00

28.50

5.50

2.50

7.00

4.00

ACCESS ROAD

NEW 1.80m HIGH SECURITY FENCE (TYP.)

RUBBER MUDRAIL CROSSING (TYP.)

GARBAGE BINS

STORAGE TRAILER 12m x 3m

PROPOSED CONCRETE BOX CULVERT

INFILTRATION FACILITY

30 PARKING AND 2 ACCESSIBLE PARKING

KEY PLAN

NOT FOR CONSTRUCTION

METROLINX PROJECT NO. 149708

REFERENCE DRAWINGS		ISSUE			REVISIONS		
		B	2021/12/15	30% DETAIL DESIGN SUBMISSION			
		A	2021/09/20	PRELIMINARY DESIGN SUBMISSION			
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SCALE: 1:500	FULL SIZE ONLY
0 5 1:500 25m	

wood. PROJECT NO. IM21405045

METROLINX

HERITAGE ROAD LAYOVER

NEW LAYOVER FACILITY

CIVIL

SITE PLAN - 3

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ-2020-CMLE-486	CPG_149708_C-3003	B	X/X

METRIC

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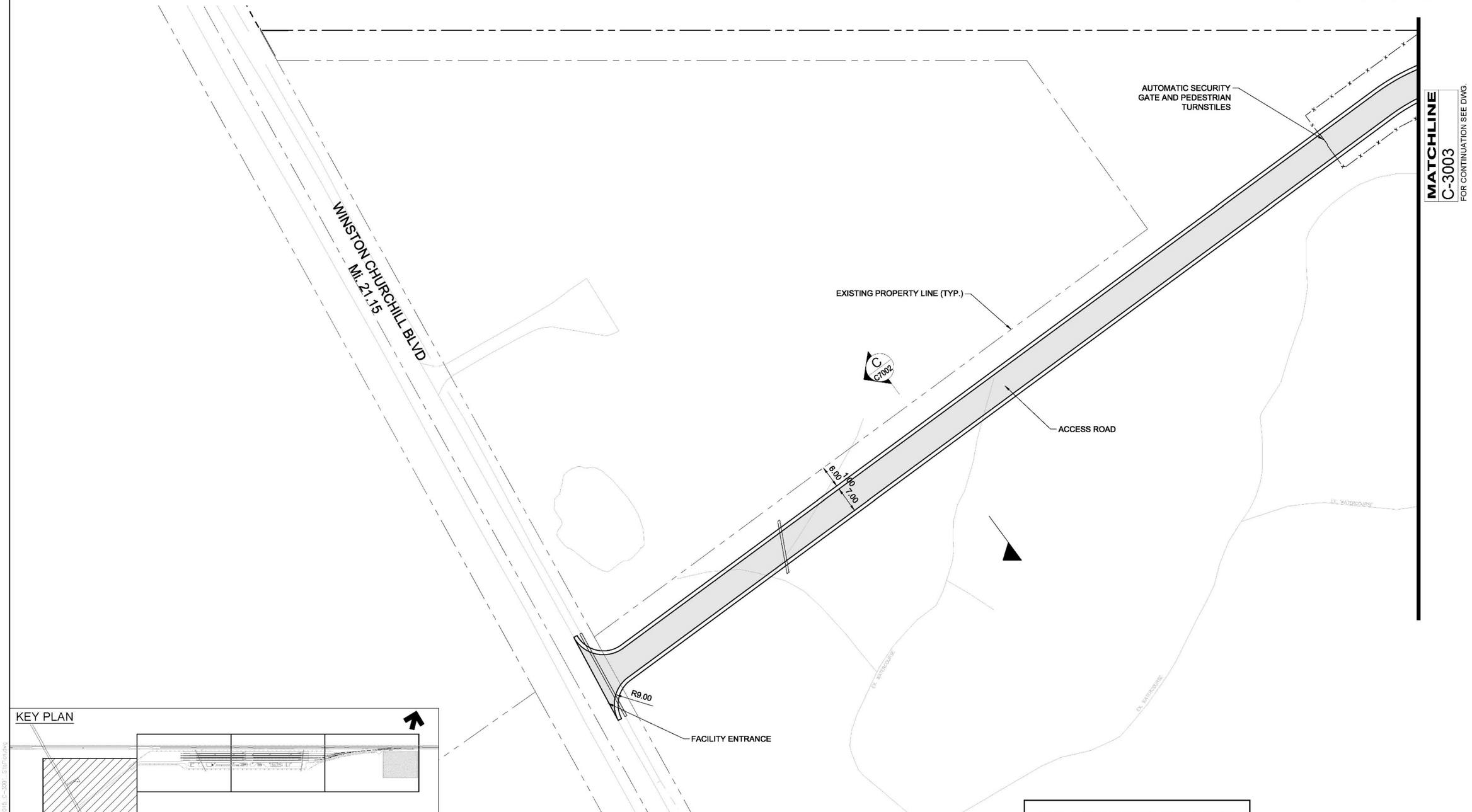

NOT FOR CONSTRUCTION

METROLINX PROJECT NO. 149708

REFERENCE DRAWINGS		ISSUE			REVISIONS		
		B	2021/12/15	30% DETAIL DESIGN SUBMISSION			
		A	2021/09/20	PRELIMINARY DESIGN SUBMISSION			
DWG NO.	TITLE	NO.	DATE	ISSUED FOR	REV.	DATE	

DRAWN BY: J.WU 2021/09/07	DESIGNED BY: J.WU / R.VIADO 2021/09/07
CHECKED BY: C.BALTI 2021/12/15	APPROVED BY: C.HUMA 2021/12/15
SCALE: 1:500	FULL SIZE ONLY

0 5 1:500 25m

wood.

PROJECT NO. IM21405045

METROLINX

HERITAGE ROAD LAYOVER

NEW LAYOVER FACILITY

CIVIL

SITE PLAN - 4

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ-2020-CMLE-486	CPG_149708_C-3004	B	X/X

Appendix C

Assessor Qualifications

Assessor Qualifications

Heidy Schopf, MES, CAHP – Built and Landscape Heritage Team Lead: Heidy Schopf the Built and Landscape Heritage Team Lead at Wood. She has over ten years' experience in Cultural Resource Management. She is a professional member of the **Canadian Association of Heritage Professionals (CAHP)** and is MTO RAQs certified in archaeology/heritage. She has worked on a wide variety of projects throughout Ontario, including: cultural heritage resources assessments, heritage impact assessments, documentation reports, cultural heritage evaluations, strategic conservation plans, heritage conservation district studies and plans and AAs. Ms. Schopf has extensive experience applying local, Provincial, and Federal heritage guidelines and regulations to evaluate protected and potential cultural heritage properties. She is skilled at carrying out impact assessments and developing mitigation measures to conserve the heritage attributes of properties where changes are proposed.

Henry Cary, Ph.D., CAHP, RPA – Senior Staff Archaeologist: Dr. Henry Cary has over 20 years of public and private-sector experience directing archaeological and cultural heritage projects in urban, rural, Arctic and Sub-Arctic environments in Canada as well as the Republic of South Africa, Italy, and France. His career has included positions as project archaeologist and cultural resource management specialist for Parks Canada's Fort Henry National Historic Site Conservation Program and Western Arctic Field Unit, Heritage Manager for the Town of Lunenburg UNESCO World Heritage Site, and senior-level archaeologist and cultural heritage specialist for CH2M and Golder Associates. He currently holds a **Professional Archaeology Licence (P327)** issued by the Ontario MHSTCI, is MTO RAQs certified in Archaeology/Heritage and is a member of the **Canadian Association of Heritage Professionals (CAHP)** and Register of Professional Archaeologists (RPA). His education includes a B.A. in Prehistoric Archaeology and Anthropology from Wilfrid Laurier University, a MA in Historical Archaeology from Memorial University, and a Ph.D. in War Studies from the Royal Military College of Canada. Currently, Henry also holds academic positions as Adjunct Professor of Anthropology at Saint Mary's University and lecturer in Visual & Material Culture at Mount Allison University.

Luke Fischer, MA, CAHP - Cultural Heritage Specialist: Mr. Fischer is an intermediate Heritage Specialist and Senior Archaeologist who has been working in the Cultural Heritage field since 2002. In addition to his experience in Ontario, he has worked on linear corridor studies in Alberta, British Columbia, and Illinois. Mr. Fischer has successfully authored and managed the production of Cultural Heritage Evaluation Reports and Heritage Impact Assessments for multiple clients during his time at Wood. Mr. Fischer is a member of the **Canadian Association of Heritage Professionals (CAHP)** and sits on the London Advisory Committee on Heritage (LACH). Mr. Fischer's graduate studies included the examination of Ontario architecture and built landscape as it applies to social themes common to anthropological discourse. Mr. Fischer holds a **Professional Archaeology License (P219)** issued by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries.

Chelsea Dickinson, BA - Cultural Heritage Specialist | Research Archaeologist: Ms. Dickinson holds an Honours B.A. Degree in Near Eastern and Classical Archaeology from Wilfrid Laurier University, and a Post-Graduate Certificate in Geographical Information Systems from Fanshawe College. She has been working in the field of cultural resource management since 2015 and holds an **Applied Research license (License R1194)** in Archaeology from the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. Ms. Dickinson has worked on a wide variety of projects throughout Ontario, including: Cultural Heritage Assessments Reports (CHARs), Cultural Heritage Reports (CHRs under TPAP), Heritage Impact Assessments (HIAs), Cultural Heritage Evaluation Reports (CHERs) using Ontario Regulation 9/06 and 10/06, Strategic Conservation Plans (SCP), and AAs (Stage 1-4) throughout Ontario. Ms. Dickinson has been the prime/co-author on a multitude of archaeological (i.e., Stage 1-4) and cultural heritage assessment reports (i.e., CHAR, CHER, HIA, CHDR), specializing in historical background research across Ontario. Ms. Dickinson has had the privilege of working alongside a multitude of First Nation community members while conducting AAs in both Northern and Southern Ontario. In addition, she has experience using ArcGIS/Collector and high precision GPS technologies, specifically Top Con Hi SR and FC5000 positioning systems, used to map in architectural features, diagnostic artifacts, as well as topographical anomalies and site boundaries.

Appendix D

Limitations

Limitations

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
   (a) The Standard Terms and Conditions which form a part of our Professional Services Contract;
   (b) The Scope of Services;
   (c) Time and Budgetary limitations as described in our Contract; and,
   (d) The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Study Area. Our conclusions cannot and are not extended to include those portions of the Study Area which were not reasonably available, in Wood Environment & Infrastructure's opinion, for direct observation.
4. The potential for heritage resources, and any actual heritage resources encountered, at the Study Area were assessed, within the limitations set out above, having due regard for applicable heritage regulations as of the date of the inspection.
5. Services including a background study and property inspection were performed. Wood Environment & Infrastructure's work, including archival studies and fieldwork, were completed in a professional manner and in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries' guidelines. It is possible that unforeseen and undiscovered heritage resources may be present at the Study Area.
6. The utilization of Wood Environment & Infrastructure's services during the implementation of any further cultural heritage work recommended will allow Wood Environment & Infrastructure to observe compliance with the conclusions and recommendations contained in the report. Wood Environment & Infrastructure's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.

Appendix G

Stage 1 Archaeological Assessment Report - Heritage Road Layover

Heritage Road Layover
Revised Report: Stage 1 Archaeological Assessment
Part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), former Township of Chinguacousy, County of Peel, now City of Brampton, Regional Municipality of Peel, Ontario

Project # IM21405045

Archaeological Consulting License #P327 (Cary)
PIF # P327-0021-2021 (Stage 1)

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

September 2022

Heritage Road Layover
Revised Report: Stage 1 Archaeological Assessment
Part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), former Township of Chinguacousy, County of Peel, now City of Brampton, Regional Municipality of Peel, Ontario

Project # IM21405045

Prepared for:

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September 16, 2022

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Document Revision History

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0	07 December 2021	DRAFT
1	20 January 2022	DRAFT for Indigenous Nation Review
2	04 July 2022	FINAL for MTCS Review
3	01 September 2022	REVISED FINAL for MTCS Review
4	16 September 2022	Revised FINAL v.2 for MTCS Review

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Issued by:	Henry Cary, Ph.D., CAHP, RPA	

Executive summary

Wood Environment & Infrastructure (Wood) was retained by Metrolinx to conduct a Stage 1 archaeological assessment as part of the Heritage Road Layover Project Transit Project Assessment Process (TPAP) triggered under the *Environmental Assessment Act* and Detailed Layover Facility Design Project (the Project). The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The Project is proposed for the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Peel Region (the study area) (Appendix A: Figures 1, 2 and 3). The study area was historically described as part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), Township of Chinguacousy, County of Peel, and is 7.2 hectares (ha) in size. A development plan is provided as Appendix A: Figure 4.

The Stage 1 background study indicated that the study area has general archaeological potential for the following reasons: 1) one registered archaeological site (AjGx-267) is located within the study area, two registered archaeological sites (AjGx-268 and AjGx-11) are within 300 m of the study area, and an unmarked historical-period cemetery (McNichol's Cemetery) is adjacent to the study area; 2) three primary natural water sources (unnamed tributaries of the Credit River) cross the central, east, and west portions of the study area; 3) the study area has a flat topography and well drained soils conducive to human inhabitation; 4) the 1877 historical atlas map depicts a farmstead with within the study area; and, 5) the study area is adjacent to the early historical transportation routes of Winston Churchill Boulevard and the Toronto & Guelph Railway.

The Stage 1 background study also determined that the entire study area (100%, 7.2 ha) was previously assessed (Appendix A: Figure 5 and Figure 8). The north portion of the study area was assessed through Stage 1 archaeological assessment in 2006 (Archaeological Services Inc. 2006; PIF # P057-165), and the east portion assessed for Stage 1 archaeological assessment by Archeoworks Inc. (Archeoworks) in 2014 (Archeoworks 2014; PIF#P334-210-2012). In 2017, Archeoworks assessed the central and southwest portion as part of a Stage 1 archaeological assessment (Archeoworks 2017a; PIF# P390-0181-2016).

A Stage 2 property assessment by Archeoworks in 2017 identified site AjGx-267 in the central portion of the study area as a surface scatter of 31 post-contact artifacts covering an area approximately 35 m by 27 m (Archeoworks 2017b:22; PIF # P390-0215-2016) (Supplementary Documentation, Section 1: Figure 9). The Stage 2 property assessment also identified archaeological site AjGx-268 approximately 100 m south of the study area from a surface scatter of 649 post-contact artifacts covering a 60 m by 50 m area (Archeoworks 2017b:22) (Supplementary Documentation, Section 1: Figure 9). The same year, a Stage 3 site-specific assessment by Archeoworks approximately 18 m east of the study area defined the limits of the McNichol's Cemetery, a small pioneer burial ground with five unmarked graves (Archeoworks 2017c; PIF # P390-0191-2016) (Supplementary Documentation, Section 1: Figure 9). For both AjGx-267 and AjGx-268,

Archeoworks (2017b:29-31) determined the sites to have further cultural heritage value or interest and recommended Stage 3 site-specific assessments. For the McNichol's Cemetery, Archeoworks (2017c:15) recommended that a buffer zone be established, and the perimeter be fenced.

Based on the results of this Stage 1 archaeological assessment of the study area several recommendations are made in Section 6.0 of this report. A brief summary of these recommendations are as follows:

1) The previous recommendations by Archeoworks (2017b:29-30) for Stage 3 site-specific assessment for AjGx-267 remain in effect (see Section 6.0).

2) Archaeological Site AjGx-268 (Heritage Layover H2) is within 300 m the current study area but since it is not anticipated to be impacted by the Project, no further archaeological assessment of Site AjGx-268 is required as part of the Project.

    a. However, if the study area boundaries of the Project change and work in an expanded study area will avoid the AjGx-268 (Heritage Layover H2) site area and an additional 20 m no-go buffer —but is between 20 m and 70 m of the site area— the following actions are recommended:

        i. Retain a licensed archaeologist to conduct archaeological construction monitoring for work done between 20 m and 70 m from the site area;

        ii. Erect a temporary barrier around the site area to be avoided;

        iii. Depict the area to be avoided on all applicable contract drawings and provide clear instructions to avoid the area;

        iv. Issue "no go" instructions to all on-site construction crews and personnel during construction.

    b. If work in in an expanded study area cannot avoid AjGx-268 (Heritage Layover H2) and a 20 m no-go buffer, the previous recommendations by Archeoworks (2017b:30-31) for Stage 3 site-specific assessment remain in effect (see Section 6.0).

3) If not already addressed, the previous recommendations by Archeoworks (2017c:15) for Stage 3 site-specific assessment for McNichol's Cemetery remain in effect (see Section 6.0).

The recommendations listed above are subject to review by the Ministry of Tourism, Culture and Sport. It is an offence to alter any portion of the study area without concurrence from the Ministry of Tourism, Culture and Sport.

No development or site alteration (including, but not limited to, grading, excavation or the placement of fill that would change the landform characteristics) is permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved (Government of Ontario 2020:31).

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Section 2 Locational Information

Section 3 Communication with the Registrar, *Funeral, Burial and Cremation Services Act*, Bereavement Authority of Ontario, and City of Brampton Regarding the McNichol's Cemetery

Section 4 Indigenous Engagement Documentation

List of acronyms and abbreviations

BAO	Bereavement Authority of Ontario
CHVI	Cultural Heritage Value or Interest
FBCA	*Funeral, Burial and Cremation Services Act*
ha	Hectares
m	Metres
MPBSD	Ministry of Public and Business Service Delivery

MTCS	Ministry of Tourism, Culture and Sport
PIF	Project Information Form
TPAP	Transit Project Assessment Process

1.0 Project Context

1.1 Introduction

Metrolinx is proposing to expand its facilities along Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) two (2) locomotives and 12 cars/coaches (2L12) consist or two (2), 1L6 consists on each track complete with manual switches and hot air switch blowers, blue flags and derail track protection.

1.2 Project Description

A preliminary study between Metrolinx and Canadian National Railway (CN) identified a need for a new additional south track in the proposed location of the layover. The new track will be designed and constructed by CN within its right-of-way.

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Heritage Road Layover. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (the study area) (Appendix A: Figures 1-3).

1.3 Development Context

Wood was retained by Metrolinx to conduct a Stage 1 archaeological assessment as part of the Heritage Road Layover Project TPAP and Detailed Layover Facility Design Project (the Project). The study area was historically described as part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), former Township of Chinguacousy, County of Peel. The study area is approximately 7.2 hectares (ha) in size. A development plan is provided as Appendix A: Figure 4.

This Stage 1 archaeological assessment was initiated by Metrolinx as part of the requirements for the Heritage Road Layover Project TPAP triggered under the *Environmental Assessment Act* and was conducted prior to development. It was carried out in accordance with the Ontario Ministry of Tourism, Culture and Sport (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), under an Ontario Professional Licence to Conduct Archaeological Fieldwork (P327) held by Henry Cary, Senior Staff Archaeologist at Wood. The MTCS acknowledged the project information by issuing Project Information Form (PIF) number P327-0021-2021 (Stage 1). An optional Stage 1 property inspection was not conducted as part of this assessment.

1.4 Scope of Work

A Stage 1 archaeological assessment is a qualitative study that systematically assesses the archaeological potential of a study area based on its land use and evidence of possible pre-contact Indigenous and historical Indigenous and early Euro-Canadian (settler) occupation. Following the MTCS *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:13), the objectives of a Stage 1 background study are to: 1) provide information about the study area's geography, history, previous archaeological fieldwork and current land condition; 2) evaluate in detail the study area's archaeological potential to support recommendations for Stage 2 property assessment for all or parts of the study area, if required; and 3) recommend appropriate strategies for Stage 2 property assessment, where appropriate.

For this Stage 1 background study, Wood:

- Contacted the MTCS to search the *Ontario Archaeological Sites Database* for all registered archaeological sites within a 1 kilometre (km) radius of the study area
- Contacted the MTCS to search the *Ontario Public Register of Archaeological Reports* for reports that detail archaeological assessments conducted within a 50-metre (m) radius of the study area
- Analysed the study area's physical characteristics, principally its proximity to water sources, elevated topography, well-drained soils and sediments, distinctive land formations and resource areas to determine its archaeological potential for pre-contact period occupations
- Reviewed historical maps and other archival sources to determine the study area's archaeological potential for post-contact period human occupations
- Reviewed historical land-use practices that may have impacted the preservation of potential archaeological resources
- Recommended appropriate field strategies for known archaeological sites
- Prepared a Stage 1 report describing the findings and providing recommendations further archaeological work.

2.0 Stage 1 Background Study

2.1 Archaeological Context

2.1.1 Registered Archaeological Sites

When registering archaeological sites within the *Ontario Archaeological Sites Database*, the MTCS uses the Borden system (Borden 1952). The Borden system divides Canada into grid blocks based on longitude and latitude, with each Borden block measuring approximately 13 km east-west by approximately 18.5 km north-south. Each Borden block is referenced with a four-letter designation with sites in each block numbered sequentially as they are registered. The study area is located within the *AjGx* Borden block.

Information provided by Mr. Rob von Bitter, Database Co-ordinator of MTCS on 1 December 2021 determined that there are 17 registered archaeological sites within a 1 km radius of the study area (MTCS 2021a). Of these, one registered site is located within the study area and two registered sites are located within a 300 m radius of the study area.

Table 2-1 provides a summary of the sites within a 1 km radius of the study area with those within 300 m of the study area in bold text and described briefly below.

Table 2-1: Registered archaeological sites within 1 km radius of the study area

Borden number	Site name	Cultural affiliation	Site type	Distance from study area	Development review status
AjGx-174	--	Post-contact, Euro-Canadian	Homestead	> 300 m	Further Cultural Heritage Value or Interest (CHVI)
AjGx-175	--	Post-contact, Euro-Canadian/ Indigenous	Findspot	> 300 m	No further CHVI
AjGx-176	--	Pre-contact, Indigenous	Findspot	> 300 m	No further CHVI
AjGx-182	Curry	Post-contact, Euro-Canadian	Homestead	> 300 m	Further CHVI
AjGx-239	McNichol	Post-contact, Euro-Canadian	Homestead	> 300 m	No further CHVI

Borden number	Site name	Cultural affiliation	Site type	Distance from study area	Development review status
AjGx-240	Cameron	Post-contact, Euro-Canadian	Farmstead	> 300 m	No further CHVI
AjGx-252	Churchill Valley Historic	Post-contact, Euro-Canadian	Farmstead	> 300 m	No further CHVI
AjGx-253	Location 14	Pre-contact, Indigenous Early Archaic	Campsite	> 300 m	No further CHVI
AjGx-257	10510 H5	Post-contact, Euro-Canadian	Dump	> 300 m	No further CHVI
AjGx-267	**Heritage Layover H1**	**Post-contact, Euro-Canadian**	**Homestead**	**0 m**	**Further CHVI**
AjGx-268	**Heritage Layover H2**	**Post-contact, Euro-Canadian**	**Homestead**	**100 m**	**Further CHVI**
AkGx-3	Wey	Pre-contact, Indigenous Archaic	Unknown	> 300 m	Unknown
AkGx-7	George Petch	Post-contact, Euro-Canadian	Homestead	> 300 m	Further CHVI
AkGx-9	Dixon	Pre-contact, Indigenous	Findspot	> 300 m	No further CHVI
AkGx-11	**Andrew Dolson**	**Post-contact, Euro-Canadian**	**Homestead/ Industrial**	**285 m**	**Further CHVI**
AkGx-715	Watkins Site	Post-contact, Euro-Canadian	Farmstead	> 300 m	Further CHVI

Borden number	Site name	Cultural affiliation	Site type	Distance from study area	Development review status
AkGx-716	Kirk Site	Post-contact, Euro-Canadian	Farmstead	> 300 m	Further CHVI

- Archaeological Site AjGx-267 (Heritage Layover H1) is located in the central portion of the study area (Supplementary Documentation, Section 1: Figure 9). It was identified during pedestrian survey of the ploughed field as a surface scatter of 31 post-contact artifacts clustered over a 27 m by 35 m area. The site is considered to have further CHVI and has been recommended for Stage 3 archaeological assessment (Archeoworks 2017b; MTCS 2021a).
- Archaeological Site AjGx-268 (Heritage Layover H2) is located approximately 100 m south of the central portion of the study area (Supplementary Documentation, Section 1: Figure 9). It was identified during pedestrian survey of the ploughed field as a surface scatter of 649 post-contact artifacts covering a 60 m by 50 m area. The site is interpreted to be the occupation debris from a homestead, estimated to date between 1860 and 1900. The site is considered to have further CHVI and has been recommended for Stage 3 archaeological assessment (Archeoworks 2017b; MTCS 2021a).
- Archaeological Site AkGx-11 (Andrew Dolson) is located approximately 285 m northeast of the study area's east extent. It was identified during test pit excavation as a collection of 577 post-contact artifacts covering a 100 m by 100 m area and associated with three wells and five foundations. The site is interpreted to be the occupation debris and features of a historical period homestead and possibly a manufacturing site. The site is considered to have further CHVI (MTCS 2021a).

Although investigated through Stage 3 cemetery investigation in 2017 (Archeoworks 2017c), the adjacent McNichol's Cemetery was not registered as an archaeological site and there is no Borden number associated with it (MTCS 2021a). The cemetery is approximately 18 m east of the study area and is a small pioneer burial ground with five unmarked graves (Archeoworks 2017c; PIF # P390-0191-2016; Supplementary Documentation, Section 1: Figure 9 and Section 2).

2.1.2 History of Archaeological Investigations

Wood searched the *Ontario Register of Archaeological Reports* (administered by the MTCS) for reports detailing archaeological assessments conducted within the study area and a 50 m surrounding radius. This search (by address, lot and concession, and above-mentioned archaeological sites) found that six archaeological assessments were conducted within the study area and two archaeological assessments were conducted within a 50 m radius of the study area. All were available from the MTCS and were consulted for this Stage 1 background study. Appendix A: Figure 5 shows the location of these previous studies, and they are summarized in Table 2-2 and below.

2.1.2.1 Archaeological assessments conducted within the study area

Table 2-2 lists the reports made available from the MTCS documenting archaeological assessments conducted within the study area. The findings and conclusions of these reports are summarized below.

Table 2-2: Archaeological reports for assessments conducted within the study area

Year	Title	Author	PIF
2005	Stage 1 Archaeological Assessment, GO Transit Georgetown North Corridor Rail Expansion Environmental Assessment	Archaeological Services Inc. (ASI)	P057-165
2014a	Stage 1 Archaeological Assessment (AA): 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS In the former Geographic Township of Chinguacousy South Historical County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario.	Archeoworks Inc.	P334-210-2012
2014b	Stage 2 Archaeological Assessment of 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS Geographic Township of Chinguacousy South Historical County of Peel Now the City of Brampton Regional Municipality of Peel Ontario	Archeoworks Inc.	P029-846-2013
2017a	Stage 1 Archaeological Assessment for the The [sic] Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario	Archeoworks Inc.	P390-0181-2016

Year	Title	Author	PIF
2017b	Stage 2 Archaeological Assessment for the The [sic] Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario	Archeoworks Inc.	P390-0215-2016
2017c	Stage 3 Cemetery Investigation Report for the McNichol's Cemetery as part of the Proposed Development of 10510 Heritage Road within Lot 14, Concession 6 WHS Geographic Township of Chinguacousy South, former County of Peel, now in the City of Brampton, Regional Municipality of Peel, Ontario	Archeoworks Inc.	P390-0191-2016

- *Stage 1 Archaeological Assessment, GO Transit Georgetown North Corridor Rail Expansion Environmental Assessment.* Prepared by Archaeological Services Inc. (ASI) for Gartner Lee Limited, September 2005 (revised December 2005). ASI File 05EA-069 (PIF: P057-165).

In 2005, ASI was retained to conduct a Stage 1 archaeological assessment for 22 km of the existing CN Rail corridor between Winston Churchill Boulevard to Highway 27. In the Winston Churchill Boulevard to Heritage Road section (which corresponds to the north portion of the study area), ASI identified archaeological potential in all non-disturbed areas and recommended Stage 2 property assessment for both the existing railway property and any newly acquired lands (ASI 2005:8, 12).

- *Stage 1 Archaeological Assessment (AA): 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS In the former Geographic Township of Chinguacousy South Historical County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario.* Prepared by Archeoworks Inc. for Forest Hill Homes/ State Building Group, January 24, 2014. Project # 049-BR755-12 (PIF: P334-210-2012).

In 2014, Archeoworks was retained to conduct a Stage 1 archaeological assessment of the 91-ha parcel of 10510 Heritage Road, which includes the east portion of the study area. Archeoworks recommended a Stage 2 property assessment to relocate the McNichol’s Cemetery and determined that most of the parcel (including the east portion of the study area) had high archaeological potential requiring pedestrian survey and test pitting as part of a future Stage 2 property assessment (Archeoworks 2014a: i-ii).

- *Stage 2 Archaeological Assessment of 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS Geographic Township of Chinguacousy South Historical County of Peel Now the City of Brampton Regional Municipality of Peel Ontario.* Prepared by Archeoworks Inc. for Forest Hill Homes/ State Building Group, March 4, 2014. Project # 049-BR755-12 (PIF: P029-846-2013).

Following the recommendations of the Stage 1 archaeological assessment for 10510 Heritage Road (Archeoworks 2014a), Archeoworks conducted a Stage 2 property assessment of all but the southeastern 5.08 ha of the property (Archeoworks 2014b: i, 49). This resulted in identifying four Euro-Canadian (H1-H4) and seven Indigenous (P1-P7) artifact scatters. Of these, artifact scatter H2 was found within the current study area but determined to have no further CHVI and therefore not recommended for further archaeological assessment. Stage 3 archaeological assessment was recommended only for sites H1 (AjGx-239) and H4 (AjGx-240), located over 300 m southeast of the current study area (Archeoworks 2014b: i, Supplementary Documentation). The Stage 2 property assessment also recommended Stage 3 mechanical topsoil stripping over the area presumed to be the location of the McNichol's cemetery, to relocate the unmarked graves (Archeoworks 2014b: i).

Stage 2 property survey of the remainder of the property, including within the northeast portion of the current study area, evaluated some areas to be permanently wet and exempt from further Stage 2 assessment (Archeoworks 2014b:20) (Appendix A: Figure 8).

- *Stage 1 Archaeological Assessment for the The* [sic] *Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario.* Prepared by Archeoworks Inc. for R.V. Anderson Associates Ltd., June 20, 2017. Project # 008-BR1426-15 (PIF: P390-0181-2016).

Archeoworks was retained in 2016 to conduct a Stage 1 archaeological assessment for the Heritage Road Layover Facility, with an assessment area that overlaps the west portion of the current study area. The background study and property inspection identified archaeological potential over the majority of the study area except for the gravel surfaced area at the intersection of the CN Rail corridor and Winston Churchill Boulevard, the ballast and ditched area on the south side of the rail corridor, and the area previously assessed in 2014 (Archeoworks 2017a: i, 42; Archeoworks 2014b). Stage 2 property assessment was recommended for the undisturbed sections, which correspond to the central section of the study area (Archeoworks 2017a: i).

- *Stage 2 Archaeological Assessment for the The* [sic] *Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario.* Prepared by Archeoworks Inc. for R.V. Anderson Associates Ltd., December 7, 2017. Project # 008-BR1426-15 (PIF: P390-0215-2016).

Following the recommendations of the Stage 1 archaeological assessment for the Heritage Road Layover Facility (Archeoworks 2017a), Archeoworks conducted a Stage 2 property assessment of the areas identified to have archaeological potential, which correspond to the central portion of the study area and south of the study area. Pedestrian survey during this assessment identified a surface scatter of 31 post-contact artifacts in a 27 m by 35 m area in the central portion of the study area (Heritage Layover H1 Site, AjGx-267), a non-diagnostic Indigenous Onondaga chert side-scraper (Heritage Layover P1 Site) and a surface scatter of 649 post-contact artifacts covering a 60 m by 50 m area approximately 100 m south of the central portion of the current study area (Archeoworks 2017b:22-28; Supplementary Documentation, Section 1: Figure 9). All the artifacts were recorded by GPS then collected. The Indigenous find spot (Heritage Layover P1 Site) was determined to have no further CHVI, but the two Euro-Canadian artifact scatters (AjGx-267 and AjGx-268) were recommended for Stage 3 site-specific assessment (Archeoworks 2017b: i).

Field inspection and test pit survey as part of the Stage 2 property assessment also identified areas of extensive and deep land alteration in the west portion of the current study area and permanently wet and steeply sloped sections in the central portion of the current study area (Archeoworks 2017b:20-21). For these areas, no further archaeological assessment was recommended. After test pit in the east and central portion of the current study area, and pedestrian survey of the remaining areas, identified no archaeological resources, Archeoworks determined that no further archaeological assessment was required (Archeoworks 2017b:21).

The results of Archeoworks' 2017 Stage 2 archaeological assessment within the current study area are illustrated in Appendix A: Figure 8. On the request of the MTCS, the east and central portions of the study area are indicated to require Stage 3 site-specific assessment since the entire property parcel is considered to have archaeological concern; however, as illustrated in Supplementary Documentation, Section 1: Figure 9, only the 27 m by 35 m area in the central portion of the study area associated with AjGx-267 is recommended for Stage 3 site-specific assessment by Archeoworks (Archeoworks 2017b).

- *Stage 3 Cemetery Investigation Report for the McNichol's Cemetery as part of the Proposed Development of 10510 Heritage Road within Lot 14, Concession 6 WHS Geographic Township of Chinguacousy South, former County of Peel, now in the City of Brampton, Regional Municipality of Peel, Ontario.* Prepared by Archeoworks Inc. for Forest Hill Homes/ State Building Group, September 13, 2017. Project # 049-BR755-12 (PIF: P390-0191-2016).

Following the recommendations of the Stage 2 property assessment for 10510 Heritage Road (Archeoworks 2014b), Archeoworks conducted a Stage 3 cemetery investigation for the McNichol's Cemetery, approximately 18 m east of the current study area (Supplementary Documentation, Section 1: Figure 9 and Section 2). After the topsoil was removed mechanically, five grave shafts were exposed, believed to represent interment of two adults, two infants, and an empty filled cut (Archeoworks 2017c:13). The shafts were covered in geotextile and backfilled, and a buffer zone of 5 m was then staked around the perimeter of the burials. Archeoworks recommended the cemetery be enclosed by a permanent fence at the staked boundary and that the cemetery be

registered as an official cemetery and protected from further disturbance. The McNichol's Cemetery was not registered as an archaeological site and there is no Borden number associated with it.

2.1.2.2 Archaeological assessments conducted within 50 m of the study area

Table 2-3 lists the reports made available from the MTCS documenting archaeological assessments conducted within 50 m of the study area. The findings and conclusions of these reports are summarized below.

Table 2-3: Archaeological reports for assessments conducted within 50 m of the study area

Year	Title	Author	PIF
1993	Report on the Step 6 Archaeological Investigations in Five Candidate Landfill Sites, City of Brampton and Town of Caledon, Regional Municipality of Peel, Ontario (Volumes 1 & 2)	D.R. Poulton & Associates	Licence 1993-088
2007	Archaeological Assessment (Stages 1 and 2) Churchill Valley Estates, Halton Hills, Regional Municipality of Halton, Ontario	Mayer Heritage Consultants Inc.	P040-183-2006

- *Report on the Step 6 Archaeological Investigations in Five Candidate Landfill Sites, City of Brampton and Town of Caledon, Regional Municipality of Peel, Ontario (Volumes 1 & 2).* Prepared by D.R. Poulton and Associates, 1993, PIF 1993-088).

At time of writing the two-volume report was not available for review. The summary below is based instead on information provided in the site record for AkGx-11 and entry in the *Ontario Register of Archaeological Reports* (MTCS 2021a, 2021b). In 1993, D.R. Poulton and Associates conducted Stage 1 and Stage 2 archaeological assessments of the north portion of Lot 14 Concession 6 WHS as one of five candidate landfill sites in Peel Region. This assessment resulted in discovery of a post-contact homestead and possible manufacturing site (AkGx-11, Andrew Dolson Site) approximately 285 m northeast of the current study area's east extent (see Section 2.1.1) (MTCS 2021a). A Stage 3 site-specific assessment was recommended for all sites identified in the report (MTCS 2021b).

- *Archaeological Assessment (Stages 1 and 2) Churchill Valley Estates, Halton Hills, Regional Municipality of Halton, Ontario.* Prepared by Mayer Heritage Consultants Inc. for R.E. Clipsham Limited, January 2007. Project # 03-118 (PIF: P040-183-2006).

In 2006, R.E. Clipsham Limited retained Mayer Heritage Consultants Inc. (MHC) to conduct a Stage 1-2 archaeological assessment for the northern portions of Lots 14 and 15 Concession 11 in Esquesing Township, adjacent to the west of the current study area. The Stage 2 pedestrian survey and test pit excavations identified 16 locations with

pre- and post-contact artifacts and recommended further work for two sites —AjGx-175 and AjGx-176— both over 300 m from the current study area (MHC 2007:17). Stage 3 site-specific archaeological assessment of both sites was conducted in 2015 (Archaeological Assessments Ltd. 2015).

2.1.3 Environmental Context

The study area is situated within the South Slope physiographic region of Ontario (Chapman and Putnam 1984:113). This region encompasses the southern slope of the Oak Ridges Moraine and includes the strip south of the Peel Plain from the Niagara Escarpment to the Trent River (Chapman and Putnam 1984:172). Limestone of the Verulam and Lindsay Formations and shales of the Georgian Bay and Queenston Formations are located within this region (Chapman and Putnam 1984:172).

Soil in the west portion of the study area is Chinguacousy clay loam, a Grey-Brown Podzolic with few stones, a smooth and gently sloping topography, and imperfect drainage. Over the east portion the soil is Oneida clay loam that is also a Grey-Brown Podzolic with few stones but is has a smooth, moderately sloping topography and good drainage (Hoffman & Richards 1953).

One of the most important factors influencing human land use is proximity to water. The *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011) lists water sources as primary indicators of archaeological potential since potable water is critical to human and animal life, and since lakes and waterways have enabled movement of people and goods. In the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), lands within 300 m of an extant or historical primary (lake, river, stream or creek) or secondary (intermittent streams and creeks, springs, marshes, and swamps) water source have potential for the presence of early Indigenous and Euro-Canadian archaeological sites. In the central and east portions of the study area are primary water sources (permanent creeks) that flows south to empty into the Credit River (Appendix A: Figures 2 and 3).

2.2 Historical Context

2.2.1 A Cultural History for Southern and Eastern Ontario

The majority of interpretations of pre-contact Indigenous adaptations in Ontario derive from the analysis and interpretation of stone tools. Stone tools are made from specific types of rocks that fracture in ways that can be controlled, so that they are easily shaped into useful forms. These rocks include chert, chalcedony, quartzite, petrified wood, and volcanic glass, known as obsidian. Most stone tools found in southern Ontario are formed from types of chert that outcrop in local limestone formations, such as: Onondaga and Haldimand cherts, found near the north shore of Lake Erie; Kettle Point chert, which outcrops near Lake Huron; and Collingwood chert, which outcrops along the Niagara Escarpment near Georgian Bay.

Stone tools used as spear tips and arrowheads are the most commonly studied tool type. These are referred to as projectile points. As projectile point technology changed over time, styles and shapes of points changed also. Studying these changing point types has resulted in the development of a chronological framework for pre-contact

times prior to 3,000 years ago, when Indigenous Nations began to make clay pottery. Later periods are defined both by point types and pottery characteristics. Radiocarbon dating of archaeological sites can only be done when organic materials are collected from those sites, so the dating of most sites is done by comparing the artifacts from dated sites to those from undated sites.

The following is an overview of the cultural history of southern and eastern Ontario as understood by archaeologists. It is based upon published syntheses of Indigenous cultural occupations (Wright 1968, Ellis and Ferris 1990, Adams 1994). For additional reference, Ellis and Ferris (1990) provide greater detail of the distinctive characteristics of each time period and cultural group.

The cultural history of southern Ontario began approximately 11,000 years ago when the glaciers had melted, and the land was re-exposed. The land was quickly settled by bands of hunters and gatherers who are thought to have been large game hunters. These people used large spear points that are distinctively shaped with long central grooves, called “flutes”. Archaeologists have defined a number of point types that date to this time, including Gainey, Barnes, Crowfield, and Hi-Lo types. This period is referred to as the Paleo-Period and it is thought to have lasted until approximately 9,000 years ago.

After 9,500 years ago, there was a long period when the climate was variable and the bare lands left by the glaciers were becoming re-forested, resulting in patchier, more diverse ecozones. During this time, which lasted until 3,000 years ago, people were adapting to diverse environmental settings. There appears to have been more reliance on local stone for making tools and more variable tool manufacturing technologies. The adoption of a spear-throwing board, known as an atlatl, was an important innovation, resulting in the ability to throw smaller darts with more force. Projectile points from this period, called the Archaic Period, are commonly side or corner-notched and are smaller than those of the preceding period. The Archaic adaptation is generally thought to have centered on localized resources, often forest resources, and groups of people are thought to have been less mobile, an adaptation that continued to develop until the arrival of Europeans.

In southern Ontario, the Archaic Period is divided into the Early, Middle and Late Archaic. Early point types include serrated Nettling and Bifurcate Base points. Middle types include Brewerton Corner Notched and Otter Creek, and Late types include Lamoka, Genesee, Crawford Knoll, and Innes. Most of these point types are named after archaeological sites where they were first identified.

The Archaic Period is followed by the Woodland Period. The major technological change in the Early Woodland Period is the introduction of pottery. During this time, people are thought to have developed more community organization and the manufacture of clay pottery is thought to indicate less residential mobility. Burial sites dating to this time often display evidence of ceremonial activities. Projectile points made at this time include much smaller types, probably used as arrow tips. Point types include Meadowood and Kramer and early ceramics were rudimentary vessels with conoidal (pointed) bases. The Early Woodland Period transitioned into the Middle Woodland Period approximately 2,400 years ago.

During the Middle Woodland Period in southern Ontario community and kin identity became more deeply entrenched, and more sedentary communities developed. Point types made at this time include Saugeen, Vanport, and Snyders. Ceramic vessels were conoidal in shape but were decorated with stamped designs in the soft clay. The Middle Woodland Period transitioned into the Late Woodland Period A.D. 500–900 with the earliest direct evidence for agriculture.

The Late Woodland Period saw the development of recognizable Iroquoian and Algonquian cultures in southern Ontario, characterized by the intensification of agriculture and the increased utilization of corn. Greater sedentism led to increasing settlement populations and greater complexity of settlement organization. Sites dating to this time are often found on terraces overlooking the floodplains of large rivers. Iroquoian villages tended to be small, palisaded compounds with longhouses occupied by families. As the Late Woodland Period progressed, more intercommunity communication and integration became necessary to maintain the sedentary agricultural way of life. Later Iroquoian villages were larger and more heavily palisaded, and longhouses were larger also. Algonquian settlements tended to be less populous and temporary.

When European explorers and missionaries arrived in southern Ontario in the early seventeenth century, they described the local Iroquoian social organization as being under the direction of elected chiefs. Tribal confederacies and allegiances resulted in intertribal warfare, which was only made worse by the European presence. Three Ontario Iroquoian confederacies, the Huron, Petun, and Neutral, were driven from their traditional territories before the middle of the seventeenth century.

Contact with Europeans changed the Late Woodland way of life at different times and to varying degrees throughout Ontario. Indigenous peoples first acquired European goods indirectly through existing exchange networks, but as European incursions expanded, they accessed a wide range of materials through direct trade. Sites from this transitional period can be difficult to discern from later post-contact occupations, and the introduction of European goods may not have triggered significant social change in Indigenous communities. As European colonization has intensified from the 18th century onwards, Indigenous ways of life have adapted to change in complex and varied ways.

Table 2-4: Simplified cultural chronology of southern and eastern Ontario

Period	Complexes/ Cultures & Diagnostic Artifacts
Early Paleo-Period (9000–8500 B.C.)	Small nomadic hunter-gatherer bands. Early Paleo-Period rarely found in eastern Ontario. Gainey, Barnes, Crowfield fluted points.
Late Paleo-Period (8500–7500 B.C.)	Small nomadic hunter-gatherer bands. Hi-Lo, Holcombe points, Lanceolate Bifaces.

Period	Complexes/ Cultures & Diagnostic Artifacts
Early Archaic (7500–6000/4500 B.C.)	Small nomadic hunter-gatherer bands. Nettling, Stanley/Neville points.
Middle Archaic (6000/4500–2500 B.C.)	Transition to territorial settlements. Seasonal round of subsistence introduced. Thebes (6000–5000 B.C.), Otter Creek points (4500–3000 B.C.). **Brewerton Complex (3000–2500 B.C.)**. Brewerton points. **Laurentian Complex (6000–2500 B.C.)** (Eastern Ontario)
Late Archaic (2500–1000 B.C.)	More numerous territorial hunter- gatherer bands, increasing use of exotic materials and artistic items for grave offerings, regional trade networks. **Narrowpoint Complex (2500–1850 B.C.).** Lamoka points. **Broadpoint Complex (1850–1650 B.C.).** Adder Orchard, Genesee points. **Smallpoint Complex (1650–1000 B.C.).** Crawford Knoll, Innes points. **Terminal Archaic (1100–1000 B.C.)**. Glacial Kame Complex. Hind points.
Early Woodland (1000–400 B.C.)	Pottery introduced. Meadowood Notched points, Meadowood Cache Blades, Kramer, Adena points. **Meadowood Complex (1000–400 B.C.).** **Middlesex Complex (650–400 B.C.).** Introduction of true cemeteries.
Middle Woodland (400 B.C.–A.D. 500/900)	Saugeen, Snyders, Vanport, Port Maitland points. **Point Peninsula Complex** (Southcentral and eastern Ontario) **Saugeen Complex** (Southeast of Lake Huron and the Bruce Peninsula, London area, and possibly as far east as the Grand River) **Couture Complex** (Lake St. Clair and the western end of Lake Erie). Burial ceremonialism.
Transitional Woodland (A.D. 500–900)	Agriculture introduced. Levanna, Jacks Reef points. **Princess Point Complex** (Eastern end of Lake Erie and the western end of Lake Ontario). **Rivière au Vase Phase of the Younge / Western Basin Tradition** (Lake St. Clair and western end of Lake Erie) **Sandbanks Complex** (Kingston area).

Period	Complexes/ Cultures & Diagnostic Artifacts
Late Woodland (A.D. 900–1650)	Tribal differentiation. Transition to settled village life. Dewaele, Glen Meyer Tanged, Triangular Nanticoke, Notched Nanticoke, Triangular Daniels/Madison points. **Ontario Iroquoian and St. Lawrence Iroquoian Traditions** (Southcentral and eastern Ontario, respectively). **Algonkian Western Basin Tradition** (Lake St. Clair and the western end of Lake Erie).
Early Post-Contact (A.D. 1650–1763)	Iroquoian and Algonkian migrations and resettlement during the French colonial regime in New France.
Late Post-Contact (A.D. 1763–1867)	Iroquoian and Algonkian migrations and resettlement during the British colonial regime in British North America.

2.2.2 Review of Historical Records

The study area is within the former Chinguacousy Township, County of Peel. Chinguacousy Township was part of the 648,000-acre Mississauga Tract that had been "purchased" through treaty with the Mississauga Anishinaabeg people on October 28, 1818 (PAMA n.d.). Lieutenant Governor Sir Peregrine Maitland took the name Chinguacousy from the Anishinaabeg word for the Credit River meaning "young pine" (Rayburn 1997:68).

The first land surveys used the "double-front" system, which established concessions from a baseline laid through the centre of the township (today Hurontario Street). This led to naming concessions in relation to Hurontario Street as either east of Hurontario Street (EHS) or west of Hurontario Street (WHS). In the double-front system only the concession roads were surveyed, and their width specified at 66 feet (20 m) wide. Between these and side roads were five lots of 200 acres (80 ha.), each 30 chains wide and 66.7 chains deep. These lots were then divided in half to provide land grants of 100 acres, all of which had road access (Schott 1981).

The earliest Euro-Canadian settlers were primarily second-generation United Empire Loyalists from Niagara, although the area also attracted families from New Brunswick, the United States, and other parts of Upper Canada (Walker & Miles 1877:90). Although the population in 1821 was only 412, in the twenty years this number grew exponentially to 3,965 with many settling in villages such as Brampton and Cheltenham. By 1846 it was reported that Chinguacousy was the "one of the best settled townships in the Township, containing excellent land and many good farms" (Smith 1846:32).

In the 1850s, a combination of failed harvests in Europe and trade routes disrupted by the Crimean War created a market for Canadian wheat producers, then centred in Ontario, to meet global demand. This economy was further strengthened by the 1854 Canadian American Reciprocity Treaty, which prompted farmers to take up livestock

rearing for the export market (Scheinman 2009:6-2). Transporting these products to consumers was aided by the railways, first the Toronto & Guelph line of the Grand Trunk Railway laid in 1856 (which follows the route of the CN line immediately north of the study area) then the Credit Valley Railway in the 1870s. An indication of the township's growth is reflected in the 1877 census, which recorded 6,129 inhabitants (Walker & Miles 1877:90).

Historical mapping was examined for evidence of early Euro-Canadian use of the study area. The 1859 *Tremaine's Map of the County of Peel, Canada West* (Tremaine 1859) indicates that at that time the Lot 14 portion of the study area was owned by Duncan McNicol while the Lot 15 portion was owned by Alex Campbell (Appendix A: Figure 6). Historical features are not illustrated within the study area. The roadway later named Winston Churchill Boulevard is located immediately adjacent to the southwest extent of the study area, and the "Grand Trunk Railway" line is adjacent to the north boundary of the study area. What is probably the south terminal of the Norval railway station is adjacent to the west corner of the study area.

By the time the 1877 *Illustrated Historical Atlas of the County of Peel* (Pope 1877) was published the southern Lot 14 portion of the study area was owned by Jonathan Orr and a house, orchard and large outbuilding are depicted immediately south of the study area. The northern Lot 14 portion of the study area was owned by Andrew Dolson, but there are no features illustrated within the study area; a house, outbuilding complex, and orchard is drawn north of the rail line. The Lot 15 portion of the study area was owned by the "Estate of Jonathan Shaw" and although there are no features illustrated within the study area, what is probably the Norval railway station (a north terminal is no longer present) is adjacent to the west corner of the study area. Once again, the roadway that became Winston Churchill Boulevard is located immediately adjacent to the southwest extent of the study area, and the "G.T.R." line is adjacent to the north boundary of the study area (Appendix A: Figure 7).

2.2.3 Historical Plaques

Section 1.3.1 of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:18) lists as features or characteristics of archaeological potential the areas of early Euro-Canadian settlement, such as early military or pioneer settlements, farmsteads, isolated cabins, wharfs or docks, churches and cemeteries. Other features or characteristics of archaeological potential listed in Section 1.3.1 include: early historical transportation routes (trails, passes, roads, railways, portage routes); properties listed on a municipal register or designated under the *Ontario Heritage Act*; federal, provincial, or municipal historic landmarks or sites; and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. Since these places may be commemorated with local, provincial, or federal monuments or heritage parks, a search of relevant local inventories and registries was conducted.

There are no historical plaques located within a 1 km radius of the study area (OHT 2021).

2.3 Additional Information

2.3.1 Disturbed Areas

Archeoworks' 2017 Stage 1 background study of the west portion of the study area determined that the gravel-surfaced area had been subjected to extensive and deep land alterations in 2009 that had severely damaged the integrity of any archaeological resources (Archeoworks 2017a:22). Archeoworks later confirmed this disturbance through a property inspection conducted as part of the Stage 1 archaeological assessment (Archeoworks 2017a:22).

2.3.2 McNichol's Cemetery

To collect further information and determine the current status of the McNichol Cemetery, Wood contacted Dr. Crystal Forrest, Registrar, *Funeral, Burial and Cremation Services Act* (FBCA) at the Ministry of Public and Business Service Delivery (MPBSD) and Michael D'Mello, Deputy Registrar and the Bereavement Authority of Ontario (BAO) on 29 November 2021 and 1 December 2021, respectively. Dr. Forrest reported that there was no information at the MPBSD, but Mr. D'Mello reported that the BAO had record of the cemetery, summarized in Table 2-5 (MPBSD 2021; BAO 2021; Supplementary Documentation, Section 3).

Table 2-5: BAO Database Entry, McNichol's Cemetery

Name	Licensed Site No.	Location	Operator
McNichol's Cemetery	03171	Lot 14, Concession 6, W.H.S. 1 43R-38709	Bramwest Development Corporation

The BAO also informed Wood that it would review the database and paper files to see if there is a survey or other maps available for the cemetery (BAO 2021; Supplementary Documentation, Section 3). The result of this search was not available at time of writing.

Wood also contacted the City of Brampton for further information on the cemetery. On 6 December 2021, Assistant Heritage Planner Merissa Lompart provided the following description via email from the City's files:

> McNichol [sic] Cemetery is located 367 metres west from Heritage Road along the CNR railway tracks and is approximately 1026 metres from Winston Churchill Road. It has undergone extensive changes since its establishment and is now virtually unrecognizable as a cemetery. The grave memorials were relocated to Alloa Cemetery during the 1970s and their bases were moved off the land in the mid 2000s; there are virtually no visible traces of the cemetery left today.
>
> The subject property is the site of a mid-19th century family cemetery which was used by the McNichol family. The land on which the cemetery is situated was first owned and farmed by a Scottish pioneer named Archibald McNichol. He and his wife Barbara McNichol, née Bethun, also from Scotland, settled in Chinguacousy early in the 19th century. Archibald McNichol served as a Town Officer for

Chinguacousy at least twice, in 1822 and 1824; in 1824, he served alongside another notable resident, John Lynch.

After his death in 1845, Archibald left the land to his son Duncan McNichol. His will reads:

"*He [Archibald McNicol] did will and bequeath to his eldest son Duncan McNicol all his houses and land situated in the township of Chinguacousy in the home district and province aforesaid being lot No 13 and 14 in the sixth concession of Chinguacousy west of Hurontario Street being four hundred acres more or less reserving one half acre on Lot No 14 for a family burying ground which burying ground he willed and desired to be properly fenced and enclosed*."

Duncan McNichol married Susan Dolson, of the prominent Dolson family in Peel, on January 24, 1854. The couple had four known children, three of whom survived and one of whom, Archibald McNichol, died in infancy. According to the 1921 obituary of his broth Andrew, Duncan McNichol ran a harness business on the property following his father's passing.

A man named Johnathan Bird, whose family moved to Canada in 1870, recounted his impression of the McNichol farm in a letter in William Perkins Bull's files. On the land was a large, pine house which was surrounded by lean-to blacksmith, harness, carpenter, and shoemaker shops. The outbuildings and barn were sizeable as well. The cemetery itself was 200 yards from the buildings to the southwest. Bird suspected that the buildings were constructed from the trees that once stood on the land. All the buildings are gone now; the cemetery is the only aspect left of the farm. The cemetery appears to have been used only during the time that the McNichols owned the property.

Around the time that his wife died, Duncan McNichol left Chinguacousy Township for the United States. Andrew Dolson, the brother of Susan Dolson, and his family lived on the land during the latter half of the 19th century, as is evidenced by the Peel County Atlas from 1877. The property has since changed hands many times. It continued to be farmed up until the early 2000s after which the land was sold to the Bramwest Development Corporation.

Due to significant changes to the cemetery's landscape over the past 150 years, including the removal of the grave memorials, only the records of William Perkins Bull can provide accurate information on who was buried in McNichol cemetery. He recorded the grave memorials of four individuals: Angus McCloud (presumably a farmhand), Archibald McNichol (who died at 6 months old), Archibald McNichol senior (father of Duncan McNichol), and Barbara McNichol (who died at 3 days old). The grave memorials, now located at Alloa Cemetery, are all marble tablets. They are fairly well preserved, although weathering has caused the elder Archibald's memorial to be nearly unreadable with the exception of word 'Scotland' near the bottom. The memorials themselves have been moved but the bodies are still buried in the cemetery proper. Since the McNichols owned the land for a number of decades, there is a possibility that more individuals could be buried in the cemetery than were recorded on the grave memorials (City of Brampton 2021; Supplementary Documentation, Section 3).

2.4 Potential for Archaeological Resources

Archaeological potential is defined in the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011:163) as the likelihood a study area contains archaeological resources. In land use planning, identifying archaeological potential is used to determine where sites may be found within a study area, and indicate whether time and resources will need to be allocated for archaeological survey and mitigation.

The features and characteristics indicating archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011):

- previously identified archaeological sites;
- water sources (it is important to distinguish types of water and shoreline, and to distinguish natural from artificial water sources, as these features affect site locations and types to varying degrees):
    - primary water sources (e.g., lakes, rivers, streams, creeks);
    - secondary water sources (e.g., intermittent streams and creeks, springs, marshes, swamps);
    - features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches); and,
    - accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh).
- elevated topography (e.g., eskers, drumlins, large knolls, plateaus);
- pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground;
- distinctive land formation that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings;
- resource areas, including:
    - food or medicinal plants (e.g., migratory routes, spawning areas, prairie);
    - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert); and,
    - early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining).
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and cemeteries. There may be commemorative markers of their history, such as local provincial, or federal monuments or heritage parks;
- early transportation routes (e.g., trails, passes, roads, railways, portages); and,

- property listed on a municipal register or designated under the Ontario Heritage Act or that is a federal, provincial or municipal historic landmark or property that local histories or informants have identified with possible archaeological sites, historical events, activities or occupations.

The Standards and Guidelines for Consultant Archaeologists (MTCS 2011) also outline where archaeological potential can be determined not to be present. These can include areas that are permanently wet or have exposed bedrock or steep slopes, as well as where an area that has undergone extensive and deep land alterations that may have severely damaged the integrity of any archaeological resources (MTCS 2011:28, 18). These latter areas have often been "disturbed" through:

- quarrying
- major landscaping involving grading below topsoil
- building footprints
- sewage and infrastructure development.

However, activities such as agricultural cultivation, gardening, minor grading, and landscaping do not necessarily affect archaeological potential (Section 1.3.2, MTCS 2011:28, 18).

The study area is primarily agricultural, with the western-most portion a gravel-surfaced parking and depot. An unnamed tributary of the Credit River flows south through the centre of the study area, and there is a field boundary that is oriented northwest-southeast in the eastern portion. The topography is generally smooth, rising gradually to the southeast and descending toward to the east and west toward the creek.

Of the several features used to assess the potential for Indigenous archaeological resources, the study area has a primary natural water source (an unnamed permanent tributary of the Credit River) that runs south through the centre of the study area. Although no Indigenous sites with CHVI have been registered within the study area or within a 300 m radius of the study area, one pre-contact Indigenous findspot (Heritage Layover P1 Site) was identified within a 300 m radius of the study area (Archeoworks 2017b) and the study area includes well-drained land and a flat topography that would have been conducive to human settlement in the pre-contact period.

Per the MTCS *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011), any areas within 300 m of early Euro-Canadian settlement and 100 m of early transportation routes have archaeological potential. In addition to the historical period registered archaeological site within the study area (AjGx-267, Heritage Layover H1), there are two registered archaeological sites (AjGx-268, Heritage Layover H2; AjGx-11, Andrew Dolson) within 300 m of the study area. As shown in the 1877 historical atlas mapping, a farmstead with house, orchard, and outbuilding is depicted south of the central portion of the study area (Appendix A: Figure 6). The study area is also directly adjacent on the southwest to Winston Churchill Boulevard, a roadway established during the initial land surveys in the early 19th century, and on the north the study area is directly adjacent to the former route of the Toronto and Guelph Railway, which opened in 1856 under the Grand Trunk Railway.

Areas that have been disturbed by modern activities, both extensive and intensive, have low potential for the recovery of archaeological resources. As assessed through Stage 1 archaeological assessment with property inspection in 2017 (Archeoworks 2017a), the western extent of the study area was disturbed through extensive and deep land alterations when creating the parking and depot area. This would have involved major landscaping involving grading below topsoil that severely damaged the integrity of any archaeological resources.

Permanently wet areas and areas of steeply sloping ground also have low potential for the recovery of any archaeological resources. Following the creek in the centre portion of the study area is land that is both permanently wet and steeply sloping.

Given the above, background research supports the conclusion that the undisturbed portions of the study area exhibit general archaeological potential for the presence of pre-and-post contact archaeological resources.

However, the entire study area was previously assessed through Stage 1 and Stage 2 archaeological assessment between 2005 and 2017 (ASI 2005, Archeoworks 2014a, 2014b, 2017a, 2017b, 2017c) (Appendix A: Figure 5). In 2017, a Stage 2 property assessment identified post-contact site AjGx-267 in the central portion of the study area, which was recommended for Stage 3 site-specific assessment (Archeoworks 2017b) (Supplementary Documentation, Section 1: Figure 9). Although only the 27 m by 35 m area in the central portion of the study area associated with AjGx-267 is recommended for Stage 3 site-specific assessment by Archaeoworks (Archeoworks 2017b), on the request of the MTCS, the east and central portions of the study area are indicated in Appendix A: Figure 8 to require Stage 3 site-specific assessment since the entire property parcel is considered to have archaeological concern.

3.0 Stage 1 Property Assessment

3.1 Methods

Since the study area has been the subject of five previous and recent archaeological assessments, an optional property inspection was not conducted for this Stage 1 archaeological assessment.

3.2 Documentary Record

An inventory of documentary records compiled as part of this assessment is provided in Table 3-1.

Table 3-1: Inventory of documentary record

Study area	Maps & photographs	Field notes
Part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), former Township of Chinguacousy, County of Peel, now City of Brampton, Regional Municipality of Peel	Copies of 2 historical maps and 1 aerial photograph	Not applicable

Documentation related to the archaeological assessment of this project will be curated by Wood until such time that arrangements for their ultimate transfer to Her Majesty the Queen in Right of Ontario, or other public institution, can be made to the satisfaction of the project owner, the MTCS and any other legitimate interest groups.

4.0 Stage 1 Analysis and Conclusions

The Stage 1 background study indicated that the study area has general archaeological potential for the following reasons: 1) one registered archaeological site (AjGx-267, Heritage Layover H1) is located within the study area, two registered archaeological sites (AjGx-268, Heritage Layover H2; AjGx-11, Andrew Dolson) are within 300 m of the study area, and an unmarked historical-period cemetery (McNichol's Cemetery) is adjacent to the study area, providing direct evidence that this general area had been intensively used in the post-contact period; 2) three primary natural water sources (unnamed tributaries of the Credit River) cross the central, east, and west portions of the study area; 3) the study area has a flat topography and well drained soils conducive to human inhabitation; 4) the 1877 historical atlas map depicts a farmstead with residence, outbuilding, and orchard within the study area; and, 5) the study area is adjacent to the early historical transportation route of Winston Churchill Boulevard, laid out in the early 19th century surveys, and the Toronto & Guelph Railway, established in 1856.

The Stage 1 background study also determined that the entire study area (100%, 7.2 ha) was previously assessed (Appendix A: Figure 5 and Figure 8). The north portion of the study area was assessed through Stage 1 archaeological assessment in 2006 (Archaeological Services Inc. 2006; PIF # P057-165), and the east portion assessed for Stage 1 archaeological assessment by Archeoworks Inc. (Archeoworks) in 2014 (Archeoworks 2014; PIF#P334-210-2012). In 2017, Archeoworks assessed the central and southwest portion as part of a Stage 1 archaeological assessment (Archeoworks 2017a; PIF# P390-0181-2016). All assessments concluded areas within the current study area had archaeological potential and recommended Stage 2 property assessments.

Stage 2 pedestrian survey by Archeoworks of approximately 1.6 ha in the east portion of the study area in 2014 identified a post-contact artifact scatter (H2) but determined it to have no further CHVI and recommended no further archaeological assessment. The 2014 survey also evaluated approximately 0.04 ha in the east portion of the study area to be permanently wet and exempt from further Stage 2 assessment (Archeoworks 2014b:20) (Appendix A: Figure 8).

In 2017, Stage 2 pedestrian survey in the central and southwest portions of the study area conducted by Archeoworks identified archaeological site AjGx-267 (Heritage Layover H1) as a surface scatter of 31 post-contact artifacts covering an area approximately 35 m by 27 m (Archeoworks 2017b:22; PIF # P390-0215-2016) (Supplementary Documentation, Section 1: Figure 9). Approximately 100 m south of the current study area, the Stage 2 pedestrian survey also identified the archaeological site AjGx-268 (Heritage Layover H2), a surface scatter of 649 post-contact artifacts over a 60 m by 50 m area (Archeoworks 2017b:22) (Supplementary Documentation, Section 1: Figure 9).

Archeoworks' pedestrian survey of the approximately 4.2 ha in the remainder of the central and southwest portions of the study area did not identify any other archaeological resources. Similarly, no archaeological resources were found during Archeoworks' test pit survey of approximately 0.3 ha in the east and central portions of

the study area. Based on these results, no further archaeological assessment was recommended for these portions of the study area (Archeoworks 2017b:21) (Appendix A: Figure 8). Field inspection of the study area as part of the Stage 2 property assessment also determined that: 1) approximately 0.3 ha in the west portion of the study area was previously disturbed and required no further archaeological assessment, 2) approximately 0.5 ha of central portions of the study area were permanently wet and required no further archaeological assessment, and 3) an approximately 0.1 ha section of the central portion of the study area had steep slopes (greater than 20 degrees) and required no further archaeological assessment (Archeoworks 2017b:20-21).

Most recently, a Stage 3 site-specific assessment by Archeoworks approximately 18 m east of the study area defined the limits of the McNichol's Cemetery, a small pioneer burial ground with five unmarked graves (Archeoworks 2017c; PIF # P390-0191-2016) (Supplementary Documentation, Section 1: Figure 9). For both AjGx-267 and AjGx-268, Archeoworks determined the sites to have further cultural heritage value or interest and recommended Stage 3 site-specific assessments (2017b:29-31). For the McNichol's Cemetery, Archeoworks recommended that a staked boundary that includes a 5-m buffer zone around the known grave shaft locations be established, and this perimeter be fenced (Archeoworks 2017c:15).

The results and recommendations from previous studies and this Stage 1 archaeological assessment are provided in Section 6.0 and illustrated in Appendix A: Figure 8 and Supplementary Documentation, Section 1: Figure 9. On the request of the MTCS, the east and central portions of the study area are indicated as requiring Stage 3 site-specific assessment since the entire property parcel is considered to have archaeological concern; however, as illustrated in Supplementary Documentation, Section 1: Figure 9, only the 27 m by 35 m area in the central portion of the study area associated with AjGx-267 is recommended for Stage 3 site-specific assessment by Archeoworks (Archeoworks 2017b).

5.0 Indigenous Engagement

A draft of this report was shared with the following potentially interested communities:

- Six Nations of the Grand River (SNGR)
- Mississaugas of the Credit First Nation (MCFN)
- Haudenosaunee Development Institute (HDI)
- Huron-Wendat Nation (HWN)

Feedback received from Indigenous Nations is summarized in the Supplementary Documentation: Section 5 accompanied by this report. The information provided in the Supplementary Documentation reflects community perspective shared as part of the engagement with Indigenous Nations for this report.

6.0 Recommendations

Based on the results of this Stage 1 archaeological assessment of the study area, the following recommendations are made, subject to the conditions outlined below and in Section 7.0:

1) The previous recommendations by Archeoworks (2017b:29-30) for Stage 3 site-specific assessment for AjGx-267 remain in effect. These are:

   a. The Stage 3 AA [archaeological assessment] should be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy

   b. Since the intensified Stage 2 CSP [controlled surface pickup] survey with GPS recording meets the requirements of Section 3.2.1 of the 2011 S&G [*Standards and Guidelines for Consultant Archaeologists*], a further Stage 3 CSP is not necessary. Therefore, the Stage 3 AA must commence with the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the Stage 2 CSP), followed by test unit excavation.

   c. The primary goal is to determine any patterning within the site, to ensure that a larger site sample is generated in case of a lack of features, and to determine site extent prior to mechanical topsoil stripping. Given that the level of cultural heritage value or interest is evident that the aforementioned site will result in a recommendation for Stage 4 mitigation of development impacts, the excavation of a series of one metre by one metre test units in a 10 metre grid across the site within the established grid must be pursued, in accordance with the methodology outlined in Section 3.2.3, Table 3.1, Standard 3 of the 2011 S&G (MTCS, 2011), in order to gather larger sample of artifacts and determine the nature and extent of the cultural deposit. Furthermore, additional test units, amounting to 40% of the grid unit total, need to be excavated, focusing on areas of interest within the site extent (Section 3.2.3, Table 3.1, Standard 4 of the 2011 S&G).

   d. All test units must be excavated into five centimetres of subsoil, unless cultural features are encountered, and all excavated soil will be screened through six millimetre wire mesh to facilitate artifact recovery. The sterile subsoil must be trowelled and all soil profiles examined for undisturbed cultural deposits. If test unit excavation uncovers a cultural feature, the exposed plan of the feature must be recorded, and geotextile fabric is to be placed over the unit floor prior to backfilling the unit.

   e. A thorough photographic record of on-site investigations must be maintained. Finally, a report documenting the methods and results of excavation and laboratory analysis, together with an artifact inventory, all necessary cartographic and photographic documentation must be produced in accordance with the licensing requirements of the MTCS

f. No construction activities shall take place within the study area prior to the MTCS Archaeology Programs Unit confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

2) Archaeological Site AjGx-268 (Heritage Layover H2) is within 300 m the current study area but since it is not anticipated to be impacted by the Project, no further archaeological assessment of Site AjGx-268 is required as part of the Project.

a. However, if the study area boundaries of the Project change and work in an expanded study area will avoid the AjGx-268 (Heritage Layover H2) site area and an additional 20 m no-go buffer —but is between 20 m and 70 m of the site area— the following actions are recommended:

i. Retain a licensed archaeologist to conduct archaeological construction monitoring for work done between 20 m and 70 m from the site area;

ii. Erect a temporary barrier around the site area to be avoided;

iii. Depict the area to be avoided on all applicable contract drawings and provide clear instructions to avoid the area;

iv. Issue “no go” instructions to all on-site construction crews and personnel during construction.

b. If work in in an expanded study area cannot avoid AjGx-268 (Heritage Layover H2) and a 20 m no-go buffer, the previous recommendations by Archeoworks (2017b:30-31) for Stage 3 site-specific assessment remain in effect. These are:

i. This site is considered to have significant cultural heritage value and interest; a comprehensive Stage 3 AA must be undertaken, in accordance with the 2011 S&G, prior to any intrusive activity that may result in the destruction or disturbance to the archaeological site documented in this assessment. The Stage 3 AA should be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy, if required.

ii. Since the intensified Stage 2 CSP survey with GPS recording meets the requirements of Section 3.2.1 of the 2011 S&G, a further Stage 3 CSP is not necessary. Therefore, the Stage 3 AA must commence with the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the Stage 2 CSP), followed by test unit excavation.

iii. The primary goal is to determine any patterning within the site, to ensure that a larger site sample is generated in case of a lack of features, and to determine site extent prior to mechanical topsoil stripping. The Stage 3 AA must commence with a Stage 3 CSP

survey with GPS recordings and meet the requirements of Section 3.2.1 of the 2011 S&G, followed by the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the Stage 2 findspots and Stage 3 CSP), and then test unit excavation.

iv. Given that the level of cultural heritage value or interest is not evident that the aforementioned site will result in a recommendation for Stage 4 mitigation of development impacts, the excavation of a series of one metre by one metre test units in a five-metre grid across the site within the established grid must be pursued, in accordance with the methodology outlined in Section 3.2.3, Table 3.1, Standard 1 of the 2011 S&G (MTCS, 2011), in order to gather larger sample of artifacts and determine the nature and extent of the cultural deposit. Furthermore, additional test units, amounting to 20% of the grid unit total, need to be excavated, focusing on areas of interest within the site extent (Section 3.2.3, Table 3.1, Standard 2 of the 2011 S&G).

v. Should it become evident during the course of the Stage 3 AA that the level of cultural heritage value or interest will result in a recommendation to proceed to Stage 4, the Stage 3 AA test unit strategy may be amended to the excavation of one metre square test units on a 10 metre grid across the site, in accordance with the methodology outlined in Section 3.2.3, Table 3.1, Standard 3 of the 2011 S&G (MTCS, 2011). Furthermore, additional test units, amounting to 40% of the grid unit total, need to be excavated, focusing on areas of interest within the site extent (Section 3.2.3, Table 3.1, Standard 2 of the 2011 S&G).

vi. All test units must be excavated into five centimetres of subsoil, unless cultural features are encountered, and all excavated soil will be screened through six millimetre wire mesh to facilitate artifact recovery. The sterile subsoil must be trowelled and all soil profiles examined for undisturbed cultural deposits. If test unit excavation uncovers a cultural feature, the exposed plan of the feature must be recorded, and geotextile fabric is to be placed over the unit floor prior to backfilling the unit.

vii. A thorough photographic record of on-site investigations must be maintained. Finally, a report documenting the methods and results of excavation and laboratory analysis, together with an artifact inventory, all necessary cartographic and photographic documentation must be produced in accordance with the licensing requirements of the MTCS.

viii. No construction activities shall take place within the study area [including AjGx-268] prior to the MTCS (Archaeology Programs

Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

3) If not already addressed, the previous recommendations by Archeoworks (2017c:15) for Stage 3 site-specific assessment for McNichol's Cemetery remain in effect. These are:

   a. Erect a new fence line around the cemetery using the staked limits as a minimum periphery (a perimeter was staked around the cemetery limits, including a minimum buffer zone of five metres past the furthest identified grave shaft), in order to ensure long-term protection of the cemetery. Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits.

The recommendations listed above are subject to review by the Ministry of Tourism, Culture and Sport. It is an offence to alter any portion of the study area without concurrence from the Ministry of Tourism, Culture and Sport.

No development or site alteration (including, but not limited to, grading, excavation or the placement of fill that would change the landform characteristics) is permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved (Government of Ontario 2020:31).

7.0 Advice on Compliance with Legislation

a. This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part IV of the *Ontario Heritage Act*, R.S.O. 1990, c O.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

b. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such a time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the *Ontario Public Register of Archaeological Reports* referred to in Section 65.1 of the *Ontario Heritage Act*.

c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

d. The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the local police or coroner and the Registrar, *Funeral, Burial and Cremation Services Act* at the Ministry of Public and Business Service Delivery.

e. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

8.0 Assessor Qualifications

This report was prepared and reviewed by the undersigned, employees of Wood. Wood is one of North America's leading engineering firms, with more than 50 years of experience in the earth and environmental consulting industry. The qualifications of the assessors involved in the preparation of this report are provided in Appendix B.

9.0 Closure

This report was prepared for the exclusive use of Metrolinx and is intended to provide a Stage 1 archaeological assessment of the study area. The property is legally described as part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), former Township of Chinguacousy, County of Peel, now City of Brampton, Regional Municipality of Peel, Ontario.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from Wood will be required. With respect to third parties, Wood has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The report is based on data and information collected during the Stage 1 background study conducted by Wood. It is based solely a review of historical information and data obtained by Wood as described in this report. Except as otherwise maybe specified, Wood disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Wood after the time during which Wood conducted the archaeological assessment. In evaluating the property, Wood has relied in good faith on information provided by other individuals noted in this report. Wood has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the current owner/occupant. Wood accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Wood makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

This report is also subject to the further Standard Limitations contained in Appendix C.

We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Respectfully Submitted,

Wood Environment & Infrastructure Solutions Canada Limited

Prepared by,



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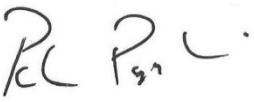
Senior Staff Archaeologist

Reviewed by,



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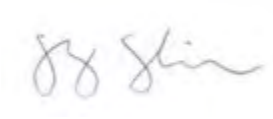

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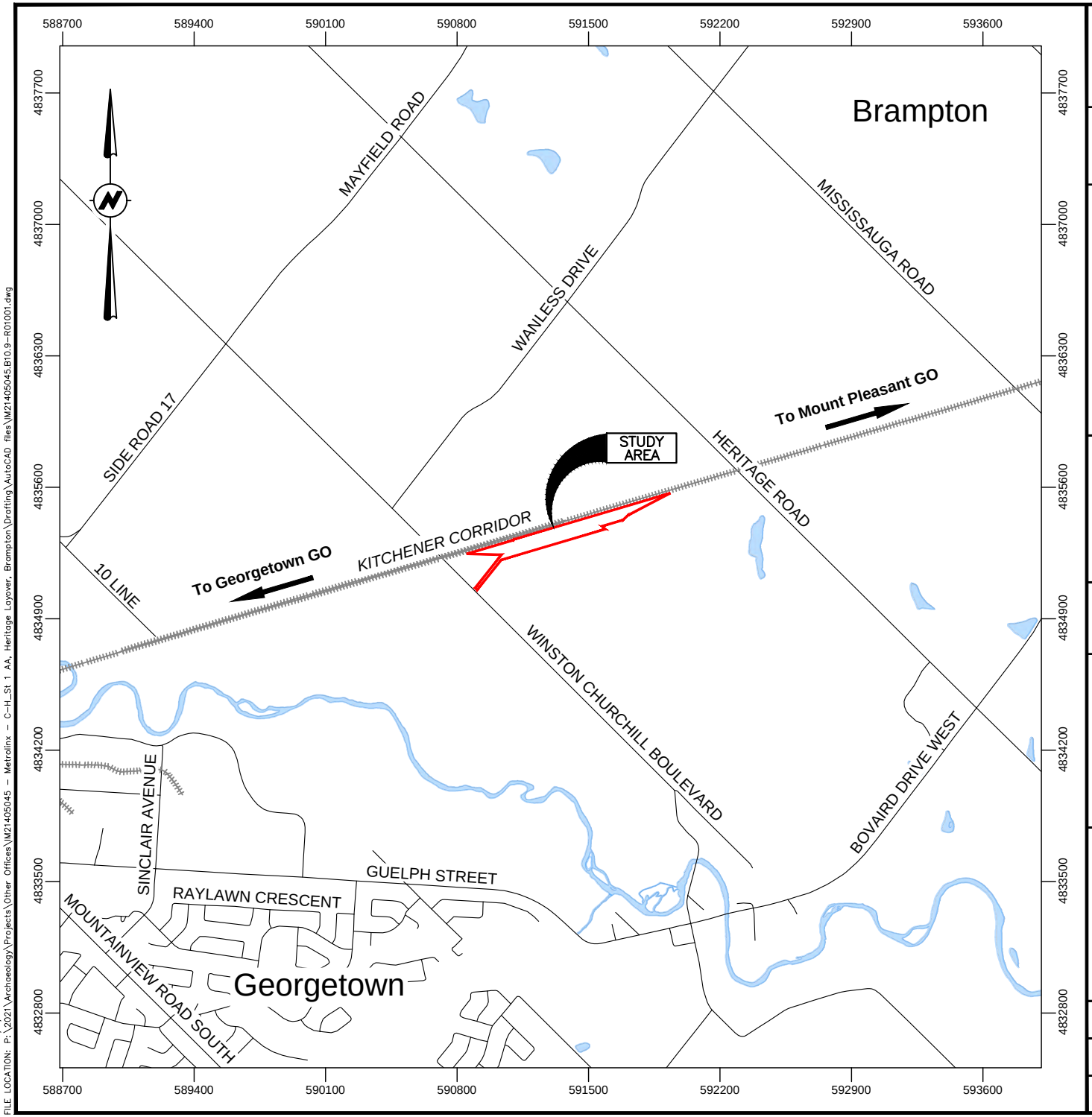
Appendix A

Figures



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STAGE 1 ARCHAEOLOGICAL ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:
LOCATION OF THE STUDY AREA

LEGEND:
PROJECT STUDY AREA

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TORONTO, ONTARIO, M5V 2X4

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Environment & Infrastructure Solutions
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905-335-2353

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WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

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AERIAL PHOTOGRAPH SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:
- PROJECT STUDY AREA

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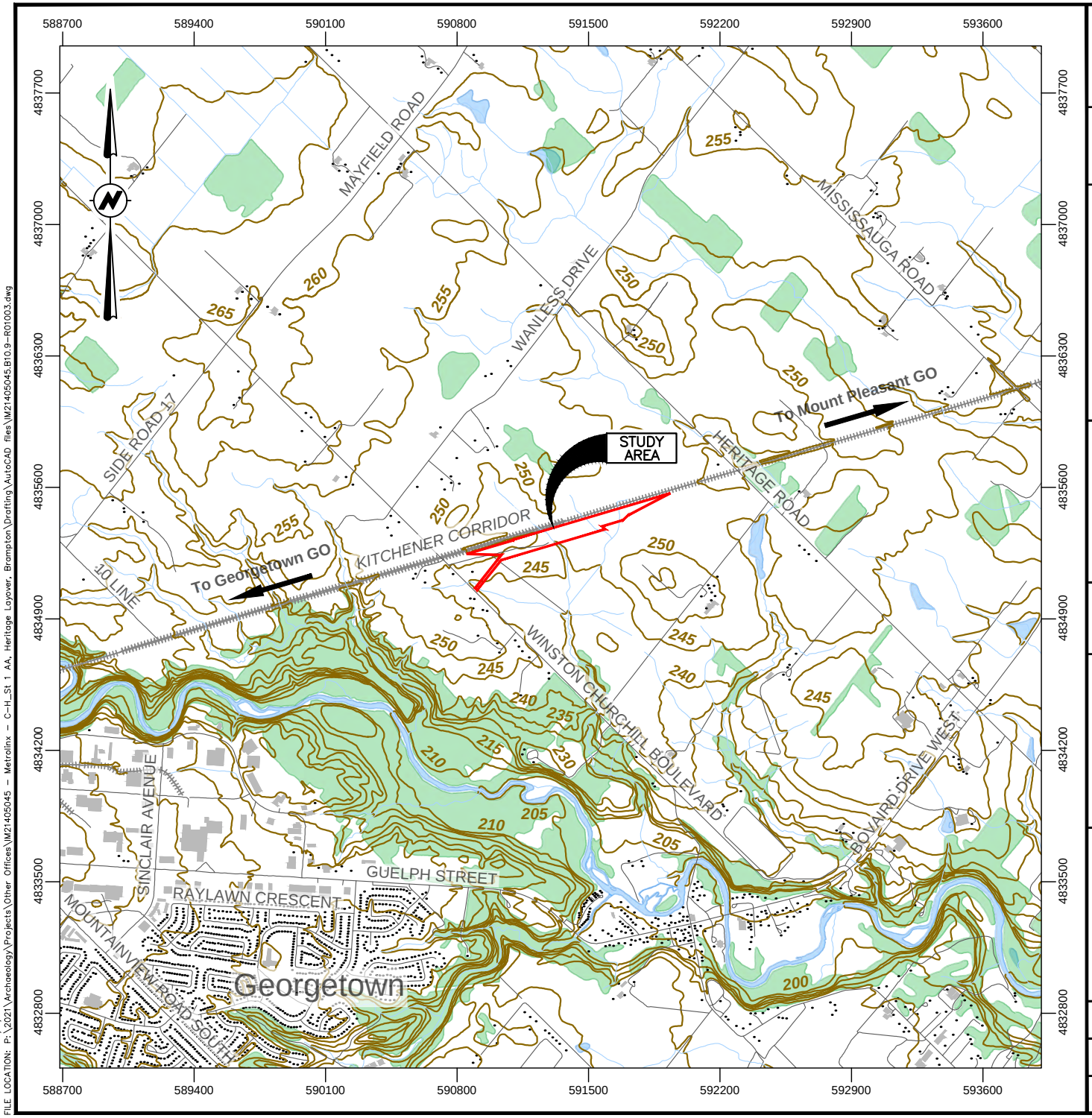

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STAGE 1 ARCHAEOLOGICAL ASSESSMENT
PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:
TOPOGRAPHIC MAP SHOWING THE
LOCATION OF THE STUDY AREA

LEGEND:
PROJECT STUDY AREA

NOTES:
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Environment & Infrastructure Solutions
3450 HARVESTER ROAD, SUITE 100
BURLINGTON, ONTARIO, L7N 3WS
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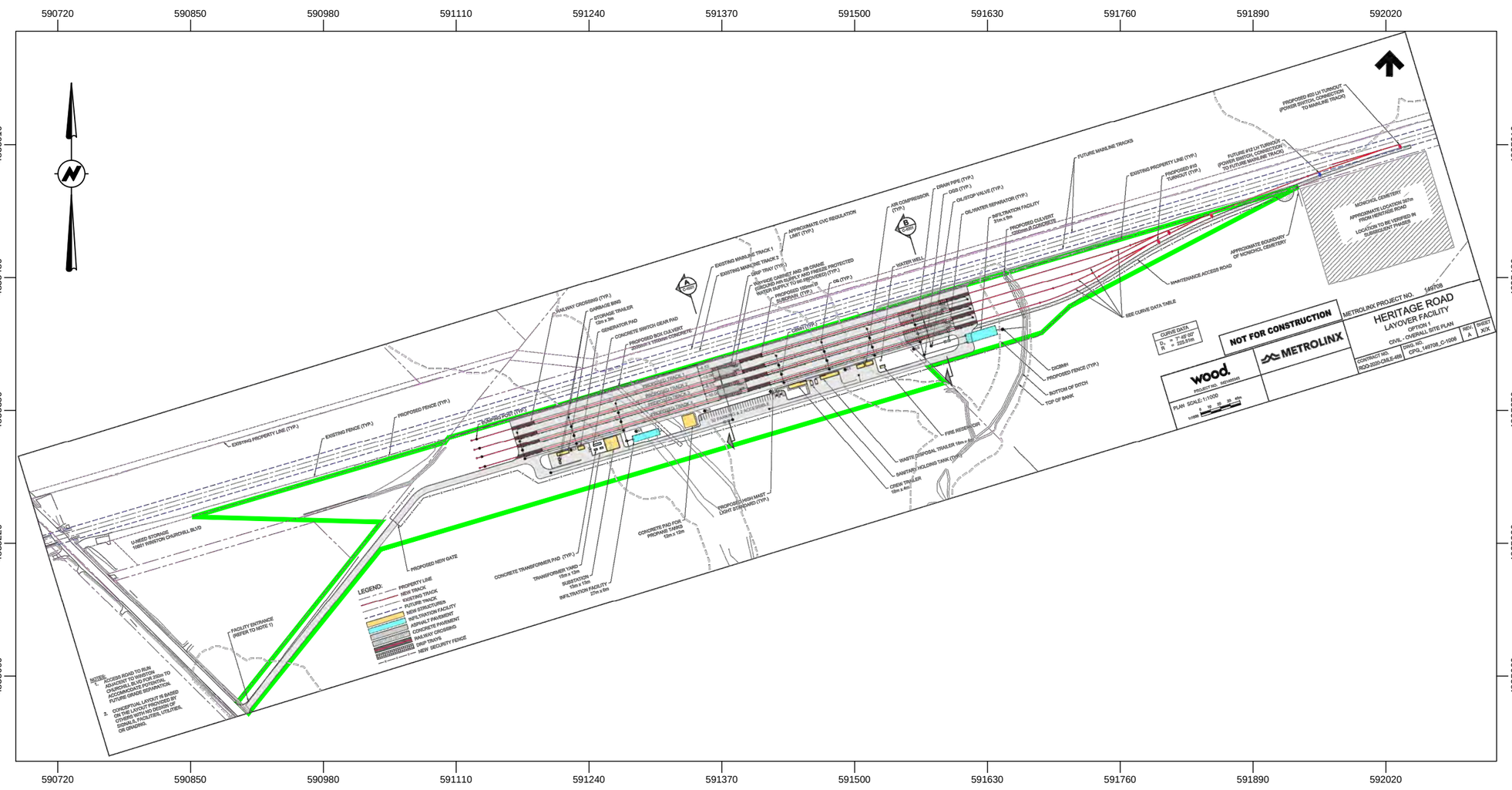

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FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

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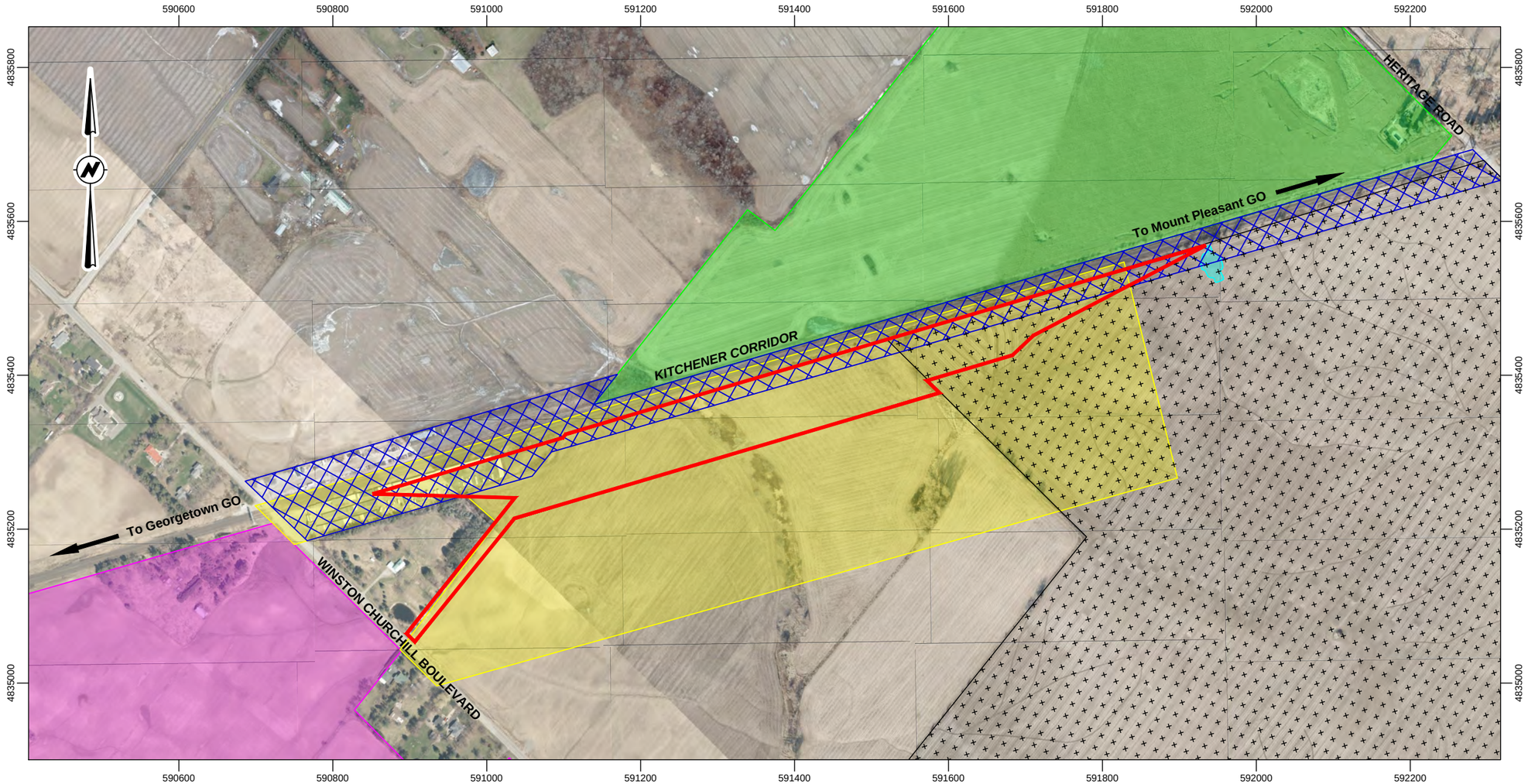

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PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:
PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS WITHIN THE STUDY AREA AND WITHIN 50m OF THE STUDY AREA

LEGEND:

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- STAGE 1 & 2 ARCHAEOLOGICAL ASSESSMENT (PIF P040-183-2006; MAYER, 2007)
- STAGE 1 ARCHAEOLOGICAL ASSESSMENT (PIF P334-210-2012; ARCHEOWORKS, 2014a) & STAGE 2 ARCHAEOLOGICAL ASSESSMENT (PIF P029-846-2013; ARCHEOWORKS, 2014b)
- STAGE 1 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0181-2016; ARCHEOWORKS, 2017a) & STAGE 2 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0215-2016; ARCHEOWORKS, 2017b)
- STAGE 3 CEMETERY INVESTIGATION (PIF P390-0191-2016; ARCHEOWORKS, 2017c)

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Wood
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3450 HARVESTER ROAD, SUITE 100
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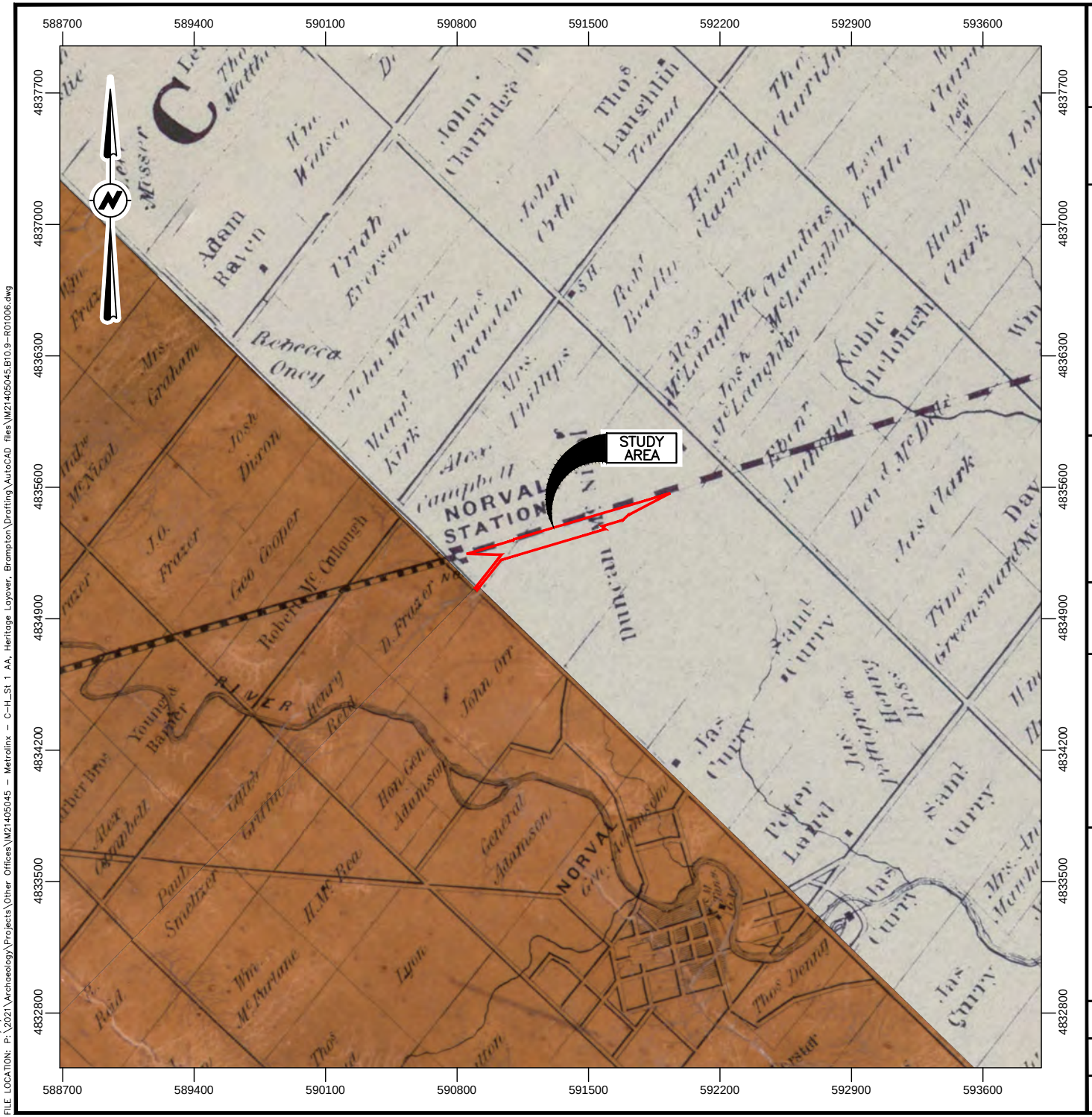

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PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
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NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

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LEGEND:

PROJECT STUDY AREA

NOTES:

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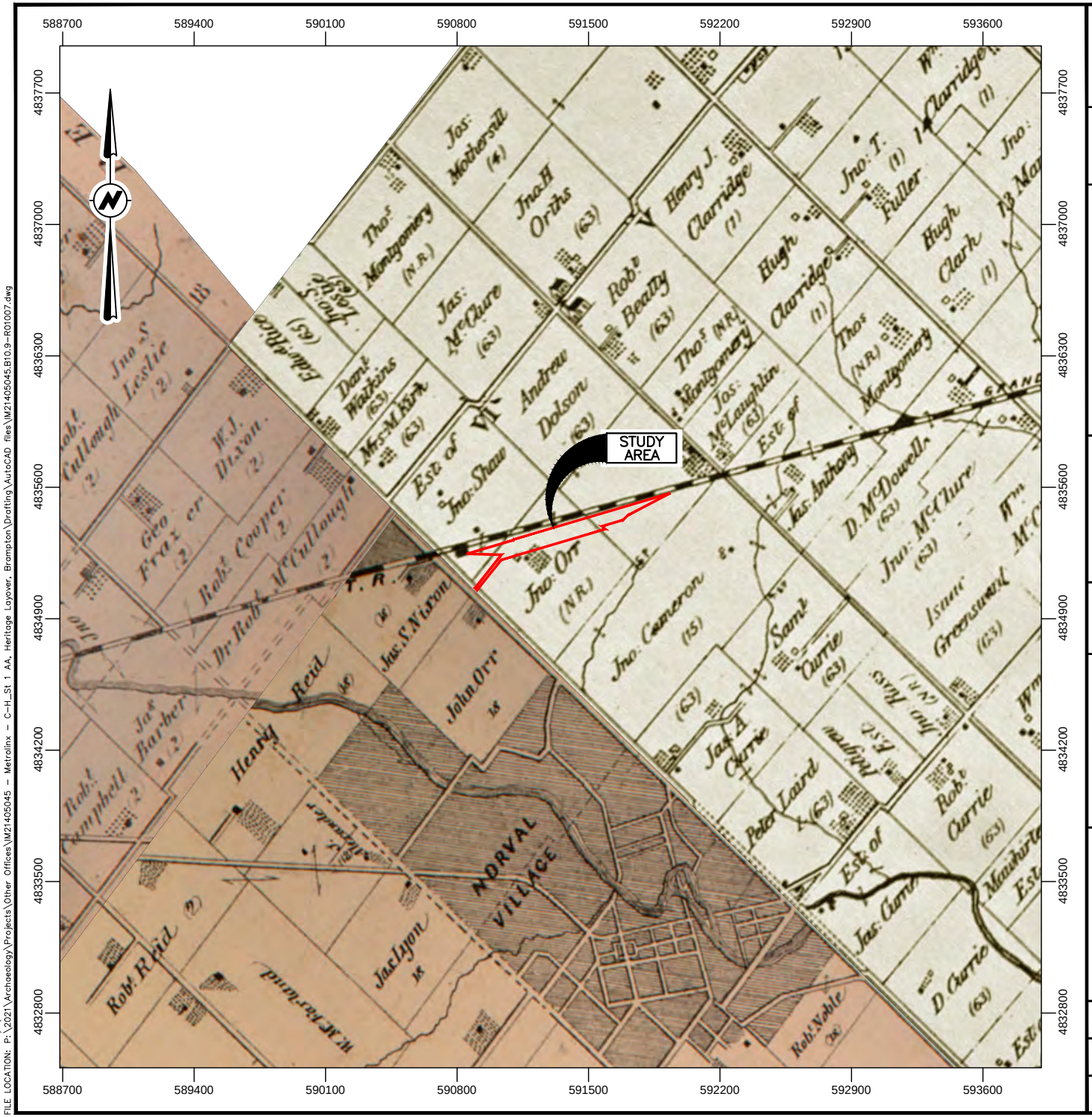

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FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

TITLE:
1877 ILLUSTRATED HISTORICAL ATLAS
OF THE COUNTY OF PEEL SHOWING
THE LOCATION OF THE STUDY AREA

LEGEND:

PROJECT STUDY AREA

NOTES:

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TORONTO, ONTARIO, M5V 2X4

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PART OF LOTS 14 AND 15, CONCESSION 6
WEST OF HURONTARIO STREET (WHS)
FORMER TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL
NOW CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL, ONTARIO

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- STAGE 1 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0181-2016; ARCHEOWORKS, 2017a) & STAGE 2 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0215-2016; ARCHEOWORKS, 2017b) - PEDESTRIAN SURVEYED AT 2m INTERVALS: RECOMMENDED FOR STAGE 3 ARCHAEOLOGICAL ASSESSMENT (ARCHAEOLOGICAL SITE AjGx-267)
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- STAGE 1 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0181-2016; ARCHEOWORKS, 2017a) & STAGE 2 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0215-2016; ARCHEOWORKS, 2017b) - STEEPLY SLOPED TOPOGRAPHY: NO FURTHER ASSESSMENT REQUIRED
- STAGE 1 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0181-2016; ARCHEOWORKS, 2017a) & STAGE 2 ARCHAEOLOGICAL ASSESSMENT (PIF P390-0215-2016; ARCHEOWORKS, 2017b) - DISTURBED: NO FURTHER ASSESSMENT REQUIRED
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- STAKED LIMITS OF McNICHOL CEMETERY (INCLUDES A MINIMUM 5m BUFFER ZONE FROM THE FURTHEST IDENTIFIED GRAVE SHAFTS)

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Appendix B

Assessor Qualifications

Assessor Qualifications

Henry Cary, Ph.D., CAHP, RPA, Senior Staff Archaeologist (P327) - Dr. Henry Cary has over 20 years of public and private-sector experience directing archaeological and cultural heritage projects in urban, rural, Arctic and Sub-Arctic environments in Canada as well as the Republic of South Africa, Italy, and France. His career has included positions as project archaeologist and cultural resource management specialist for Parks Canada's Fort Henry National Historic Site Conservation Program and Western Arctic Field Unit, Heritage Manager for the Town of Lunenburg UNESCO World Heritage Site, and senior-level archaeologist and cultural heritage specialist for CH2M and Golder Associates. He holds a **Professional Archaeology Licence (P327)** issued by the Ontario Ministry of Tourism, Culture and Sport, is Ministry of Transportation Ontario RAQs-approved in Archaeology/Heritage and is a member of the Canadian Association of Heritage Professionals (CAHP) and Register of Professional Archaeologists (RPA). His education includes a B.A. (with distinction) in Prehistoric Archaeology and Anthropology from Wilfrid Laurier University, an MA in Historical Archaeology from Memorial University, and a Ph.D. in War Studies from the Royal Military College of Canada. Currently, Henry also holds academic positions as Adjunct Professor in the Anthropology Department at Saint Mary's University and as lecturer of archaeology in the Classics and Visual & Material Culture departments at Mount Allison University.

Peter Popkin, Ph.D., CAHP, MCIfA, Associate Archaeologist (P362) – Dr. Popkin is an Associate Archaeologist at Wood. Peter has over 20 years of professional experience in both consulting and academic archaeology within Canada and internationally. In Ontario he has successfully undertaken consultant archaeology projects triggered by: the *Planning Act* (subdivisions, site plans, re-zoning, official plan amendments, consent), the *Environmental Assessment Act* (individual and Class EAs, provincial and federal EAs), the *Environmental Protection Act* (Renewable Energy Approvals *O.Reg 359/09*), as well as the *Aggregates Resources Act* (aggregate pit extensions), and has managed projects under the *National Energy Board Act* (now the *Canadian Energy Regulator Act*). Dr. Popkin has lectured in archaeology at York University, the University of Toronto and Wilfrid Laurier University in Ontario, as well as University College London, King's College London, and Birkbeck College, in the UK. Dr. Popkin holds a **Professional Archaeology Licence (P362)** from the Ontario MTCS, is a Professional Member of the Canadian Association of Heritage Professionals (CAHP) and is a full Member of the Chartered Institute for Archaeologists (MCIfA). Dr. Popkin received his Ph.D. from the Institute of Archaeology, University College London, London, UK (2009).

Barbara Slim, M.A., CAHP, Associate Archaeologist, Ontario Archaeology Discipline Lead (P348) – Ms. Slim is a professionally licensed archaeologist with over 17 years of experience in the archaeology and environmental consulting industry. Ms. Slim has conducted all aspects of Stage 1 to 4 archaeological assessments for provincial agencies, municipalities, and land developers in support of infrastructure developments, financial real estate transactions, environmental remediation and private developments. As a founding member of the Wood Ontario archaeology team, Ms. Slim has performed every aspect of project execution, from client relations, project design to

MTCS clearance. Through her project experience, Ms. Slim has gained an in-depth understanding of the *Heritage Act* and legislations & standards associated with cultural heritage management. Ms. Slim holds a Master's Degree in Anthropology from Trent University and an Honours Bachelor's Degree in Environmental Studies and Anthropology from Trent University. Ms. Slim currently holds a Professional Archaeology Licence (P348) issued by the Ontario MTCS, is RAQs Certified in Archaeology/Heritage and is a member of the Ontario Association of Professional Archaeologists and Canadian Association of Heritage Professionals (CAHP).

Appendix C

Limitations

Limitations

1) The work performed in the preparation of this report and the conclusions presented are subject to the following:

   a. The Standard Terms and Conditions which form a part of our Professional Services Contract;

   b. The Scope of Services;

   c. Time and Budgetary limitations as described in our Contract; and,

   d. The Limitations stated herein.

2) No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.

3) The conclusions presented in this report were based, in part, on visual observations of the Study Area. Our conclusions cannot and are not extended to include those portions of the Study Area which were not reasonably available, in Wood Environment & Infrastructure's opinion, for direct observation.

4) The potential for archaeological resources, and any actual archaeological resources encountered, at the Study Area were assessed, within the limitations set out above, having due regard for applicable heritage regulations as of the date of the inspection.

5) Services including a background study and fieldwork were performed. Wood Environment & Infrastructure's work, including archival studies and fieldwork, were completed in a professional manner and in accordance with the Ministry of Tourism, Culture and Sport guidelines. It is possible that unforeseen and undiscovered archaeological resources may be present at the Study Area.

6) The utilization of Wood Environment & Infrastructure's services during the implementation of any further archaeological work recommended will allow Wood Environment & Infrastructure to observe compliance with the conclusions and recommendations contained in the report. Wood Environment & Infrastructure's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.

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Appendix H

Traffic and Transportation Existing Conditions and Impact Assessment – Heritage Road Layover

Heritage Road Layover
Traffic Impact Assessment

Project # IM21405045

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

August 2022

Heritage Road Layover
Traffic Impact Assessment

Project # IM21405045

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August 18, 2022

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Document Revision History

Version	Date	Description
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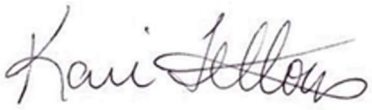
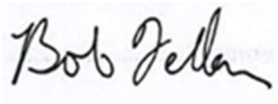
Rev 1	April 22, 2022	Revised to address REV0 comments
Rev 2	April 27, 2022	Revised to add Appendix D (formerly Appendix K)
Rev 3	July 4, 2022	Revised to address GRT Review Comments
Rev 4	August 18, 2022	Final

Prepared by:	Kari Fellows, P.Eng., PTOE, RSP_1		Date: August 17, 2022
Reviewed by:	Bob Felker, BES, MCIP, RPP		Date: August 17, 2022
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Executive summary

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union Station to Bramalea GO Station and 15-minute peak service and 30-minute off peak and counter-peak service for stations between Bramalea GO Station and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Wood PLC (Wood) has been retained by Metrolinx to complete the Heritage Road Layover Project Transit Project Assessment Process and Detailed Layover Facility Design project on the Halton Subdivision.

Traffic and Transportation Existing Conditions and Impact Assessment have been covered in this report. The Traffic Impact Assessment (TIA) report meets all requirements needed for MECP approval throughout the planning, design, and construction of the project.

The traffic impact Study Area covers 11 intersections including the proposed site access to Heritage Road Layover facility and analyzed for the following time horizons:

- Existing Year (2022).
- Opening Year (2025); and
- Ultimate Horizon Year (2030).

Traffic operations were assessed for the weekday morning and weekday afternoon peak hours for the existing year. The analysis results indicate minor to moderate operating problems at the intersections of Winston Churchill Boulevard & Guelph Street, Heritage Road & Wanless Drive, and Heritage Road & Bovaird Drive.

Future traffic forecasts included planned development of the Mount Pleasant Heights Precinct (MP) and the Mississauga Road South Precinct (MS) of the Heritage Heights Secondary Plan area, which are expected to be built out by 2025 and 2030, respectively. A 2% annual increase in future background traffic was also applied.

The Region of Peel and City of Brampton have widening plans within the timeline for the study for Mississauga Road, Mayfield Road, Bovaird Drive, Wanless Drive, and Heritage Road in the Study Area. These widenings will relieve or reduce some of the existing operating problems and accommodate future trips to be generated by the Heritage Heights development. The Region of Halton has completed the *Norval West Bypass Transportation Corridor Improvements – Municipal Class EA Study*, which addresses travel patterns and capacity constraints for the intersection of Winston Churchill Boulevard and Guelph Street. A preferred road alignment concept for a route around this intersection has been developed and is expected to be constructed in 2026. The new route will provide a Highway 7 bypass of the community of Norval for motorists not destined for the community. Details of the

connection are not known at this time.

Traffic operation for the Heritage Road Layover opening year 2025 with proposed development and programmed road improvements in place would be significantly better than existing operation, with problems at the intersection of Winston Churchill Boulevard and Guelph Street remaining but expected to be addressed by the Region of Halton Norval West Bypass following its 2026 construction. For the proposed development and road improvements identified for 2030, conditions are expected to be better than existing for intersections in the study area.

Vehicle trips to and from the Heritage Road Layover will be relatively low, with 20 or fewer total (including inbound and outbound) trips during each of the weekday morning and weekday afternoon peak hours. The facility's operation will have a negligible impact on the road network. The access will operate acceptably with single lane approaches.

Total traffic volumes forecast for 2025 and 2030 are not expected to result in queues extending from Study Area intersections to the rail crossings on Winston Churchill Boulevard, Heritage Road, or Mississauga Road. Queues from the rail crossings are not expected to extend to nearby intersections either, although in 2030, the northbound queue on Winston Churchill Boulevard may extend nearly to the proposed site access when long freight trains cross.

The proposed site access is acceptable from the perspective of available sight distance. There is a crest vertical curve on Winston Churchill Boulevard at the rail crossing which limits the available sight distance from the access to approximately 284 metres (m) toward the north. This exceeds stopping sight distance (140 m) and minimum decision sight distance (240 m) for a design speed of 80 kilometres per hour (km/h). This design speed is conservative, allowing a factor of safety of 20 km/hr over the speed limit of 60 km/hr. Desirable decision sight distance is 320 m, which is not available to the north from the access. If desired, the road authority can post an intersection warning sign north of the rail crossing for southbound traffic approaching the access.

The construction of the layover facility consists of five (5) stages. Construction shifts would begin and end outside of the peak periods for commuter traffic and will have minimal impact on traffic movements along Winston Churchill Boulevard during peak hours. Construction truck traffic will deliver fill, granular material, rails, and ties to the site. Daily volumes of trucks are expected to be less than 20 trucks per day during construction, and this estimate will be refined as the design proceeds. No direct adverse traffic impacts are expected to occur to 10827 Winston Churchill Boulevard, or 10746 Winston Churchill Boulevard, the two Cultural Heritage Resources within proximity of the Project Site, during construction and operation of the Heritage Road Layover facilities, and specifically the construction and operation of the site access road that enters from Winston Churchill Boulevard.

Construction traffic management plans will be firmed up at later stages in the project. At this time, except for short term lane closures of less than a day that may be required to facilitate large trucks entering and exiting the site, construction related road closures are not expected. Coordination schedules for the

reconstruction project for Winston Churchill Boulevard and the Heritage Road Layover overlap, therefore coordination will be required between the two projects.

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List of acronyms and abbreviations

Acronym	Description
CHR	Cultural Heritage Resource
CN	Canadian National Railway
HCM	Highway Capacity Manual
HHSP	Heritage Heights Secondary Plan
ITE	Institute of Transportation Engineers
km	kilometre
km/h	kilometre per hour
LOS	Level of Service
m	metre
MP	Mount Pleasant Heights Precinct
MS	Mississauga Road South Precinct
MTO	Ontario Ministry of Transportation
O.Reg	Ontario Regulation
The Project	Heritage Road Layover
TAC	Transportation Association of Canada
TPAP	Transit Project Assessment Process
v/c	Volume to Capacity Ratio
vph	Vehicles per hour
Wood	Wood Environment & Infrastructure Solutions Canada Limited

1.0 Introduction

Metrolinx is proposing to expand its facilities along the Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover, the Heritage Road Layover (the Project), is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service from Union Station to Bramalea GO Station, and 15-minute peak service and 30-minute off peak and counterpeak service for stations between Bramalea GO and Mount Pleasant GO stations, with an opportunity to expand to two-way all-day service to Georgetown GO Station) and consolidate the operational needs associated with frequent inner service to optimize operations planning for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) trains consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under Ontario Regulation (O.Reg.) 231/08, Transit Project and Metrolinx Undertakings for the proposed Project. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Project is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

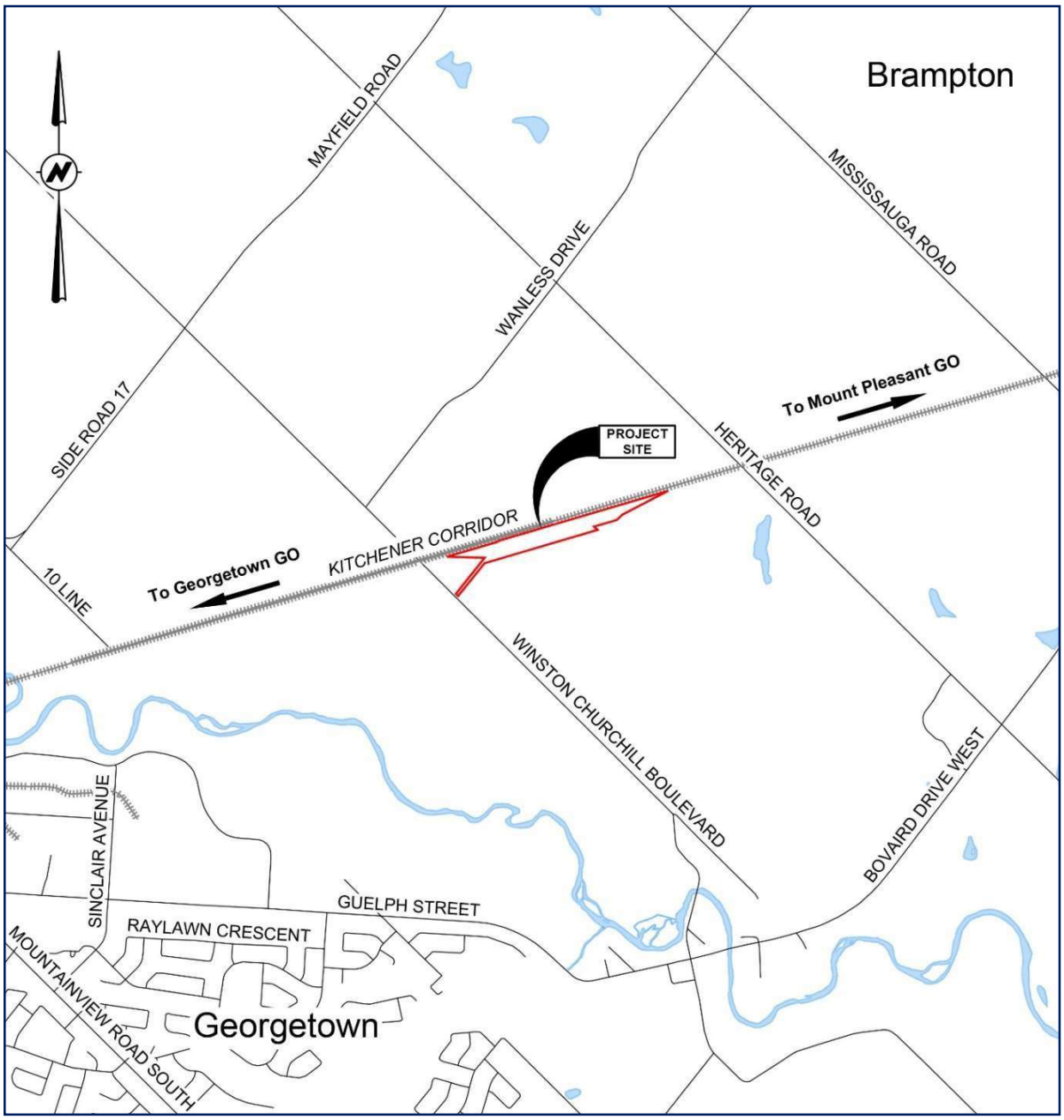

Figure 1-1: Project Location

1.2 Scope of Work

Wood has been retained by Metrolinx to complete the Heritage Road Layover TPAP and Detailed Layover Facility Design Project on the Halton Subdivision. As part of this work a review of available transit operations (i.e., GO Transit, VIA Rail, etc.), traffic information, and impact of the layover facility have been assessed. The proposed scope of work for Traffic and Transportation Existing Conditions and Impact Assessment are outlined below. This Traffic Impact Assessment (TIA) report meets all requirements needed for MECP approval throughout planning, design, and construction of the project.

The specific scope of work includes the following:

- A Transportation and Traffic Impact Analysis for road closures and impact to existing transit operations. (i.e., GO Transit, CP VIA Rail, if applicable, Brampton Transit, etc.).
- Detailed capacity and operational analysis using the Synchro 11 software to assess existing and future conditions during the weekday AM and weekday PM peak hours. The analyses were based on the Highway Capacity Manual (HCM; Transportation Research Board, 2000) and results include delay, Level of Service (LOS), volume / capacity (v/c) ratios, and queue lengths.
- Establish and demarcate all locations of construction ingress and egress ("construction haul routes") on the drawings.
- Identify all construction laydown areas and identify how these areas will impact the flow of traffic around the sites.

1.3 Study Area

The Study Area is bounded by Mayfield Road to the north, Winston Churchill Boulevard to the south, Mississauga Road to the east and Bovaird Drive West to the west. The Study Area intersections were selected based upon identifying major roads around the perimeter of the site.

The Study Area intersections are included in Figure 1-2 and in Table 1-1 along with the jurisdiction responsible for each intersection.

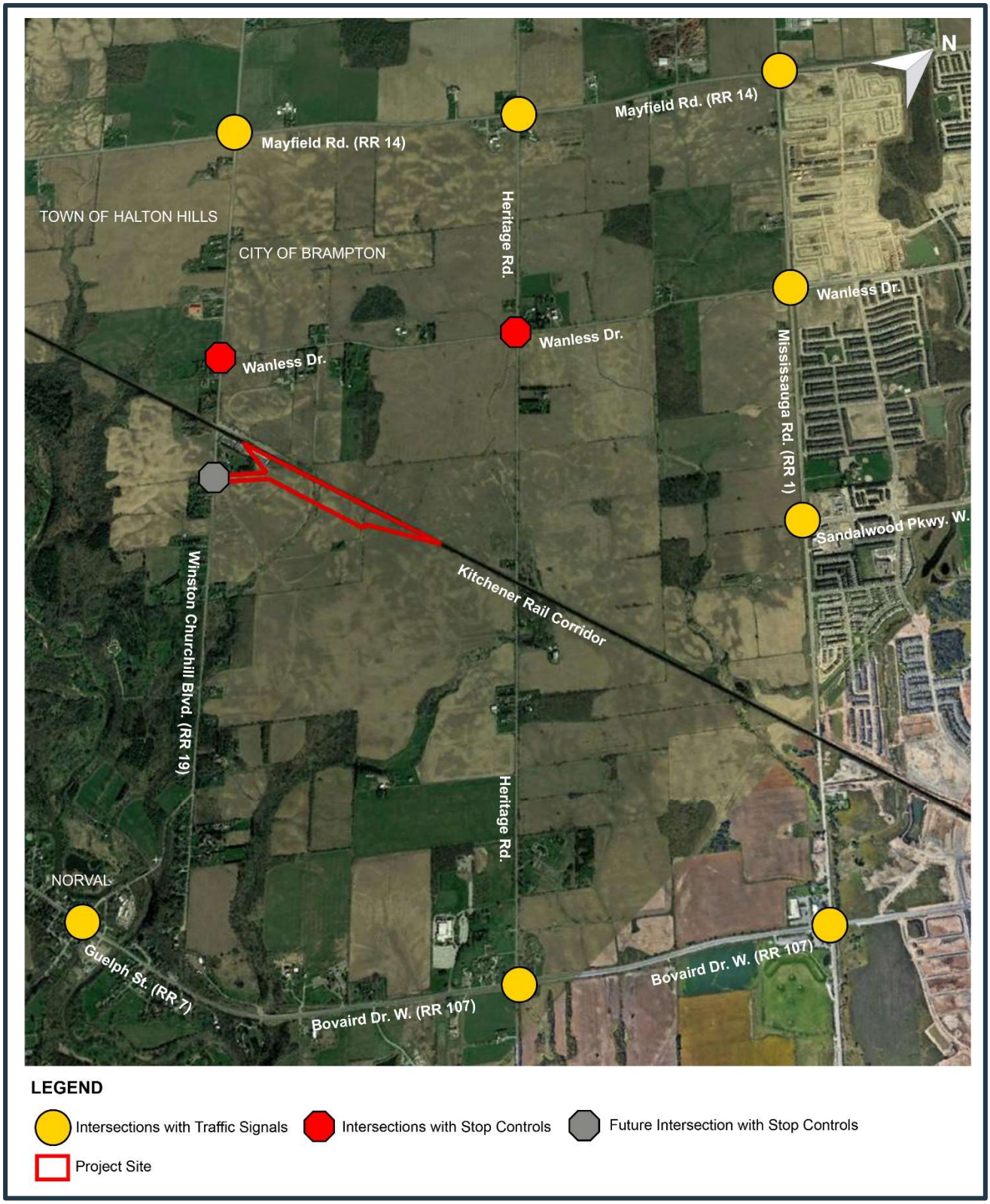

Figure 1-2: Study Area Intersections

Table 1-1: Study Area Intersections

Road Name	Jurisdictions
Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19)	Peel Region / Halton Region
Mayfield Road (Regional Road 14) @ Heritage Road	Peel Region
Mayfield Road (Regional Road 14) @ Mississauga Road (Regional Road 1)	Peel Region
Winston Churchill Boulevard (Regional Road 19) @ Wanless Drive	Peel Region / Halton Region
Wanless Drive @ Heritage Road	City of Brampton
Wanless Drive @ Mississauga Road (Regional Road 1)	Peel Region
Mississauga Road (Regional Road 1) @ Sandalwood Parkway West	Peel Region
Guelph Street (Highway 7) @ Winston Churchill Boulevard (Regional Road 19)	Peel Region / Halton Region
Bovaird Drive West (Regional Road 107) @ Heritage Road	Peel Region
Bovaird Drive West (Regional Road 107) @ Mississauga Road (Regional Road 1)	Peel Region
Winston Churchill Boulevard (Regional Road 19) @ Heritage Road Layover Facility (Site Access)	Peel Region/Halton Region

1.3.1 Heritage Properties Within the Study Area

There are three Cultural Heritage Resources (CHRs) identified in the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Appendix F of the Environmental Project Report) within the Study Area. The three CHRs are identified in Figure 1-3.

The McNichol Cemetery (CHR1) is small familial burial plot location on the east side of the Project Site and west of Heritage Road. While there are virtually no visible traces of the cemetery left today, the remains of the buried individuals have not been removed from the property. Fencing has been erected around the cemetery by the property owner. A Stage 3 Archaeological Assessment (AA) was completed in 2017 and more information is available in the Stage 1 Archaeological Assessment Report (Appendix G of the Environmental Project Report). The cemetery is listed on the City of Brampton Heritage Register and its Heritage Designation is in process.

10827 Winston Churchill Boulevard (CHR2) was identified by several previous reports as being built between 1954 and 1973 and an example of a mid-19th century, two-storey, timber-frame, vernacular Georgian Style house. It is set back from the east side of Winston Churchill Boulevard with a long driveway and contains mature trees lining the portions of the road frontage and north and east property boundaries. It is directly

adjacent to the Project Site and proposed access road. The access to this heritage property is approximately 70 meters from the proposed Heritage Layover site access. The heritage property currently has a residential building and low traffic volumes.

10746 Winston Churchill Boulevard (CHR3) is a Victory style structure constructed during the mid-20th century based on the historical map review and architectural style. It is set back considerably from the street and is lined on both sides by mature trees. The house is located on the west side of Winston Churchill Boulevard about 110 m from the Project Site and is surrounded by houses of varying age. The access to this property is approximately 70 meters from the proposed Heritage Layover site access, on the opposite side of Winston Churchill Boulevard and has low traffic volumes due to the residential use.

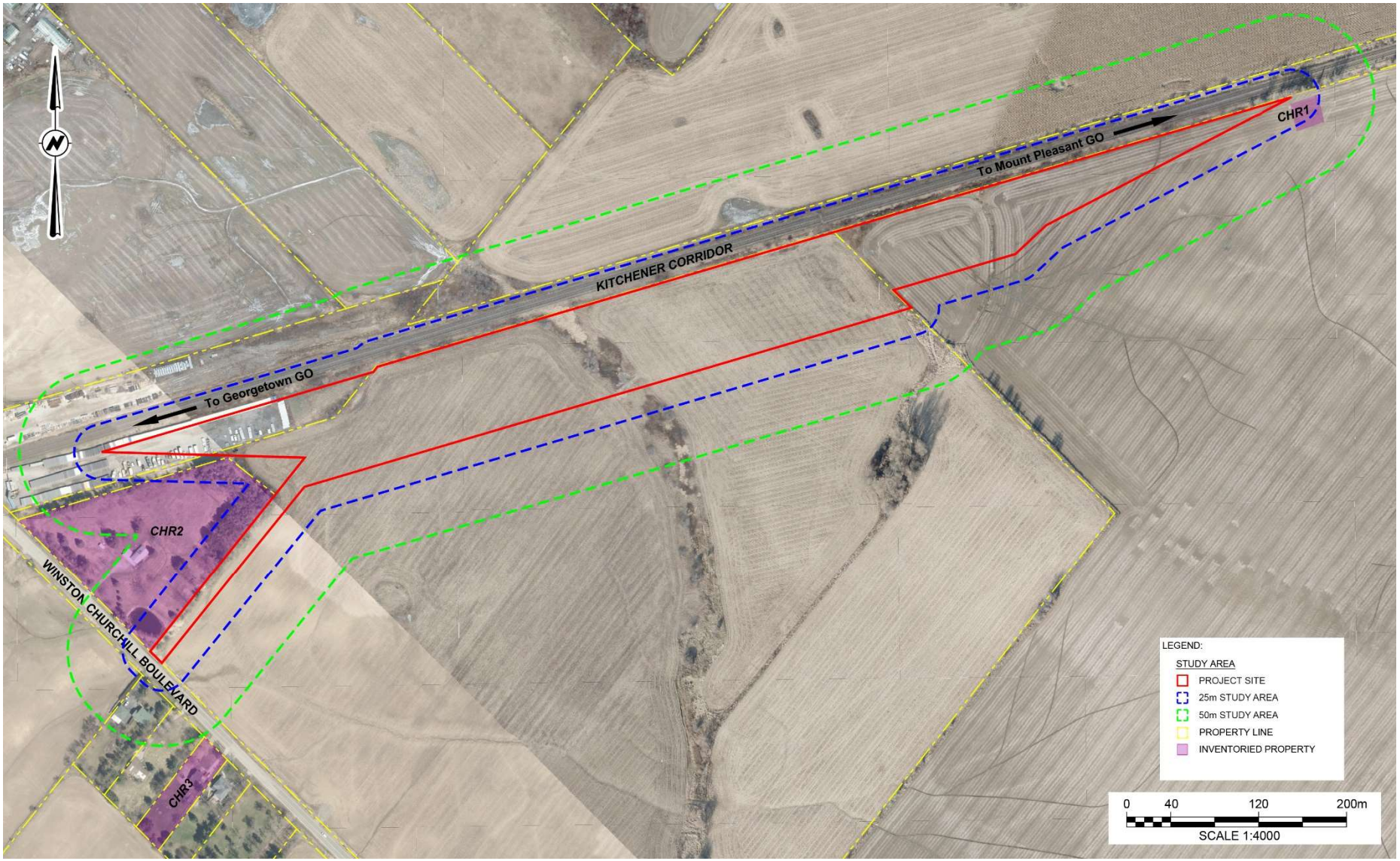

Figure 1-3: Cultural Heritage Properties within the Study Area for the Cultural Heritage Report

1.4 Data Collection

Recent existing traffic volumes were provided by area road authorities for most of the study intersection. Location and count date for data used in the study are summarized in Table 1-2.

Table 1-2: Turning Movements Counts Summary

Intersection	Control Type	Count Date
Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19)	Traffic Signal	Thursday, April 26, 2018
Mayfield Road (Regional Road 14) @ Heritage Road	Traffic Signal	Wednesday, September 30, 2020
Mayfield Road (Regional Road 14) @ Mississauga Road (Regional Road 1)	Traffic Signal	Thursday, October 3, 2019
Winston Churchill Boulevard (Regional Road 19) @ Wanless Drive	Stop Control for Wanless Drive	Wednesday, October 7, 2020
Wanless Drive @ Heritage Road	All-Way stop control	Thursday, May 31, 2018
Wanless Drive @ Mississauga Road (Regional Road 1)	Traffic Signal	Tuesday, October 20, 2020
Mississauga Road (Regional Road 1) @ Sandalwood Parkway West	Traffic Signal	Wednesday, October 7, 2020
Guelph Street (Highway 7) @ Winston Churchill Boulevard (Regional Road 19)	Traffic Signal	Wednesday, September 11, 2019
Bovaird Drive West (Regional Road 107) @ Heritage Road	Traffic Signal	Turning Movements Estimated
Bovaird Drive West (Regional Road 107) @ Mississauga Road (Regional Road 1)	Traffic Signal	Thursday, February 15, 2018
Winston Churchill Boulevard (Regional Road 19) @ Heritage Road Layover Facility (Site Access)	Future (Stop control for Site access)	Not Applicable

Turning movement volumes were reviewed, adjusted to reflect the current year, and balanced to account and adjust for any underestimation of traffic volumes collected during COVID-19 pandemic restrictions.

1.5 Guidelines, Standards and Policies

The following guidelines and standards were referred to in the preparation of this report:

- City of Brampton Transportation Master Plan, 2015, specifically for the future road network and transit routes/network (subject to confirmation from the City that future road network and transit network plans are still applicable).
- Heritage Road Layover Preliminary Site Plan.
- Peel Region's major road improvements in the vicinity of the Study Area for the next 10 years
- Transportation Research Board Highway Capacity Manual, 6th Edition and Highway Capacity Manual 2000.
- City of Brampton Traffic Impact and Parking Study Terms of Reference 2019.
- Region of Peel Traffic Impact Study Guidelines
- Halton Region Transportation Impact Study Guidelines 2015.
- Let's Move Peel Long Range Transportation Plan 2019.
- Region of Peel Official Plan 2022.
- Heritage Heights Secondary Plan 2022.
- Region of Peel's Road Safety Strategic Plan.

1.6 Evaluation Tool and Assumptions

Intersections in the Study Area were analyzed for the weekday morning and weekday afternoon peak hours using the Synchro 10 software. This software follows the Highway Capacity Manual (HCM) 2000 / HCM 6th Edition published by the US Transportation Research Board National Research Council.

Input assumptions align with the City of Brampton Traffic Impact and Parking Study Terms of Reference, 2019 and the Region of Peel Traffic Impact Study Guidelines.

The Synchro default peak hour factor of 0.92 was assumed for all intersections. Where operating problems were found, a closer examination of observed peak hour factors was done. If the observed peak hour factor was found to be higher than 0.92, the observed value was used. The existing intersection operations are documented in this section.

Relevant assumptions are summarized below:

- Saturation Flow = 1,900vph.
- Thresholds to identify operating problems:

- Volume to capacity (v/c) > 0.90 for through and shared lane movements.
- v/c > 1.00 for exclusive lane movements.
- Level of Service (LOS) E or F for unsignalized approaches.

1.7 Traffic Impact Study Analysis Years and Analysis Periods

The traffic conditions have been assessed for the following horizons:

- Existing Year (2022).
- Opening Year (2025); and
- Five (5) years after opening – Ultimate Horizon Year (2030).

Traffic operations for existing conditions were analyzed for the peak hours during the weekday AM (7:00 am to 9:00 am) and weekday PM (4:00 pm to 6:00 pm) periods using the Synchro 11 software.

2.0 Base Year Traffic Conditions (2022)

2.1 Base Year (2022) Traffic Volumes

Vehicle turning movement counts collected between 2018 and 2020 were available for each of the Study Area intersections except for the intersection of Bovaird Drive and Heritage Road. Counts for this intersection were estimated using existing traffic volumes, balanced to match the highest available volumes, and patterns at adjacent intersections within the Study Area.

The base year (2022) existing volumes were determined by applying a 2% compounded annual growth rate to the collected turning movement counts, after which the resulting traffic volumes were balanced to maintain the magnitude of the traffic volumes between adjacent intersections along Study Area corridors.

Existing balanced peak hour traffic volumes are shown in Figure 2-1.

2.2 Base Year (2022) Intersection Operation

Traffic operations for 2022 base conditions were analyzed for the weekday morning and weekday afternoon peak hours using the Synchro 10 software. Intersection operation performance measures are reported in terms of Level of Service (LOS), average delays, volume to capacity (v/c) ratios, and 95th percentile queue lengths.

LOS is based on the average control delay per vehicle for a given movement. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between 'A' and 'F', with 'F' being the longest delay.

Table 2-1 summarizes the LOS criteria for signalized and unsignalized intersections.

Table 2-1: Intersection Level of Service Criteria

Level of Service	Average Control Delay per Vehicle (second / vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	≤ 10
B	>10 and ≤ 20	>10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Existing intersection operations were analysed using the Study Area road network and the existing balanced peak hour traffic volumes are shown in Figure 2-1. Existing signal timing plans obtained from the Peel Region and Ontario Ministry of Transportation (MTO) were used in the analysis for signalized intersections within the Study Area and are included in Appendix A.

The analysis results for critical movements are included in Table 2-2 for weekday morning and weekday afternoon peak hours. The analysis results for the existing condition for all movements and detailed Synchro reports are provided in Appendix B.

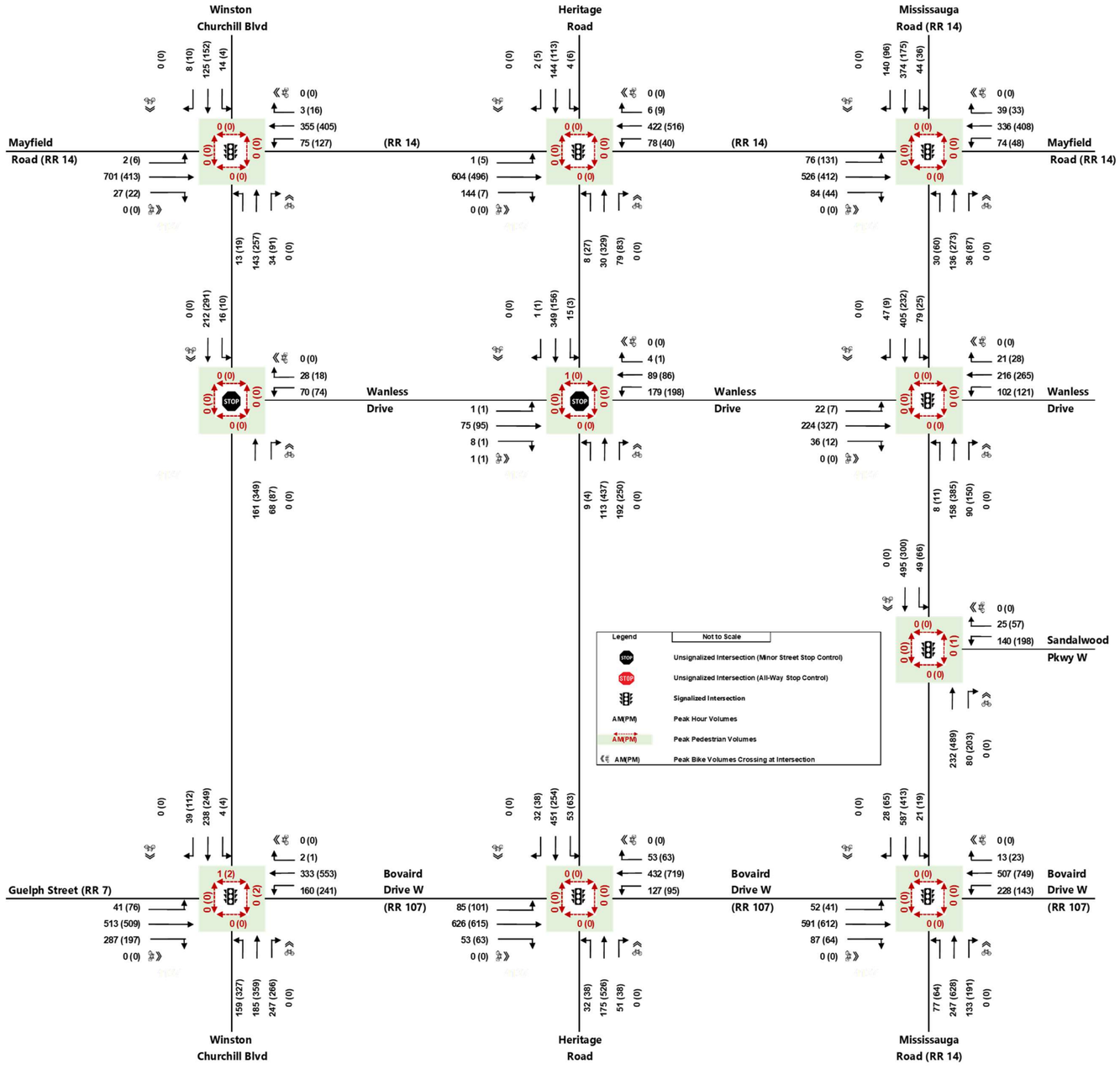

Figure 2-1: Existing Year (2022) Traffic Volumes

Table 2-2: Existing Year Traffic Condition (2022) Critical Movements Summary

Existing 2022 (AM) Peak									
Intersection	**Control Type**	**Movement**	**Volume (veh/ hour)**	**Delay (sec/vehicle)**	**LOS**	**V/C**	**Queue Length (m)**	**Turning Movements Storage Lane (m)**	**Link Distance (m)**
Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	Signal	EBTR	513	69	E	1.01	337	902	-
		SBTR	238	80	F	0.90	129	385	-

Existing 2022 (PM) Peak									
Intersection	**Control Type**	**Movement**	**Volume (veh/ hour)**	**Delay (sec/vehicle)**	**LOS**	**V/C**	**Queue Length (m)**	**Link Distance (m)**	**Turning Movements Storage Lane (m)**
Heritage Road & Wanless Drive	Unsignalized (All Way Stop)	NBLTR	751	108	F	1.16	-	-	-
Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	Signal	EBTR	509	62	E	0.97	280	902	-
		WBL	241	98	F	0.99	110	-	90
		NBL	327	197	F	1.30	164	-	90
		NBTR	359	129	F	1.14	282	412	-
		SBTR	249	157	F	1.16	185	385	-
Heritage Road & Bovaird Drive W (RR 107)	Signal	EBL	101	129	F	1.01	81.3	-	170

Based on the summary in Table 2-2**,** the most significant operating problems occur for northbound travelling vehicles at the intersection of Heritage Road and Wanless Drive in the weekday afternoon peak hour, and at the intersection of Winston Churchill Boulevard and Guelph Street during the weekday afternoon peak hour as follows:

- Eastbound shared through and right (EBTR) has LOS E, V/C Ratio 0.97
- Westbound left turn (WBL) has LOS F and queue exceeds the storage distance.
- Northbound left turn (NBL) has LOS F and queue length exceeds storage. This queue will block Winston Churchill Boulevard and Green Steet intersection located south.
- Northbound shared through and right (NBTR) has LOS F
- Southbound shared through and right (SBTR) has LOS F.

Besides the issues summarized in Table 2-2 all other movements are operating acceptably with residual capacity under existing conditions.

2.3 Transit and Cycling Facilities

There are no current or planned local transit services operating on Winston Churchill Boulevard in the vicinity of the Project. Currently, there is no signed cycling route or cycling infrastructure in place. The Region of Peel's Long Range Transportation Plan plans for a new cycling facility on Winston Churchill Boulevard between Bovaird Drive and Mayfield Road.

2.4 Pedestrian Facilities

As shown in Figure 2-1, pedestrian counts are very low for all Study Area intersections and traffic counts the closest intersection to the proposed site (Wanless Drive and Winston Churchill Boulevard) shows zero pedestrians during the peak hours.

The Study Area is currently predominantly rural, without sidewalks or pathways for pedestrians. Sidewalks are anticipated to be added within the Heritage Heights Secondary Plan Area in conjunction with future development in the area. A multi-use trail is planned for Winston Churchill Boulevard as per the Region of Peel's Long Range Transportation Plan.

3.0 Background Traffic Growth and Proposed Background Developments

Future background traffic volumes, consist of the following components: traffic growth from outside the Study Area and traffic generated within the Study Area from adjacent proposed developments.

For the purposes of this study, a growth rate of (2%) compounded per annum was applied to existing traffic volumes to derive traffic growth from outside the Study Area.

Future year background traffic (not including traffic to/from proposed developments and the layover site) was subsequently determined for the opening year (2025) and 5-year post-opening horizon (2030) by applying the 2% compounded annual growth rate to the balanced existing (2022) traffic volumes.

The future traffic analysis considered traffic generated from the proposed Heritage Heights Secondary Plan (HHSP). The following section discusses the Heritage Heights developments and the expected trip generation by the years 2025 and 2030.

3.1 Future Developments

The Heritage Heights Community, City of Brampton Secondary Plan Areas 52 & 53 Ward 6 is located northwest in the City of Brampton. It is bounded by Mayfield Road to the north, the Credit River valley to the south, Winston Churchill Boulevard to the west and Mississauga Road to the east as shown in Figure 3-1 from the City of Brampton Heritage Heights Secondary Plan adopted by City Council on April 6, 2022. This development has been highlighted in the Brampton 2040 Vision as the proposed location for a new town centre - a complete, full-service, mixed-use place with work and housing options.

HHSP consists of 7 development precincts. This study has accounted for the areas of development expected to be built out by 2025 and 2030. Assumed development precincts in these horizon years are:

- Mississauga Road South Precinct (MS), the precinct is assumed to be 0% completed by 2025, and 100% completed by 2030; and
- Mount Pleasant Heights Precinct (MP), this precinct is assumed to be 100% completed by 2025.

The locations of these precincts in the context of Heritage Heights Developments are included in Figure 3-2.

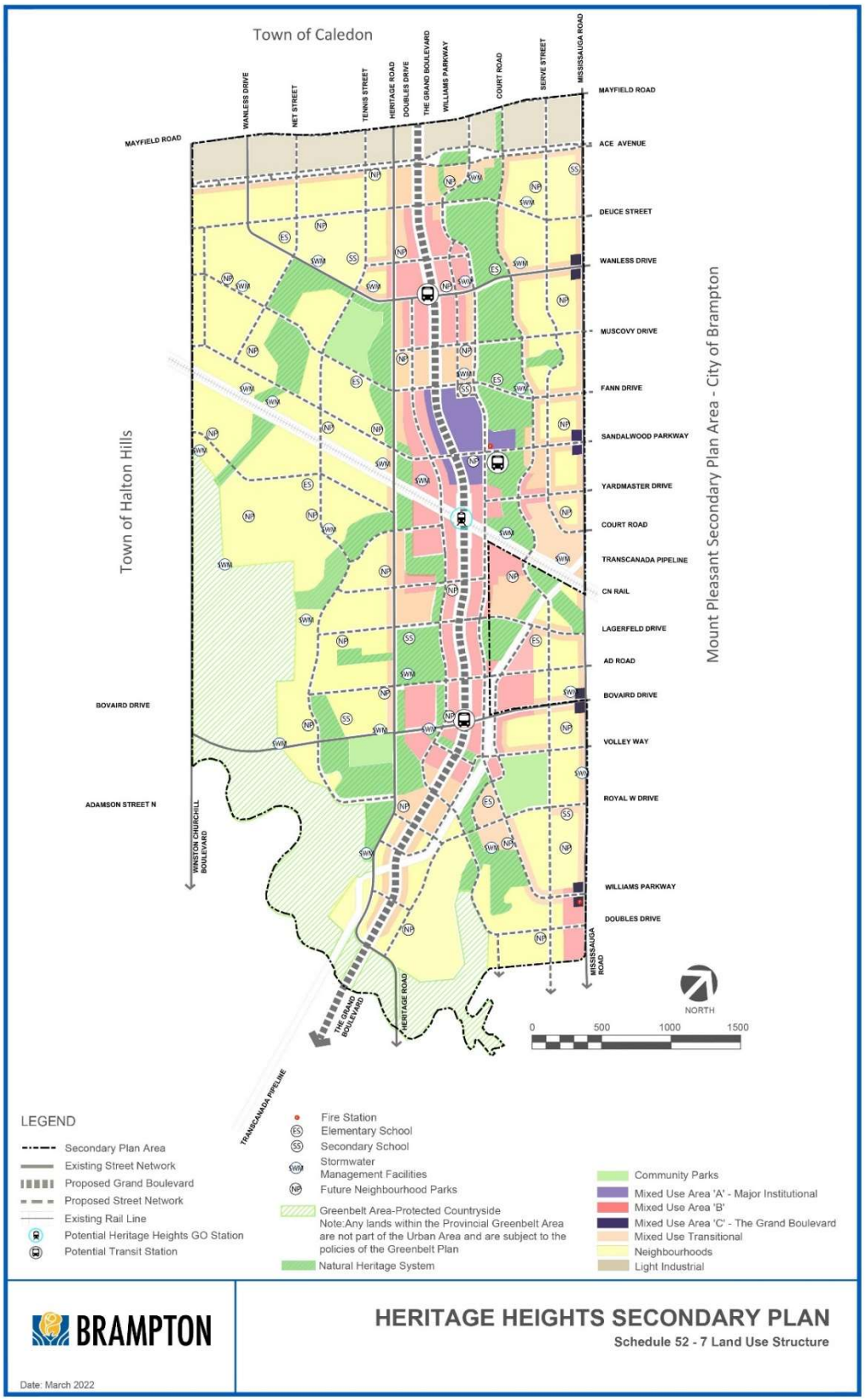

Figure 3-1: Heritage Heights Secondary Plan (Land Use Map)

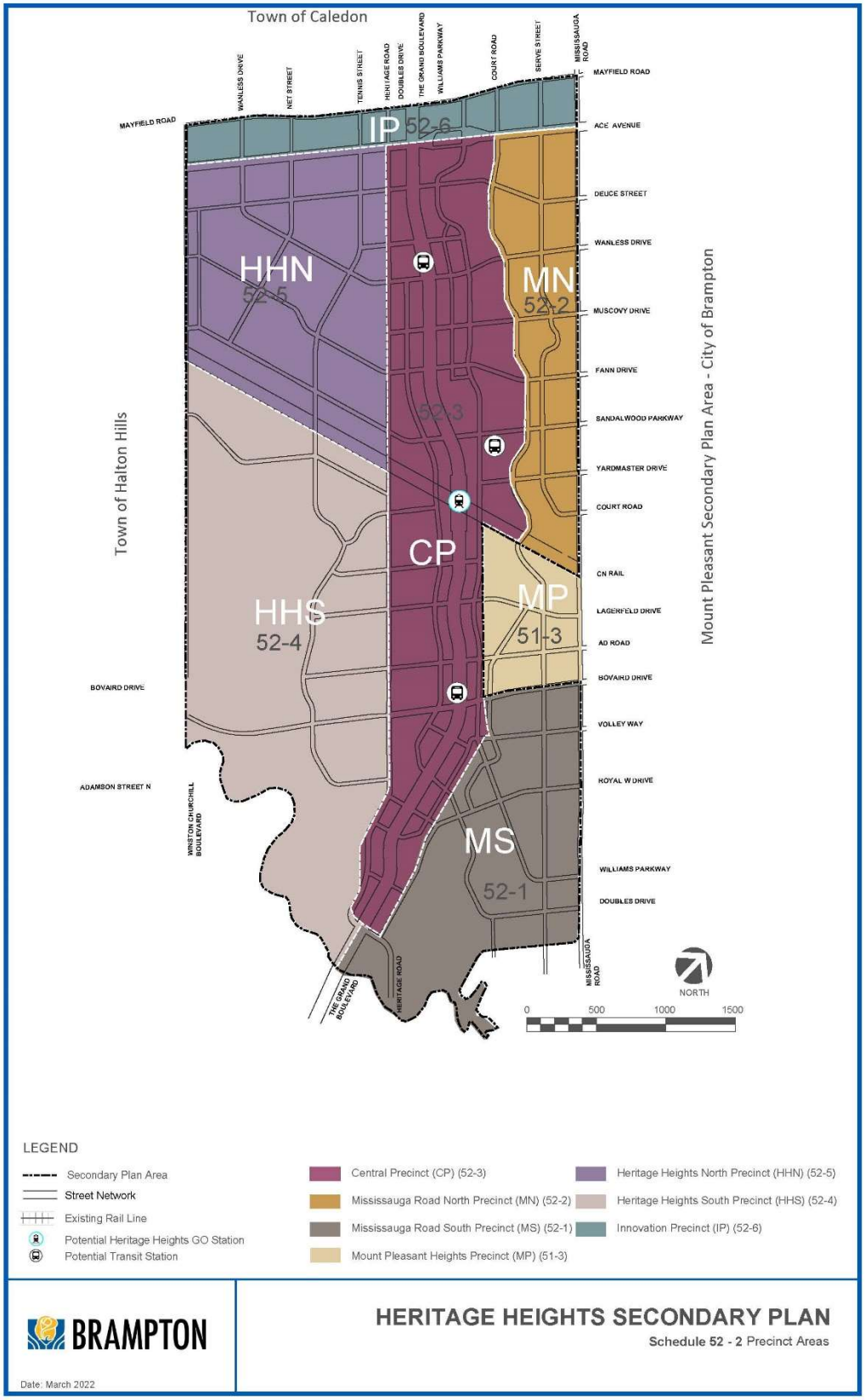

Figure 3-2: Heritage Heights Secondary Plan (Precincts Map)

3.1.1 Future Developments Trip Generation

The most significant addition to future background traffic in the Heritage Road Layover study area will be due to development of the Heritage Heights Secondary Plan. A transportation study and plan has been undertaken for full buildout of the study area, and the City of Brampton has developed a comprehensive road improvement program and road network plan for within and outside of the Heritage Heights area that will accommodate future traffic demands. The plan includes a proposed urban boulevard and network of collector and local streets that will, by dispersing traffic throughout the network, lead to lower that would otherwise be the case traffic volumes on the major streets considered in this study.

To conservatively establish future year traffic to and from the Heritage Heights Secondary Plan Area development for the horizon years to be considered for the subject study, trip generation was calculated based on Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition for the following proposed development precincts, which are approved as part of the Heritage Heights Secondary Plan:

- Mount Pleasant Heights Precinct (MP).
- Mississauga Road South Precinct (MS).

Precinct MP with the following land uses: Single-Family, Detached Housing, Multifamily Housing (Low-Rise), Mid-Rise Residential with 1st-Floor Commercial and High-Rise Residential with 1st-Floor Commercial. MP is assumed to be 100% completed by 2025.

For the MS precinct (with the following land uses: Industrial Park, Single-Family, Detached Housing, High School and Shopping Center), an assumption of 30 dwelling Units per Hectare for the Medium Density Residential land use was applied with a 10% reduction for internal capture, and a 20% lot coverage was assumed for the industrial park. In addition to this, public park and elementary school trips were assumed to be 100% internal, while trips for high school were estimated based on an average Canadian high school attendance of 390 students (Council of Ministers of Education Canada).

For analysis purposes, precinct MS is assumed to be 0% built out by 2025, and 100% built out by 2030.

Trip Generation calculations for these developments were completed using the ITE trip Generation Manual 11th Edition. Calculations are included in Table 3-1 for MP Precinct and Table 3-2 for MS precinct.

As Table 3-1 and Table 3.2 indicate, full development of precincts MP and MS are expected to add a total of 2,644 total trip ends to the area road network during weekday morning peak hour and 3,103 total trip ends to the road network during the weekday afternoon peak hour.

Table 3-1: Heritage Heights (MP Precinct) Trip Generation Summary

Code	Description	Unit	AM Peak Hour							PM Peak Hour						
			Qty	Rate	Total Trips	In %	Out %	In Trips	Out Trips	Qty	Rate	Total Trips	In %	Out %	In Trips	Out Trips
210	Single-Family Detached Housing	Occupied Dwelling Units	169	0.7	118	26%	74%	31	88	169	0.94	159	63%	37%	100	59
220	Multifamily Housing (Low-Rise)	Occupied Dwelling Units	691	0.38	263	29%	71%	76	186	691	0.61	422	60%	40%	253	169
231	Mid-Rise Residential with 1st-Floor Commercial	Occupied Dwelling Units	222	0.31	69	41%	59%	28	41	222	0.47	104	44%	56%	46	58
232	High-Rise Residential with 1st-Floor Commercial	Occupied Dwelling Units	468	0.31	145	41%	59%	59	86	468	0.21	98	44%	56%	43	55
Total					**595**			**195**	**400**			**783**			**442**	**341**

Table 3-2: Heritage Heights (MS Precinct) Trip Generation Summary

Code	Description	Unit	AM Peak Hour							PM Peak Hour						
			Qty	Rate	Total Trips	In %	Out %	In Trips	Out Trips	Qty	Rate	Total Trips	In %	Out %	In Trips	Out Trips
130	Industrial Park	1000 sf GFA	28.65	0.34	10	81%	19%	8	2	28.65	0.34	10	22%	78%	2	8
210	Single-Family Detached Housing	Occupied Dwelling Units	2,350*	0.69	1616	25%	75%	410	1206	2350	0.89	2090	64%	36%	1335	755
530	High School	Students	390	1.01	394	56%	44%	221	173	390	0.26	101	46%	54%	47	55
820	Shopping Center	1000 sf GFA	35.13	0.84	30	62%	38%	18	11	35.13	3.4	119	48%	52%	57	62
Total					**2,049**			**657**	**1,392**			**2,320**			**1,441**	**879**
* 10% reduction to Total Dwelling Units were considered to account for internal trip capture, the total units are 2,611 units.																

3.1.2 Future Developments Trip Distribution/Assignment

Precinct MP is located within the Study Area, close to Mississauga Road and Bovaird Drive. Trips generated by the MP Precinct have been assigned to the network roughly following existing traffic patterns.

Table 3-3 summarizes the directional distribution for vehicle volumes travelling northbound and southbound along Mississauga Road, to and from the network.

Table 3-3: MP Precinct Trip Distribution

Direction	Distribution along Mississauga Road			
	AM In	AM Out	PM In	PM Out
NB	67%	33%	58%	42%
SB	33%	67%	42%	58%

Precinct MS is located outside of the Study Area, therefore not all traffic generated from this intersection will travel though the Study Area. It was assumed that 40% of the trips generated by this precinct would travel on Study Area roads, while the remaining 60% of trips generated would travel to and from the south, toward Highway 401 and other destinations.

Table 3-4 shows the directional distribution for trips assigned to the network going to / coming from MS Precinct.

Table 3-4: MS Precinct Trip Distribution

Direction	Distribution
North	5%
South (Does not pass through Study Area)	60%
East	25%
West	10%

3.1.3 Future Developments Total Traffic

Forecast weekday morning and afternoon peak hour traffic volumes for Heritage Heights MP Precinct traffic volumes are illustrated in Figure 3-3 and MS Precinct traffic volumes are illustrated in Figure 3-4.

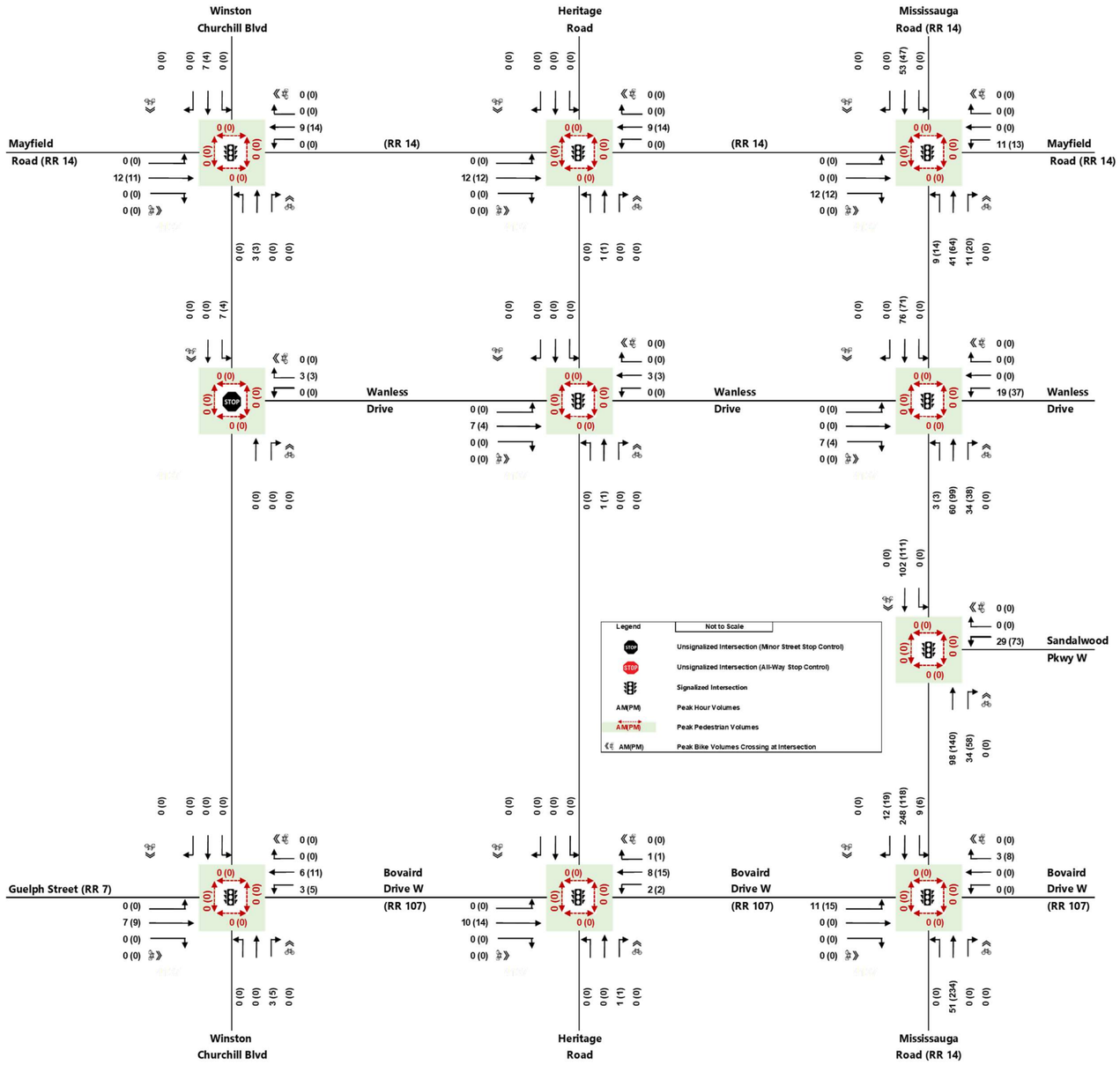

Figure 3-3: Heritage Heights Development MP Precinct Traffic Volumes

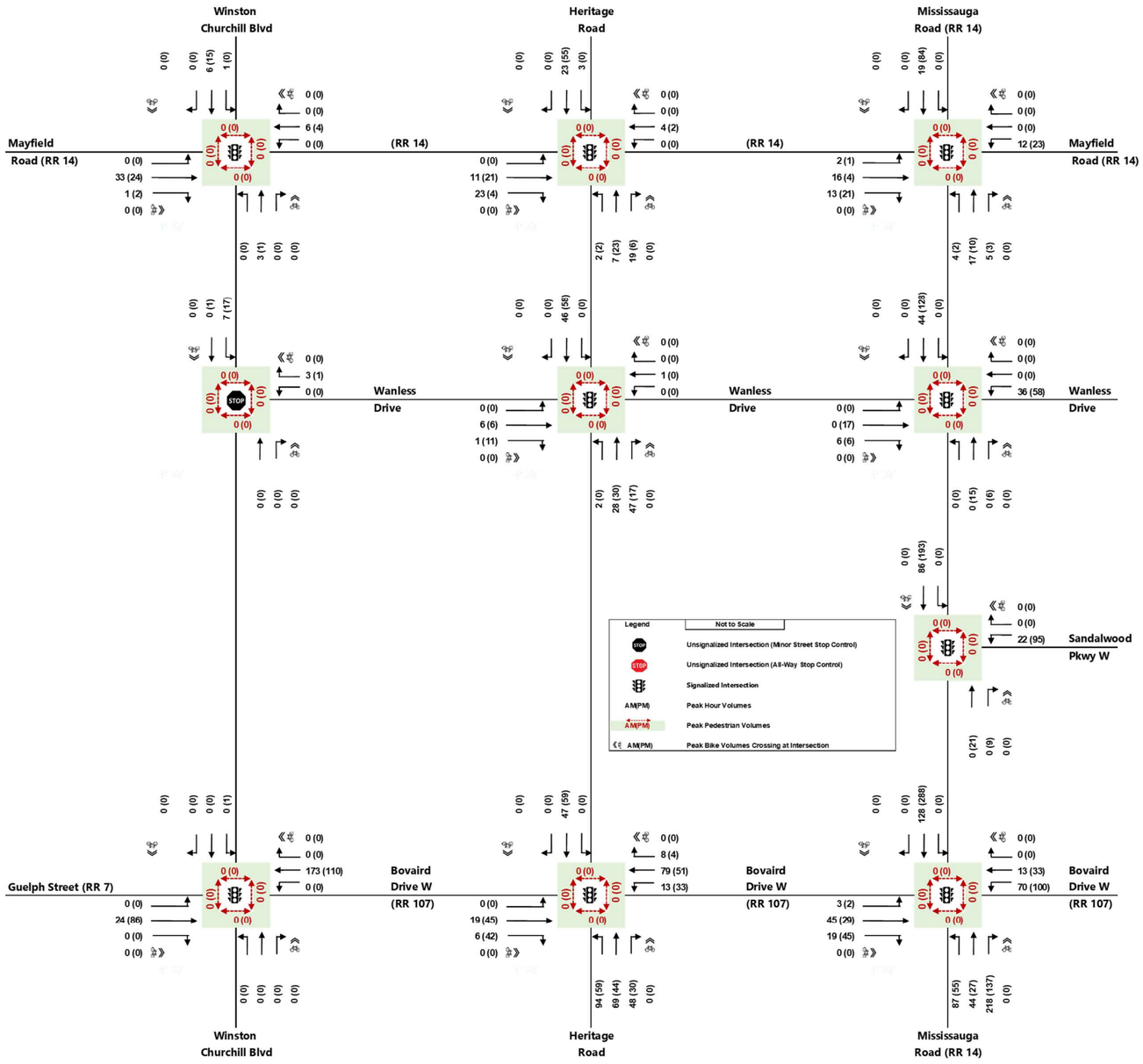

Figure 3-4: Heritage Heights Development MS Precinct Traffic Volumes

3.1.4 Future Road Improvements

The road improvements proposed by Peel Region and City of Brampton are summarized in Table 3-5.

The City of Brampton provided all planned road improvements that are under their jurisdiction for short, medium, and long terms. The years associated with these improvements are as follows:

- Short term: Improvements considered by the year 2021.
- Medium term: Improvements considered by the year 2031.
- Long term: Improvements considered by the year 2041. None of the 2041 improvements were considered in the analysis since the ultimate horizon year for the traffic study is year 2031.

The City of Brampton Road improvements are included in Appendix C.

Peel Region provided Wood with the planned major road widenings for the next 10 years for all road sections within the Study Area.

In addition to the widening improvements by Peel Region noted in Table 3-5, Peel Region is in the process of designing specific improvements for Bovaird Drive between Heritage Road and Mississauga Road. At the time of preparing this study, the specific design was not available. It is assumed that the design will accommodate future trips to and from approved development in the area.

Further, Peel Region and Halton Region will be reconstructing Winston Churchill Boulevard from south of Mayfield Road to north of Guelph Street at the Credit River Bridge. This project will include pavement reconstruction, some grade corrections and construction of wider lanes (3.75 m) and paved shoulders (2.5 m). Peel Region's construction is scheduled in Spring of 2024 with completion in December of 2025. Excerpts from this design are provided in Appendix D.

Table 3-5: Major Road Improvements (Committed)

Road Name	Project Limit	Improvement Description	Jurisdiction	Constructed by Year
Winston Churchill Boulevard	Credit River Bridge (north of Guelph Street) to Mayfield Road	Reconstruction (Widening lanes to 3.75 m & adding 2.5 m shoulders on both sides of the road)	Peel Region/Halton Region (Project 06-4015)	2024
Mississauga Road	Bovaird Drive to Sandalwood Parkway	Two (2) to six (6) lanes widening		2022

Road Name	Project Limit	Improvement Description	Jurisdiction	Constructed by Year
Mississauga Road	Sandalwood Parkway to Mayfield Road	Two (2) to four (4) lanes widening	Peel Region	2022
Mayfield Road	Mississauga Road to Winston Churchill Boulevard	Two (2) to four (4) lanes widening		2024
Bovaird Drive	Mississauga Road to 1.5 km West of Heritage Road	Two (2) to four (4) lanes widening	Peel Region	2025
Mayfield Road	Chinguacousy Road to West of Mississauga Road	Four (4) to six (6) lanes widening		2031
Wanless Drive	East of Mississauga Road	Two Lanes (2) to (4) Four Lanes widening	City of Brampton	2021
Wanless Drive	Mississauga Road and Winston Churchill Boulevard	Two Lanes (2) to (4) Four Lanes widening		2031
Sandalwood Parkway	Mississauga Road and heritage Road	Two Lanes (2) to (4) Four Lanes widening		2031
Heritage Road	Wanless Drive and Bovaird Road to and farther south	Two Lanes (2) to (4) Four Lanes widening		2031

In addition to these improvements currently programmed by Peel Region and the City of Brampton, Halton Region has completed the *Norval West Bypass Transportation Corridor Improvements – Municipal Class EA Study*, which addresses travel patterns and capacity constraints for the intersection of Winston Churchill Boulevard and Guelph Street. A preferred road alignment concept for a route around this intersection has been developed and is expected to be constructed in 2026. The new route will provide a Highway 7 bypass of the community of Norval for motorists not destined for the community. Details of the connection not known at this time.

4.0 Heritage Road Layover Development

The purpose of the proposed Heritage Road Layover is to provide additional storage capacity for GO trains to facilitate future service increases. Buildings will include a crew centre, waste disposal building, electrical substation building, storage building and compressor building. The Heritage Road Layover overall site plan is included in Appendix E.

It is estimated that up to 40 employees will work at the site on various shifts, and that most employees and delivery vehicles will arrive at and depart from the site at times outside of the weekday morning and weekday afternoon peak hours.

4.1 Site Access

The site access to the Heritage Road Layover will be via Winston Churchill Boulevard, approximately 250 m south of the existing rail crossing and will consist of a two lanes access road. The new intersection formed at the new access will operate as a stop-controlled intersection. The intersection will consider Regional Road Right of Way Requirements as per Section 7.10 of the Regional of Peel Official Plan (2022) and connect effectively with future Region of Peel modifications of Winston Churchill Boulevard, including those shown in Appendix D. As noted within Section 7.10, any required right-of-way width for Winston Churchill Boulevard will be dedicated along the entire property frontage for the Project.

The proposed access location for the Heritage Road Layover is illustrated in Figure 4-1.

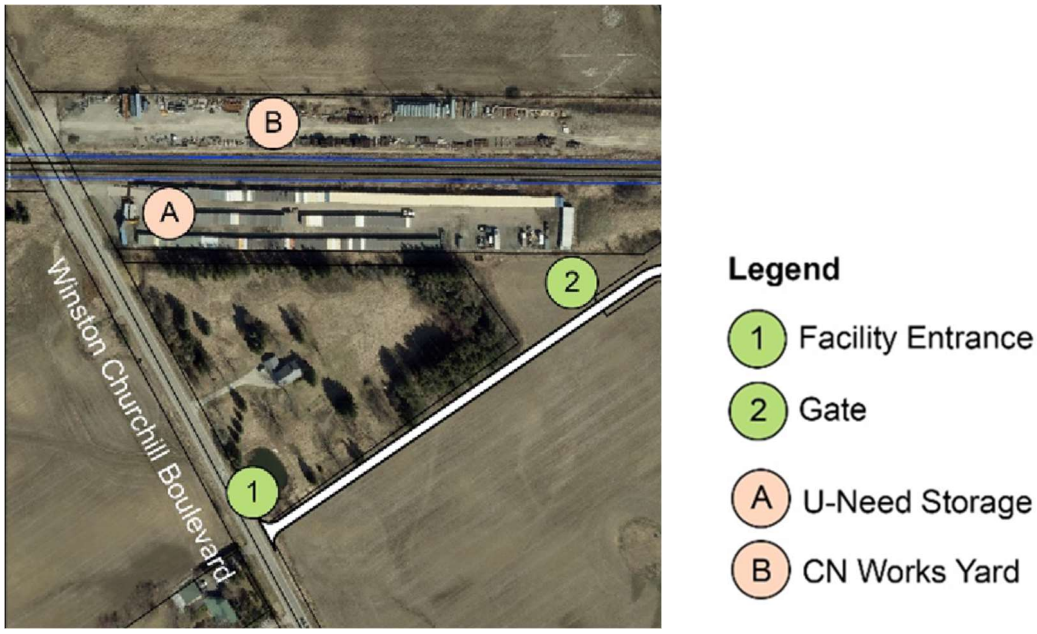

Figure 4-1: Heritage Road Layover Proposed Site Access

4.2 Sight Distance Analysis

To confirm that the location of the proposed access is suitable, required sight distances along Winston Churchill Bouvard were determined based on Transportation Association of Canada (TAC) Geometric Design Guidelines for Canadian Roads based on an 80 km/h design speed, and these were compared with available sight distance. The speed limit on this section of Winston Churchill Boulevard and the higher design speed provides a factor of safety for approaching vehicles exceeding the speed limit.

Design (required) sight distances are summarized in Table 4-1.

Table 4-1: Heritage Road Layover Required Sight Distance (TAC)

Sight Distance Type	Design Distance (m)
Stopping sight distance	140
Minimum decision sight distance	240
Desirable decision sight distance	320

The proposed Project Site does not have any impediments to horizontal sight distance, since there are generous shoulders and clear areas adjacent to Winston Churchill Boulevard in the area, and there are no horizontal curves. There is a crest vertical curve on Winston Churchill Boulevard to the north crossing the rail, which is approximately 250 m from the proposed access location. To the south, Winston Churchill is free of crest and sag curves for more than 320 m from the proposed access.

The existing profile of Winston Churchill Boulevard to the north of the access was analyzed to determine whether there is sufficient decision site distance at the access. A drivers' eye height of 1.05 m and an object height of 1.05 m were assumed. It was found that there is approximately 284 m of available sight distance to the north of the proposed access. This meets the minimum, but not the desirable sight distance from the access.

Available sight distance exceeds stopping sight distance and minimum decision sight distance for the design speed of 80 km/h, therefore the location is suitable in terms of sight distance.

Desirable decision sight distance would allow slower vehicles turning left from the site to choose a gap in through traffic, make their turn, and reach the design speed of 80 km/h before a vehicle travelling southbound on Winston Churchill Boulevard reaches them. With minimum decision sight distance, an approaching vehicle on Winston Churchill Boulevard may have to slow a bit but would have ample time to recognize the need to do so to slow safely. The road authority may choose to post an intersection warning sign for southbound Winston Churchill Boulevard in advance of the access location to provide additional warning to southbound drivers.

The profile of Winston Churchill Boulevard including this sight distance measurement is included in Appendix F.

4.3 Site Trip Generation Estimate

To conservatively estimate the trip generation for the proposed layover, the *Trip Generation Manual 10th Edition* published by Institute of Transportation Engineers (ITE) was reviewed. This specific land use is not available in the manual, however ITE Land use (710), for general office buildings was assumed to generally apply.

The estimated number of trips based on 40 employees are shown in

Table 4-2.

Table 4-2: Heritage Road Layover Site Trip Generation

Peak Hour	Trip Generation (vehicles/hour)		
	In	Out	Total
AM	17	3	**20**
PM	3	15	**18**

The ITE Trip Generation excerpts for Land Use (710) are included in Appendix G.

4.4 Future Total Trips including Heritage Road Layover Site

Site traffic was assigned to the network based on existing travel patters along Winston Churchill Boulevard.

The trips forecast for the Heritage Road Layover facility are illustrated in Figure 4-2.

4.5 Impact of Heritage Road Layover on Rail Traffic

Development of the Heritage Road Layover will have no negative impacts on rail service in the area.

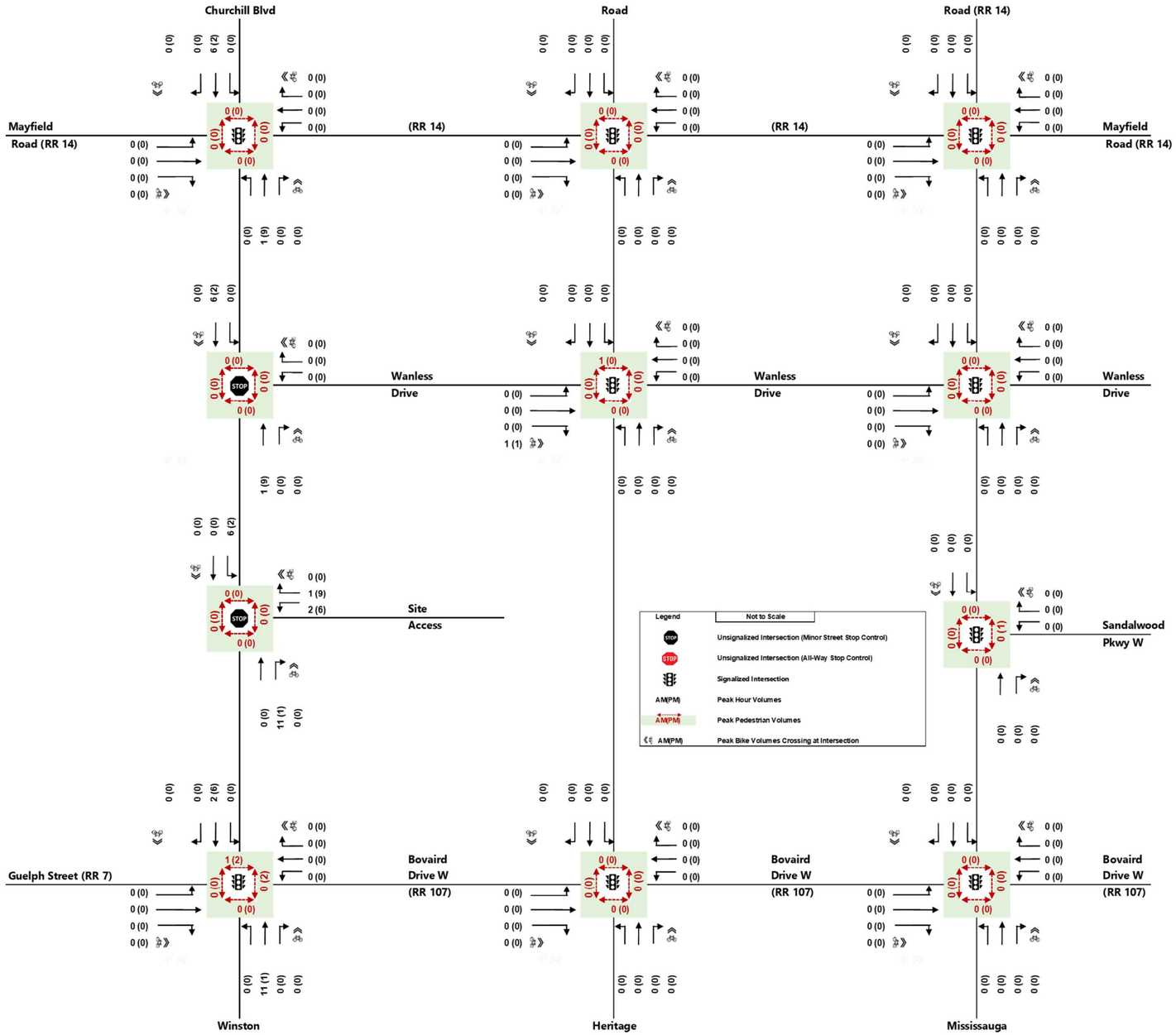

Figure 4-2: Heritage Road Layover Site Trip Generation

5.0 Future Traffic Conditions

5.1 Future Total Traffic Volumes

Future total traffic volumes for 2025 were calculated based on the sum of future background traffic volumes for 2025 plus the volumes for the MP Precinct. The 2030 future traffic volumes were calculated based on the sum of future background traffic for 2030, plus the trips generated by the MP Precinct and the MS Precinct for Heritage Heights.

It is noted that trip generation for the proposed Heritage Layover facility is forecast to be 18 to 20 vehicles per hour during peak periods, therefore the impact of the facility itself will be negligible. Significant road improvements are currently programmed by Peel Region and the City of Brampton to accommodate future development in Heritage Heights and broader areas.

The 2025 total volumes, including the site volumes are included in Figure 5-1.
The 2030 total volumes, including the site volumes are included in Figure 5-2.

5.2 Future Intersection Operation

Future intersection operation was analyzed assuming the improvements indicated in Table 3-5 were incorporated in their respective years. For analysis purposes, the 2030 analysis assumed that improvements proposed to be completed by 2031 were actually completed by 2030. It was assumed that any existing exclusive left and right turn lanes were maintained in conjunction with the widenings.

It was also assumed that signal timings were adjusted with increased flashing don't walk durations and optimized cycle lengths and green splits in future years.

Initial capacity analysis of future conditions also indicating operating problems at the intersection of Heritage Road and Wanless Drive and Heritage Road and Bovaird Drive. To address these problems, the following additional improvements were determined to improve conditions and were assumed in the future conditions analysis:

- Traffic signal installed for the intersection of Heritage Road and Wanless Drive (due to poor level of service and capacity deficiency with existing stop control)
- Addition of northbound and southbound left turn lanes at the intersection of Heritage Road and Bovaird Drive (due to capacity deficiencies with existing shared approach lanes at this signalized intersection)

Capacity analysis results are summarized in the following sections.

Complete summaries of analysis results and Synchro reports are included in Appendix H and Appendix I, for 2025 conditions and 2030 conditions, respectively.

5.2.1 Site Access Intersection

As Figure 5-1 and Figure 5-2 indicate, the southbound left turn volumes are forecast to be less than 10 vehicles per hour and less than 2% of the approach volumes during the peak periods, and therefore would not meet a left turn lane warrant.

The site access intersection was analyzed as an unsignalized T-intersection with stop control for the access and a single approach lane in each direction.

The layover access analysis for years 2025 and 2030 are included in Table 5-1. As Table 5-1 indicates, all movements on the site access will operate acceptably, with no capacity constraints, excessive delays or queueing problems indicated.

Table 5-1: Site Access Intersection Analysis

AM Peak 2025	Movement	Volumes	Delay	LOS	V/C	Queue (m)
Winston Churchill Blvd (RR 19) & Site Access	WBLR	3	11.9	B	0.01	0.1
	NBTR	276	0	A	0.16	0
	SBTL	332	0.2	A	0.01	0.1
PM Peak 2025	**Movement**	**Volumes**	**Delay**	**LOS**	**V/C**	**Queue (m)**
Winston Churchill Blvd (RR 19) & Site Access	WBLR	17	14.1	B	0.04	1
	NBTR	504	0	A	0.3	0
	SBTL	422	0.1	A	0	0

AM Peak 2030	Movement	Volumes	Delay	LOS	V/C	Queue (m)
Winston Churchill Blvd (RR 19) & Site Access	WBLR	3	12.3	B	0.01	0.1
	NBTR	303	0	A	0.18	0
	SBTL	359	0.2	A	0.01	0.1
PM Peak 2030	**Movement**	**Volumes**	**Delay**	**LOS**	**V/C**	**Queue (m)**
Winston Churchill Blvd (RR 19) & Site Access	WBLR	17	15.1	C	0.05	1.1
	NBTR	556	0	A	0.33	0
	SBTL	465	0.1	A	0	0

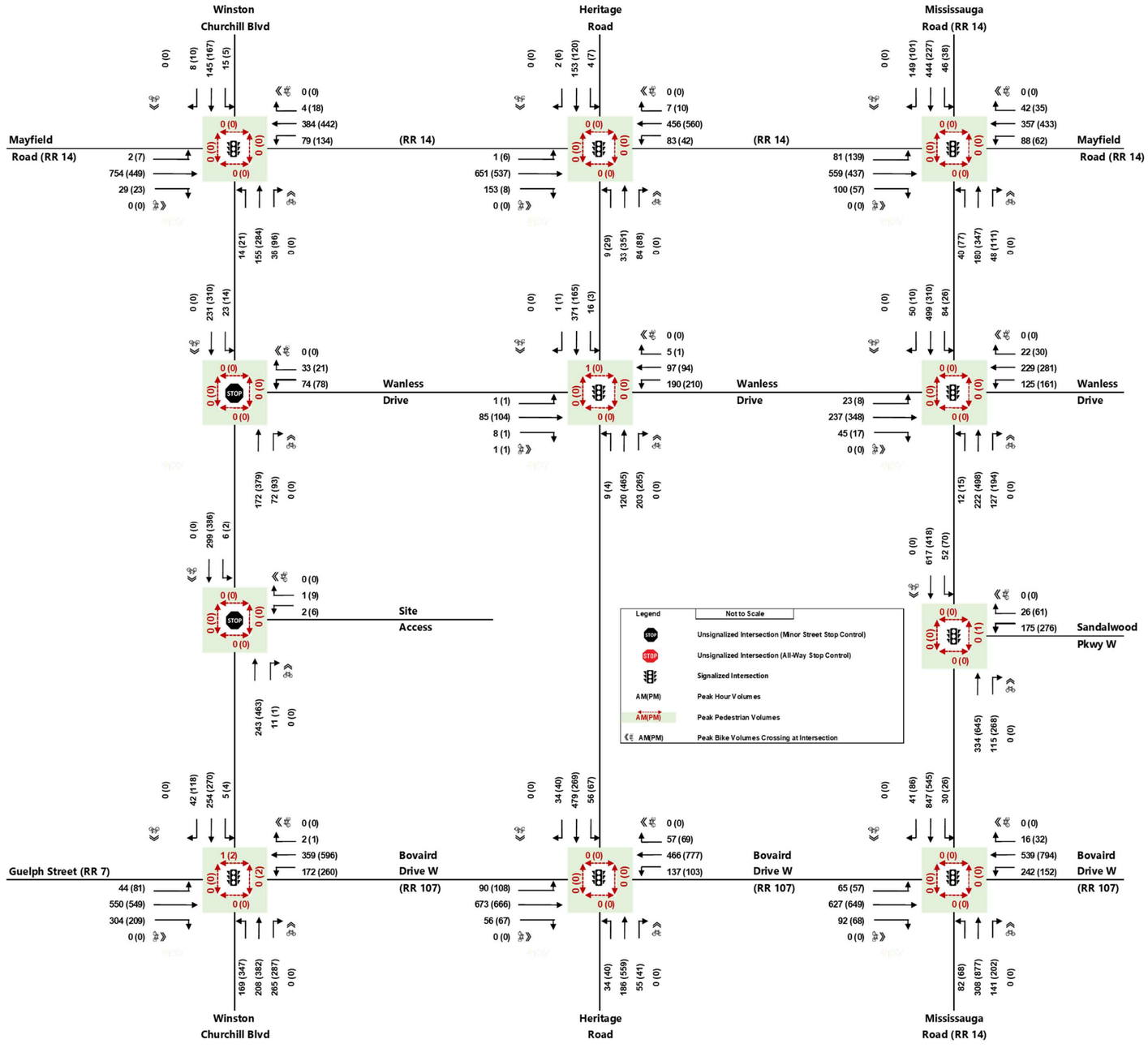

Figure 5-1: Opening Year (2025) Total Traffic Volumes

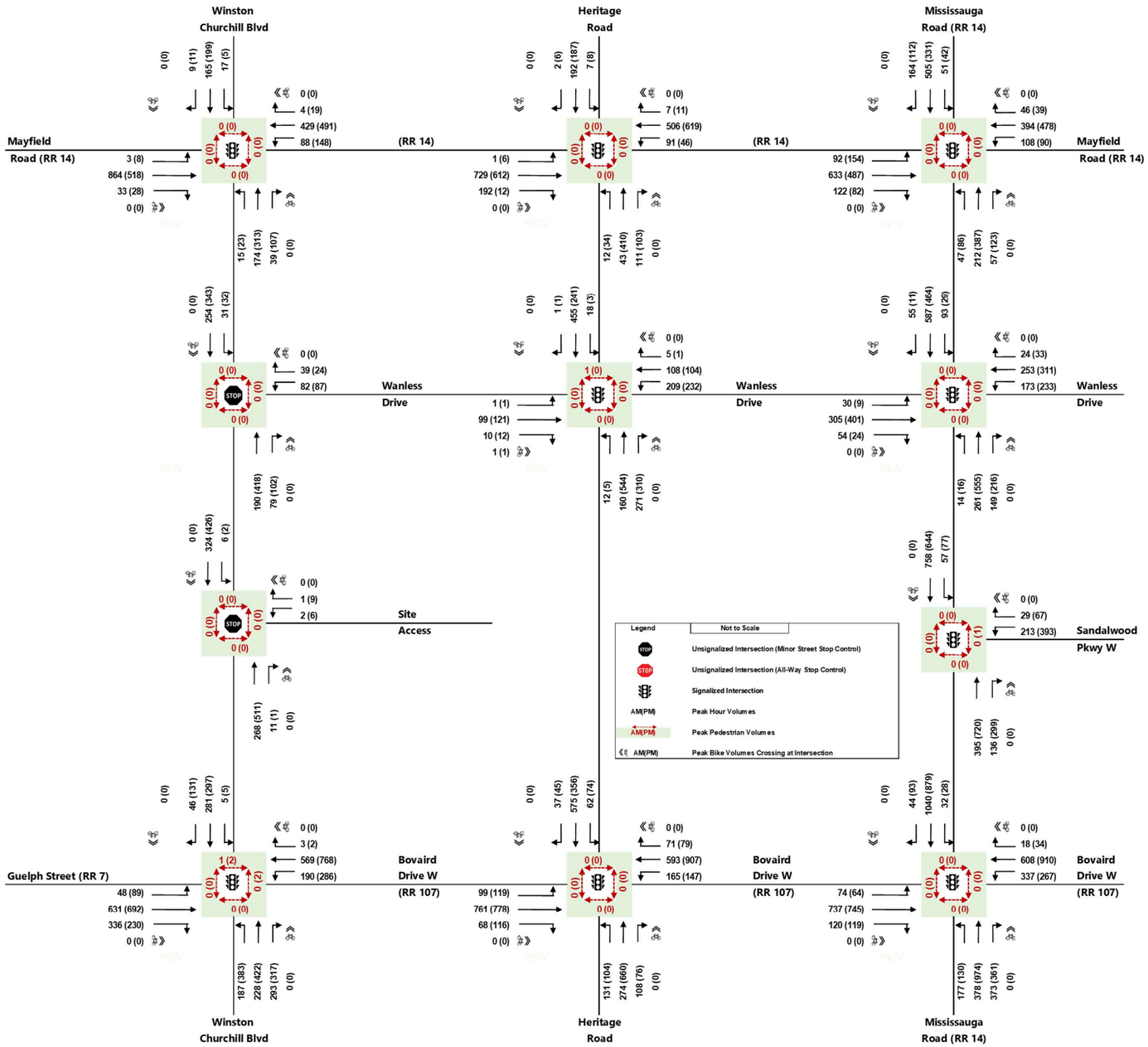

Figure 5-2: Ultimate Horizon Year (2030) Total Traffic Volumes

5.2.2 Opening Year (2025) Intersection Operation

All Study Area intersections were analyzed based on programmed and assumed road improvements and forecast total traffic volumes for 2025.

The analysis found some critical movements for the intersection of Winston Churchill Boulevard and Guelph Street, and these are summarized in Table 5-2.

Based on the summary in Table 5-2, Opening year (2025) operating problems occur mainly for the following movements:

- Winston Churchill Blvd & Guelph Street:
    - Weekday morning peak hour
        - Westbound left turn has LOS F and a V/C ratio of 1.02
        - The eastbound and northbound shared through-right movements are approaching capacity, with LOS E, v/c ratio of 1.02 and 0.95 respectively
    - Weekday afternoon peak hour
        - Eastbound through-right movement has LOS F, a V/C ratio of 1.15.
        - Northbound through-right movement has LOS F, a V/C ratio of 1.09.
        - Southbound through-right movement has LOS F, a V/C ratio of 1.02.
        - Westbound left turn has LOS F, a V/C ratio of 1.44 and a queue length exceeding storage
        - Northbound left turn has LOS F, V/C ratio of 1.32 and a queue length exceeding storage. This queue will block Winston Churchill Boulevard and Green Steet located south.

As Table 5-2 indicates, the programmed road improvements are expected to address some of the existing operating problems and no new problems are expected to be introduced.

For the remaining issues at the intersection of Winston Churchill Boulevard & Guelph Street, improvements identified in the Norval West Bypass Transportation Corridor Improvements – Municipal Class EA Study will provide detour routes for eastbound and northbound travelling vehicles at the intersection of Guelph Street and Winston Churchill Boulevard, thereby helping to alleviate intersection capacity issues identified in the future conditions analysis. These improvements are expected to be constructed beginning in 2026. Depending upon actual schedules for development in Heritage Heights and road improvements by the City of Brampton, Region of Peel and Region of Halton, the

operating problems indicated by the analysis may be avoided, for example if the Norval West Bypass is constructed prior to significant development in Heritage Heights.

Additional traffic through the intersection of Winston Churchill Boulevard & Guelph Street generated by the Heritage Road Layover will be minimal, with 11 northbound vehicles and 2 southbound vehicles during the weekday morning peak hour and 1 northbound and 6 southbound vehicles during the weekday afternoon peak hour.

Table 5-2: Opening Year (2025) Traffic Condition Critical Movements Summary

Future Total with Site Trips 2025 AM Peak									
Intersection	Control Type	Movement	Volume (veh/hour)	Delay (sec/vehicle)	LOS	V/C	Queue Length (m)	Link Distance (m)	Turning Movement Storage Lane (m)
Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	Signal	EBTR	550	65	E	1.02	307	902	-
		WBL	172	107	F	1.02	75	-	90
		NBTR	208	68	E	0.95	171	412	-

Future Total with Site Trips 2025 PM Peak									
Intersection	Control Type	Movement	Volume (veh/hour)	Delay (sec/vehicle)	LOS	V/C	Queue Length (m)	Link Distance (m)	Turning Movement Storage Lane (m)
Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	Signal	EBTR	549	117	F	1.15	319	902	
		WBL	260	258	F	1.44	127	-	90
		NBL	347	199	F	1.32	155	-	90
		NBTR	382	100	F	1.09	260	412	-
		SBTR	270	98	F	1.02	160	385	-

5.2.3 Future Year (2030) Intersection Operation

All Study Area intersections were analyzed based on programmed and assumed road improvements and forecast total traffic volumes for 2030.

The analysis found some critical movements for both the weekday morning and weekday afternoon peak hours, and these are summarized in Table 5-3.

Based on the summary in Table 5-3, operating problems occur mainly at the intersections of Winston Churchill Boulevard and Guelph Street as follows:

- Winston Churchill Blvd & Guelph Street:
    - Weekday morning peak hour
        - Westbound left turn LOS F, V/C ratio of 1.24
        - Eastbound through movement LOS F, V/C ratio of 1.15
        - Northbound left turn has LOS F, V/C ratio of 1.03
        - The shared northbound through and right movement is approaching capacity with LOS E, a V/C ratio of 0.99
    - Weekday evening peak hour
        - Shared through and right movements in all four directions have LOS F, with westbound (V/C ratio 1.92) and northbound (V/C ratio 1.32) movements particularly over capacity
        - Northbound and westbound left turns have LOS F and queue lengths exceeding available storage. The northbound left queue will block Winston Churchill Boulevard and Green Street located south of the intersection.

The programmed road improvements are expected to accommodate the future traffic at the remaining study area intersections.

Capital improvements identified in the Norval West Bypass Transportation Corridor Improvements – Municipal Class EA Study will provide detour routes for eastbound and northbound travelling vehicles at the intersection of Guelph Street and Winston Churchill Boulevard, thereby helping to alleviate intersection capacity issues identified in the future conditions analysis. These improvements have not been evaluated as part of this report because details have not been developed at this time.

Additional traffic through the intersection of Winston Churchill Boulevard & Guelph Street intersection generated by the Heritage Road Layover will be minimal, with 11 northbound vehicles and 2 southbound vehicles during the weekday morning peak hour and 1 northbound and 6 southbound vehicles during the weekday afternoon peak hour.

Table 5-3: Future Year (2030) Critical Movements Summary

Future Total with Site Trips 2030 AM Peak									
Intersection	**Control Type**	**Movement**	**Volume (veh/hour)**	**Delay (sec/vehicle)**	**LOS**	**V/C**	**Queue Length (m)**	**Link Distance (m)**	**Turning Movement Storage Lane (m)**
Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	Signal	EBTR	631	111	F	1.15	366	902	-
		WBL	190	184	F	1.24	91	-	90
		NBL	187	111	F	1.03	80	-	90
		NBTR	217	80	E	0.99	192	412	-

Future Total with Site Trips 2030 PM Peak									
Intersection	**Control Type**	**Movement**	**Volume (veh/hour)**	**Delay (sec/vehicle)**	**LOS**	**V/C**	**Queue Length (m)**	**Link Distance (m)**	**Turning Movement Storage Lane (m)**
Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	Signal	EBL	89	113	F	0.95	63	-	100
		EBTR	692	137	F	1.19	412	902	-
		WBL	286	266	F	1.43	153	-	90
		WBTR	768	453	F	1.92	479	864	-
		NBL	383	371	F	1.70	215	-	90
		NBTR	421	202	F	1.32	358	412	-
		SBTR	291	154	F	1.16	208	385	-

6.0 Rail / Road Crossing Traffic Assessment

The purpose of this assessment is to evaluate whether vehicles that queue at the rail crossing while the crossing gates are closed will block any nearby intersections. Trains operated by VIA rail, CN and GO will cross the three of the study are roads, Winston Churchill Boulevard, Heritage Road and Mississauga Road.

6.1 Queue Analysis Assumptions

This analysis assumed that vehicles queue for the duration of the railway gate descent plus the time that the gate is down, plus the time it takes for the gate to ascend. The parameters required to conduct queue analysis were obtained from different sources, GO Rail Network Electrification Study Final Local Air Quality Study (Gannett Fleming, 2021), CN Milton Logistics Hub Project Environmental Assessment Report, CN Halton Subdivision Timetables, and communication with CN personnel. Two different GO train configurations cross the Study Area: one train consist of 2 locomotives and 12 cars (2L12) and another train consist of 1 locomotive and 6 cars (1L6).

Table 6-1 shows the total number of trains for weekday morning peak hour, which will have more trains crossing than the weekday afternoon peak hour.

Table 6-2 shows the length and speed for each of the different train types that will cross these roads.

Table 6-3 shows the calculation of stopped time for road vehicles approaching the crossing for each train type.

Table 6-1: Number of Trains Crossing During Peak Hours

Number of Trains During AM Peak Hour	GO Regional Transit Type (2L12)	GO Regional Transit Type (1L6)	VIA Passenger	CN Freight	Total Trains
Existing	0	4	1	1	6
Future	7	3	1	2	13

Table 6-2: Length and Speed of Crossing Trains

Train Information	GO Regional Transit Type (2L12)	GO Regional Transit Type (1L6)	VIA Passenger	CN Freight
Maximum Train Length (m)	354	177	151	4,267
Train Speed (km/h)	112	112	112	88

6.2 Vehicle Queue Lengths at At-Grade Railway Crossings

Based on the length and speed of crossing trains summarized in Table 6-3, the time it would take for each train type to pass the crossing was determined, and the total time that road vehicles are expected to stop during each train crossing was calculated.

Table 6-3: Stopped Time for Road Vehicles Approaching Crossing

Component of Stopped Time	Time (Seconds)			
	GO Regional Transit Type (2L12)	GO Regional Transit Type (1L6)	VIA Passenger	CN Freight
Time for the gate to descend (seconds)	11	11	11	11
Gate in horizontal position before the train arrives at the crossing (seconds)	5	5	5	5
Time for the train to clear (seconds)	11	6	5	175
Time for the gate to ascend (seconds)	5	5	5	5
Total Crossing Time (seconds)	**32**	**27**	**26**	**196**

The maximum stop time (worst case scenario/CN Trains as longest and slowest) at any crossing location is 196 seconds (3 minutes, 16 seconds). This information was used to analyze the vehicle queue length at the rail crossing towards the nearby intersections for each type of trains.

Adjusted road vehicle volumes approaching the intersection during the weekday morning and weekday afternoon peak hours were calculated based on the volumes and peak hour factors at adjacent intersections. Queue lengths were then calculated based on the adjusted numbers of vehicles approaching during the maximum stopped time. The analysis results for opening year 2025 and 2030 are included in Table 6-4 and Table 6-5 respectively.

Table 6-4 and Table 6-5 indicate that the 2025 and 2030 queues from the railway crossing are not expected to reach any adjacent intersections or the proposed site access. However, in 2030, the forecast northbound queue length on Winston Churchill Boulevard of 230 m will be only approximately 20 m from the proposed site access.

This evaluation assumes that queues clear each time the gate opens and do not accumulate. However, if the time between the railway gates opening, the next train arrival and gate descension is less than the time required for the queue to disperse, the resulting vehicle queue would be longer than the maximums noted in Table 6-4 and Table 6-5.

Table 6-4: 2025 Queue Extending from CN Rail Crossing Toward Intersections

Road	Direction from Rail Crossing	Nearest Traffic Control		Time of Day	Peak Hour Volumes (Vehicles Per Hour)	Adjusted Peak Hour Volumes (Vehicles Per Hour)	Queue Length (metres)	Queue Exceeds Storage?
		Type	Distance (metres)					
Winston Churchill Blvd	North	Stop Control @ Wanless Dr	340	AM Peak Hour	299	325	134	No
				PM Peak Hour	387	421	174	No
	South	Stop Control @ Noble St	2,350	AM Peak Hour	243	264	109	No
				PM Peak Hour	463	503	208	No
Winston Churchill Blvd	South	Winston Churchill Blvd & Site Access	250	AM Peak Hour	243	264	109	No
				PM Peak Hour	463	503	208	No
Heritage Rd	North	Heritage Rd & Wanless Dr	1260	AM Peak Hour	568	617	255	No
				PM Peak Hour	377	410	170	No
	South	Heritage Rd & Bovaird Dr W	1,765	AM Peak Hour	333	362	150	No
				PM Peak Hour	735	799	331	No
Mississauga Rd	North	Stop Control @ Yardmaster Dr	655	AM Peak Hour	792	861	119	No
				PM Peak Hour	694	754	104	No
	South	Mississauga Rd & Bovaird Dr W	770	AM Peak Hour	388	422	58	No
				PM Peak Hour	966	1050	145	No

Table 6-5: 2030 Queue Extending from CN Rail Crossing Toward Intersections

Road	Direction from Rail Crossing	Nearest Traffic Control		Time of Day	Peak Hour Volumes (Vehicles Per Hour)	Adjusted Peak Hour Volumes (Vehicles Per Hour)	Queue Length (metres)	Queue Exceeds Storage?
		Type	Distance (metres)					
Winston Churchill Blvd	North	Stop Control @ Wanless Dr	340	AM Peak Hour	330	359	148	No
				PM Peak Hour	428	465	192	No
	South	Stop Control @ Noble St	2,350	AM Peak Hour	268	291	121	No
				PM Peak Hour	511	555	230	No
Winston Churchill Blvd	South	Winston Churchill Blvd & Site Access	250	AM Peak Hour	268	291	121	No
				PM Peak Hour	511	555	230	No
Heritage Rd	North	Heritage Rd & Wanless Dr	1260	AM Peak Hour	674	733	303	No
				PM Peak Hour	484	526	218	No
	South	Heritage Rd & Bovaird Dr W	1,765	AM Peak Hour	444	483	200	No
				PM Peak Hour	859	934	386	No
Mississauga Rd	North	Stop Control @ Yardmaster Dr	655	AM Peak Hour	814	885	122	No
				PM Peak Hour	721	784	108	No
	South	Mississauga Rd & Bovaird Dr W	770	AM Peak Hour	470	511	70	No
				PM Peak Hour	1071	1164	161	No

6.3 Queue Length Analysis Results for Intersections Adjacent to Rail Crossings

As indicated in Table 6-4 and Table 6-5, most of the study intersections are sufficiently far from at-grade rail crossings that there is no concern for queueing from the intersections toward the crossings. However, the all-way stop control at the intersection of Winston Churchill Boulevard & Wanless Drive is only approximately 340 m from the rail crossing, therefore the queue length from this intersection toward the rail crossing was analyzed in more detail.

SimTraffic was used to evaluate the maximum weekday morning and weekday afternoon peak hour queue lengths expected to extend from this intersection toward the rail crossing. The findings from this analysis were compared with available space for queueing to determine whether queues from adjacent intersections are extending to the rail crossings for 2030 conditions.

These findings are summarized in Table 6-6.

Table 6-6: 2030 Queue Extending from Intersections towards Rail Crossings

Road	Direction from Rail Crossing	Nearest Traffic Control		Time of Day	Simulation Queue Length (metres)	Queue Exceeds Type Storage?
		Type	Distance (metres)			
Winston Churchill Blvd. & Wanless Drive	Northbound	3-Way Minor Stop	340	AM	0	No
	Northbound	3-Way Minor Stop	340	PM	0	No

As Table 6-6 indicates, queues from the closest intersection to the rail crossing (northbound movement at Winston Churchill Blvd. & Wanless Drive) are not expected to extend to the rail crossing for 2030 conditions, assessed as a worst-case scenario.

The SimTraffic outputs for this analysis are included in Appendix J.

7.0 Construction Staging

The construction stages are as per the Heritage Road Layover Air Quality Baseline Conditions and Impact Assessment (March 3rd, 2022) assumptions. The construction stages are listed below:

1. Site preparation, excavation, and grading (utilities relocation).
2. Construction of access routes and laydown areas.
3. Initial earth removal and construction of retaining wall, permanent concrete caissons with concrete lagging.
4. Final earth removal and grading.
5. Final site preparation to accommodate rail tracks.

Construction activities are anticipated to commence in 2023 and finish in winter 2025, with more detailed construction plans to be developed as planning continues. Material deliveries during construction are expected to include approximately 42,000 cubic metres of fill, granular material, rails and ties. Anticipated material quantities are not expected to generate high volumes of construction vehicles. The current estimate is no more than 20 heavy vehicles (dump trucks and tractor trailers to deliver railway ties).

Construction traffic is expected to access the site during off-peak periods, resulting in negligible impact during peak hours. Ontario Traffic Manual - Book 7 - Temporary Conditions will be adhered to during the construction process to allow safe accommodation for drivers, pedestrians and cyclists, and for rail traffic.

Heavy trucks exceeding 5 tonnes per axel are restricted from use at any time at Winston Churchill Boulevard from Steeles Avenue past the Project Site north to Mayfield Road. Peel Region's truck restriction map is included in Appendix K. Due to physical constraints at the intersection of Highway 7 and Winston Churchill Boulevard in the Norval Hamlet, along with year-round load restrictions, heavy trucks requiring access to Winston Churchill Boulevard will travel south from Mayfield Road. It is noted that the Region of Peel Strategic Goods Movement Network will be reviewed in conjunction with the Transportation Master Plan update, therefore confirmation of the current goods movement routes will be required at the time of construction.

The Project has only one access on Winston Churchill Boulevard, thus Winston Churchill Boulevard is proposed as the Haul Route during the construction staging regardless of the truck restrictions in place. Since Winston Churchill Boulevard is planned to be reconstructed from south of Mayfield Road to North of the Credit River Bridge between the Spring of 2024 and December of 2025, with coordination of construction staging and road construction, any impacts of the pavement structure due to heavy trucks can be addressed during the reconstruction. Due to physical constraints at the intersection of Highway 7 and Winston Churchill Boulevard in the Norval Hamlet, along with year-round load restrictions, heavy trucks requiring access to Winston Churchill Boulevard will travel south from Mayfield Road.

Upon completion of Stage 2 (Construction of access routes and laydown areas), the layover access will be part of the Construction Haul Route to the Project.

Winston Churchill Boulevard will remain open during all the planned construction stages. Due to the narrow shoulder (approximately 1.2m), short term closures of one lane to move equipment onto the site could take place for one day only as the worst-case scenario, prior the early construction stages (Stage 1 & 2). A Traffic Control Plan will be created for the proposed lane closures and a Road Occupancy Permit will be obtained from the Region of Peel. An alternative solution to avoid any closure include using the farm field entrance located south of the layover site and construction of a temporary road parallel to Winston Churchill Boulevard. The Region of Peel, emergency services and school boards for the City of Brampton and Region of Peel, as well as residents in the surrounding areas will be notified of any short term closures to Winston Churchill Boulevard.

Closures will not be necessary after the completion of Phase 2 (Construction of access routes and laydown areas) and the site access road could then serve as a truck queueing lane.

The construction traffic management approach is conceptual at this stage and will be more fully developed at later stages in the project.

8.0 Potential Impacts to Cultural Heritage Resources

No direct adverse traffic impacts are expected to occur to 10827 Winston Churchill Boulevard, or 10746 Winston Churchill Boulevard, the two Cultural Heritage Resources within proximity of the Project Site, during construction and operation of the Heritage Road Layover facilities, and specifically the construction and operation of the site access road that enters from Winston Churchill Boulevard.

9.0 Conclusion and Recommendations

Based on the analysis findings, the following conclusions can be made:

1. The proposed site access is located 250 m from the existing rail crossing along Winston Churchill Boulevard. The site access will have a two-lane cross-section and will operate as a stop-controlled intersection with Winston Churchill Boulevard.

2. Peel Region and Halton Region will reconstruct Winston Churchill Boulevard between South of Mayfield to north of the Credit River Bridge to have 3.75 m driving lanes and will introduce a shoulder on both sides of the road with a 2.5 m width, providing better infrastructure for vehicles, cycling and pedestrians in future.

3. There are some existing critical movements in the Study Area, at the intersections of Winston Churchill Boulevard and Guelph Street, Heritage Road & Wanless Drive and Heritage Road & Bovaird Drive West.

4. There are currently few pedestrians and cyclists travelling in the Study Area. No sidewalks or cycling infrastructure is in place. Development of the Heritage Heights Secondary Plan is likely to result in additional pedestrian infrastructure, and pedestrian demand in the community in the future.

5. Two horizon years have been considered for analysis: 2025 (as Opening Year) and 2030 (as Future Year).

6. Development of two precincts within the Heritage Heights Secondary Plan area is expected to occur between the present and 2030. These mixed-use developments are forecast to add approximately 2,644 weekday morning peak hour trip ends and 3,103 weekday afternoon peak hour trip ends to the road network, although some of these will not travel through the study intersections.

7. The City of Brampton and the Region of Peel have road construction projects planned for the area within the study horizons that will help to relieve or reduce the existing operating problems and accommodate future development.

8. The Heritage Road Layover site is not expected to generate significant road vehicle traffic during peak hours. Total (inbound plus outbound) trip generation is expected to be 20 vehicles and 18 vehicles during the weekday morning peak hour and weekday afternoon peak hour, respectively.

9. The Heritage Road Layover access will operate acceptably for the 2025 and 2030 analysis periods with single shared lanes on Winston Churchill and on the access.

10. For the proposed access location, there is a sight distance constraint on Winston Churchill at the rail crossing north of the access. This will limit available sight distance to approximately 284 m. However, available site distance exceeds stopping site distance (140 m) and minimum decision site distance (240 m), confirming that the access location is acceptable. The available sight distance is less than the desirable decision sight distance (320 m), so the road authority may choose to install an intersection warning sign for southbound drivers north of the intersection to provide advanced warning of the access.

11. Queueing analysis for 2025 and 2030 conditions shows that queues of vehicles waiting at the rail crossings while trains pass will not reach any of the nearby intersections, although they may come close to the site access in 2030 conditions.

12. The Heritage Road Layover will have no negative impact on rail traffic.

13. There are five (5) construction stages expected. Construction traffic volume estimates are expected to be refined in later planning stages but are estimated at this point to be less than 20 trucks per day. Construction shifts would start and end outside of the peak hours for road traffic, resulting in minimal impact on traffic movements along Winston Churchill Boulevard during peak hours.

14. Verification of current goods movement routes in Peel Region is required at the time of construction.

15. Coordination of the construction schedule for the Heritage Road Layover and for the reconstruction of the Winston Churchill reconstruction from south of Mayfield Road to North of the Credit River Bridge, scheduled in Spring of 2024 with completion in December of 2025, is recommended.

10.0 References

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Appendix A

Signal Timings Plans

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**February 1, 2017**	**Prepared Date**	**December 14, 2021**
Database Rev	**12**	**Completed By**	**TF**
Timing Card / Field rev	**-**	**Checked By**	**RC**

Location	**Bovaird Drive & Heritage Road**

Phase #	**Street Name - Direction**	**Vehicle Minimum (s)**	**Pedestrian Minimum (s)**		**Amber (s)**	**All Red (s)**	**TIME PERIOD (s) (Green+Amber+All Red)**		
			WALK	**FDWALK**			**AM MAX**	**OFF SPLITS**	**PM SPLITS**
1	Bovaird Drive - WB LT Prot. Perm.	5.0	0.0	0.0	3.0	0.0	14.0 (max)	18.0 (max)	14.0 (max)
2	Bovarid Drive - EB	12.0	8.0	8.0	5.4	2.0	60.4 (max)	70.4 (max)	60.4 (max)
3	Not In Use	-	-	-	-	-	-	-	-
4	Heritage Road - NB	8.0	8.0	11.0	4.2	2.0	14.2 (min), 61.2 (max)	14.2 (min), 36.2 (max)	14.2 (min), 61.2 (max)
5	Not In Use	-	-	-	-	-	-	-	-
6	Bovaird Drive - WB	12.0	8.0	8.0	5.4	2.0	60.4 (max)	70.4 (max)	60.4 (max)
7	Heritage Road - NB LT Prot. Perm.	5.0	0.0	0.0	3.0	0.0	18.0 (max)	18.0 (max)	18.0 (max)
8	Heritage Road - SB	8.0	8.0	11.0	4.2	2.0	14.2 (min), 61.2 (max)	14.2 (min), 36.2 (max)	14.2 (min), 61.2 (max)

System Control
Yes

Semi-Actuated Mode
No

TIME (M-F)	**PEAK**	**CYCLE LENGTH (s)**	**OFFSET (s)**
FREE	AM	0	0
	OFF	0	0
	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**September 29, 2020**		**Prepared Date**	**December 3, 2021**
Database Rev	**MaxView**		**Completed By**	**T.F**
Timing Card / Field rev	**-**		**Checked By**	**R.C**
Location	**Mississauga Road & Bovaird Drive**			

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)
			WALK	FDWALK			AM/OFF/PM
1	Bovaird Drive - WB LT Prot.	5.0	0.0	0.0	3.0	2.0	25.0 (max)
2	Bovaird Drive - EB	12.0	8.0	16.0	4.0	2.5	72.5 (max)
3	Not In Use	-	-	-	-	-	- / - / -
4	Mississauga Road - NB	12.0	8.0	23.0	4.2	2.8	19.0 (min), 57.0 (max)
5	Bovaird Drive - EB LT Prot.	5.0	0.0	0.0	3.0	2.0	20.0 (max)
6	Bovaird Drive - WB	12.0	8.0	16.0	4.0	2.5	72.5 (max)
7	Mississauga Road - NB LT Prot. Perm.	5.0	0.0	0.0	3.0	0.0	18.0 (max)
8	Mississauga Road - SB	12.0	8.0	23.0	4.2	2.8	19.0 (min), 57.0 (max)

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
FREE	AM	0	0
	OFF	0	0
	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**February 15, 2019**	**Prepared Date**	**December 8, 2021**
Database Rev	**2**	**Completed By**	**T.F**
Timing Card / Field rev	**-**	**Checked By**	**R.C**

Location — **Mayfield Road & Heritage Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX
1	Not In Use	-	-	-	-	-			
2	Mayfield Road - EB	8.0	8.0	5.0	4.6	2.0	56.6	41.6	61.6
3	Not In Use	-	-	-	-	-			
4	Heritage Road - NB	8.0	8.0	5.0	4.2	2.0	14.2 (min), 26.2 (max)		14.2 (min), 36.2 (max)
5	Not In Use	-	-	-	-	-			
6	Mayfield Road - WB	8.0	8.0	5.0	4.6	2.0	56.6	41.6	61.6
7	Not In Use	-	-	-	-	-			
8	Heritage Road - SB	8.0	8.0	5.0	4.2	2.0	14.2 (min), 26.2 (max)		14.2 (min), 36.2 (max)

System Control

Yes

Semi-Actuated Mode

No

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
FREE	AM/OFF/PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**December 14, 2021**		**Prepared Date**	**December 14, 2021**	
Database Rev	**MaxView**		**Completed By**	**TF**	
Timing Card / Field rev	**-**		**Checked By**	**RC**	
Location	**Mayfield Road & Mississauga Road**				

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM/OFF/PM		
1	Not In Use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB/WB	16	12	16	4.6	2.0	55.6 (max)		
3	Not In Use	-	-	-	-	-	-	-	-
4	Mississauga Road - NB/SB	12	12	12	4.6	2.0	18.6 (min), 39.6 (max)		
5	Not In Use	-	-	-	-	-	-	-	-
6	Not In Use	-	-	-	-	-	-	-	-
7	Not In Use	-	-	-	-	-	-	-	-
8	Not In Use	-	-	-	-	-	-	-	-

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
FREE	AM	0	0
	OFF	0	0
	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**February 19, 2021**		**Prepared Date**	**December 3, 2021**	
Database Rev	**MaxView**		**Completed By**	**T.F**	
Timing Card / Field rev	**-**		**Checked By**	**R.C**	
Location	**Winston Churchill Boulevard & Mayfield Road**				

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM/OFF/PM		
1	Not In Use	-	-	-	-	-	-	-	-
2	Mayfield Road - EB	12.0	12.0	12.0	4.6	2.0	58.6 (max)		
3	Not In Use	-	-	-	-	-	-	-	-
4	Winston Churchill Boulevard - NB	8.0	12.0	9.0	4.6	2.0	14.6 (min), 41.6 (max)		
5	Not In Use	-	-	-	-	-	-	-	-
6	Mayfield Road - WB	12.0	12.0	12.0	4.6	2.0	58.6 (max)		
7	Not In Use	-	-	-	-	-	-	-	-
8	Winston Churchill Boulevard - SB	8.0	12.0	9.0	4.6	2.0	14.6 (min), 41.6 (max)		

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
FREE	AM/OFF/PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**December 14, 2021**		**Prepared Date**	**December 14, 2021**	
Database Rev	**MaxView**		**Completed By**	**TF**	
Timing Card / Field rev	**-**		**Checked By**	**RC**	
Location	**Mississauga Road & Wanless Drive**				

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM/OFF/PM		
1	Not In Use	-	-	-	-	-	-	-	-
2	Mississauga Road - SB	10	8	11	4.2	2.0	92.2 (max)		
3	Not In Use	-	-	-	-	-	-	-	-
4	Wanless Drive - WB	10	8	13	4.0	2.1	16.1 (min), 46.1 (max)		
5	Not In Use	-	-	-	-	-	-	-	-
6	Mississauga Road - NB	10	8	11	4.2	2.0	92.2 (max)		
7	Not In Use	-	-	-	-	-	-	-	-
8	Wanless Drive - EB	10	8	13	4.0	2.1	16.1 (min), 46.1 (max)		

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
FREE	AM	0	0
	OFF	0	0
	PM	0	0

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**September 24, 2021**		**Prepared Date**	**December 8, 2021**
Database Rev	**MaxView**		**Completed By**	**T.F**
Timing Card / Field rev	**-**		**Checked By**	**R.C**

Location	**Mississauga Road & Sandalwood Parkway**

Phase #	**Street Name - Direction**	**Vehicle Minimum (s)**	**Pedestrian Minimum (s)**		**Amber (s)**	**All Red (s)**	**TIME PERIOD (s) (Green+Amber+All Red)**		
			WALK	**FDWALK**			**AM/OFF/PM**		
1	Not In Use	-	-	-	-	-	-	-	-
2	Mississauga Road - SB	10.0	0.0	0.0	4.2	2.3	81.5 (max)		
3	Not In Use	-	-	-	-	-	-	-	-
4	Sandalwood Parkway - WB	10.0	0.0	0.0	4.0	3.2	17.2 (min), 47.2 (max)		
5	Not In Use	-	-	-	-	-	-	-	-
6	Mississauga Road - NB	10.0	8.0	21.0	4.2	2.3	102.5 (max)		
7	Not In Use	-	-	-	-	-	-	-	-
8	Not In Use	-	-	-	-	-	-	-	-

System Control

Yes

Semi-Actuated Mode

Yes

TIME (M-F)	**PEAK**	**CYCLE LENGTH (s)**	**OFFSET (s)**
FREE	AM/OFF/PM	0	0

Region of Peel
Working for you

TIMING CARD

Printed: November 27, 2018

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	**Model**		**System Loops**	**Implemented (Y/M/D)**	
Intellight	X3L				

*- Start From Main Menu

Type of Operation

Revision

NO	Date Y	M	D	Description	Field Chg by	Checked by	Approved by
11	18	12	13	Intersection Re-Build			

PHASE DESCRIPTION

Ph1	Highway 7 - WW PP LT	Ph5	Not in Use
Ph2	Highway 7 - WB	PH6	Highway 7 - WB
Ph3	Not in Use	Ph7	Winston Churchill Boulevard - NB PP LT
Ph4	Winston Churchill Boulevard - NB	Ph8	Winston Churchill Boulevard - SB

ADMINISTRATION - COMMUNICATIONS SETTINGS - IP SETTINGS 3 - 2 - 1

Unit IP Address..... : 10.141.5.64
Gateway..... :
NTP Server Address..... :
Subnet Mask..... :

PHASE TIMINGS 2 - 2 - 1

Vehicle Timings Phase:	1	2	3	4	5	6	7	8
Minimum Green	7	20	0	10	0	20	7	10
Passage Time	3	3.5	0	3	0	3.5	3	3
Maximum No 1	13	60	0	25	0	60	16	25
Maximum No 2	13	60	0	25	0	60	16	25
Maximum No 3	13	60	0	25	0	60	16	25
Yellow Change	3	4.5	3	4.5	3	4.5	3	4.5
Red Clearance	0	2.2	0	2.3	0	2.2	0	2.3

Pedestrian Times Phase:	1	2	3	4	5	6	7	8
Walk	0	7	0	7	0	7	0	7
Pedestrian Clearance	0	10	0	13	0	10	0	13
Act Rest In Walk	.	.	.	.	.	.	.	.

PHASE OPTIONS 2 - 2 - 2

General Control Phase:	1	2	3	4	5	6	7	8
Enabled	X	X	.	X	.	X	X	X
Phase Configuration	Phase Not On	Red Clear	None	Phase Not On	None	Red Clear	Phase Not On	Phase Not On
Non-Actuated 1	.	X	.	.	.	X	.	.
Ped NA+ Mode	.	X	.	.	.	X	.	.
Force Coord Ped Yld	.	X	.	.	.	X	.	.
Ped Recycle	.	X	.	.	.	X	.	.

Recalls Phase:	1	2	3	4	5	6	7	8
Min Veh Recall	.	.	.	.	.	.	.	.
Max Veh Recall	.	X	.	.	.	X	.	.
Pedestrian Recall	.	X	.	.	.	X	.	.

Vehicle Control Phase:	1	2	3	4	5	6	7	8
Non-Lock Memory	X	.	X	X	X	.	X	X
Dual Entry	.	X	.	X	.	X	.	X

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	**Model**		**System Loops**	**Implemented (Y/M/D)**	
Intellight	X3L				

CONTROLLER UNIT DATA 2 - 1

Extended Mode.....	:	Enable	
Startup Flash.....	:	0	Time in Seconds (0 - 255)
Auto Pedestrian Clear....	:	Enable	
Red Revert.....	:	5	Time in Seconds
Backup Time.....	:	600	
Startup Clearance Hold.	:	9	
Green Flash Freq.....	:	120	
Yellow Flash Freq.....	:	60	
MCE Sequence.....	:	1	
MCE Enable.....	:	Enable	
Start Yellow Override....	:	0	
Start Red Override.....	:	0	
Free Sequence.....	:	1	Sequence number used when running manual free
All Red Flash Exit Time..	:	9	
Local Flash thru CVM...	:	Disable	
3-phase Diamond Seq...	:		
4-phase Diamond Seq...	:		
Sep. Diamond Seq.....	:		

STANDARD OVERLAPS 2 - 7 - 1

Control		Enabled	Type	Included	Modifier	Negative
Overlap A.....	:	Enabled	Off			
Overlap B.....	:	Enabled	Off			
Overlap C.....	:	Enabled	Off			
Overlap D.....	:	Enabled	Off			

COORDINATION PARAMETERS 2 - 5 - 1

Control

Operational Mode.....	:	Automatic
Coordination Mode.....	:	Per Pattern
Max Mode.....	:	Per Pattern
Force Mode.....	:	Per Pattern
Correction Mode.....	:	Shortway (Auto)
Max Cycle Limit %.....	:	20
Min Cycle Limit %.....	:	15
Max Dwell.....	:	0

PATTERN PARAMETERS 2 - 5 - 2

Patterns

Pattern	Cycle	Offset 1	Offset 2	Offset 3	Split	Sequence	Ref Point	Coord Md	Force Off	Max Mode
1	0	0	0	0	1	1	Green	Permissive	Phase	Max Inhibit
2	0	0	0	0	2	1	Green	Permissive	Phase	Max Inhibit
3	0	0	0	0	3	1	Green	Permissive	Phase	Max Inhibit
4	0	0	0	0	4	1	Green	Permissive	Phase	Max Inhibit
11	0	0	0	0	11	1	Green	Permissive	Phase	Max 1
12	0	0	0	0	12	1	Green	Permissive	Phase	Max 2
13	0	0	0	0	13	1	Green	Permissive	Phase	Max 3
126	0	0	0	0	0	0	Yellow	Permissive	Fixed	Max Inhibit
127	0	0	0	0	0	0	Yellow	Permissive	Fixed	Max Inhibit
128	0	0	0	0	0	0	Yellow	Permissive	Fixed	Max Inhibit

Split Parameters

SCHEDULES 2 - 6 - 1

Day Plan	1	Description	Sunday							Enabled
Month of Year						Days of Week				
J	F	M	A	M	J	S	M	T	W	T	F	S
X	X	X	X	X	X	X						
J	A	S	O	N	D							
X	X	X	X	X	X							

Days of Month										
1	2	3	4	5	6	7	8	9	10	11
X	X	X	X	X	X	X	X	X	X	X
12	13	14	15	16	17	18	19	20	21	22
X	X	X	X	X	X	X	X	X	X	X
23	24	25	26	27	28	29	30	31		
X	X	X	X	X	X	X	X	X		

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	**Model**		**System Loops**	**Implemented (Y/M/D)**	
Intellight	X3L				

Day Plan 2 — **Description** Weekday — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
X	X	X	X	X	X	.	X	X	X	X	X	.	X	X	X	X	X	X	X	X	X	X	X
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
X	X	X	X	X	X								X	X	X	X	X	X	X	X	X	X	X
													23	24	25	26	27	28	29	30	31		
													X	X	X	X	X	X	X	X			

Day Plan 3 — **Description** Saturday — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
X	X	X	X	X	X	.	.	.	.	.	.	X	X	X	X	X	X	X	X	X	X	X	X
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
X	X	X	X	X	X								X	X	X	X	X	X	X	X	X	X	X
													23	24	25	26	27	28	29	30	31		
													X	X	X	X	X	X	X	X			

Day Plan 4 — **Description** — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
.	.	.	.	.	.	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
.	.	.	.	.	.								.	.	.	.	.	.	.	.	.	.	.
													23	24	25	26	27	28	29	30	31		
													.	.	.	.	.	.	.	.	.		

Day Plan 5 — **Description** — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
.	.	.	.	.	.	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
.	.	.	.	.	.								.	.	.	.	.	.	.	.	.	.	.
													23	24	25	26	27	28	29	30	31		
													.	.	.	.	.	.	.	.	.		

Day Plan 6 — **Description** — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
.	.	.	.	.	.	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
.	.	.	.	.	.								.	.	.	.	.	.	.	.	.	.	.
													23	24	25	26	27	28	29	30	31		
													.	.	.	.	.	.	.	.	.		

Day Plan 7 — **Description** — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
.	.	.	.	.	.	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
.	.	.	.	.	.								.	.	.	.	.	.	.	.	.	.	.
													23	24	25	26	27	28	29	30	31		
													.	.	.	.	.	.	.	.	.		

Day Plan 8 — **Description** — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
.	.	.	.	.	.	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
.	.	.	.	.	.								.	.	.	.	.	.	.	.	.	.	.
													23	24	25	26	27	28	29	30	31		
													.	.	.	.	.	.	.	.	.		

Day Plan 9 — **Description** — **Enabled**

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
.	.	.	.	.	.	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
.	.	.	.	.	.								.	.	.	.	.	.	.	.	.	.	.
													23	24	25	26	27	28	29	30	31		
													.	.	.	.	.	.	.	.	.		

Intersection Name		Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard		Semi-Actuated		11
Controller Make	**Model**	**System Loops**	**Implemented (Y/M/D)**	
Intellight	X3L			

Day Plan	10	Description			Enabled

Month of Year						Days of Week							Days of Month										
J	F	M	A	M	J	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11
						X	X	X	X	X	X	X											
J	A	S	O	N	D								12	13	14	15	16	17	18	19	20	21	22
													23	24	25	26	27	28	29	30	31		

DAY PLANS 2 - 6 - 2

Day Plan 1

Evt.	Hour	Min	Action
1	0	0	8
2	0	0	0
3	0	0	0
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 2

Evt.	Hour	Min	Action
1	0	0	0
2	15	0	11
3	18	0	8
4	0	0	0
5	0	0	0
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

Day Plan 3

Evt.	Hour	Min	Action
1	0	0	8
2	0	0	0
3	0	0	0
4	0	0	
5	0	0	
6	0	0	
7	0	0	
8	0	0	
9	0	0	
10	0	0	

ACTIONS 2 - 6 - 3

Actions

Act.	Pattern	Aux. 1	Aux. 2	Aux. 3	Special Functions 1	2	3	4	5	6	7	8
1	Pattern 1											
2	Pattern 2											
3	Pattern 3											
4	Pattern 4											
5	Pattern 5											
6	Pattern 6											
7	Pattern 7											
8	Free											
9	Pattern 9											
10	Pattern 10											
11	Pattern 11											
12	Pattern 12											
13	Pattern 13											

PREEMPT PHASING 2 - 8 - 1

Preempt	1	2	3	4	5	6	7	8
Enabled	Disabled	Disabled	Enabled	Enabled	Disabled	Disabled	Disabled	Disabled
Type	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh	Emergency Veh
Track phase								
Dwell Phase			2,6	4,8				
Dwell Ped								
Exit Phase			4,8	2,6				
Track Overlap								
Dwell overlap								
Cycling phase								
Cycling Ped								
Cycling Overlap								

PREEMPT PARAMETERS 2 - 8 - 2

Preempt	1	2	3	4	5	6	7	8
Link	0	0	0	0	0	0	0	0
Delay	0	0	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0	0	0
Min Presence	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0
x Presence Action	Terminate	Terminate	Terminate	Terminate	Terminate	Terminate	Terminate	Terminate
Enter Min Green	0	0	10	10	0	0	0	0

Intersection Name			Operation		Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated			11
Controller Make	Model		System Loops		Implemented (Y/M/D)	
Intellight	X3L					

ter Yellow Change	25.5	25.5	4.5	4.5	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	2.3	2.3	25.5	25.5	25.5	25.5
Enter Min Walk	0	0	8	8	0	0	0	0
Enter Ped Clear	255	255	12	12	255	255	255	255
Track Green	0	0	0	0	0	0	0	0
ack Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Green	0	0	0	0	0	0	0	0
Track 2 Yellow	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Track 2 Red	25.5	25.5	25.5	25.5		25.5	25.5	25.5
ck Ext. Gate Down	0	0	0	0	0	0	0	0
Dwell Green	0	0	10	10	0	0	0	0
Exit Ped Clear	255	255	0	0	255	255	255	255
Exit Yellow Change	0	0	4.5	4.5	0	0	0	0
Exit Red Clear	25.5	25.5	2.2	2.3	25.5	25.5	25.5	25.5
Dwell Ext Time	0	0	0	0	0	0	0	0
Max Exit Green	0	0	0	0	0	0	0	0
Exit Type	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases	Exit Phases
Exit Max Mode	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
xit Max Apply Time	0	0	0	0	0	0	0	0
Veh Exit Calls								
Ped Exit Calls								

PREEMPT OPTIONS 2 - 8 - 3

Preempt	1	2	3	4	5	6	7	8
Non Lock Mem								
Not Overide Flash								
NotOverideNextPre								
Flash Dwell								

VEHICLE DETECTOR PARAMETERS 2 - 4 - 1

Det.	Call Phase	Call Overlap	Add'l Call Phases	Switch Phases	Delay	Extend	Queue Limit	No Activity	Max Presence	Erratic Counts	Fail Time	Failed Recall
1	1	0		0	5	0	0	0	60	0	255	Max Recall
2	2	0		0	0	0	0	0	60	0	255	Max Recall
3	3	0		0	0	0	0	0	60	0	255	Max Recall
4	4	0		0	5	0	0	0	60	0	255	Max Recall
5	5	0		0	0	0	0	0	60	0	255	Max Recall
6	6	0		0	0	0	0	0	60	0	255	Max Recall
7	7	0		0	5	0	0	0	60	0	255	Max Recall
8	8	0		0	5	0	0	0	60	0	255	Max Recall

VEHICLE DETECTOR OPTIONS 2 - 4 - 2

Detector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Volume Detector																		
Occupancy																		
Yellow Lock Call																		
Red Lock call																		
Extend	X	X	X	X	X	X	X	X										
Added Initial																		
Queue																		
Call	X	X	X	X	X	X	X	X										
Terminate																		
Min Green 2																		
Protected Perm																		

Detector	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Volume Detector																		
Occupancy																		
Yellow Lock Call																		
Red Lock call																		
Extend																		
Added Initial																		
Queue																		
Call																		

Intersection Name		Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard		Semi-Actuated		11
Controller Make	**Model**	**System Loops**	**Implemented (Y/M/D)**	
Intellight	X3L			

Terminate																		
Min Green 2																		
Protected Perm																		

Detector	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Volume Detector																		
Occupancy																		
Yellow Lock Call																		
Red Lock call																		
Extend																		
Added Initial																		
Queue																		
Call																		
Terminate																		
Min Green 2																		
Protected Perm																		

Detector	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
Volume Detector																		
Occupancy																		
Yellow Lock Call																		
Red Lock call																		
Extend																		
Added Initial																		
Queue																		
Call																		
Terminate																		
Min Green 2																		
Protected Perm																		

Data Collection Period	0

PEDESTRIAN DETECTOR PARAMETERS 2 - 4 - 3

Det.	Call Phase	Call Overlap	No Activity	Max Presence	Erratic Count
1	1	0	0	0	0
2	2	0	0	1	0
3	3	0	0	0	0
4	4	0	0	1	0
5	5	0	0	0	0
6	6	0	0	1	0
7	7	0	0	0	0
8	8	0	0	1	0

PRI/PRE DETECTOR PLANS

Pri/Pre Detector Plan 1

Det.	Low Call	High Call	Low Num	High Num	Lead/Trail	Arrival Time	Pri Delay	Delay	Ext	Min On	Call Overlap	Description
1	None	Prioritor	0	1	Lead Request	84	0	0	0	0		Det 21 WB Far
2	None	Prioritor	0	1	Lead Request	56	0	0	0	0		Det 22 WB Mid
3	None	Prioritor	0	1	Lead Request	28	0	0	0	0		Det 23 WB Near
4	None	Prioritor	0	1	Lead Release	0	0	0	0	0		Out
9	None	Prioritor	0	3	Lead Request	84	0	0	0	0		Det 41 EB Far
10	None	Prioritor	0	3	Lead Request	56	0	0	0	0		Det 42 EB Mid
11	None	Prioritor	0	3	Lead Request	28	0	0	0	0		Det 43 EB Near
12	None	Prioritor	0	3	Lead Release	0	0	0	0	0		Out

Prioritor Configuration

Enabled	Active
Lock-out Time	6

Prioritor Phase Settings

Pri.	Enabled	Priority Phases	Skippable Phases	Delay Time	Estimated Travel Time	Max Presence	Reservice Lockout	Free Min Green	Free Max Green	Description
1	Enabled	6		0	84	110	360	Min Green	Max Green	
2	Enabled			0	0	0	0	Min Green	Max Green	
3	Enabled	2		0	84	110	360	Min Green	Max Green	
4	Enabled			0	0	0	0	Min Green	Max Green	

Intersection Name			Operation		Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated			11
Controller Make	Model		System Loops		Implemented (Y/M/D)	
Intellight	X3L					

5	Enabled			0	0	0	0	Min Green	Max Green	
6	Enabled			0	0	0	0	Min Green	Max Green	
7	Enabled			0	0	0	0	Min Green	Max Green	
8	Enabled			0	0	0	0	Min Green	Max Green	

Prioritor Options

Prioritor Number	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Lockout after First Svc	.	.	.	.	.	.	.	.
Presence Only Check-in	.	.	.	.	.	.	.	.

ADVANCED I/O

IO Modules

IO Module	*Type*
1	TS1 A B C D Connectors
2	TS2 DR2 BIU
3	TS2 DR3 BIU
4	TS2 DR4 BIU

Input Points, IO Module 1

Input Pt.	*Description*	*Input Control Type*	*Index*
1	A-f	Vehicle Det Call	1
2	A-K	Vehicle Det Call	2
3	B-N	Vehicle Det Call	3
4	B-L	Vehicle Det Call	4
5	C-P	Vehicle Det Call	5
6	C-S	Vehicle Det Call	6
7	C-V	Vehicle Det Call	7
8	C-t	Vehicle Det Call	8
9	A-g	Ped Det Call	1
10	A-L	Ped Det Call	2
11	B-P	Ped Det Call	3
12	B-M	Ped Det Call	4
13	C-R	Ped Det Call	5
14	C-T	Ped Det Call	6
15	C-U	Ped Det Call	7
16	C-W	Ped Det Call	8
17	A-h	Phase Hold	1
18	A-M	Phase Hold	2
19	B-i	Phase Hold	3
20	B-h	Phase Hold	4
21	C-m	Phase Hold	5
22	C-p	Phase Hold	6
23	C-EE	Phase Hold	7
24	C-X	Phase Hold	8
25	A-EE	Phase Ped Omit	1
26	A-v	Phase Ped Omit	2
27	B-j	Phase Ped Omit	3
28	B-x	Phase Ped Omit	4
29	B-T	Phase Ped Omit	5
30	B-k	Phase Ped Omit	6
31	B-m	Phase Ped Omit	7
32	B-n	Phase Ped Omit	8
33	B-U	Phase Phase Omit	1
34	B-S	Phase Phase Omit	2
35	B-R	Phase Phase Omit	3
36	B-g	Phase Phase Omit	4
37	C-n	Phase Phase Omit	5
38	C-q	Phase Phase Omit	6
39	C-r	Phase Phase Omit	7
40	C-s	Phase Phase Omit	8
41	A-i	Ring Force Off	1
42	A-N	Ring Stop Timing	1
43	A-P	Ring Inhibit Max Termination	1

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

44	A-x	Ring Red Rest	1
45	A-FF	Ring Pedestrian Recycle	1
46	A-GG	Ring Max 2 Selection	1
47	A-w	Ring Omit Red Clearance	1
48	A-m	Unit Call To Non Actuated A	1
49	C-Y	Ring Force Off	2
50	C-Z	Ring Stop Timing	2
51	C-a	Ring Inhibit Max Termination	2
52	C-u	Ring Red Rest	2
53	B-V	Ring Pedestrian Recycle	2
54	B-z	Ring Max 2 Selection	2
55	C-v	Ring Omit Red Clearance	2
56	A-z	Unit Call To NonActuated B	1
57	A-R	Unit External Start	1
58	A-S	Unit Interval Advance	1
59	A-T	Unit Indicator Lamp Control	1
60	A-j	Unit External Min Recall	1
61	A-k	Unit Manual Control Enable	1
62	A-q	Unit IO Mode Bit 0	1
63	A-y	Unit IO Mode Bit 1	1
64	A-HH	Unit IO Mode Bit 2	1
65	A-n	Unit Test Input A	1
66	A-AA	Unit Test Input B	1
67	C-b	Unit Test Input C	1
68	A-BB	Unit Walk Rest Modifier	1
69	B-B	Preempt Input	2
70	B-W	Preempt Input	4
71	B-X	Preempt Input	5
72	B-v	Preempt Input	6
73	D-A	Vehicle Det Call	9
74	D-B	Vehicle Det Call	10
75	D-C	Vehicle Det Call	11
76	D-D	Vehicle Det Call	12
77	D-E	Vehicle Det Call	13
78	D-F	Vehicle Det Call	14
79	D-G	Vehicle Det Call	15
80	D-H	Vehicle Det Call	16
81	D-J	Vehicle Det Call	17
82	D-K	Vehicle Det Call	18
83	D-L	Vehicle Det Call	19
84	D-M	Vehicle Det Call	20
85	D-N	Vehicle Det Call	21
86	D-P	Vehicle Det Call	22
87	D-R	Vehicle Det Call	23
88	D-S	Vehicle Det Call	24
89	D-T	Unit Clock Reset	1
90	D-U	Not Active	0
91	D-V	Not Active	0
92	D-W	Not Active	0
93	D-X	Not Active	0
94	D-Y	Coord Free Switch	1
95	D-Z	Not Active	0
96	D-a	Not Active	0
97	D-b	Unit Alarm 1	1
98	D-c	Unit Alarm 2	1
99	D-d	Unit Alarm	3
100	D-e	Unit Alarm	4
101	D-f	Unit Alarm	5
102	D-g	Unit Automatic Flash	1
103	D-h	Unit Local Flash Sense	1
104	D-i	Door Ajar	1
105	D-j	Special Func Input	1
106	D-k	Special Func Input	2

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

107	D-m	Special Func Input	3
108	D-n	Special Func Input	4
109	D-p	Special Func Input	5
110	D-q	Special Func Input	6
111	D-r	Special Func Input	7
112	D-s	Special Func Input	8
113	D-t	Preempt Input	1
114	D-u	Preempt Input	2
115	D-v	Preempt Input	3
116	D-w	Preempt Input	4
117	D-x	Preempt Input	5
118	D-y	Preempt Input	6
119	---	Not Active	0
120	---	Not Active	0
121	---	Not Active	0
122	---	Not Active	0
123	---	Not Active	0
124	---	Not Active	0
125	---	Not Active	0
126	---	Not Active	0
127	---	Not Active	0
128	---	Not Active	0

Input Points, IO Module 2

Input Pt.	*Description*	*Input Control Type*	*Index*
1	I/O 1	Vehicle Det Call	17
2	I/O 2	Vehicle Det Call	18
3	I/O 3	Vehicle Det Call	19
4	I/O 4	Vehicle Det Call	20
5	I/O 5	Prioritor/Preempt Detector	1
6	I/O 6	Prioritor/Preempt Detector	2
7	I/O 7	Prioritor/Preempt Detector	3
8	I/O 8	Prioritor/Preempt Detector	4
9	I/O 9	Vehicle Det Call	25
10	I/O 10	Vehicle Det Call	26
11	I/O 11	Vehicle Det Call	27
12	I/O 12	Vehicle Det Call	28
13	I/O 13	Vehicle Det Call	29
14	I/O 14	Vehicle Det Call	30
15	I/O 15	Vehicle Det Call	31
16	I/O 16	Vehicle Det Call	32
17	I/O 17	Channel Fault Status	17
18	I/O 18	Channel Fault Status	18
19	I/O 19	Channel Fault Status	19
20	I/O 20	Channel Fault Status	20
21	I/O 21	Channel Fault Status	21
22	I/O 22	Channel Fault Status	22
23	I/O 23	Channel Fault Status	23
24	I/O 24	Channel Fault Status	24
25	In 1	Channel Fault Status	25
26	In 2	Channel Fault Status	26
27	In 3	Channel Fault Status	27
28	In 4	Channel Fault Status	28
29	In 5	Channel Fault Status	29
30	In 6	Channel Fault Status	30
31	In 7	Channel Fault Status	31
32	In 8	Channel Fault Status	32
33	Opto 1	Not Active	0
34	Opto 2	Not Active	0
35	Opto 3	Not Active	0
36	Opto 4	Not Active	0
37	---	Not Active	0
38	---	Not Active	0

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

39	---	Not Active	0
40	---	Not Active	0
41	---	Not Active	0
42	---	Not Active	0
43	---	Not Active	0
44	---	Not Active	0
45	---	Not Active	0
46	---	Not Active	0
47	---	Not Active	0
48	---	Not Active	0
49	---	Not Active	0
50	---	Not Active	0
51	---	Not Active	0
52	---	Not Active	0
53	---	Not Active	0
54	---	Not Active	0
55	---	Not Active	0
56	---	Not Active	0
57	---	Not Active	0
58	---	Not Active	0
59	---	Not Active	0
60	---	Not Active	0
61	---	Not Active	0
62	---	Not Active	0
63	---	Not Active	0
64	---	Not Active	0
65	---	Not Active	0
66	---	Not Active	0
67	---	Not Active	0
68	---	Not Active	0
69	---	Not Active	0
70	---	Not Active	0
71	---	Not Active	0
72	---	Not Active	0
73	---	Not Active	0
74	---	Not Active	0
75	---	Not Active	0
76	---	Not Active	0
77	---	Not Active	0
78	---	Not Active	0
79	---	Not Active	0
80	---	Not Active	0
81	---	Not Active	0
82	---	Not Active	0
83	---	Not Active	0
84	---	Not Active	0
85	---	Not Active	0
86	---	Not Active	0
87	---	Not Active	0
88	---	Not Active	0
89	---	Not Active	0
90	---	Not Active	0
91	---	Not Active	0
92	---	Not Active	0
93	---	Not Active	0
94	---	Not Active	0
95	---	Not Active	0
96	---	Not Active	0
97	---	Not Active	0
98	---	Not Active	0
99	---	Not Active	0
100	---	Not Active	0
101	---	Not Active	0

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

102	---	Not Active	0
103	---	Not Active	0
104	---	Not Active	0
105	---	Not Active	0
106	---	Not Active	0
107	---	Not Active	0
108	---	Not Active	0
109	---	Not Active	0
110	---	Not Active	0
111	---	Not Active	0
112	---	Not Active	0
113	---	Not Active	0
114	---	Not Active	0
115	---	Not Active	0
116	---	Not Active	0
117	---	Not Active	0
118	---	Not Active	0
119	---	Not Active	0
120	---	Not Active	0
121	---	Not Active	0
122	---	Not Active	0
123	---	Not Active	0
124	---	Not Active	0
125	---	Not Active	0
126	---	Not Active	0
127	---	Not Active	0
128	---	Not Active	0

Input Points, IO Module 3

Input Pt.	Description	Input Control Type	Index
1	I/O 1	Vehicle Det Call	33
2	I/O 2	Vehicle Det Call	34
3	I/O 3	Vehicle Det Call	35
4	I/O 4	Vehicle Det Call	36
5	I/O 5	Vehicle Det Call	37
6	I/O 6	Vehicle Det Call	38
7	I/O 7	Vehicle Det Call	39
8	I/O 8	Vehicle Det Call	40
9	I/O 9	Prioritor/Preempt Detector	9
10	I/O 10	Prioritor/Preempt Detector	10
11	I/O 11	Prioritor/Preempt Detector	11
12	I/O 12	Prioritor/Preempt Detector	12
13	I/O 13	Vehicle Det Call	45
14	I/O 14	Vehicle Det Call	46
15	I/O 15	Vehicle Det Call	47
16	I/O 16	Vehicle Det Call	48
17	I/O 17	Channel Fault Status	33
18	I/O 18	Channel Fault Status	34
19	I/O 19	Channel Fault Status	35
20	I/O 20	Channel Fault Status	36
21	I/O 21	Channel Fault Status	37
22	I/O 22	Channel Fault Status	38
23	I/O 23	Channel Fault Status	39
24	I/O 24	Channel Fault Status	40
25	In 1	Channel Fault Status	41
26	In 2	Channel Fault Status	42
27	In 3	Channel Fault Status	43
28	In 4	Channel Fault Status	44
29	In 5	Channel Fault Status	45
30	In 6	Channel Fault Status	46
31	In 7	Channel Fault Status	47
32	In 8	Channel Fault Status	48
33	Opto 1	Not Active	0

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

34	Opto 2	Not Active	0
35	Opto 3	Not Active	0
36	Opto 4	Not Active	0
37	---	Not Active	0
38	---	Not Active	0
39	---	Not Active	0
40	---	Not Active	0
41	---	Not Active	0
42	---	Not Active	0
43	---	Not Active	0
44	---	Not Active	0
45	---	Not Active	0
46	---	Not Active	0
47	---	Not Active	0
48	---	Not Active	0
49	---	Not Active	0
50	---	Not Active	0
51	---	Not Active	0
52	---	Not Active	0
53	---	Not Active	0
54	---	Not Active	0
55	---	Not Active	0
56	---	Not Active	0
57	---	Not Active	0
58	---	Not Active	0
59	---	Not Active	0
60	---	Not Active	0
61	---	Not Active	0
62	---	Not Active	0
63	---	Not Active	0
64	---	Not Active	0
65	---	Not Active	0
66	---	Not Active	0
67	---	Not Active	0
68	---	Not Active	0
69	---	Not Active	0
70	---	Not Active	0
71	---	Not Active	0
72	---	Not Active	0
73	---	Not Active	0
74	---	Not Active	0
75	---	Not Active	0
76	---	Not Active	0
77	---	Not Active	0
78	---	Not Active	0
79	---	Not Active	0
80	---	Not Active	0
81	---	Not Active	0
82	---	Not Active	0
83	---	Not Active	0
84	---	Not Active	0
85	---	Not Active	0
86	---	Not Active	0
87	---	Not Active	0
88	---	Not Active	0
89	---	Not Active	0
90	---	Not Active	0
91	---	Not Active	0
92	---	Not Active	0
93	---	Not Active	0
94	---	Not Active	0
95	---	Not Active	0
96	---	Not Active	0

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

97	---	Not Active	0
98	---	Not Active	0
99	---	Not Active	0
100	---	Not Active	0
101	---	Not Active	0
102	---	Not Active	0
103	---	Not Active	0
104	---	Not Active	0
105	---	Not Active	0
106	---	Not Active	0
107	---	Not Active	0
108	---	Not Active	0
109	---	Not Active	0
110	---	Not Active	0
111	---	Not Active	0
112	---	Not Active	0
113	---	Not Active	0
114	---	Not Active	0
115	---	Not Active	0
116	---	Not Active	0
117	---	Not Active	0
118	---	Not Active	0
119	---	Not Active	0
120	---	Not Active	0
121	---	Not Active	0
122	---	Not Active	0
123	---	Not Active	0
124	---	Not Active	0
125	---	Not Active	0
126	---	Not Active	0
127	---	Not Active	0
128	---	Not Active	0

Input Points, IO Module 4

Input Pt.	Description	Input Control Type	Index
1	I/O 1	Vehicle Det Call	49
2	I/O 2	Vehicle Det Call	50
3	I/O 3	Vehicle Det Call	51
4	I/O 4	Vehicle Det Call	52
5	I/O 5	Vehicle Det Call	53
6	I/O 6	Vehicle Det Call	54
7	I/O 7	Vehicle Det Call	55
8	I/O 8	Vehicle Det Call	56
9	I/O 9	Vehicle Det Call	57
10	I/O 10	Vehicle Det Call	58
11	I/O 11	Vehicle Det Call	59
12	I/O 12	Vehicle Det Call	60
13	I/O 13	Preempt Input	3
14	I/O 14	Preempt Input	4
15	I/O 15	Preempt Input	5
16	I/O 16	Preempt Input	6
17	I/O 17	Channel Fault Status	49
18	I/O 18	Channel Fault Status	50
19	I/O 19	Channel Fault Status	51
20	I/O 20	Channel Fault Status	52
21	I/O 21	Channel Fault Status	53
22	I/O 22	Channel Fault Status	54
23	I/O 23	Channel Fault Status	55
24	I/O 24	Channel Fault Status	56
25	In 1	Channel Fault Status	57
26	In 2	Channel Fault Status	58
27	In 3	Channel Fault Status	59
28	In 4	Channel Fault Status	60

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

29	In 5	Channel Fault Status	61
30	In 6	Channel Fault Status	62
31	In 7	Channel Fault Status	63
32	In 8	Channel Fault Status	64
33	Opto 1	Not Active	0
34	Opto 2	Not Active	0
35	Opto 3	Not Active	0
36	Opto 4	Not Active	0
37	---	Not Active	0
38	---	Not Active	0
39	---	Not Active	0
40	---	Not Active	0
41	---	Not Active	0
42	---	Not Active	0
43	---	Not Active	0
44	---	Not Active	0
45	---	Not Active	0
46	---	Not Active	0
47	---	Not Active	0
48	---	Not Active	0
49	---	Not Active	0
50	---	Not Active	0
51	---	Not Active	0
52	---	Not Active	0
53	---	Not Active	0
54	---	Not Active	0
55	---	Not Active	0
56	---	Not Active	0
57	---	Not Active	0
58	---	Not Active	0
59	---	Not Active	0
60	---	Not Active	0
61	---	Not Active	0
62	---	Not Active	0
63	---	Not Active	0
64	---	Not Active	0
65	---	Not Active	0
66	---	Not Active	0
67	---	Not Active	0
68	---	Not Active	0
69	---	Not Active	0
70	---	Not Active	0
71	---	Not Active	0
72	---	Not Active	0
73	---	Not Active	0
74	---	Not Active	0
75	---	Not Active	0
76	---	Not Active	0
77	---	Not Active	0
78	---	Not Active	0
79	---	Not Active	0
80	---	Not Active	0
81	---	Not Active	0
82	---	Not Active	0
83	---	Not Active	0
84	---	Not Active	0
85	---	Not Active	0
86	---	Not Active	0
87	---	Not Active	0
88	---	Not Active	0
89	---	Not Active	0
90	---	Not Active	0
91	---	Not Active	0

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

92	---	Not Active	0
93	---	Not Active	0
94	---	Not Active	0
95	---	Not Active	0
96	---	Not Active	0
97	---	Not Active	0
98	---	Not Active	0
99	---	Not Active	0
100	---	Not Active	0
101	---	Not Active	0
102	---	Not Active	0
103	---	Not Active	0
104	---	Not Active	0
105	---	Not Active	0
106	---	Not Active	0
107	---	Not Active	0
108	---	Not Active	0
109	---	Not Active	0
110	---	Not Active	0
111	---	Not Active	0
112	---	Not Active	0
113	---	Not Active	0
114	---	Not Active	0
115	---	Not Active	0
116	---	Not Active	0
117	---	Not Active	0
118	---	Not Active	0
119	---	Not Active	0
120	---	Not Active	0
121	---	Not Active	0
122	---	Not Active	0
123	---	Not Active	0
124	---	Not Active	0
125	---	Not Active	0
126	---	Not Active	0
127	---	Not Active	0
128	---	Not Active	0

USER PROGRAMS CONFIGURATION

User Programs Info

Program	*Enabled*	*Description*
2	Enabled	
3	Enabled	
4	Enabled	
5	Enabled	
6	Enabled	
7	Enabled	
8	Enabled	
9	Enabled	
10	Enabled	
11	Enabled	
12	Enabled	
13	Enabled	
14	Enabled	
15	Enabled	
16	Enabled	
17	Enabled	
18	Enabled	
19	Enabled	
20	Enabled	
21	Enabled	
22	Enabled	

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	**Model**		**System Loops**	**Implemented (Y/M/D)**	
Intellight	X3L				

23	Enabled	
24	Enabled	
25	Enabled	
26	Enabled	
27	Enabled	
28	Enabled	
29	Enabled	
30	Enabled	
31	Enabled	
32	Enabled	

User Program 2

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 3

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 4

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 5

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 6

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 7

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 8

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 9

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 10

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 11

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 12

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 13

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 14

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 15

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 16

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 17

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 18

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description

User Program 19

Intersection Name			Operation	Sys No.	Rev.
Highway 7 at Winston Churchill Boulevard			Semi-Actuated		11
Controller Make	Model		System Loops	Implemented (Y/M/D)	
Intellight	X3L				

Stmt	Result Value	Result	Index	Operation	Parameter A	Index	Parameter B	Index	Delay	Ext.	Description
User Program 20											
User Program 21											
User Program 22											
User Program 23											
User Program 24											
User Program 25											
User Program 26											
User Program 27											
User Program 28											
User Program 29											
User Program 30											
User Program 31											
User Program 32											

COMMENTS:

Authorized Signature: R. Laing Date: Nov. 27/18

GENERIC SIGNAL TIMING SHEET

ACTUATED [X] PRE-TIMED [ ] SIGNAL TO BE MAINTAINED BY PEEL REGION

LOCATION: HWY 7 & W. CHURCHILL BLVD SIGNAL TO BE OPERATED BY: MTO

MAINSTREET (HWY): HWY 7 TIMING DEVELOPED BY: MTO

DATE TIMING DEVELOPED : 14-Aug-18

GENERIC TIMING IDENTIFIED HERE SHALL BE TRANSCRIBED ONTO "OFFICIAL" TIMING SHEETS FOR THE TRAFFIC SIGNAL CONTROLLER BEING USED AT THIS SIGNALIZED INTERSECTION. A COPY OF THE "OFFICIAL" LOCAL TIMING SHEETS AND COORDINATION SHEETS IF USED, SHALL BE ATTACHED TO THIS FORM AND FILED IN THE MTO REGIONAL TRAFFIC OFFICE

OPERATIONAL NOTES:

1. All Prot/Perm left turn movements shall be followed by parent through movements without exception
2. If serving F2 and F6 the signal must cycle to F4 and/or F8 prior to serving a call for F1 and/or F5 if these left turn movements are protected/permissive.
3. If serving F4 and F8, the signal must cycle to F2 and/or F6 prior to serving a call for F3 and /or F7 if these left turn movements are protected/permissive.
4. Through Movements shall lag left turn movements unless otherwise specified.
5. Implememted during closure of north approach.

FUNCTION/OPERATION	MOVEMENT (FAZE)							
	NB LEFT	NB THRU	WB LEFT	WB THRU	SB LEFT	SB THRU	EB LEFT	EB THRU
PERMITTED MOVEMENTS	X	X	X	X		X		X
RED LOCK								
AMBER LOCK								
VEHICLE RECALL				X				X
PEDESTRIAN RECALL								
VEHICLE MAX RECALL								
OVERLAP A								
OVERLAP B								
PROT/PERM LEFT TURN ARROW	X		X					
PROT/PERM FAST FLASH ADVANCE GREEN								
FULLY PROTECTED LEFT TURN								
DISPLAY AMBER ON STARTUP				X				X
PLACE PED CALLS ON STARTUP		X		X		X		X
PLACE VEHICLE CALLS ON STARTUP	X	X	X	X		X		X
REST IN WALK								
MOVEMENTS MUST GAP OUT SIMULTANEOUSLY		X		X		X		X
DOUBLE ENTRY		X		X		X		X
EXCLUSIVE (SEPERATE) PHASING BY APPORACH								

INTERVAL TIMES	MOVEMENT (FAZE)							
	NB LEFT	NB THRU	WB LEFT	WB THRU	SB LEFT	SB THRU	EB LEFT	EB THRU
WALK		7		7		7		7
FLASHING DON'T WALK		13		10		13		10
MINIMUM GREEN	7	10	7	20		10		20
VEHICLE EXTENSION (PASSAGE TIME)	3.0	3.0	3.0	3.5		3.0		3.5
MAXIMUM GREEN (INCLUDES MIN GREEN)	16	25	13	60		25		60
MAXIMUM GREEN 2 (ALTERNATE MAX GREEN)								
AMBER CLEARANCE	3.0	4.5	3.0	4.5		4.5		4.5
ALL RED CLEARANCE		2.3		2.2		2.3		2.2
MAX GAP (VEH. EXTENSION)	3.0	3.0	3.0	3.5		3.0		3.5
MIN GAP (VEH. EXTENSION)	3.0	3.0	3.0	3.5		3.0		3.5
REDUCE GAP BY								
REDUCE GAP EVERY								
MAX INITIAL GREEN TIME (VARIABLE INIT)								
TIME ADDED/VEHICLE (VARIABLE INIT)								

DETECTOR SETUP	MOVEMENT (FAZE)							
	NB LEFT	NB THRU	WB LEFT	WB THRU	SB LEFT	SB THRU	EB LEFT	EB THRU
DELAY TIME ON PRESENCE DETECTION	5	5	5			5		
DELAY ON LONG DISTANCE DETECTION								
CARRY-OVER ON PRESENCE DETECTION								
CARRY-OVER ON LONG DISTANCE DETECTION								

PRE-EMPTION	MOVEMENT (FAZE)							
	NB LEFT	NB THRU	WB LEFT	WB THRU	SB LEFT	SB THRU	EB LEFT	EB THRU
1ST EMERG. PRE-EMPT MOVEMENTS				X				X
1ST EMERG. PRE-EMPT DELAY TIME								
1ST EMERG. PRE-EMPT CLEARANCE TIME				5				5
2ND EMERG. PRE-EMPT MOVEMENTS		X				X		
2ND EMERG. PRE-EMPT DELAY TIME								
2ND EMERG. PRE-EMPT CLEARANCE TIME		5				5		
RR PRE-EMPT TRACK CLEARANCE MOVEMENTS								
RR PRE-EMPT CLEARANCE TIME								
RR PRE-EMPT DELAY TIME								
RR PRE-EMPT LIMITED SERVICE MOVEMENTS								

TIME OF DAY OPERATIONS	TIME OF DAY		DAY OF WEEK							MOVEMENT (FAZE)							
	START	END	S	M	T	W	T	F	S	NB LEFT	NB THRU	WB LEFT	WB THRU	SB LEFT	SB THRU	EB LEFT	EB THRU
PHASE OMIT																	
MAX RECALL	15:00	18:00		X	X	X	X	X					X				X
PED RECALL																	
MIN RECALL																	
MAX GREEN 2																	
REST IN WALK																	
AMBER LOCK																	
RED LOCK																	

Appendix B

Existing Year (2022) Intersection Analysis Summary and Synchro Reports

1. Existing 2022 AM Peak (Summary of Synchro Outputs)
2. Existing 2022 AM Peak Report (Synchro Reports)
3. Existing 2022 PM Peak (Summary of Synchro Outputs)
4. Existing 2022 PM Peak Report (Synchro Reports)

Appendix B1

Existing Year (2022) Intersection Analysis Summary and Synchro Reports

1. Existing 2022 AM Peak (Summary of Synchro Outputs)

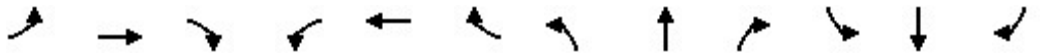
Existing 2022 AM Peak_report.txt								
INT	MOV	VOL	DEL	LOS	V/C	Q	LLEN	TLEN
3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)	OVERALL			B	0.67			
	EBL	2						
	EBT	701	11	B	0.70	112	1358	
	EBR	27						
	WBL	75						
	WBT	355	8	A	0.53	60	1439	
	WBR	3						
	NBL	13						
	NBT	143	26	C	0.57	41	1224	
	NBR	34						
	SBL	14						
	SBT	125	24	C	0.45	33	281	
	SBR	8						
6: Heritage Road & Mayfield Road (RR 14)	OVERALL			B	0.68			
	EBL	1						
	EBT	604	12	B	0.76	109	1439	
	EBR	144						
	WBL	78						
	WBT	422	9	A	0.63	69	1352	
	WBR	6						
	NBL	8						
	NBT	30	19	B	0.18	19	1220	
	NBR	79						
	SBL	4						
	SBT	144	21	C	0.45	39	1225	
	SBR	2						
9: Mississauga Road (RR 1) & Mayfield Road (RR 14)	OVERALL			C	0.80			
	EBL	76	13	B	0.22	17		80
	EBT	526	23	C	0.79	126	1352	
	EBR	84						
	WBL	74	16	B	0.47	22		80
	WBT	336	15	B	0.48	65	501	
	WBR	39						
	NBL	30	17	B	0.22	12		60
	NBT	136	16	B	0.26	39	1217	
	NBR	36						
	SBL	44	15	B	0.11	14		60
	SBT	374	28	C	0.81	#151.0	409	
	SBR	140						
12: Heritage Road & Wanless Drive	OVERALL			C				
	EB 1	92	11	B	0.17			
	WB 1	296	16	C	0.53			
	NB 1	342	15	B	0.54			
	SB 1	396	19	C	0.65			
13: Mississauga Road (RR 1) & Wanless Drive	OVERALL			B	0.63			
	EBL	22	15	B	0.07	8		40
	EBT	224	18	B	0.53	59	618	
	EBR	36						
	WBL	102	17	B	0.39	28		100
	WBT	216	17	B	0.44	50	710	
	WBR	21	14	B	0.01	5		
	NBL	8						
	NBT	158	9	A	0.30	33	1213	
	NBR	90						
	SBL	79						
	SBT	405	13	B	0.69	92	1217	
	SBR	47						
14: Winston Churchill Blvd (RR 19) & Wanless Drive	OVERALL							
	WB 1	106	12	B	0.18	5		
	NB 1	249	0		0.15	0		
	SB 1	247	1	A	0.01	0		
16: Mississauga Road (RR 1) & Sandalwood Pkwy W	OVERALL			A	0.52			
	EBL							
	EBT							
	EBR							
	WBL	140	16	B	0.37	26	708	
	WBT							
	WBR	25	14	B	0.02	5		
	NBL							
	NBT	232	8	A	0.28	24	1815	
	NBR	80	7	A	0.05	5		75
	SBL	49	7	A	0.10	7		140
	SBT	495	10	B	0.60	57	1213	
	SBR							

18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	OVERALL			E	0.94			
	EBL	41	20	B	0.09	15		100
	EBT	513	69	E	1.01	#336.8	902	
	EBR	287						
	WBL	160	54	D	0.77	54		90
	WBT	333	15	B	0.33	68	864	
	WBR	2						
	NBL	159	44	D	0.67	52		90
	NBT	185	53	D	0.82	#148.2	412	
	NBR	247						
	SBL	4	46	D	0.04	4		120
	SBT	238	80	F	0.90	#129.2	385	
	SBR	39						
19: Heritage Road & Bovaird Drive W (RR 107)	OVERALL			D	0.88			
	EBL	85	26	C	0.25	31		170
	EBT	626	47	D	0.88	#246.4	1090	
	EBR	53	23	C	0.04	8		55
	WBL	127	30	C	0.62	33		145
	WBT	432	21	C	0.49	113	1276	
	WBR	53	16	B	0.04	9		45
	NBL	32						
	NBT	175	30	C	0.46	77	1540	
	NBR	51						
	SBL	53						
	SBT	451	49	D	0.87	#187.2	3043	
	SBR	32						
20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)	OVERALL			D	0.75			
	EBL	52	61	E	0.43	34		55
	EBT	591	48	D	0.87	#251.6	64	
	EBR	87	26	C	0.08	16		55
	WBL	228	59	E	0.62	56		215
	WBT	507	26	C	0.36	80	543	
	WBR	13	22	C	0.01	0		120
	NBL	77	32	C	0.35	30		180
	NBT	247	30	C	0.21	43	1217	
	NBR	133	29	C	0.09	15		300
	SBL	21	39	D	0.08	14		130
	SBT	587	51	D	0.76	129	1815	
	SBR	28						

Appendix B2

Existing Year (2022) Intersection Analysis Summary and Synchro Reports

2. Existing 2022 AM Peak Report (Synchro Reports)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	701	27	75	355	3	13	143	34	14	125	8
Future Volume (vph)	2	701	27	75	355	3	13	143	34	14	125	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.98			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1874			1866			1832			1860	
Flt Permitted		1.00			0.79			0.97			0.96	
Satd. Flow (perm)		1873			1485			1776			1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	762	29	82	386	3	14	155	37	15	136	9
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	792	0	0	471	0	0	195	0	0	157	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		38.6			38.6			12.4			12.4	
Effective Green, g (s)		38.6			38.6			12.4			12.4	
Actuated g/C Ratio		0.60			0.60			0.19			0.19	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1126			892			343			345	
v/s Ratio Prot												
v/s Ratio Perm		c0.42			0.32			c0.11			0.09	
v/c Ratio		0.70			0.53			0.57			0.45	
Uniform Delay, d1		8.8			7.5			23.5			22.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			0.6			2.2			1.0	
Delay (s)		10.9			8.0			25.6			23.9	
Level of Service		B			A			C			C	
Approach Delay (s)		10.9			8.0			25.6			23.9	
Approach LOS		B			A			C			C	

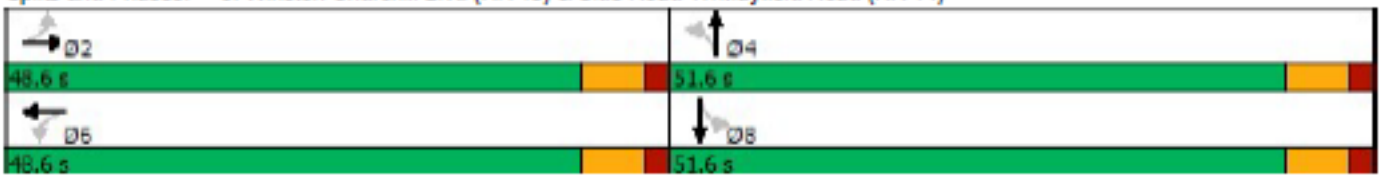
Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	13.2
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

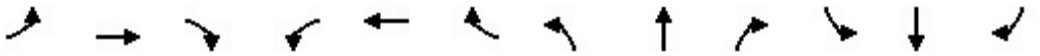
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	793	471	206	160
v/c Ratio	0.71	0.53	0.58	0.46
Control Delay	13.8	10.8	29.3	27.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.8	10.8	29.3	27.2
Queue Length 50th (m)	56.7	28.6	20.5	16.3
Queue Length 95th (m)	112.3	59.9	40.8	33.4
Internal Link Dist (m)	1357.8	1438.9	1224.3	280.8
Turn Bay Length (m)				
Base Capacity (vph)	1232	977	1257	1261
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.48	0.16	0.13

Intersection Summary

Splits and Phases: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	604	144	78	422	6	8	30	79	4	144	2
Future Volume (vph)	1	604	144	78	422	6	8	30	79	4	144	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.2			6.2	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			0.91			1.00	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1834			1866			1707			1878	
Flt Permitted		1.00			0.81			0.97			0.99	
Satd. Flow (perm)		1834			1517			1655			1862	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	657	157	85	459	7	9	33	86	4	157	2
RTOR Reduction (vph)	0	11	0	0	0	0	0	69	0	0	1	0
Lane Group Flow (vph)	0	804	0	0	551	0	0	59	0	0	162	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		32.5			32.5			11.0			11.0	
Effective Green, g (s)		32.5			32.5			11.0			11.0	
Actuated g/C Ratio		0.58			0.58			0.20			0.20	
Clearance Time (s)		6.6			6.6			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1058			875			323			363	
v/s Ratio Prot												
v/s Ratio Perm		0.44			0.36			0.04			c0.09	
v/c Ratio		0.76			0.63			0.18			0.45	
Uniform Delay, d1		9.0			7.9			18.9			20.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.2			1.4			0.3			0.9	
Delay (s)		12.2			9.3			19.2			20.8	
Level of Service		B			A			B			C	
Approach Delay (s)		12.2			9.3			19.2			20.8	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	12.8
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

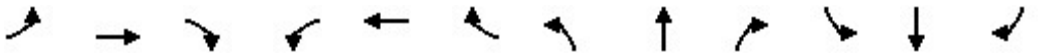
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	815	551	128	163
v/c Ratio	0.77	0.64	0.33	0.45
Control Delay	14.9	12.2	12.6	26.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.9	12.2	12.6	26.4
Queue Length 50th (m)	50.6	31.1	3.2	13.2
Queue Length 95th (m)	109.2	69.2	18.6	38.6
Internal Link Dist (m)	1438.9	1352.3	1220.1	1224.5
Turn Bay Length (m)				
Base Capacity (vph)	1627	1343	661	683
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.41	0.19	0.24

Intersection Summary

Splits and Phases: 6: Heritage Road & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	526	84	74	336	39	30	136	36	44	374	140
Future Volume (vph)	76	526	84	74	336	39	30	136	36	44	374	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1845		1789	1854		1789	1825		1789	1807	
Flt Permitted	0.44	1.00		0.20	1.00		0.22	1.00		0.64	1.00	
Satd. Flow (perm)	830	1845		377	1854		410	1825		1205	1807	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	572	91	80	365	42	33	148	39	48	407	152
RTOR Reduction (vph)	0	7	0	0	5	0	0	9	0	0	14	0
Lane Group Flow (vph)	83	656	0	80	402	0	33	178	0	48	545	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	32.8	32.8		32.8	32.8		27.1	27.1		27.1	27.1	
Effective Green, g (s)	32.8	32.8		32.8	32.8		27.1	27.1		27.1	27.1	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.37	0.37		0.37	0.37	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	372	827		169	831		151	676		446	669	
v/s Ratio Prot		c0.36			0.22			0.10			c0.30	
v/s Ratio Perm	0.10			0.21			0.08			0.04		
v/c Ratio	0.22	0.79		0.47	0.48		0.22	0.26		0.11	0.81	
Uniform Delay, d1	12.3	17.3		14.1	14.2		15.7	16.0		15.1	20.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	5.3		2.1	0.4		0.7	0.2		0.1	7.6	
Delay (s)	12.6	22.5		16.2	14.6		16.5	16.2		15.2	28.3	
Level of Service	B	C		B	B		B	B		B	C	
Approach Delay (s)		21.4			14.9			16.3			27.3	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	13.2
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

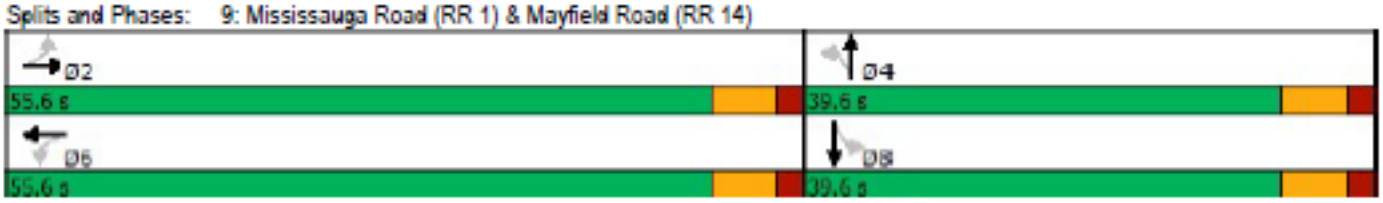
c Critical Lane Group

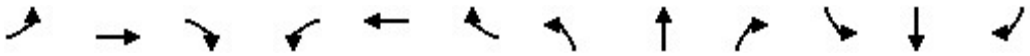
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	83	663	80	407	33	187	48	559
v/c Ratio	0.23	0.80	0.48	0.49	0.22	0.28	0.11	0.83
Control Delay	15.0	26.2	26.4	16.7	24.0	18.3	19.0	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	26.2	26.4	16.7	24.0	18.3	19.0	34.3
Queue Length 50th (m)	7.3	79.9	8.0	40.0	3.1	16.3	4.3	66.1
Queue Length 95th (m)	16.6	126.3	21.9	65.1	12.2	39.1	13.8	#151.0
Internal Link Dist (m)		1352.3		500.7		1217.2		409.3
Turn Bay Length (m)	80.0		80.0		60.0		60.0	
Base Capacity (vph)	580	1291	263	1298	194	871	570	866
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.51	0.30	0.31	0.17	0.21	0.08	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)

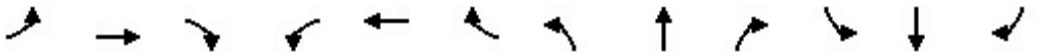




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	75	8	179	89	4	9	113	192	15	349	1
Future Volume (vph)	1	75	8	179	89	4	9	113	192	15	349	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	82	9	195	97	4	10	123	209	16	379	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	92	296	342	396
Volume Left (vph)	1	195	10	16
Volume Right (vph)	9	4	209	1
Hadj (s)	-0.02	0.16	-0.33	0.04
Departure Headway (s)	6.8	6.4	5.6	5.9
Degree Utilization, x	0.17	0.53	0.54	0.65
Capacity (veh/h)	423	518	593	574
Control Delay (s)	11.2	16.3	15.0	19.0
Approach Delay (s)	11.2	16.3	15.0	19.0
Approach LOS	B	C	B	C

Intersection Summary				
Delay	16.5			
Level of Service	C			
Intersection Capacity Utilization	53.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	224	36	102	216	21	8	158	90	79	405	47
Future Volume (vph)	22	224	36	102	216	21	8	158	90	79	405	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1789	1844		1789	1883	1601		1791			1847	
Flt Permitted	0.61	1.00		0.54	1.00	1.00		0.98			0.90	
Satd. Flow (perm)	1153	1844		1013	1883	1601		1758			1681	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	243	39	111	235	23	9	172	98	86	440	51
RTOR Reduction (vph)	0	4	0	0	0	17	0	19	0	0	4	0
Lane Group Flow (vph)	24	278	0	111	235	6	0	260	0	0	573	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	15.7	15.7		15.7	15.7	15.7		27.6			27.6	
Effective Green, g (s)	15.7	15.7		15.7	15.7	15.7		27.6			27.6	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28		0.50			0.50	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	325	520		286	531	452		872			834	
v/s Ratio Prot		c0.15			0.12							
v/s Ratio Perm	0.02			0.11		0.00		0.15			c0.34	
v/c Ratio	0.07	0.53		0.39	0.44	0.01		0.30			0.69	
Uniform Delay, d1	14.6	16.9		16.1	16.4	14.4		8.3			10.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.1	1.1		0.9	0.6	0.0		0.2			2.4	
Delay (s)	14.7	17.9		17.0	17.0	14.4		8.5			13.1	
Level of Service	B	B		B	B	B		A			B	
Approach Delay (s)		17.7			16.8			8.5			13.1	
Approach LOS		B			B			A			B	

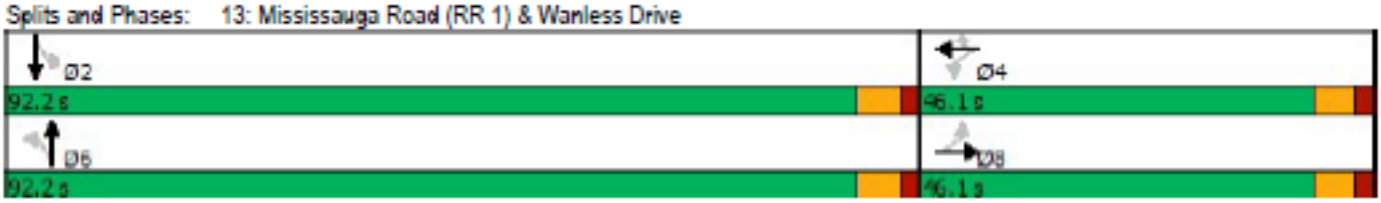
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	55.6	Sum of lost time (s)	12.3
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	24	282	111	235	23	279	577
v/c Ratio	0.08	0.55	0.40	0.45	0.05	0.32	0.70
Control Delay	19.2	23.6	24.3	22.1	8.6	8.7	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	23.6	24.3	22.1	8.6	8.7	16.5
Queue Length 50th (m)	1.7	22.4	8.6	18.5	0.0	12.2	37.4
Queue Length 95th (m)	8.1	59.4	28.3	49.8	4.9	32.8	91.6
Internal Link Dist (m)		618.1		710.4		1213.3	1217.2
Turn Bay Length (m)	40.0		100.0				
Base Capacity (vph)	867	1388	762	1417	1210	1759	1680
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.20	0.15	0.17	0.02	0.16	0.34

Intersection Summary

Splits and Phases: 13: Mississauga Road (RR 1) & Wanless Drive





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	28	161	68	16	212
Future Volume (Veh/h)	70	28	161	68	16	212
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	30	175	74	17	230
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	476	212			249	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476	212			249	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	96			99	
cM capacity (veh/h)	541	828			1317	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	106	249	247
Volume Left	76	0	17
Volume Right	30	74	0
cSH	599	1700	1317
Volume to Capacity	0.18	0.15	0.01
Queue Length 95th (m)	4.8	0.0	0.3
Control Delay (s)	12.3	0.0	0.6
Lane LOS	B		A
Approach Delay (s)	12.3	0.0	0.6
Approach LOS	B		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	140	25	232	80	49	495
Future Volume (vph)	140	25	232	80	49	495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	1601	1883	1601	1789	1883
Flt Permitted	0.95	1.00	1.00	1.00	0.60	1.00
Satd. Flow (perm)	1789	1601	1883	1601	1136	1883
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	27	252	87	53	538
RTOR Reduction (vph)	0	21	0	45	0	0
Lane Group Flow (vph)	152	6	252	42	53	538
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	11.0	11.0	22.8	22.8	22.8	22.8
Effective Green, g (s)	11.0	11.0	22.8	22.8	22.8	22.8
Actuated g/C Ratio	0.23	0.23	0.48	0.48	0.48	0.48
Clearance Time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	414	370	903	768	545	903
v/s Ratio Prot	c0.08		0.13			c0.29
v/s Ratio Perm		0.00		0.03	0.05	
v/c Ratio	0.37	0.02	0.28	0.05	0.10	0.60
Uniform Delay, d1	15.3	14.1	7.4	6.6	6.7	9.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.2	0.0	0.1	1.1
Delay (s)	15.9	14.1	7.6	6.6	6.8	10.1
Level of Service	B	B	A	A	A	B
Approach Delay (s)	15.6		7.3			9.8
Approach LOS	B		A			A

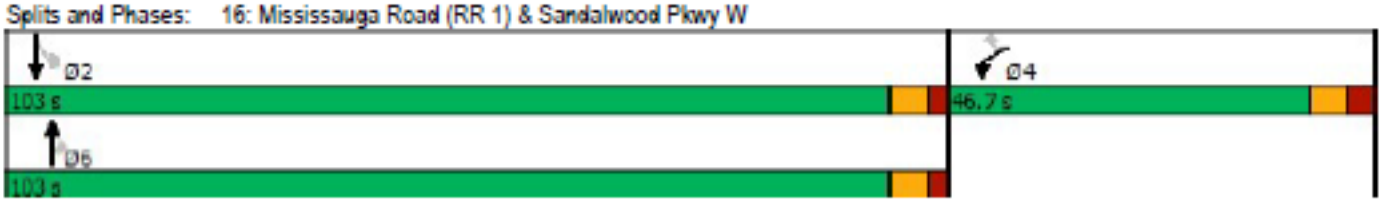
Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	47.5	Sum of lost time (s)	13.7
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

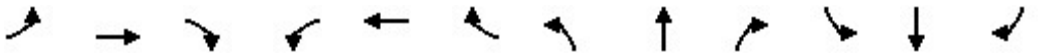
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	27	252	87	53	538
v/c Ratio	0.37	0.07	0.28	0.11	0.10	0.60
Control Delay	18.8	8.1	8.6	2.4	7.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	8.1	8.6	2.4	7.5	12.5
Queue Length 50th (m)	9.5	0.0	10.9	0.0	2.1	28.2
Queue Length 95th (m)	26.3	4.8	23.8	4.9	6.8	57.1
Internal Link Dist (m)	708.4		1814.9			1213.3
Turn Bay Length (m)				75.0	140.0	
Base Capacity (vph)	1505	1351	1883	1601	1136	1883
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.02	0.13	0.05	0.05	0.29

Intersection Summary

Splits and Phases: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	513	287	160	333	2	159	185	247	4	238	39
Future Volume (vph)	41	513	287	160	333	2	159	185	247	4	238	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1782		1789	1882		1789	1722		1789	1844	
Flt Permitted	0.54	1.00		0.06	1.00		0.18	1.00		0.31	1.00	
Satd. Flow (perm)	1025	1782		113	1882		348	1722		587	1844	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	558	312	174	362	2	173	201	268	4	259	42
RTOR Reduction (vph)	0	14	0	0	0	0	0	36	0	0	4	0
Lane Group Flow (vph)	45	856	0	174	364	0	173	433	0	4	297	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	63.7	63.7		79.4	79.4		41.0	41.0		23.9	23.9	
Effective Green, g (s)	63.7	63.7		79.4	79.4		41.0	41.0		23.9	23.9	
Actuated g/C Ratio	0.48	0.48		0.59	0.59		0.31	0.31		0.18	0.18	
Clearance Time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	487	847		225	1115		258	527		104	329	
v/s Ratio Prot		c0.48		c0.07	0.19		0.07	c0.25			0.16	
v/s Ratio Perm	0.04			0.38			0.13			0.01		
v/c Ratio	0.09	1.01		0.77	0.33		0.67	0.82		0.04	0.90	
Uniform Delay, d1	19.2	35.1		38.9	13.8		37.2	43.1		45.5	53.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	33.7		15.2	0.8		6.7	10.0		0.2	26.5	
Delay (s)	19.6	68.8		54.1	14.5		43.8	53.0		45.6	80.4	
Level of Service	B	E		D	B		D	D		D	F	
Approach Delay (s)		66.4			27.3			50.5			79.9	
Approach LOS		E			C			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	133.9	Sum of lost time (s)	19.5
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

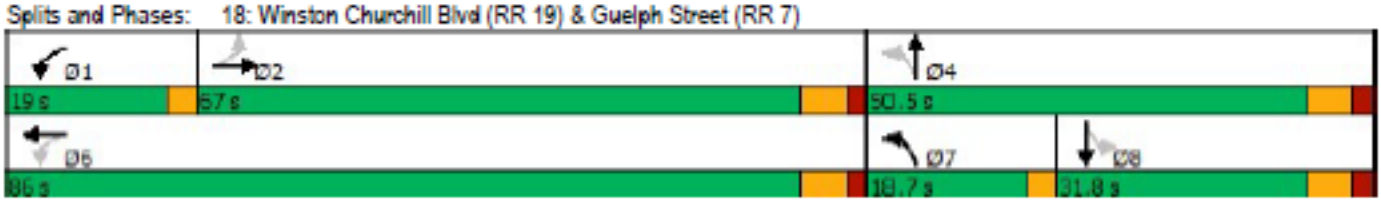
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	870	174	364	173	469	4	301
v/c Ratio	0.09	1.01	0.76	0.33	0.65	0.83	0.04	0.91
Control Delay	22.3	68.0	50.9	15.2	44.4	52.2	47.2	83.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	68.0	50.9	15.2	44.4	52.2	47.2	83.6
Queue Length 50th (m)	6.7	~249.1	29.1	48.5	33.6	104.2	0.9	78.5
Queue Length 95th (m)	15.0	#336.8	53.9	68.3	52.4	#148.2	4.4	#129.2
Internal Link Dist (m)		901.6		863.8		411.9		385.1
Turn Bay Length (m)	100.0		90.0		90.0		120.0	
Base Capacity (vph)	487	861	270	1115	285	597	109	348
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	1.01	0.64	0.33	0.61	0.79	0.04	0.86

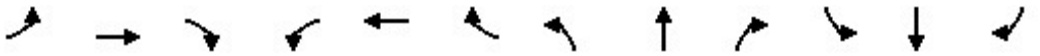
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	626	53	127	432	53	32	175	51	53	451	32
Future Volume (vph)	85	626	53	127	432	53	32	175	51	53	451	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)	1789	1883	1601	1789	1883	1601		1822			1859	
Flt Permitted	0.48	1.00	1.00	0.10	1.00	1.00		0.84			0.93	
Satd. Flow (perm)	900	1883	1601	191	1883	1601		1549			1739	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	680	58	138	470	58	35	190	55	58	490	35
RTOR Reduction (vph)	0	0	34	0	0	21	0	7	0	0	1	0
Lane Group Flow (vph)	92	680	24	138	470	37	0	273	0	0	582	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	52.9	52.9	52.9	66.1	66.1	66.1		49.5			49.5	
Effective Green, g (s)	52.9	52.9	52.9	66.1	66.1	66.1		49.5			49.5	
Actuated g/C Ratio	0.41	0.41	0.41	0.51	0.51	0.51		0.38			0.38	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	368	770	655	223	963	819		593			666	
v/s Ratio Prot		c0.36		c0.05	0.25							
v/s Ratio Perm	0.10		0.01	0.27		0.02		0.18			c0.33	
v/c Ratio	0.25	0.88	0.04	0.62	0.49	0.04		0.46			0.87	
Uniform Delay, d1	25.1	35.3	22.9	25.0	20.5	15.8		29.9			36.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.4	11.7	0.0	5.0	0.4	0.0		0.6			12.2	
Delay (s)	25.5	47.0	22.9	30.0	20.9	15.8		30.4			49.1	
Level of Service	C	D	C	C	C	B		C			D	
Approach Delay (s)		42.9			22.4			30.4			49.1	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	129.2	Sum of lost time (s)	19.6
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

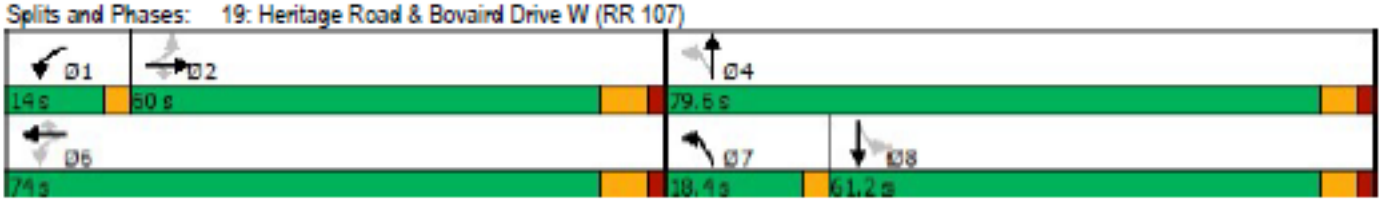
c Critical Lane Group

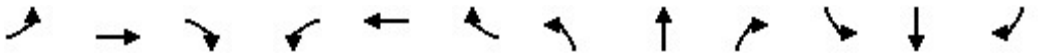
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	92	680	58	138	470	58	280	583
v/c Ratio	0.25	0.88	0.08	0.60	0.49	0.07	0.47	0.87
Control Delay	29.4	51.3	5.4	28.3	23.7	7.2	31.4	52.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	51.3	5.4	28.3	23.7	7.2	31.4	52.0
Queue Length 50th (m)	16.3	169.6	0.0	18.0	81.2	1.8	51.3	137.0
Queue Length 95th (m)	30.6	#246.4	7.7	33.0	113.3	9.2	76.5	#187.2
Internal Link Dist (m)		1089.8			1275.8		1540.2	3042.9
Turn Bay Length (m)	170.0		55.0	145.0		45.0		
Base Capacity (vph)	367	769	692	240	974	849	887	744
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.88	0.08	0.57	0.48	0.07	0.32	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Heritage Road & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	591	87	228	507	13	77	247	133	21	587	28
Future Volume (vph)	52	591	87	228	507	13	77	247	133	21	587	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	1883	1601	3471	3579	1601	1789	3579	1601	1789	3554	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.17	1.00	1.00	0.59	1.00	
Satd. Flow (perm)	1789	1883	1601	3471	3579	1601	321	3579	1601	1105	3554	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	642	95	248	551	14	84	268	145	23	638	30
RTOR Reduction (vph)	0	0	46	0	0	8	0	0	94	0	2	0
Lane Group Flow (vph)	57	642	49	248	551	6	84	268	51	23	666	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases			2			6	4		4	8		
Actuated Green, G (s)	10.1	52.6	52.6	15.5	58.0	58.0	47.3	47.3	47.3	32.9	32.9	
Effective Green, g (s)	10.1	52.6	52.6	15.5	58.0	58.0	47.3	47.3	47.3	32.9	32.9	
Actuated g/C Ratio	0.08	0.39	0.39	0.12	0.43	0.43	0.35	0.35	0.35	0.25	0.25	
Clearance Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	134	739	628	401	1550	693	238	1264	565	271	873	
v/s Ratio Prot	0.03	c0.34		c0.07	0.15		c0.03	0.07			c0.19	
v/s Ratio Perm			0.03			0.00	0.09		0.03	0.02		
v/c Ratio	0.43	0.87	0.08	0.62	0.36	0.01	0.35	0.21	0.09	0.08	0.76	
Uniform Delay, d1	59.1	37.5	25.5	56.4	25.4	21.6	31.2	30.3	28.9	38.9	46.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	10.6	0.1	2.8	0.1	0.0	0.9	0.1	0.1	0.1	4.0	
Delay (s)	61.3	48.1	25.5	59.2	25.6	21.6	32.1	30.4	29.0	39.0	50.9	
Level of Service	E	D	C	E	C	C	C	C	C	D	D	
Approach Delay (s)		46.3			35.8			30.2			50.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	133.9	Sum of lost time (s)	21.5
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

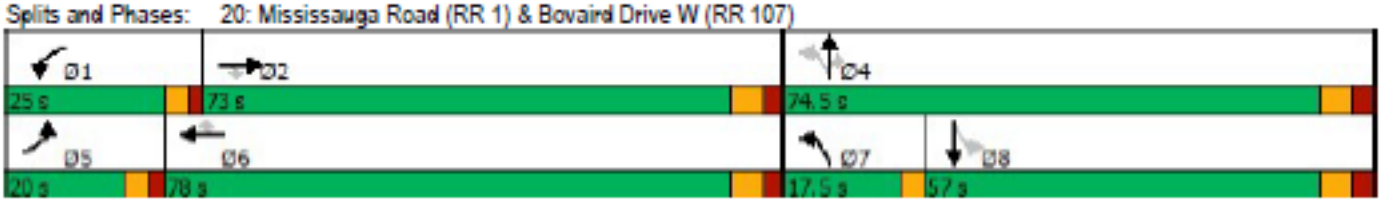
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	642	95	248	551	14	84	268	145	23	668
v/c Ratio	0.43	0.87	0.14	0.62	0.36	0.02	0.34	0.21	0.22	0.09	0.77
Control Delay	76.9	53.2	9.6	67.8	27.4	0.1	33.7	32.6	5.8	45.3	55.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	53.2	9.6	67.8	27.4	0.1	33.7	32.6	5.8	45.3	55.5
Queue Length 50th (m)	15.1	158.1	3.1	33.6	51.4	0.0	14.7	26.7	0.0	4.9	89.2
Queue Length 95th (m)	34.1	#251.6	15.9	56.2	79.8	0.0	30.3	43.2	14.9	14.0	128.6
Internal Link Dist (m)		64.4			543.4			1216.7			1814.9
Turn Bay Length (m)	55.0		55.0	215.0		120.0	180.0		300.0	130.0	
Base Capacity (vph)	208	972	863	539	1993	925	287	1876	908	429	1381
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.66	0.11	0.46	0.28	0.02	0.29	0.14	0.16	0.05	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)



Appendix B3

Existing Year (2022) Intersection Analysis Summary and Synchro Reports

3. Existing 2022 PM Peak (Summary of Synchro Outputs)

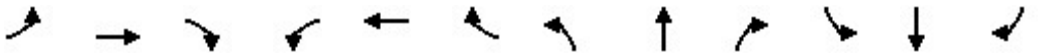
Existing 2022 PM Peak_report.txt								
INT	MOV	VOL	DEL	LOS	V/C	Q	LLEN	TLEN
3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)	OVERALL			B	0.75			
	EBL	6						
	EBT	413	11	B	0.47	79	1358	
	EBR	22						
	WBL	127						
	WBT	405	17	B	0.74	#144.5	1439	
	WBR	16						
	NBL	19						
	NBT	257	33	C	0.77	79	1224	
	NBR	91						
	SBL	4						
	SBT	152	23	C	0.34	35	281	
	SBR	10						
6: Heritage Road & Mayfield Road (RR 14)	OVERALL			B	0.76			
	EBL	5						
	EBT	496	16	B	0.65	91	1439	
	EBR	7						
	WBL	40						
	WBT	516	20	B	0.77	111	1352	
	WBR	9						
	NBL	27						
	NBT	329	24	C	0.75	#116.1	1220	
	NBR	83						
	SBL	6						
	SBT	113	15	B	0.21	29	1225	
	SBR	5						
9: Mississauga Road (RR 1) & Mayfield Road (RR 14)	OVERALL			B	0.63			
	EBL	131	12	B	0.46	28		80
	EBT	412	14	B	0.63	77	1352	
	EBR	44						
	WBL	48	10	A	0.18	11		80
	WBT	408	13	B	0.61	73	501	
	WBR	33						
	NBL	60	13	B	0.18	14		60
	NBT	273	17	B	0.63	68	1217	
	NBR	87						
	SBL	36	13	B	0.14	10		60
	SBT	175	15	B	0.46	48	409	
	SBR	96						
12: Heritage Road & Wanless Drive	OVERALL			F				
	EB 1	105	12	B	0.21			
	WB 1	309	18	C	0.57			
	NB 1	751	108	F	1.16			
	SB 1	174	13	B	0.32			
13: Mississauga Road (RR 1) & Wanless Drive	OVERALL			B	0.63			
	EBL	7	13	B	0.02	4		40
	EBT	327	17	B	0.50	75	618	
	EBR	12						
	WBL	121	16	B	0.40	33		100
	WBT	265	16	B	0.39	57	710	
	WBR	28	13	B	0.02	5		
	NBL	11						
	NBT	385	20	C	0.74	122	1213	
	NBR	150						
	SBL	25						
	SBT	232	14	B	0.38	53	1217	
	SBR	9						
14: Winston Churchill Blvd (RR 19) & Wanless Drive	OVERALL							
	WB 1	100	17	C	0.25	7		
	NB 1	474	0		0.28	0		
	SB 1	327	0	A	0.01	0		
16: Mississauga Road (RR 1) & Sandalwood Pkwy W	OVERALL			B	0.56			
	EBL							
	EBT							
	EBR							
	WBL	198	16	B	0.47	39	708	
	WBT							
	WBR	57	14	B	0.04	8		
	NBL							
	NBT	489	11	B	0.62	63	1815	
	NBR	203	8	A	0.14	8		75
	SBL	66	8	A	0.22	11		140
	SBT	300	9	A	0.38	35	1213	

	SBR							
18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	OVERALL			F	1.15			
	EBL	76	26	C	0.25	27		100
	EBT	509	62	E	0.97	#280.1	902	
	EBR	197						
	WBL	241	98	F	0.99	#109.8		90
	WBT	553	20	C	0.56	131	864	
	WBR	1						
	NBL	327	197	F	1.30	#163.8		90
	NBT	359	129	F	1.14	#281.9	412	
	NBR	266						
	SBL	4	47	D	0.07	5		120
	SBT	249	157	F	1.16	#184.5	385	
	SBR	112						
19: Heritage Road & Bovaird Drive W (RR 107)	OVERALL			D	0.98			
	EBL	101	129	F	1.01	#81.3		170
	EBT	615	49	D	0.88	#293.6	1090	
	EBR	63	24	C	0.05	12		55
	WBL	95	28	C	0.51	30		145
	WBT	719	37	D	0.85	#313.9	1276	
	WBR	63	18	B	0.06	14		45
	NBL	38						
	NBT	526	52	D	0.90	213	1540	
	NBR	38						
	SBL	63						
	SBT	254	40	D	0.75	124	3043	
	SBR	38						
20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)	OVERALL			C	0.72			
	EBL	41	53	D	0.34	26		55
	EBT	612	36	D	0.82	220	64	
	EBR	64	19	B	0.04	8		55
	WBL	143	51	D	0.46	34		215
	WBT	749	23	C	0.50	105	543	
	WBR	23	18	B	0.02	0		120
	NBL	64	30	C	0.29	25		180
	NBT	628	35	D	0.61	109	1217	
	NBR	191	29	C	0.13	18		300
	SBL	19	37	D	0.14	13		130
	SBT	413	44	D	0.66	93	1815	
	SBR	65						

Appendix B4

Existing Year (2022) Intersection Analysis Summary and Synchro Reports

4. Existing 2022 PM Peak Report (Synchro Reports)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	413	22	127	405	16	19	257	91	4	152	10
Future Volume (vph)	6	413	22	127	405	16	19	257	91	4	152	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.97			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1869			1855			1816			1866	
Flt Permitted		0.99			0.78			0.98			0.99	
Satd. Flow (perm)		1855			1462			1777			1847	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	449	24	138	440	17	21	279	99	4	165	11
RTOR Reduction (vph)	0	1	0	0	1	0	0	16	0	0	3	0
Lane Group Flow (vph)	0	479	0	0	594	0	0	383	0	0	177	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		42.2			42.2			21.4			21.4	
Effective Green, g (s)		42.2			42.2			21.4			21.4	
Actuated g/C Ratio		0.55			0.55			0.28			0.28	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1019			803			495			514	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.41			c0.22			0.10	
v/c Ratio		0.47			0.74			0.77			0.34	
Uniform Delay, d1		10.5			13.1			25.5			22.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			3.6			7.4			0.4	
Delay (s)		10.8			16.7			32.9			22.5	
Level of Service		B			B			C			C	
Approach Delay (s)		10.8			16.7			32.9			22.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	76.8	Sum of lost time (s)	13.2
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

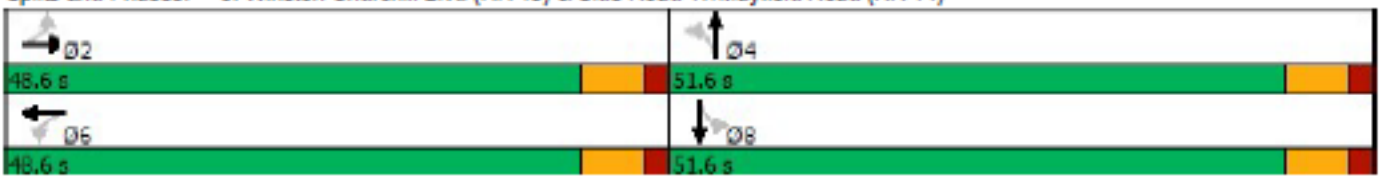
c Critical Lane Group

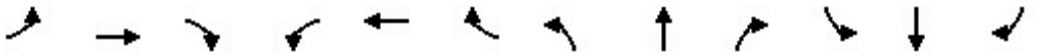
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	480	595	399	180
v/c Ratio	0.47	0.74	0.78	0.35
Control Delay	13.7	22.3	35.2	23.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.7	22.3	35.2	23.0
Queue Length 50th (m)	38.3	59.7	50.1	20.2
Queue Length 95th (m)	79.4	#144.5	79.0	35.2
Internal Link Dist (m)	1357.8	1438.9	1224.3	280.8
Turn Bay Length (m)				
Base Capacity (vph)	1019	803	1054	1088
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.47	0.74	0.38	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	496	7	40	516	9	27	329	83	6	113	5
Future Volume (vph)	5	496	7	40	516	9	27	329	83	6	113	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.2			6.2	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		1879			1873			1830			1869	
Flt Permitted		0.99			0.94			0.98			0.97	
Satd. Flow (perm)		1869			1760			1791			1820	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	539	8	43	561	10	29	358	90	7	123	5
RTOR Reduction (vph)	0	1	0	0	1	0	0	8	0	0	1	0
Lane Group Flow (vph)	0	551	0	0	613	0	0	469	0	0	134	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		30.1			30.1			23.2			23.2	
Effective Green, g (s)		30.1			30.1			23.2			23.2	
Actuated g/C Ratio		0.46			0.46			0.35			0.35	
Clearance Time (s)		6.6			6.6			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		851			801			628			638	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.35			c0.26			0.07	
v/c Ratio		0.65			0.77			0.75			0.21	
Uniform Delay, d1		13.9			15.1			18.9			15.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.7			4.4			4.8			0.2	
Delay (s)		15.6			19.5			23.7			15.2	
Level of Service		B			B			C			B	
Approach Delay (s)		15.6			19.5			23.7			15.2	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	12.8
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

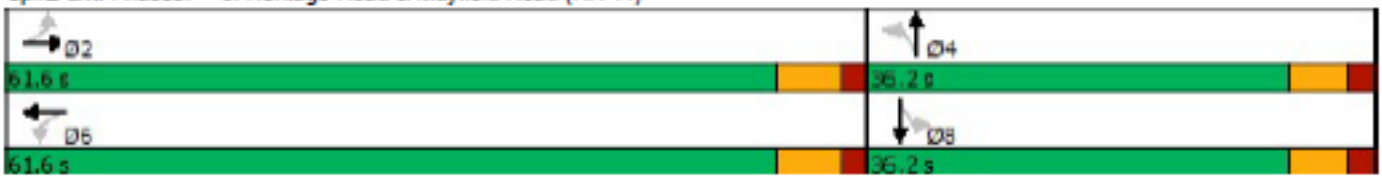
c Critical Lane Group

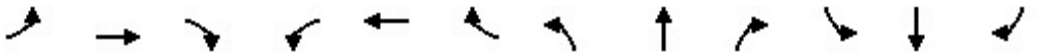
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	552	614	477	135
v/c Ratio	0.66	0.78	0.76	0.21
Control Delay	18.9	23.7	29.6	18.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.9	23.7	29.6	18.4
Queue Length 50th (m)	50.6	60.8	50.2	11.4
Queue Length 95th (m)	90.5	110.6	#116.1	29.1
Internal Link Dist (m)	1438.9	1352.3	1220.1	1224.5
Turn Bay Length (m)				
Base Capacity (vph)	1539	1449	861	869
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.42	0.55	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Heritage Road & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	412	44	48	408	33	60	273	87	36	175	96
Future Volume (vph)	131	412	44	48	408	33	60	273	87	36	175	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1856		1789	1862		1789	1815		1789	1784	
Flt Permitted	0.39	1.00		0.37	1.00		0.57	1.00		0.43	1.00	
Satd. Flow (perm)	734	1856		700	1862		1076	1815		815	1784	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	448	48	52	443	36	65	297	95	39	190	104
RTOR Reduction (vph)	0	5	0	0	3	0	0	13	0	0	21	0
Lane Group Flow (vph)	142	491	0	52	476	0	65	379	0	39	273	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	22.0	22.0		22.0	22.0		17.4	17.4		17.4	17.4	
Effective Green, g (s)	22.0	22.0		22.0	22.0		17.4	17.4		17.4	17.4	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.33	0.33		0.33	0.33	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	306	776		292	778		355	600		269	590	
v/s Ratio Prot		c0.26			0.26			c0.21			0.15	
v/s Ratio Perm	0.19			0.07			0.06			0.05		
v/c Ratio	0.46	0.63		0.18	0.61		0.18	0.63		0.14	0.46	
Uniform Delay, d1	11.0	12.1		9.6	12.0		12.5	14.9		12.4	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	1.7		0.3	1.4		0.2	2.2		0.2	0.6	
Delay (s)	12.2	13.8		9.9	13.4		12.8	17.1		12.6	14.5	
Level of Service	B	B		A	B		B	B		B	B	
Approach Delay (s)		13.4			13.0			16.5			14.3	
Approach LOS		B			B			B			B	

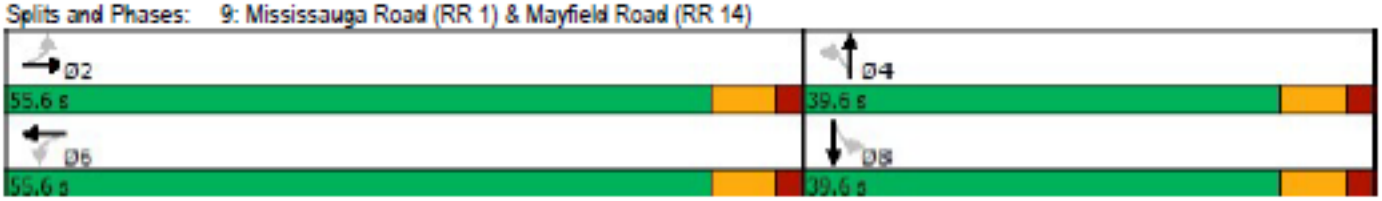
Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

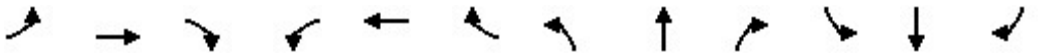
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	142	496	52	479	65	392	39	294
v/c Ratio	0.47	0.64	0.18	0.62	0.19	0.65	0.15	0.49
Control Delay	18.4	17.3	12.7	16.7	15.8	21.1	15.9	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	17.3	12.7	16.7	15.8	21.1	15.9	16.7
Queue Length 50th (m)	8.6	32.2	2.7	30.8	4.0	27.2	2.4	17.7
Queue Length 95th (m)	27.6	76.5	10.7	73.3	14.4	68.2	10.0	47.5
Internal Link Dist (m)		1352.3		500.7		1217.2		409.3
Turn Bay Length (m)	80.0		80.0		60.0		60.0	
Base Capacity (vph)	659	1663	628	1670	700	1189	531	1173
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.30	0.08	0.29	0.09	0.33	0.07	0.25

Intersection Summary

Splits and Phases: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	95	1	198	86	1	4	437	250	3	156	1
Future Volume (vph)	1	95	1	198	86	1	4	437	250	3	156	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	103	1	215	93	1	4	475	272	3	170	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	105	309	751	174
Volume Left (vph)	1	215	4	3
Volume Right (vph)	1	1	272	1
Hadj (s)	0.03	0.17	-0.18	0.03
Departure Headway (s)	7.1	6.7	5.5	6.6
Degree Utilization, x	0.21	0.57	1.16	0.32
Capacity (veh/h)	470	525	654	519
Control Delay (s)	12.0	18.2	108.4	12.6
Approach Delay (s)	12.0	18.2	108.4	12.6
Approach LOS	B	C	F	B

Intersection Summary				
Delay	67.6			
Level of Service	F			
Intersection Capacity Utilization	69.3%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	327	12	121	265	28	11	385	150	25	232	9
Future Volume (vph)	7	327	12	121	265	28	11	385	150	25	232	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1789	1873		1789	1883	1601		1812			1866	
Flt Permitted	0.54	1.00		0.44	1.00	1.00		0.99			0.92	
Satd. Flow (perm)	1015	1873		837	1883	1601		1798			1729	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	355	13	132	288	30	12	418	163	27	252	10
RTOR Reduction (vph)	0	1	0	0	0	18	0	15	0	0	1	0
Lane Group Flow (vph)	8	367	0	132	288	12	0	578	0	0	288	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	27.8	27.8		27.8	27.8	27.8		30.9			30.9	
Effective Green, g (s)	27.8	27.8		27.8	27.8	27.8		30.9			30.9	
Actuated g/C Ratio	0.39	0.39		0.39	0.39	0.39		0.44			0.44	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	397	733		327	737	626		782			752	
v/s Ratio Prot		c0.20			0.15							
v/s Ratio Perm	0.01			0.16		0.01		c0.32			0.17	
v/c Ratio	0.02	0.50		0.40	0.39	0.02		0.74			0.38	
Uniform Delay, d1	13.2	16.4		15.6	15.5	13.2		16.7			13.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.5		0.8	0.3	0.0		3.7			0.3	
Delay (s)	13.3	16.9		16.4	15.9	13.3		20.4			13.9	
Level of Service	B	B		B	B	B		C			B	
Approach Delay (s)		16.8			15.9			20.4			13.9	
Approach LOS		B			B			C			B	

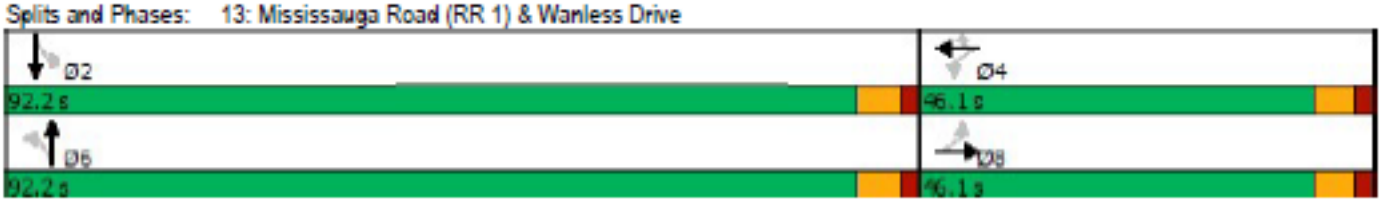
Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	71.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	8	368	132	288	30	593	289
v/c Ratio	0.02	0.51	0.41	0.40	0.05	0.75	0.39
Control Delay	16.1	20.7	22.6	19.0	6.6	24.3	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	20.7	22.6	19.0	6.6	24.3	16.6
Queue Length 50th (m)	0.7	37.2	12.7	27.6	0.0	61.6	25.2
Queue Length 95th (m)	3.6	75.1	33.0	57.4	5.3	121.5	52.7
Internal Link Dist (m)		618.1		710.4		1213.3	1217.2
Turn Bay Length (m)	40.0		100.0				
Base Capacity (vph)	605	1119	500	1124	968	1756	1687
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.33	0.26	0.26	0.03	0.34	0.17

Intersection Summary

Splits and Phases: 13: Mississauga Road (RR 1) & Wanless Drive





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	74	18	349	87	10	291
Future Volume (Veh/h)	74	18	349	87	10	291
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	80	20	379	95	11	316
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	764	426			474	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	764	426			474	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	97			99	
cM capacity (veh/h)	368	628			1088	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	100	474	327
Volume Left	80	0	11
Volume Right	20	95	0
cSH	401	1700	1088
Volume to Capacity	0.25	0.28	0.01
Queue Length 95th (m)	7.4	0.0	0.2
Control Delay (s)	16.9	0.0	0.4
Lane LOS	C		A
Approach Delay (s)	16.9	0.0	0.4
Approach LOS	C		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	198	57	489	203	66	300
Future Volume (vph)	198	57	489	203	66	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	1601	1883	1601	1789	1883
Flt Permitted	0.95	1.00	1.00	1.00	0.37	1.00
Satd. Flow (perm)	1789	1601	1883	1601	702	1883
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	62	532	221	72	326
RTOR Reduction (vph)	0	46	0	119	0	0
Lane Group Flow (vph)	215	16	532	102	72	326
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	12.4	12.4	22.2	22.2	22.2	22.2
Effective Green, g (s)	12.4	12.4	22.2	22.2	22.2	22.2
Actuated g/C Ratio	0.26	0.26	0.46	0.46	0.46	0.46
Clearance Time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	459	411	865	735	322	865
v/s Ratio Prot	c0.12		c0.28			0.17
v/s Ratio Perm		0.01		0.06	0.10	
v/c Ratio	0.47	0.04	0.62	0.14	0.22	0.38
Uniform Delay, d1	15.2	13.5	9.8	7.5	7.9	8.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0	1.3	0.1	0.4	0.3
Delay (s)	15.9	13.5	11.1	7.6	8.2	8.8
Level of Service	B	B	B	A	A	A
Approach Delay (s)	15.4		10.1			8.7
Approach LOS	B		B			A

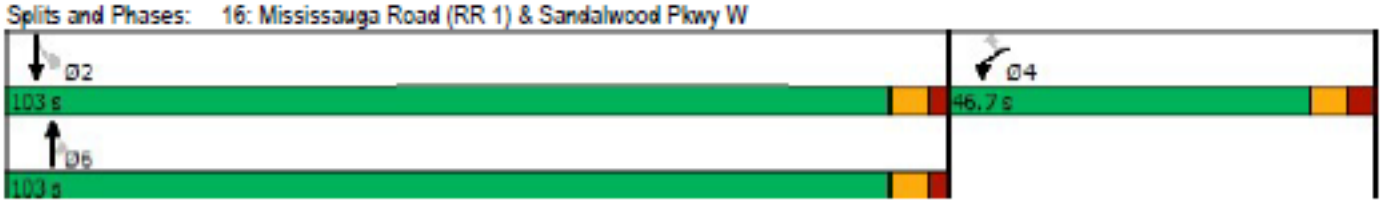
Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	13.7
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

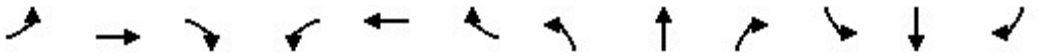
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	215	62	532	221	72	326
v/c Ratio	0.47	0.14	0.62	0.26	0.23	0.38
Control Delay	21.1	6.5	13.7	2.3	10.1	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	6.5	13.7	2.3	10.1	10.1
Queue Length 50th (m)	15.3	0.0	30.5	0.0	3.3	16.2
Queue Length 95th (m)	38.8	7.5	62.8	8.2	10.6	34.8
Internal Link Dist (m)	708.4		1814.9			1213.3
Turn Bay Length (m)				75.0	140.0	
Base Capacity (vph)	1481	1336	1883	1601	703	1883
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.05	0.28	0.14	0.10	0.17

Intersection Summary

Splits and Phases: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	509	197	241	553	1	327	359	266	4	249	112
Future Volume (vph)	76	509	197	241	553	1	327	359	266	4	249	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1805		1789	1883		1789	1763		1789	1796	
Flt Permitted	0.41	1.00		0.06	1.00		0.14	1.00		0.16	1.00	
Satd. Flow (perm)	774	1805		121	1883		269	1763		301	1796	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	553	214	262	601	1	355	390	289	4	271	122
RTOR Reduction (vph)	0	10	0	0	0	0	0	20	0	0	12	0
Lane Group Flow (vph)	83	757	0	262	602	0	355	659	0	4	381	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.3	59.3		78.3	78.3		44.7	44.7		25.0	25.0	
Effective Green, g (s)	59.3	59.3		78.3	78.3		44.7	44.7		25.0	25.0	
Actuated g/C Ratio	0.43	0.43		0.57	0.57		0.33	0.33		0.18	0.18	
Clearance Time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	784		264	1080		274	577		55	328	
v/s Ratio Prot		0.42		c0.12	0.32		c0.16	0.37			0.21	
v/s Ratio Perm	0.11			c0.45			c0.27			0.01		
v/c Ratio	0.25	0.97		0.99	0.56		1.30	1.14		0.07	1.16	
Uniform Delay, d1	24.5	37.6		45.3	18.2		39.3	45.9		46.2	55.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	24.7		53.1	2.1		157.4	83.5		0.6	100.8	
Delay (s)	26.2	62.3		98.4	20.3		196.7	129.4		46.7	156.6	
Level of Service	C	E		F	C		F	F		D	F	
Approach Delay (s)		58.8			44.0			152.5			155.4	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	97.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	136.5	Sum of lost time (s)	19.5
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

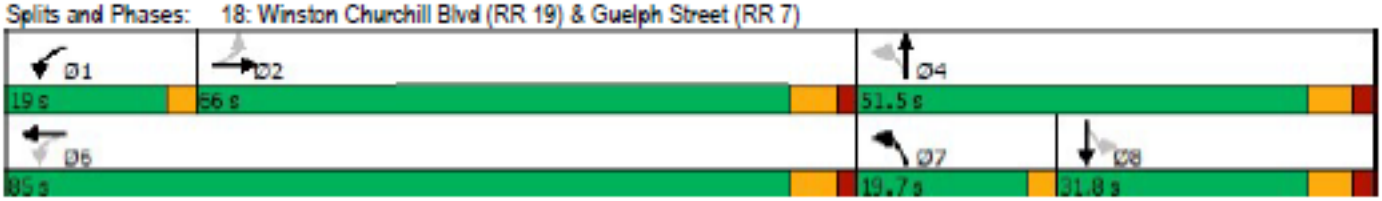
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	83	767	262	602	355	679	4	393
v/c Ratio	0.25	0.97	0.98	0.56	1.26	1.14	0.07	1.15
Control Delay	27.0	61.9	87.9	20.7	175.9	121.6	50.0	143.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	61.9	87.9	20.7	175.9	121.6	50.0	143.7
Queue Length 50th (m)	14.0	195.5	54.5	97.6	~102.5	~208.1	0.9	~121.4
Queue Length 95th (m)	26.6	#280.1	#109.8	130.9	#163.8	#281.9	4.5	#184.5
Internal Link Dist (m)		901.6		863.8		411.9		385.1
Turn Bay Length (m)	100.0		90.0		90.0		120.0	
Base Capacity (vph)	336	793	268	1080	281	596	55	341
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.97	0.98	0.56	1.26	1.14	0.07	1.15

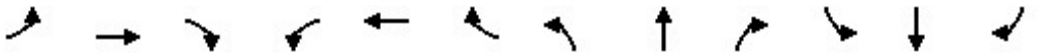
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	615	63	95	719	63	38	526	38	63	254	38
Future Volume (vph)	101	615	63	95	719	63	38	526	38	63	254	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.99			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1789	1883	1601	1789	1883	1601		1862			1840	
Flt Permitted	0.14	1.00	1.00	0.10	1.00	1.00		0.95			0.67	
Satd. Flow (perm)	272	1883	1601	188	1883	1601		1779			1252	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	668	68	103	782	68	41	572	41	68	276	41
RTOR Reduction (vph)	0	0	39	0	0	22	0	2	0	0	2	0
Lane Group Flow (vph)	110	668	29	103	782	46	0	652	0	0	383	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	53.5	53.5	53.5	65.6	65.6	65.6		54.2			54.2	
Effective Green, g (s)	53.5	53.5	53.5	65.6	65.6	65.6		54.2			54.2	
Actuated g/C Ratio	0.40	0.40	0.40	0.49	0.49	0.49		0.41			0.41	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	109	755	642	201	925	787		722			508	
v/s Ratio Prot		0.35		0.03	c0.42							
v/s Ratio Perm	c0.40		0.02	0.22		0.03		c0.37			0.31	
v/c Ratio	1.01	0.88	0.05	0.51	0.85	0.06		0.90			0.75	
Uniform Delay, d1	40.0	37.1	24.4	26.2	29.5	17.7		37.1			33.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	88.7	12.0	0.0	2.2	7.2	0.0		14.6			6.2	
Delay (s)	128.6	49.1	24.4	28.4	36.7	17.8		51.8			40.1	
Level of Service	F	D	C	C	D	B		D			D	
Approach Delay (s)		57.5			34.4			51.8			40.1	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	133.4	Sum of lost time (s)	19.6
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

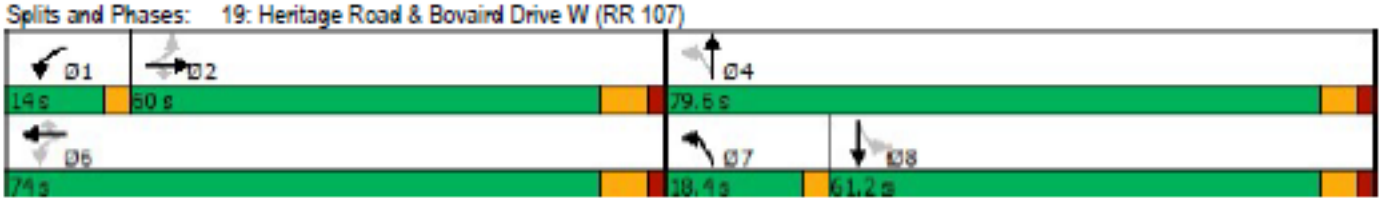
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	110	668	68	103	782	68	654	385
v/c Ratio	1.02	0.89	0.10	0.50	0.85	0.08	0.90	0.75
Control Delay	135.3	54.2	8.4	27.4	41.8	10.4	53.6	43.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.3	54.2	8.4	27.4	41.8	10.4	53.6	43.4
Queue Length 50th (m)	~29.9	162.8	0.5	13.3	175.8	3.2	159.7	85.4
Queue Length 95th (m)	#81.3	#293.6	11.6	29.6	#313.9	13.9	212.8	123.8
Internal Link Dist (m)		1089.8			1275.8		1540.2	3042.9
Turn Bay Length (m)	170.0		55.0	145.0		45.0		
Base Capacity (vph)	108	753	679	231	950	830	991	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.89	0.10	0.45	0.82	0.08	0.66	0.68

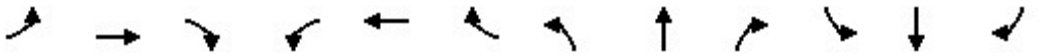
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Heritage Road & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	612	64	143	749	23	64	628	191	19	413	65
Future Volume (vph)	41	612	64	143	749	23	64	628	191	19	413	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	1883	1601	3471	3579	1601	1789	3579	1601	1789	3505	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.26	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	1789	1883	1601	3471	3579	1601	499	3579	1601	671	3505	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	665	70	155	814	25	70	683	208	21	449	71
RTOR Reduction (vph)	0	0	40	0	0	14	0	0	143	0	8	0
Lane Group Flow (vph)	45	665	30	155	814	11	70	683	65	21	512	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases			2			6	4		4	8		
Actuated Green, G (s)	8.8	50.5	50.5	11.4	53.1	53.1	36.8	36.8	36.8	26.1	26.1	
Effective Green, g (s)	8.8	50.5	50.5	11.4	53.1	53.1	36.8	36.8	36.8	26.1	26.1	
Actuated g/C Ratio	0.08	0.43	0.43	0.10	0.45	0.45	0.31	0.31	0.31	0.22	0.22	
Clearance Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	134	811	689	337	1621	725	241	1123	502	149	780	
v/s Ratio Prot	0.03	c0.35		c0.04	c0.23		0.02	c0.19			0.15	
v/s Ratio Perm			0.02			0.01	0.07		0.04	0.03		
v/c Ratio	0.34	0.82	0.04	0.46	0.50	0.02	0.29	0.61	0.13	0.14	0.66	
Uniform Delay, d1	51.4	29.3	19.3	50.0	22.7	17.7	29.4	34.1	28.8	36.6	41.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	6.5	0.0	1.0	0.2	0.0	0.7	0.9	0.1	0.4	2.0	
Delay (s)	52.9	35.9	19.4	51.0	22.9	17.7	30.1	35.0	28.9	37.0	43.5	
Level of Service	D	D	B	D	C	B	C	D	C	D	D	
Approach Delay (s)		35.4			27.2			33.3			43.2	
Approach LOS		D			C			C			D	

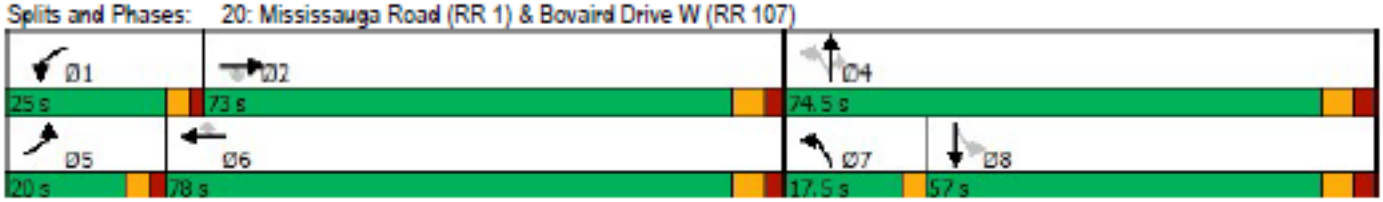
Intersection Summary			
HCM 2000 Control Delay	33.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	117.2	Sum of lost time (s)	21.5
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	665	70	155	814	25	70	683	208	21	520
v/c Ratio	0.34	0.82	0.10	0.46	0.50	0.03	0.25	0.62	0.33	0.14	0.66
Control Delay	65.9	40.4	4.7	59.4	24.7	0.1	31.6	38.5	5.9	46.3	48.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	40.4	4.7	59.4	24.7	0.1	31.6	38.5	5.9	46.3	48.0
Queue Length 50th (m)	10.3	135.1	0.0	18.1	69.8	0.0	11.1	71.3	0.0	4.1	58.8
Queue Length 95th (m)	25.9	219.5	8.1	34.4	105.3	0.0	25.4	108.6	17.6	13.1	93.1
Internal Link Dist (m)		64.4			543.4			1216.7			1814.9
Turn Bay Length (m)	55.0		55.0	215.0		120.0	180.0		300.0	130.0	
Base Capacity (vph)	239	1118	981	619	2285	1049	338	2157	1047	299	1571
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.59	0.07	0.25	0.36	0.02	0.21	0.32	0.20	0.07	0.33

Intersection Summary

Splits and Phases: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)



Appendix C

City of Brampton Road Improvements

11. PHASING AND IMPLEMENTATION PLAN

The phasing of the road network improvements considers the forecast growth in population and employment developed through this TMP Update and the Development Charges Study, and associated travel demand, and attempts to link the supply of additional road facilities with the forecast travel demand. The road projects were classified in three phases:

- Short term, generally considered appropriate for implementation by the year 2021;
- Medium term, considered to be needed by the year 2031; and
- Long term, considered to be needed for implementation by the year 2041.

11.1 Short Term Horizon

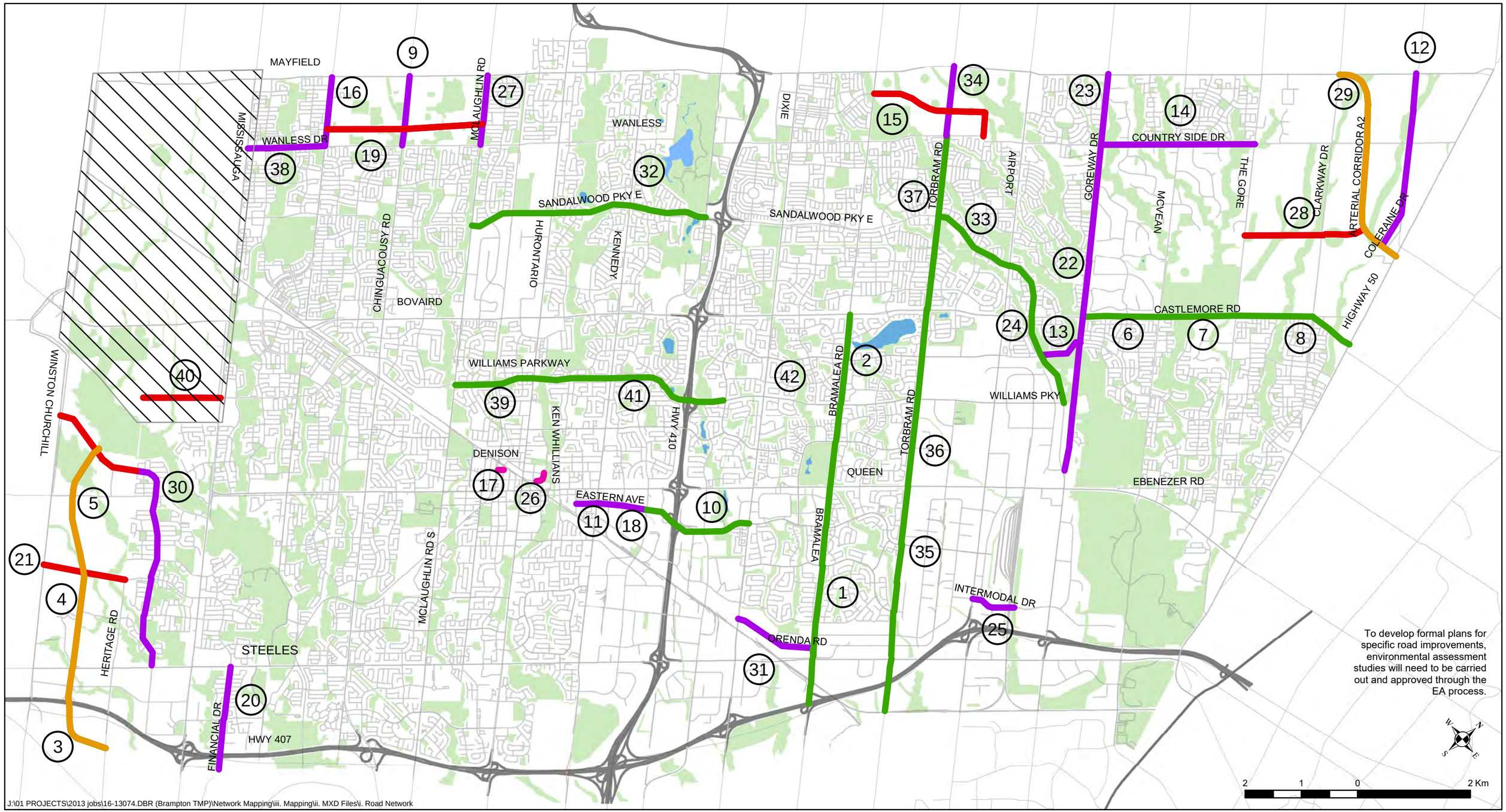
Road projects recommended for implementation in the short term horizon generally are considered needed by the year 2021 in order to respond to the continued rapid growth of population and employment, and associated growth of travel demand, in the city and surrounding municipalities. The short term road improvements are shown in **Figure 29** and listed in **Table 16**. Indicative costs for the short term, as well as the medium and long term road projects, all come directly from the Development Charges study undertaken concurrently with the preparation of this TMPU.

Table 16: Road Projects for Implementation in the Short Term Horizon

No.	Road	From	To	Type of Improvement	Indicative Cost ($M)
1	Bramalea Road	Southern Boundary	Queen Street	Widen 4 to 6 lanes	$35.02
2	Bramalea Road	Bovaird Drive	Queen Street	Widen 4 to 6 lanes	13.42
3	Bramwest Parkway / NSTC	Heritage Road	Steeles Avenue	New 6 lane road	$33.10
4	Bramwest Parkway / NSTC	Steeles Avenue	Financial Drive	New 6 lane road	$13.28
5	Bramwest Parkway / NSTC	Financial Drive	North of Embleton Road	New 6 lane road	$7.72
6	Castlemore Road	Goreway Drive	McVean Drive	Widen 4 to 6 lanes	$5.15
7	Castlemore Road	McVean Drive	The Gore Road	Widen 4 to 6 lanes	$12.53
8	Castlemore Road	The Gore Road	Highway 50	Widen 4 to 6 lanes	$7.77
9	Chinguacousy Road	Wanless Drive	Mayfield Road	Widen 2 to 4 lanes	$6.53

No.	Road	From	To	Type of Improvement	Indicative Cost ($M)
10	Clark Boulevard	Rutherford Road	Dixie Road	Widen 4 to 6 lanes	$20.80
11	Clark Boulevard Extension	Rutherford Road	Hansen Road	New 4 lane road	$4.95
12	Coleraine Drive	Highway 50	Mayfield Road	Widen 2 to 4 lanes	$12.55
13	Cottrelle Parkway	Humberwest Parkway	Goreway Drive	New 4 lane road	$14.70
14	Countryside Drive	Goreway Drive	The Gore Road	Widen 2 to 4 lanes	$22.94
15	Countryvillage Collector	Bramalea Road	Countryside Drive	New 4 lane road	$13.77
16	Creditview Road	Wanless Drive	Mayfield Road	Widen 2 to 4 lanes	$6.51
17	Denison Street Extension	Park Street	Mill Street N	New 2 lane road	$1.37
18	Eastern Avenue	Hansen Road	Kennedy Road	Widen 2 to 4 lanes	$1.78
19	East-West Spine Road (Remembrance Road)	Creditview Road	McLaughlin Road	New 4 lane road	$13.26
20	Financial Drive	Southern Boundary	Steeles Avenue	Widen 2 to 4 lanes	$13.75
21	Financial Drive	Heritage Road	Winston Churchill Boulevard	New 4 lane road	$6.68
22	Goreway Drive	Humberwest Parkway	Countryside Drive	Widen 2 to 4 lanes	$36.53
23	Goreway Drive	Countryside Drive	Mayfield Road	Widen 2 to 4 lanes	$23.35
24	Humberwest Parkway	Airport Road	Williams Parkway	Widen 4 to 6 lanes	$10.21
25	Intermodal Drive	Airport Road	CNR Bridge	Widen 2 to 4 lanes	$15.38
26	Ken Whillans Drive	Church Street	Nelson Street	New 2 lane road	$3.68

No.	Road	From	To	Type of Improvement	Indicative Cost ($M)
27	McLaughlin Road	Wanless Drive	Mayfield Road	Widen 2 to 4 lanes	$6.51
28	New East/West Road (Major MacKenzie extension)	New North/South Road (Major MacKenzie extension)	The Gore Road	New 4 lane road	$11.33
29	New North/South Road (Major MacKenzie extension)	Highway 50 / Coleraine	Clarkway Drive	New 4 lane road	$7.88
30	New Road A	Steeles Avenue	Winston Churchill Boulevard	New 4 lane road	$30.11
31	Orenda Road	Dixie Road	Bramalea Road	Widen 2 to 4 lanes	$9.75
32	Sandalwood Parkway	McLaughlin Road	Heart Lake Road	Widen 4 to 6 lanes	$39.45
33	Sandalwood Parkway	Torbram Road	Airport Road	Widen 4 to 6 lanes	$6.55
34	Torbram Road	Countryside Drive	Mayfield Road	Widen 2 to 4 lanes	$6.36
35	Torbram Road	Southern Boundary	Queen Street	Widen 4 to 6 lanes	$24.61
36	Torbram Road	Queen Street	Bovaird Drive	Widen 4 to 6 lanes	$16.71
37	Torbram Road	Bovaird Drive	Countryside Drive	Widen 4 to 6 lanes	$13.23
38	Wanless Drive	Creditview Road	Mississauga Road	Widen 2 to 4 lanes	$7.71
39	Williams Parkway	McLaughlin Road	Kennedy Road	Widen 4 to 6 lanes	$23.63
40	Williams Parkway	Mississauga Road	Heritage Road	New 4 lane road	7.86
41	Williams Parkway	Kennedy Road	North Park	Widen 4 to 6 lanes	$21.00
42	Williams Parkway	North Park Drive	Torbram Road	Widen 4 to 6 lanes	$12.78



BRAMPTON Flower City | Transportation Master Plan

MMM GROUP

Legend

- Expanded to Two Lanes
- Expanded to Four Lanes
- Expanded to Six Lanes
- New Road Construction Four Lanes
- New Road Construction Six Lanes
- Provincial Highway
- GTA West Corridor Study Area
- Conceptual Road Network for use in the Development Charges Background Study

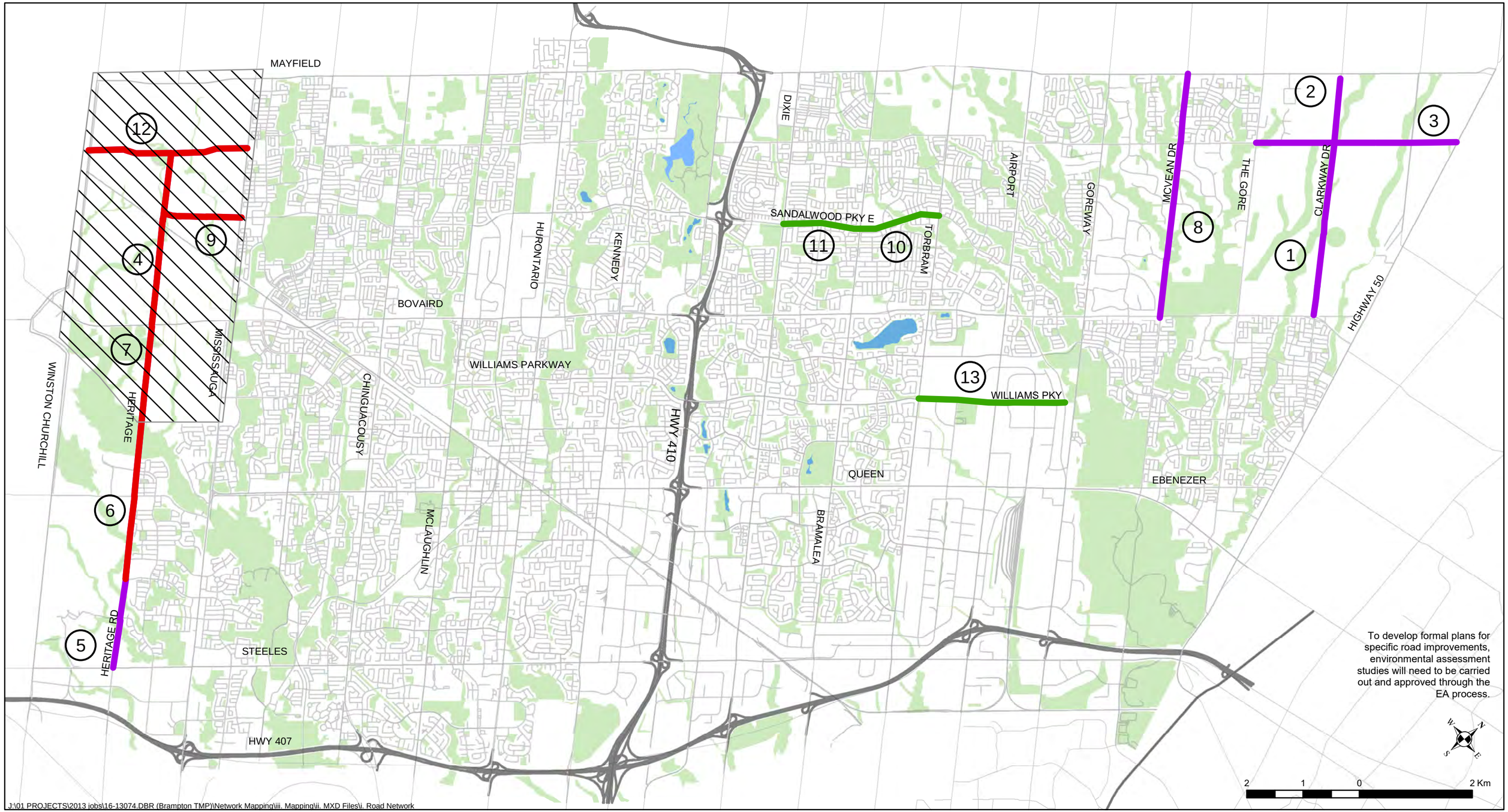
Figure 29
Road Projects Recommended for Implementation in the Short Term Horizon

11.2 Medium Term Horizon

The medium term horizon has been designated as the year 2031. Projects in the Development Charges Study were considered and reconfirmed to be necessary for implementation by this year. Road projects for implementation by the 2031 horizon year are shown graphically in **Figure 30** and listed in **Table 17**.

Table 17: Road Projects for Implementation in the Medium Term Horizon

No.	Road	From	To	Type of Improvement	Indicative Cost ($M)
1	Clarkway Drive	Castlemore Road	Countryside Drive	Widen 2 to 4 lanes	$16.88
2	Clarkway Drive	Countryside Drive	Mayfield Road	Widen 2 to 4 lanes	9.91
3	Countryside Drive	The Gore Road	Highway 50	Widen 2 to 4 lanes	$23.85
4	Heritage Road	Bovaird Road	Wanless Drive	Widen 2 to 4 lanes	14.59
5	Heritage Road	Steeles Avenue	Financial Drive	Widen 2 to 4 lanes	$14.68
6	Heritage Road	Financial Drive	New Road A	Widen 2 to 4 lanes	$14.79
7	Heritage Road	New Road A	Bovaird Drive	Widen 2 to 4 lanes	$30.31
8	McVean Drive	Castlemore Road	Mayfield Road	Widen 2 to 4 lanes	$38.44
9	Sandalwood Parkway	Mississauga Road	Heritage Road	New 4 lane road	6.44
10	Sandalwood Parkway	Bramalea Road	Torbram Road	Widen 4 to 6 lanes	$7.27
11	Sandalwood Parkway	Dixie Road	Bramalea Road	Widen 4 to 6 lanes	$4.88
12	Wanless Drive	Winston Churchill Boulevard	Mississauga Road	Widen 2 to 4 lanes	15.41
13	Williams Parkway	Torbram Road	Humberwest Parkway	Widen 4 to 6 lanes	$12.81



BRAMPTON Flower City | Transportation Master Plan

MMM GROUP

Legend

- Expanded to Two Lanes
- Expanded to Four Lanes
- Expanded to Six Lanes
- New Road Construction Four Lanes
- Provincial Highway
- Conceptual Road Network for use in the Development Charges Background Study

Figure 30
Road Projects Recommended for Implementation by the Medium Term Horizon

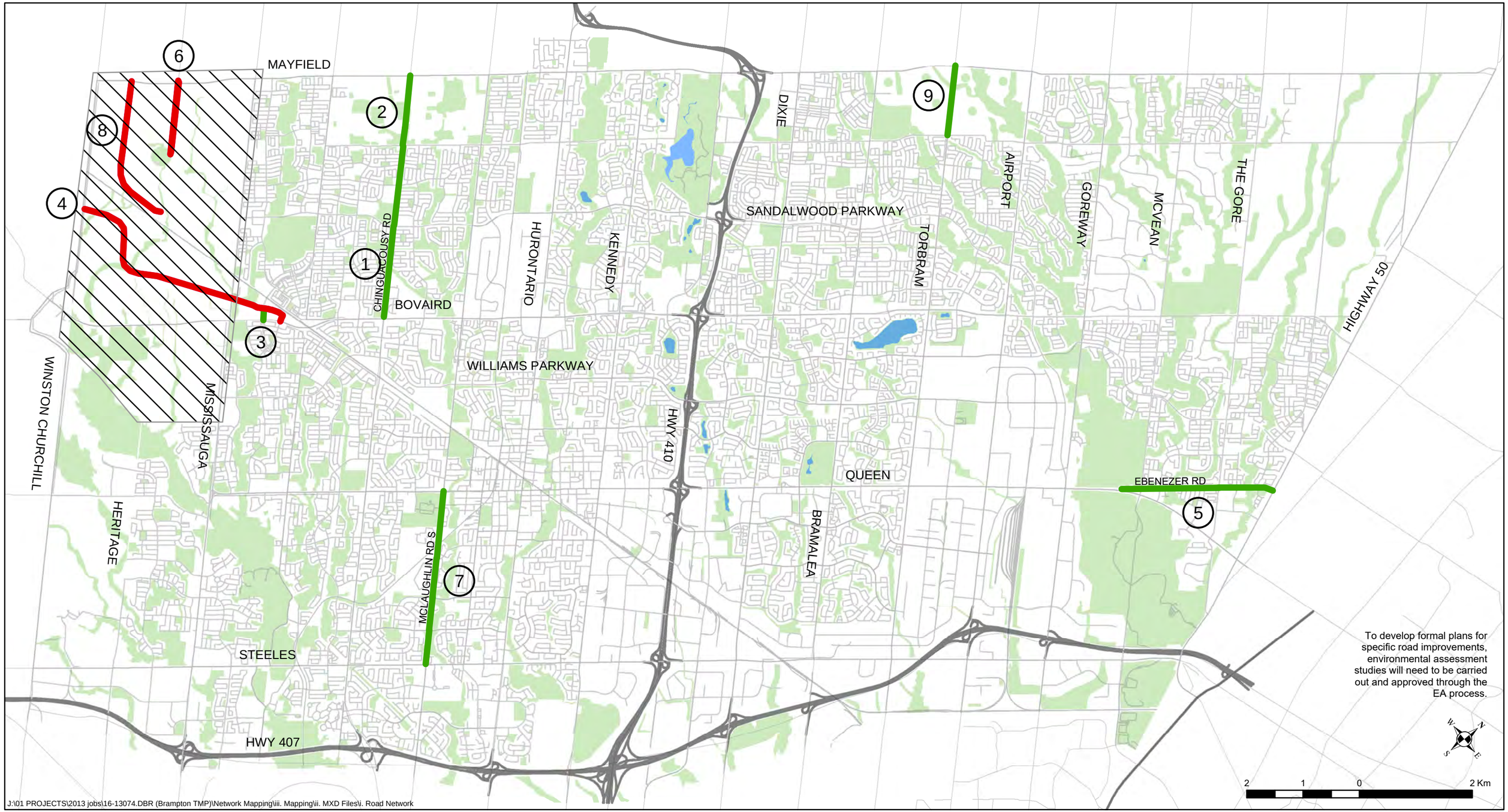
11.3 Long Term Horizon

A main focus of this TMPU has been on the long term horizon, year 2041. With new population and employment forecasts for this year, the City wanted to begin to plan for the necessary transportation network to accommodate travel demand by this new horizon year that was not included in the 2009 TTMP. By the year 2041, the City's population is expected to reach approximately 900,000, a growth of 350,000 people from existing population estimates. Employment is expected to grow by 155,000 to 325,000. This 64% growth in population and 91% growth in employment in the timeframe covered by this TMPU elicit the need for multi-modal transportation improvements to keep people and goods moving.

While the analysis of the preferred alternative for 2041 included Regional roads, this phasing and implementation plan only documents City roads and the indicative cost to construct these roads. Regional roads will be confirmed and costed through an update of the Regional TMP. The long term road network improvements for City roads are displayed graphically on **Figure 31**, and listed in **Table 18**.

Table 18: Road Projects for Implementation by the Long Term Horizon

No.	Road	From	To	Type of Improvement	Indicative Cost ($M)
1	Chinguacousy Road	Bovaird Drive	Wanless Drive	Widen 4 to 6 lanes	16.24
2	Chinguacousy Road	Wanless Drive	Mayfield Rd.	Widen 4 to 6 lanes	5.21
3	Creditview Road	Bovaird Drive	Mt. Pleasant Transit Spine	Widen 4 to 6 lanes	6.89
4	East-west Connection	Mount Pleasant GO Station	Winston Churchill Boulevard	New 4 lane road	23.40
5	Ebenezer Road	Queen Street	Highway 50	Widen 4 to 6 lanes	15.16
6	Heritage Road	Wanless Drive	Mayfield Road	Widen 2 to 4 lanes	6.50
7	McLaughlin Road	Queen Street	Steeles Avenue	Widen 4 to 6 lanes	14.88
8	Sandalwood Parkway	Heritage Road	Winston Churchill Boulevard	New 4 lane road	8.30
9	Torbram Road	Mayfield Road	Countryside Drive	Widen 4 to 6 lanes	5.06



BRAMPTON Flower City | Transportation Master Plan

MMM GROUP

Legend

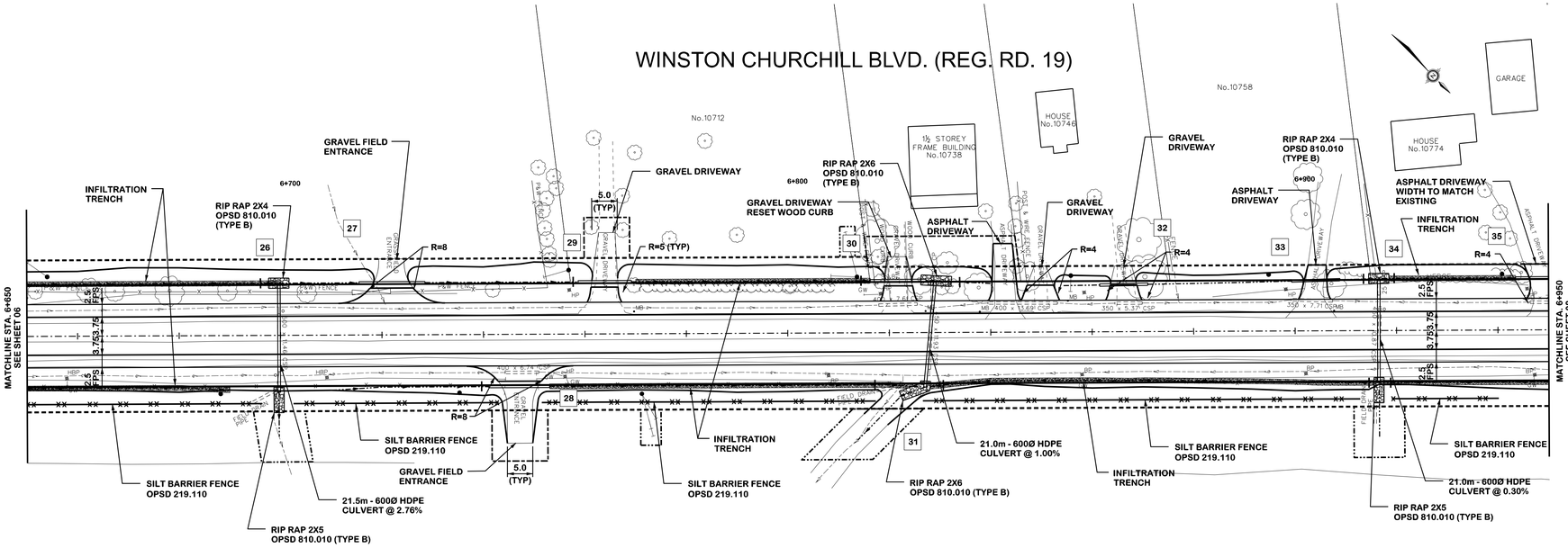
- Expanded to Four Lanes
- Expanded to Six Lanes
- Provincial Highway
- Conceptual Road Network for use in the Development Charges Background Study

Figure 31
Road Projects Recommended for Implementation by the Long Term Horizon

Appendix D

Region of Peel Winston Churchill (Phase 2) – Credit River Bridge to South of Mayfield Road New Construction (Sheets 7 and 8)

WINSTON CHURCHILL BLVD. (REG. RD. 19)

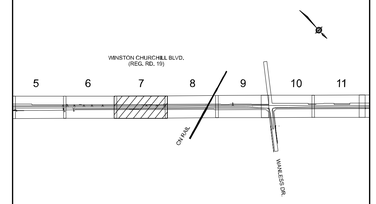


SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMMUNIC. CABLES		

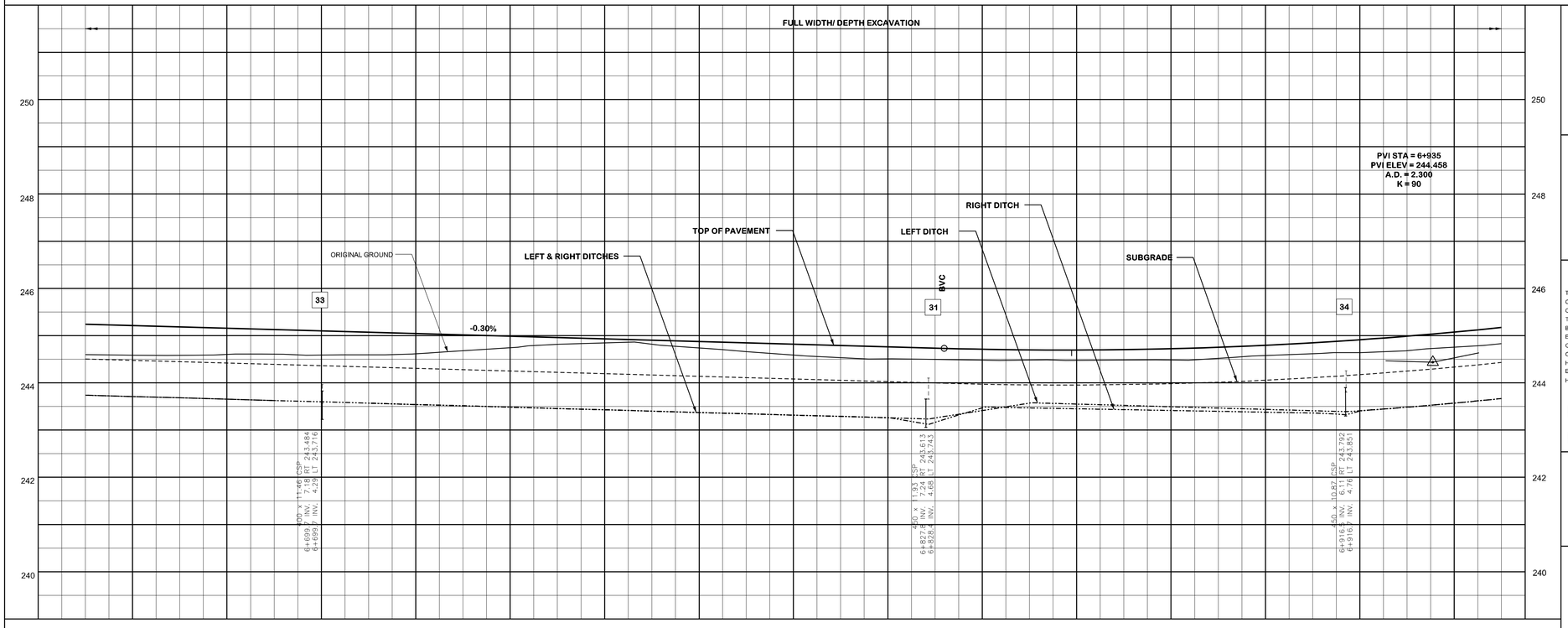
REVISIONS

DATE	DETAILS	INIT.
MAY 25, 2018	ISSUED FOR 60% DESIGN REVIEW	H.W.
FEB 18, 2021	ISSUED FOR 90% DESIGN REVIEW	H.W.



KEY PLAN (N.T.S.)

NOTE:
THE LOCATION OF UTILITIES IS APPROXIMATE ONLY AND SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION AGAINST DAMAGE.



245.28	245.22	245.16	245.10	245.04	244.98	244.92	244.86	244.80	244.75	244.73	244.75	244.82	244.94	245.10	PROFILE CONTROL
244.65	244.67	244.65	244.68	244.68	244.90	244.78	244.63	244.55	244.52	244.51	244.51	244.61	244.66	244.78	EX. ROAD ELEV.
6+660	6+680	6+700	6+720	6+740	6+760	6+780	6+800	6+820	6+840	6+860	6+880	6+900	6+920	6+940	ROAD CHAINAGE

TRITON ENGINEERING SERVICES LIMITED
Consulting Engineers

The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction. Location of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

LICENSED PROFESSIONAL ENGINEER
H.W. WRAY
PROVINCE OF ONTARIO

Designed by _____ Chkd. _____ Approved by _____

NOTICE TO CONTRACTOR
48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL CANADA
ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

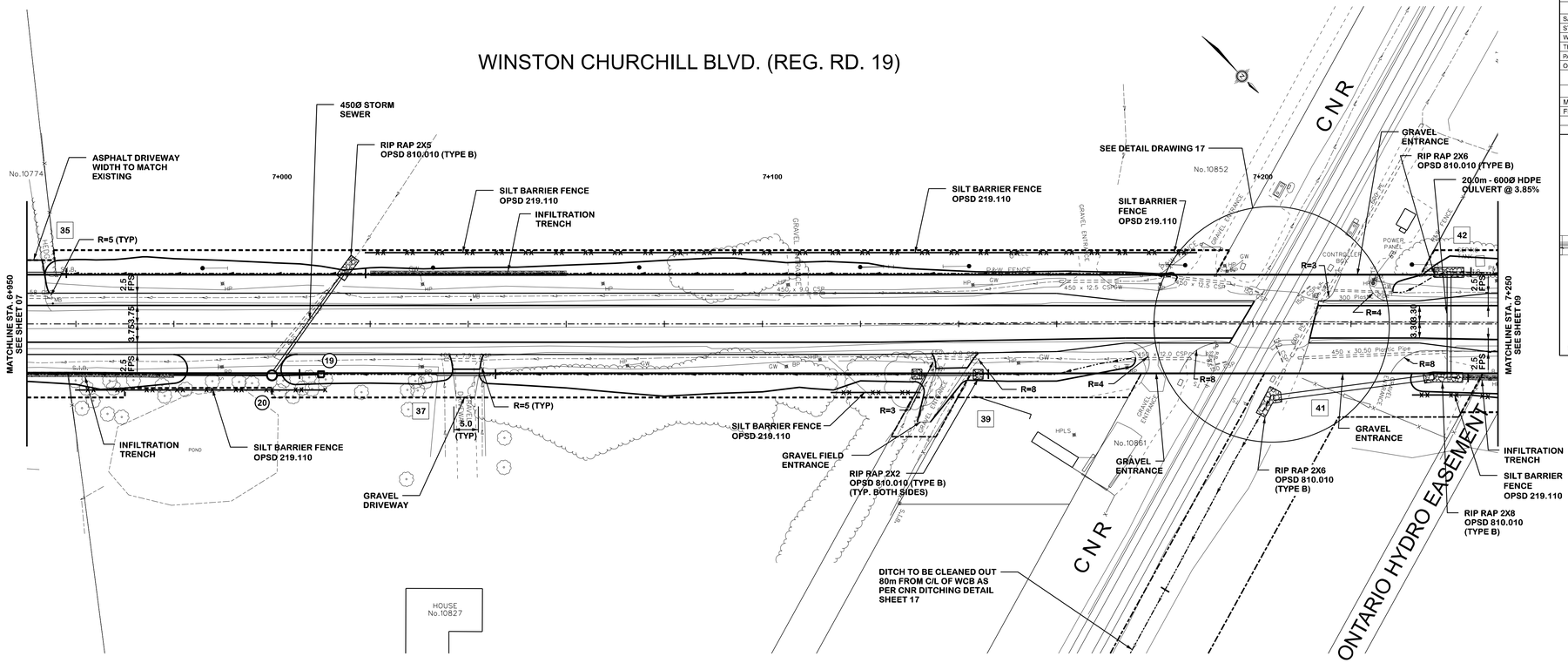
10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

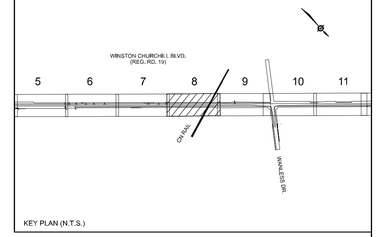
Region of Peel
working with you

WINSTON CHURCHILL
(PHASE 2)
CREDIT RIVER BRIDGE TO SOUTH OF MAYFIELD ROAD
NEW CONSTRUCTION
STA. 6+650 TO STA. 6+950

CAD Area	B-37, B-19	Area	B-25, B-34
Checked by	G.J.K.	Drawn by	K.J.G.
Date	AUGUST 2016	Sheet	07 of 52
Project No.	XX-XXX		
Plan No.	XXXXX-D		

WINSTON CHURCHILL BLVD. (REG. RD. 19)





KEY PLAN (N.T.S.)

SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS			GAS MAINS		
STORM SEWERS			BELL U/G CABLE		
WATERMAINS			HYDRO U/G CABLE		
TRANSIT			HYDRO ONE		
PARKS & REC.			CTV		
ONT. CLEAN WATER			COMM/UNIC. CABLES		

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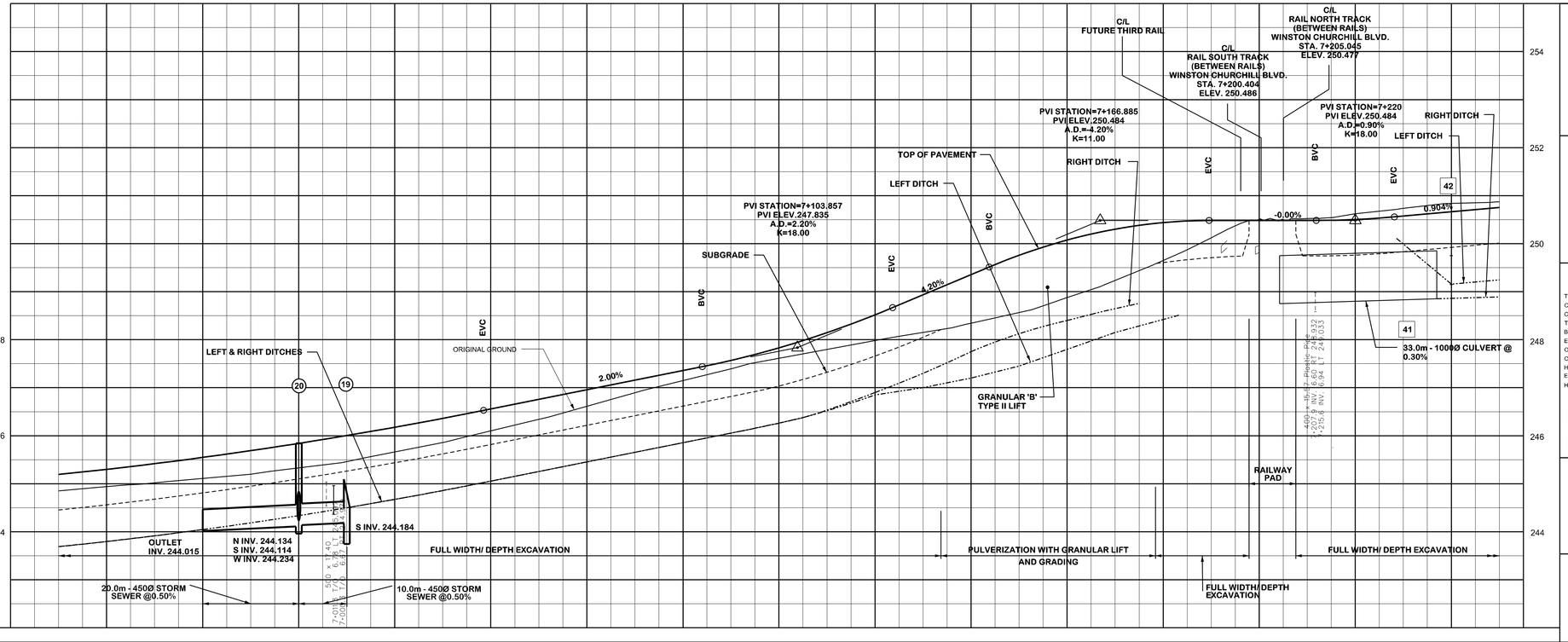

245.30	245.55	245.84	246.18	246.56	246.96	247.36	247.83	248.52	249.35	250.07	250.44	250.48	250.50	250.67	PROFILE CONTROL
244.94	245.11	245.33	245.66	246.10	246.61	247.15	247.61	247.98	248.36	248.83	249.60	250.42	250.59	250.78	EX. ROAD ELEV.
6+960	6+980	7+000	7+020	7+040	7+060	7+080	7+100	7+120	7+140	7+160	7+180	7+200	7+220	7+240	ROAD CHAINAGE

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Consulting Engineers

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LICENSED PROFESSIONAL ENGINEER — H.W. WRAY — PROVINCE OF ONTARIO

Designed by ____ Chkd. ____ Approved by ____

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HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE
1m 0 1 2 3m — VERTICAL SCALE

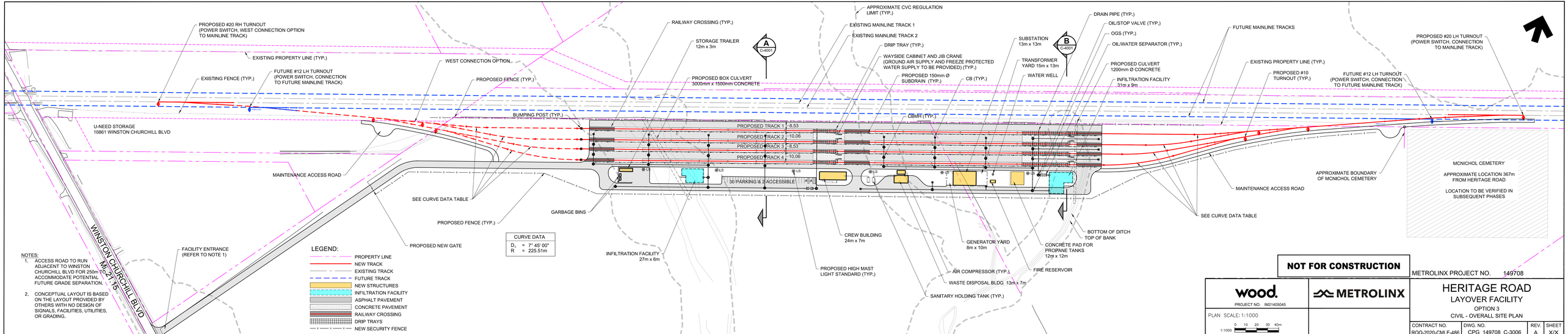
Region of Peel
working with you

WINSTON CHURCHILL
(PHASE 2)
CREDIT RIVER BRIDGE TO SOUTH OF MAYFIELD ROAD
NEW CONSTRUCTION
STA. 6+950 TO STA. 7+250

CAD Area	B-37, B-19	Area	B-25, B-34	Project No.	XX-XXX
Checked by	G.J.K.	Drawn by	K.J.G.		
Date	AUGUST 2016	Sheet	08 of 52	Plan No.	XXXXX-D

Appendix E

Heritage Layover Site Plan



NOTES:

1. ACCESS ROAD TO RUN ADJACENT TO WINSTON CHURCHILL BLVD FOR 250m TO ACCOMMODATE POTENTIAL FUTURE GRADE SEPARATION.
2. CONCEPTUAL LAYOUT IS BASED ON THE LAYOUT PROVIDED BY OTHERS WITH NO DESIGN OF SIGNALS, FACILITIES, UTILITIES, OR GRADING.

NOT FOR CONSTRUCTION

METROLINX PROJECT NO. 149708

wood.
PROJECT NO. IM21405045

METROLINX

PLAN SCALE: 1:1000
0 10 20 30 40m
1:1000

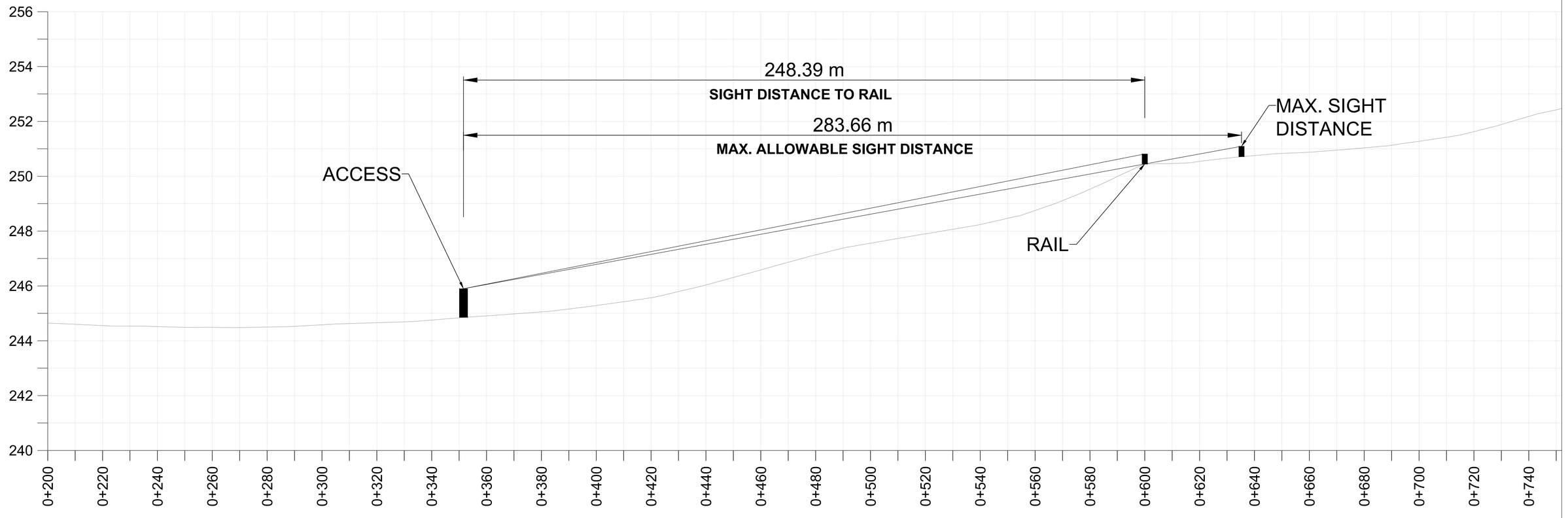
HERITAGE ROAD
LAYOVER FACILITY
OPTION 3
CIVIL - OVERALL SITE PLAN

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ-2020-CMLE-486	CPG_149708_C-3006	A	X/X

Appendix F

Sight Distance Measurement at Proposed Access

WINSTON CHURCHILL BLVD.
SIGHT DISTANCES FROM ACCESS ROAD



SCALE: 1:750

Appendix G

ITE Land Use 710 Excerpts

Land Use: 710
General Office Building

Description

A general office building is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building houses multiple tenants that can include, as examples, professional services, insurance companies, investment brokers, a banking institution, a restaurant, or other service retailers. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), medical-dental office building (Land Use 720), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

Graph Look Up

ITETripGen Web-based App
Graph Look Up
How to Use ITETripGen
TGM Desk Reference
TGM Appendices
Support Documents
Add Users
Comments
Add-ons to do more
Try OTISS Pro

Query | Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 710

LAND USE GROUP: (700-799) Office

LAND USE : 710 - General Office Building

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

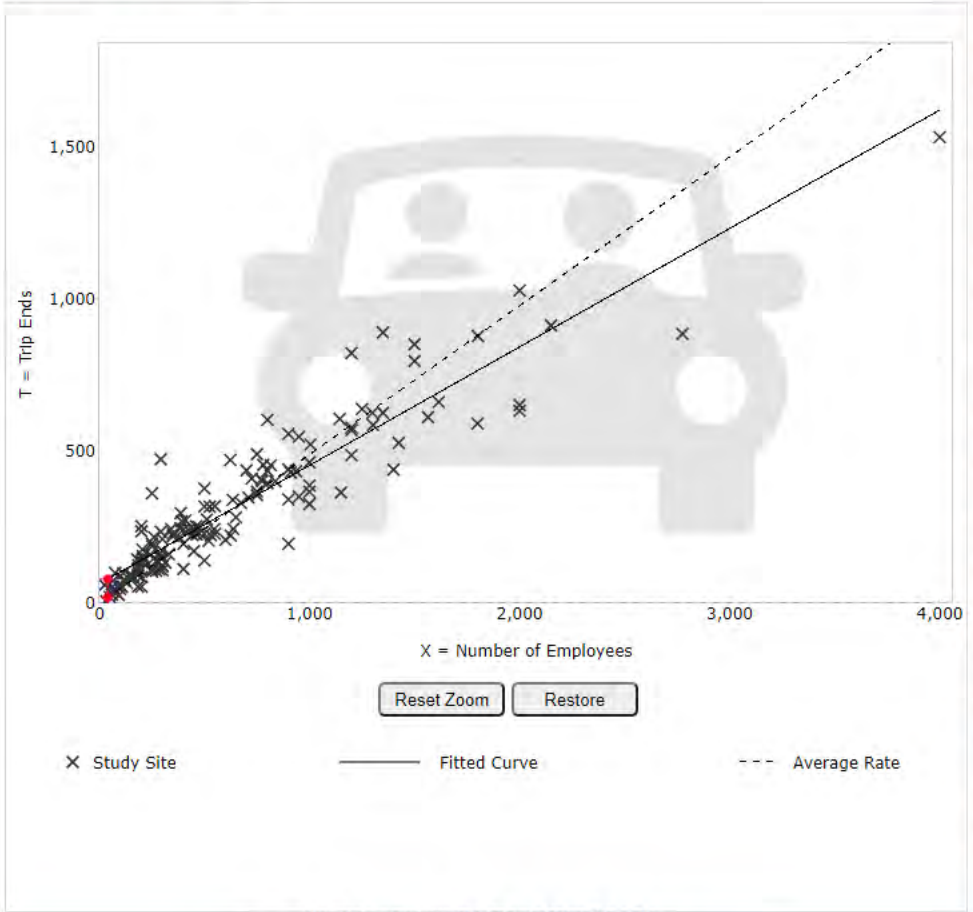
INDEPENDENT VARIABLE (IV): Employees

TIME PERIOD: Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 40 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
General Office Building (710) Click for Description and Data Plots

Independent Variable:
Employees

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
153

Avg. Num. of Employees:
618

Average Rate:
0.49

Range of Rates:
0.21 - 2.40

Standard Deviation:
0.16

Fitted Curve Equation:
T = 0.39(X) + 64.22

R^2:
0.86

Directional Distribution:
88% entering, 12% exiting

Calculated Trip Ends:
Average Rate: 20 (Total), 17 (Entry), 3 (Exit)
Fitted Curve: 80 (Total), 70 (Entry), 10 (Exit)

AM

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8:20 PM
3/14/2022

Graph Look Up

ITETripGen Web-based App
Graph Look Up
How to Use ITETripGen
TGM Desk Reference
TGM Appendices
Support Documents
Add Users
Comments
Add-ons to do more
Try OTISS Pro

Query | Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 710

LAND USE GROUP: (700-799) Office

LAND USE : 710 - General Office Building

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

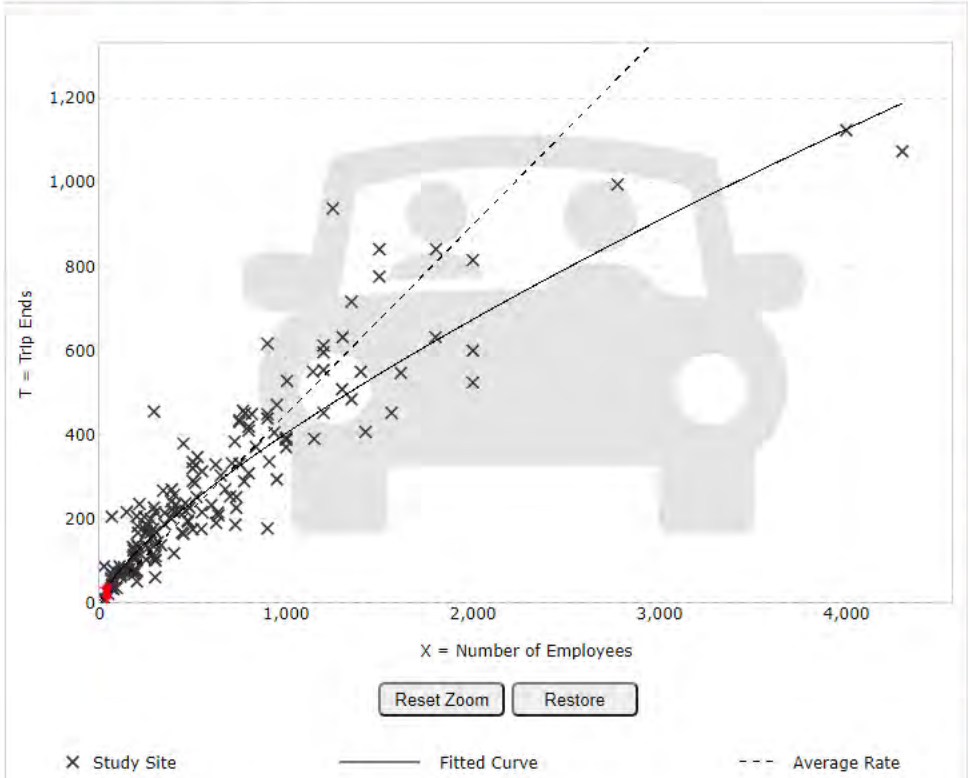
INDEPENDENT VARIABLE (IV): Employees

TIME PERIOD: Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 40 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
General Office Building (710) Click for Description and Data Plots

Independent Variable:
Employees

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
163

Avg. Num. of Employees:
614

Average Rate:
0.45

Range of Rates:
0.20 - 4.50

Standard Deviation:
0.18

Fitted Curve Equation:
Ln(T) = 0.74 Ln(X) + 0.89

R^2:
0.82

Directional Distribution:
17% entering, 83% exiting

Calculated Trip Ends:
Average Rate: 18 (Total), 3 (Entry), 15 (Exit)
Fitted Curve: 37 (Total), 6 (Entry), 31 (Exit)

PM

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8:21 PM
3/14/2022

Appendix H

Opening Year (2025) Intersection Analysis

1. Improved Future Total with Site Trips 2025 AM Peak (Summary of Synchro Outputs)
2. Improved Future Total with Site Trips 2025 AM Peak (Synchro Reports)
3. Improved Future Total with Site Trips 2025 PM Peak (Summary of Synchro Outputs)
4. Improved Future Total with Site Trips 2025 PM Peak (Synchro Reports)

Appendix H1

Opening Year (2025) Intersection Operation Calculations (Synchro)

1. Improved Future Total with Site Trips 2025 AM Peak (Summary of Synchro Outputs)

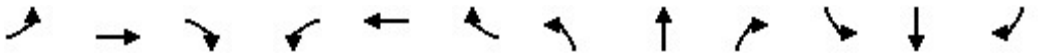
Improved Future Total with Site Trips 2025 AM Peak_report.txt										
INT	MOV	VOL	DEL	LOS	V/C	Q	LLEN	TLEN		
3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)	OVERALL			B	0.54					
	EBL	2								
	EBT	754	11	B	0.61	45	1358			
	EBR	29								
	WBL	79								
	WBT	384	10	A	0.51	28	1439			
	WBR	4								
	NBL	14								
	NBT	155	13	B	0.43	31	1224			
	NBR	36								
	SBL	15								
	SBT	145	13	B	0.37	26	281			
	SBR	8								
6: Heritage Road & Mayfield Road (RR 14)	OVERALL			A	0.50					
	EBL	1								
	EBT	651	7	A	0.50	36	1439			
	EBR	153								
	WBL	83								
	WBT	456	7	A	0.46	27	1352			
	WBR	7								
	NBL	9								
	NBT	33	15	B	0.21	13	1220			
	NBR	84								
	SBL	4								
	SBT	153	16	B	0.50	26	1225			
	SBR	2								
9: Mississauga Road (RR 1) & Mayfield Road (RR 14)	OVERALL			B	0.69					
	EBL	81	18	B	0.31	19		80		
	EBT	559	21	C	0.66	54	1352			
	EBR	100								
	WBL	88	27	C	0.62	#26.5		80		
	WBT	357	18	B	0.40	32	501			
	WBR	42								
	NBL	40	9	A	0.17	10		60		
	NBT	180	9	A	0.21	27	1217			
	NBR	48	8	A	0.03	5				
	SBL	46	9	A	0.08	9		60		
	SBT	444	15	B	0.71	#109.3	409			
	SBR	149								
12: Heritage Road & Wanless Drive	OVERALL			B	0.62					
	EBL	1								
	EBT	85	9	A	0.15	13	821			
	EBR	8								
	WBL	190								
	WBT	97	14	B	0.65	43	710			
	WBR	5								
	NBL	9	9	A	0.03	3		25		
	NBT	120	10	B	0.39	30	3043			
	NBR	203								
	SBL	16	9	A	0.05	4		25		
	SBT	371	12	B	0.59	55	1220			
	SBR	1								
13: Mississauga Road (RR 1) & Wanless Drive	OVERALL			B	0.53					
	EBL	23	11	B	0.07	6		40		
	EBT	237	14	B	0.50	47	618			
	EBR	45								
	WBL	125	14	B	0.40	25		100		
	WBT	229	13	B	0.40	39	710			
	WBR	22	11	B	0.01	4				
	NBL	12								
	NBT	222	9	A	0.24	18	1213			
	NBR	127								
	SBL	84								
	SBT	499	11	B	0.55	46	1217			
	SBR	50								
14: Winston Churchill Blvd (RR 19) & Wanless Drive	OVERALL									
	WB 1	116	13	B	0.20	6				
	NB 1	265	0		0.16	0				
	SB 1	276	1	A	0.02	0				
16: Mississauga Road (RR 1) & Sandalwood Pkwy W	OVERALL			A	0.45					
	EBL									
	EBT									
	EBR									
	WBL	175	15	B	0.50	25	708			
	WBT									
	WBR	26	12	B	0.02	4				
	NBL									
	NBT	334	7	A	0.16	10	1815			
	NBR	115	6	A	0.08	6		75		
	SBL	52	7	A	0.13	8		140		
	SBT	617	8	A	0.43	29	1213			
	SBR									

18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	OVERALL			E	1.05					
	EBL	44	16	B	0.10	13		100		
	EBT	550	65	E	1.02	#307.0	902			
	EBR	304								
	WBL	172	107	F	1.02	#75.1		90		
	WBT	359	13	B	0.35	65	864			
	WBR	2								
	NBL	169	69	E	0.87	#63.4		90		
	NBT	208	68	E	0.95	#171.0	412			
	NBR	265								
	SBL	5	38	D	0.08	5		120		
	SBT	254	56	E	0.80	#106.5	385			
	SBR	42								
19: Heritage Road & Bovaird Drive W (RR 107)	OVERALL			C	0.84					
	EBL	90	22	C	0.41	24		170		
	EBT	673	26	C	0.74	65	1087			
	EBR	56	18	B	0.04	1		55		
	WBL	137	18	B	0.58	21		145		
	WBT	466	15	B	0.36	36	1361			
	WBR	57	13	B	0.04	4		45		
	NBL	34								
	NBT	186	15	B	0.43	45	1540			
	NBR	55								
	SBL	56								
	SBT	479	28	C	0.86	#130.9	3043			
	SBR	34								
20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)	OVERALL			C	0.66					
	EBL	65	34	C	0.47	#31.6		300		
	EBT	627	25	C	0.68	71	1361			
	EBR	92	19	B	0.06	6		150		
	WBL	242	59	E	0.89	#53.4		215		
	WBT	539	24	C	0.58	60	543			
	WBR	16	19	B	0.01	0		120		
	NBL	82	17	B	0.41	18		180		
	NBT	308	15	B	0.17	20	1217			
	NBR	141	15	B	0.10	11		300		
	SBL	30	19	B	0.11	11		130		
	SBT	847	24	C	0.62	62	1815			
	SBR	41	19	B	0.03	0		125		
29: Winston Churchill Blvd (RR 19) & Site Access	OVERALL									
	WB 1	3	12	B	0.01	0				
	NB 1	276	0		0.16	0				
	SB 1	332	0	A	0.01	0				

Appendix H2

Opening Year (2025) Intersection Operation Calculations (Synchro)

2. Improved Future Total with Site Trips 2025 AM Peak (Synchro Reports)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	754	29	79	384	4	14	155	36	15	145	8
Future Volume (vph)	2	754	29	79	384	4	14	155	36	15	145	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3558			3544			1833			1863	
Flt Permitted		0.95			0.68			0.96			0.95	
Satd. Flow (perm)		3393			2433			1774			1777	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	820	32	86	417	4	15	168	39	16	158	9
RTOR Reduction (vph)	0	3	0	0	1	0	0	10	0	0	2	0
Lane Group Flow (vph)	0	851	0	0	506	0	0	212	0	0	181	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		17.3			17.3			11.6			11.6	
Effective Green, g (s)		17.3			17.3			11.6			11.6	
Actuated g/C Ratio		0.41			0.41			0.28			0.28	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1394			999			488			489	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.21			c0.12			0.10	
v/c Ratio		0.61			0.51			0.43			0.37	
Uniform Delay, d1		9.8			9.2			12.5			12.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.4			0.6			0.5	
Delay (s)		10.5			9.6			13.2			12.8	
Level of Service		B			A			B			B	
Approach Delay (s)		10.5			9.6			13.2			12.8	
Approach LOS		B			A			B			B	

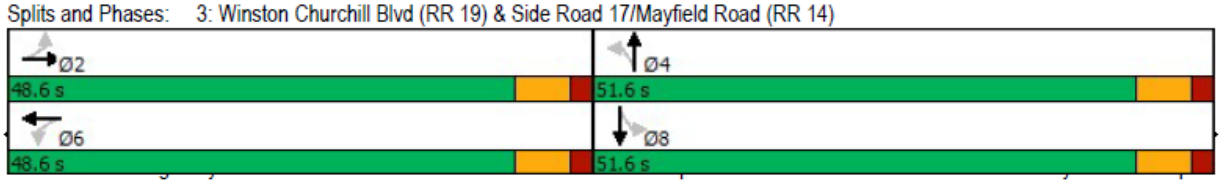
Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	13.2
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

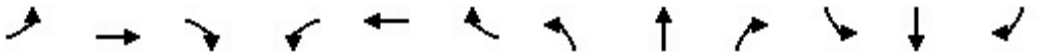
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	854	507	222	183
v/c Ratio	0.62	0.51	0.45	0.38
Control Delay	12.3	11.8	16.1	15.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.3	11.8	16.1	15.7
Queue Length 50th (m)	23.1	13.0	12.1	10.3
Queue Length 95th (m)	44.8	27.8	30.5	26.4
Internal Link Dist (m)	1357.8	1438.9	1224.3	280.8
Turn Bay Length (m)				
Base Capacity (vph)	3168	2273	1699	1701
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.22	0.13	0.11

Intersection Summary

Splits and Phases: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	651	153	83	456	7	9	33	84	4	153	2
Future Volume (vph)	1	651	153	83	456	7	9	33	84	4	153	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			1.00			0.91			1.00	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3477			3544			1708			1878	
Flt Permitted		0.95			0.72			0.96			0.99	
Satd. Flow (perm)		3318			2580			1648			1857	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	708	166	90	496	8	10	36	91	4	166	2
RTOR Reduction (vph)	0	31	0	0	1	0	0	74	0	0	1	0
Lane Group Flow (vph)	0	844	0	0	593	0	0	63	0	0	171	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		20.8			20.8			7.6			7.6	
Effective Green, g (s)		20.8			20.8			7.6			7.6	
Actuated g/C Ratio		0.50			0.50			0.18			0.18	
Clearance Time (s)		6.6			6.6			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1675			1302			304			342	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.23			0.04			c0.09	
v/c Ratio		0.50			0.46			0.21			0.50	
Uniform Delay, d1		6.8			6.6			14.2			15.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.3			0.3			1.2	
Delay (s)		7.0			6.8			14.6			16.2	
Level of Service		A			A			B			B	
Approach Delay (s)		7.0			6.8			14.6			16.2	
Approach LOS		A			A			B			B	

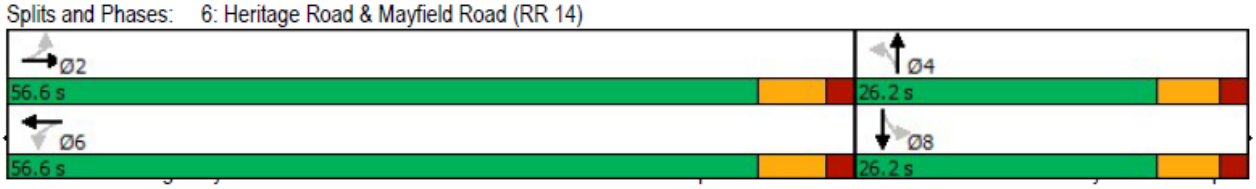
Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	12.8
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

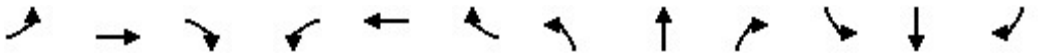
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	875	594	137	172
v/c Ratio	0.46	0.41	0.30	0.39
Control Delay	8.1	8.6	8.5	16.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.1	8.6	8.5	16.9
Queue Length 50th (m)	18.8	13.3	2.3	9.3
Queue Length 95th (m)	36.2	27.1	13.4	25.9
Internal Link Dist (m)	1438.9	1352.3	1220.1	1224.5
Turn Bay Length (m)				
Base Capacity (vph)	3308	2571	885	948
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.23	0.15	0.18

Intersection Summary

Splits and Phases: 6: Heritage Road & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	559	100	88	357	42	40	180	48	46	444	149
Future Volume (vph)	81	559	100	88	357	42	40	180	48	46	444	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	3497		1789	3522		1789	1883	1601	1789	1812	
Flt Permitted	0.50	1.00		0.27	1.00		0.27	1.00	1.00	0.63	1.00	
Satd. Flow (perm)	940	3497		515	3522		503	1883	1601	1195	1812	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	608	109	96	388	46	43	196	52	50	483	162
RTOR Reduction (vph)	0	22	0	0	14	0	0	0	26	0	10	0
Lane Group Flow (vph)	88	695	0	96	420	0	43	196	26	50	635	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	19.7	19.7		19.7	19.7		32.4	32.4	32.4	32.4	32.4	
Effective Green, g (s)	19.7	19.7		19.7	19.7		32.4	32.4	32.4	32.4	32.4	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.50	0.50	0.50	0.50	0.50	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	283	1054		155	1062		249	934	794	592	899	
v/s Ratio Prot		c0.20			0.12			0.10			c0.35	
v/s Ratio Perm	0.09			0.19			0.09		0.02	0.04		
v/c Ratio	0.31	0.66		0.62	0.40		0.17	0.21	0.03	0.08	0.71	
Uniform Delay, d1	17.6	19.9		19.6	18.1		9.1	9.3	8.4	8.7	12.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	1.5		7.2	0.2		0.3	0.1	0.0	0.1	2.6	
Delay (s)	18.2	21.4		26.8	18.3		9.4	9.4	8.4	8.7	15.3	
Level of Service	B	C		C	B		A	A	A	A	B	
Approach Delay (s)		21.0			19.9			9.2			14.8	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	13.2
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

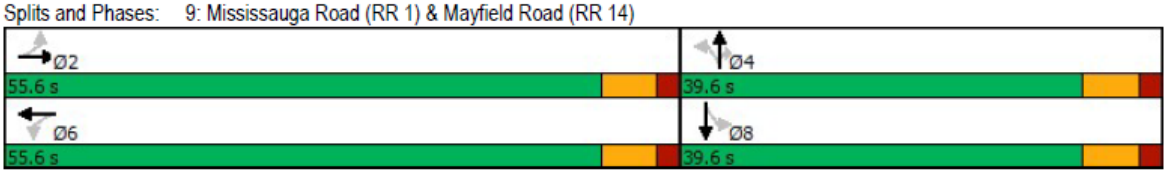
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	88	717	96	434	43	196	52	50	645
v/c Ratio	0.31	0.67	0.62	0.40	0.17	0.21	0.06	0.08	0.71
Control Delay	20.9	22.3	38.8	18.3	12.6	10.8	3.7	10.3	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	22.3	38.8	18.3	12.6	10.8	3.7	10.3	18.9
Queue Length 50th (m)	8.3	38.2	10.0	20.9	2.7	12.3	0.0	2.9	54.5
Queue Length 95th (m)	18.5	54.0	#26.5	31.6	9.5	27.2	5.1	9.2	#109.3
Internal Link Dist (m)		1352.3		500.7		1217.2			409.3
Turn Bay Length (m)	80.0		80.0		60.0			60.0	
Base Capacity (vph)	708	2641	387	2656	255	955	837	605	928
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.27	0.25	0.16	0.17	0.21	0.06	0.08	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	85	8	190	97	5	9	120	203	16	371	1
Future Volume (vph)	1	85	8	190	97	5	9	120	203	16	371	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.99			1.00		1.00	0.91		1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1860			1820		1789	1706		1789	1883	
Flt Permitted		1.00			0.74		0.47	1.00		0.53	1.00	
Satd. Flow (perm)		1853			1394		877	1706		1007	1883	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	92	9	207	105	5	10	130	221	17	403	1
RTOR Reduction (vph)	0	6	0	0	1	0	0	112	0	0	0	0
Lane Group Flow (vph)	0	96	0	0	316	0	10	239	0	17	404	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.6			14.6		15.1	15.1		15.1	15.1	
Effective Green, g (s)		14.6			14.6		15.1	15.1		15.1	15.1	
Actuated g/C Ratio		0.35			0.35		0.36	0.36		0.36	0.36	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		648			488		317	617		364	681	
v/s Ratio Prot								0.14			c0.21	
v/s Ratio Perm		0.05			c0.23		0.01			0.02		
v/c Ratio		0.15			0.65		0.03	0.39		0.05	0.59	
Uniform Delay, d1		9.3			11.4		8.6	9.9		8.6	10.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			2.9		0.0	0.4		0.1	1.4	
Delay (s)		9.4			14.3		8.6	10.3		8.7	12.2	
Level of Service		A			B		A	B		A	B	
Approach Delay (s)		9.4			14.3			10.2			12.1	
Approach LOS		A			B			B			B	

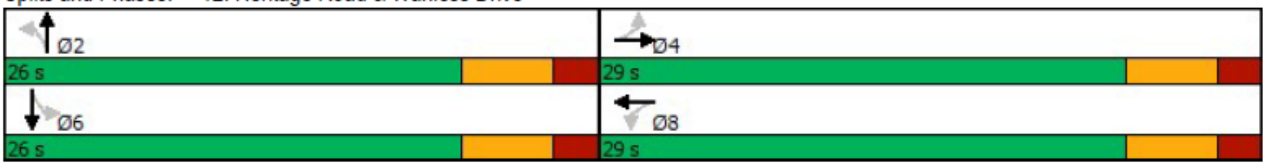
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	41.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

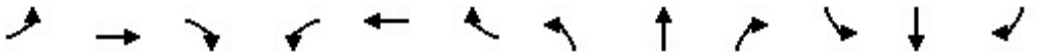
c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	317	10	351	17	404
v/c Ratio	0.16	0.65	0.03	0.49	0.05	0.60
Control Delay	9.6	19.0	11.0	8.7	11.1	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	19.0	11.0	8.7	11.1	16.5
Queue Length 50th (m)	4.1	16.9	0.4	8.4	0.7	22.0
Queue Length 95th (m)	12.5	42.5	3.0	29.5	4.3	54.6
Internal Link Dist (m)	821.1	710.2		3042.9		1220.1
Turn Bay Length (m)			25.0		25.0	
Base Capacity (vph)	1053	790	432	928	496	927
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.40	0.02	0.38	0.03	0.44

Intersection Summary

Splits and Phases: 12: Heritage Road & Wanless Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	237	45	125	229	22	12	222	127	84	499	50
Future Volume (vph)	23	237	45	125	229	22	12	222	127	84	499	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		0.95			0.95	
Frt	1.00	0.98		1.00	1.00	0.85		0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1789	1838		1789	1883	1601		3384			3513	
Flt Permitted	0.60	1.00		0.55	1.00	1.00		0.92			0.83	
Satd. Flow (perm)	1139	1838		1033	1883	1601		3133			2942	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	258	49	136	249	24	13	241	138	91	542	54
RTOR Reduction (vph)	0	5	0	0	0	16	0	80	0	0	7	0
Lane Group Flow (vph)	25	302	0	136	249	8	0	312	0	0	680	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	16.2	16.2		16.2	16.2	16.2		20.8			20.8	
Effective Green, g (s)	16.2	16.2		16.2	16.2	16.2		20.8			20.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33		0.42			0.42	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	374	603		339	618	526		1321			1241	
v/s Ratio Prot		c0.16			0.13							
v/s Ratio Perm	0.02			0.13		0.00		0.10			c0.23	
v/c Ratio	0.07	0.50		0.40	0.40	0.01		0.24			0.55	
Uniform Delay, d1	11.4	13.3		12.8	12.8	11.2		9.2			10.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.1	0.7		0.8	0.4	0.0		0.1			0.5	
Delay (s)	11.4	14.0		13.6	13.2	11.2		9.2			11.2	
Level of Service	B	B		B	B	B		A			B	
Approach Delay (s)		13.8			13.2			9.2			11.2	
Approach LOS		B			B			A			B	

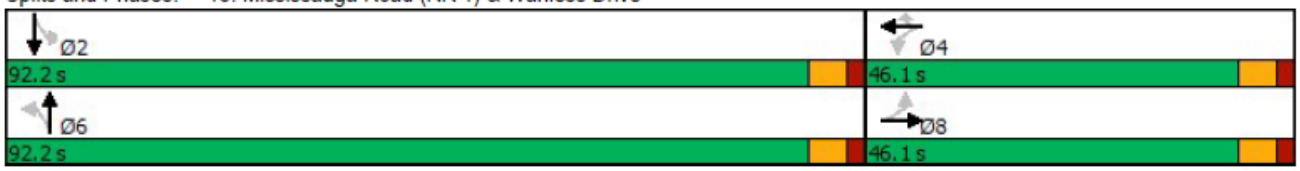
Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	49.3	Sum of lost time (s)	12.3
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	25	307	136	249	24	392	687
v/c Ratio	0.07	0.51	0.41	0.41	0.04	0.28	0.56
Control Delay	13.7	17.6	18.7	16.4	6.3	7.0	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	17.6	18.7	16.4	6.3	7.0	13.3
Queue Length 50th (m)	1.4	20.1	8.8	16.1	0.0	6.6	21.0
Queue Length 95th (m)	6.3	47.3	25.3	38.5	3.9	17.8	45.8
Internal Link Dist (m)		618.1		710.4		1213.3	1217.2
Turn Bay Length (m)	40.0		100.0				
Base Capacity (vph)	929	1500	841	1535	1310	3131	2942
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.20	0.16	0.16	0.02	0.13	0.23

Intersection Summary

Splits and Phases: 13: Mississauga Road (RR 1) & Wanless Drive





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	74	33	172	72	23	231
Future Volume (Veh/h)	74	33	172	72	23	231
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	80	36	187	78	25	251
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	527	226			265	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527	226			265	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	96			98	
cM capacity (veh/h)	502	813			1299	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	116	265	276
Volume Left	80	0	25
Volume Right	36	78	0
cSH	569	1700	1299
Volume to Capacity	0.20	0.16	0.02
Queue Length 95th (m)	5.8	0.0	0.4
Control Delay (s)	12.9	0.0	0.9
Lane LOS	B		A
Approach Delay (s)	12.9	0.0	0.9
Approach LOS	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	175	26	334	115	52	617
Future Volume (vph)	175	26	334	115	52	617
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	1601	5142	1601	1789	3579
Flt Permitted	0.95	1.00	1.00	1.00	0.53	1.00
Satd. Flow (perm)	1789	1601	5142	1601	993	3579
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	28	363	125	57	671
RTOR Reduction (vph)	0	22	0	70	0	0
Lane Group Flow (vph)	190	6	363	55	57	671
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	8.3	8.3	17.3	17.3	17.3	17.3
Effective Green, g (s)	8.3	8.3	17.3	17.3	17.3	17.3
Actuated g/C Ratio	0.21	0.21	0.44	0.44	0.44	0.44
Clearance Time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	377	338	2263	704	437	1575
v/s Ratio Prot	c0.11		0.07			c0.19
v/s Ratio Perm		0.00		0.03	0.06	
v/c Ratio	0.50	0.02	0.16	0.08	0.13	0.43
Uniform Delay, d1	13.7	12.3	6.6	6.4	6.5	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.0	0.0	0.0	0.1	0.2
Delay (s)	14.7	12.3	6.7	6.4	6.7	7.8
Level of Service	B	B	A	A	A	A
Approach Delay (s)	14.4		6.6			7.7
Approach LOS	B		A			A

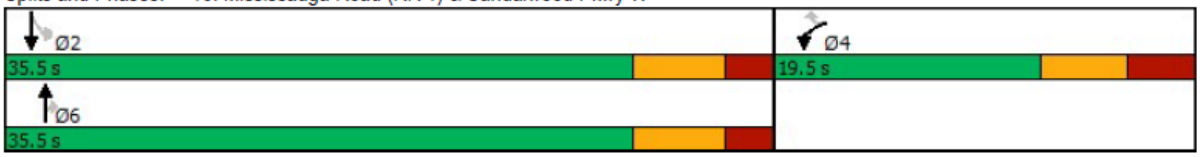
Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	39.3	Sum of lost time (s)	13.7
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

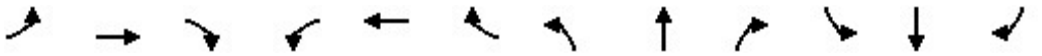
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	190	28	363	125	57	671
v/c Ratio	0.38	0.06	0.14	0.15	0.11	0.38
Control Delay	14.8	6.3	7.8	2.7	8.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	6.3	7.8	2.7	8.9	9.3
Queue Length 50th (m)	9.2	0.0	5.3	0.0	2.3	16.2
Queue Length 95th (m)	25.3	4.0	10.0	6.2	7.5	28.6
Internal Link Dist (m)	708.4		1814.9			1213.3
Turn Bay Length (m)				75.0	140.0	
Base Capacity (vph)	591	548	4199	1330	811	2923
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.05	0.09	0.09	0.07	0.23

Intersection Summary

Splits and Phases: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	550	304	172	359	2	169	208	265	5	254	42
Future Volume (vph)	44	550	304	172	359	2	169	208	265	5	254	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.92		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1783		1789	1882		1789	1725		1789	1842	
Flt Permitted	0.53	1.00		0.06	1.00		0.24	1.00		0.16	1.00	
Satd. Flow (perm)	999	1783		121	1882		457	1725		308	1842	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	48	598	330	187	390	2	184	226	288	5	265	46
RTOR Reduction (vph)	0	16	0	0	0	0	0	39	0	0	6	0
Lane Group Flow (vph)	48	912	0	187	392	0	184	475	0	5	305	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.4	59.4		70.4	70.4		34.5	34.5		24.5	24.5	
Effective Green, g (s)	59.4	59.4		70.4	70.4		34.5	34.5		24.5	24.5	
Actuated g/C Ratio	0.50	0.50		0.59	0.59		0.29	0.29		0.21	0.21	
Clearance Time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	501	894		184	1119		211	502		63	381	
v/s Ratio Prot		0.51		c0.07	0.21		0.05	c0.28			0.17	
v/s Ratio Perm	0.05			c0.53			0.20			0.02		
v/c Ratio	0.10	1.02		1.02	0.35		0.87	0.95		0.08	0.80	
Uniform Delay, d1	15.4	29.5		36.5	12.3		38.3	41.0		37.9	44.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	35.1		70.7	0.9		30.2	27.0		0.5	11.5	
Delay (s)	15.8	64.6		107.2	13.2		68.5	68.0		38.4	56.1	
Level of Service	B	E		F	B		E	E		D	E	
Approach Delay (s)		62.2			43.5			68.1			55.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	58.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	118.4	Sum of lost time (s)	19.5
Intersection Capacity Utilization	112.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

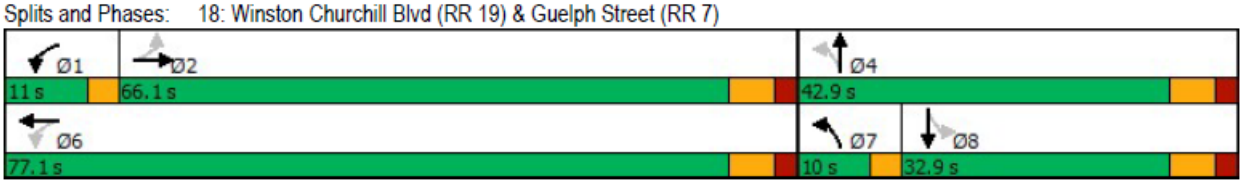
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	928	187	392	184	514	5	311
v/c Ratio	0.10	1.02	0.99	0.35	0.81	0.95	0.08	0.80
Control Delay	16.9	64.0	93.0	13.7	60.1	65.2	41.2	60.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	64.0	93.0	13.7	60.1	65.2	41.2	60.3
Queue Length 50th (m)	5.8	~230.3	~28.2	45.6	32.1	106.6	0.9	67.8
Queue Length 95th (m)	12.7	#307.0	#75.1	64.9	#63.4	#171.0	4.6	#106.5
Internal Link Dist (m)		901.6		863.8		411.9		385.1
Turn Bay Length (m)	100.0		90.0		90.0		120.0	
Base Capacity (vph)	501	911	188	1119	226	564	67	411
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	1.02	0.99	0.35	0.81	0.91	0.07	0.76

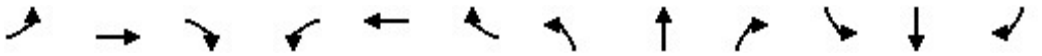
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	673	56	137	466	57	34	186	55	56	479	34
Future Volume (vph)	90	673	56	137	466	57	34	186	55	56	479	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.97			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601		1821			1859	
Flt Permitted	0.47	1.00	1.00	0.22	1.00	1.00		0.89			0.93	
Satd. Flow (perm)	877	3579	1601	408	3579	1601		1631			1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	732	61	149	507	62	37	202	60	61	521	37
RTOR Reduction (vph)	0	0	44	0	0	38	0	12	0	0	3	0
Lane Group Flow (vph)	98	732	17	149	507	24	0	287	0	0	616	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	19.0	19.0	19.0	27.0	27.0	27.0		28.5			28.5	
Effective Green, g (s)	19.0	19.0	19.0	27.0	27.0	27.0		28.5			28.5	
Actuated g/C Ratio	0.27	0.27	0.27	0.39	0.39	0.39		0.41			0.41	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	241	984	440	259	1398	625		672			719	
v/s Ratio Prot		c0.20		c0.04	0.14							
v/s Ratio Perm	0.11		0.01	0.18		0.02		0.18			c0.35	
v/c Ratio	0.41	0.74	0.04	0.58	0.36	0.04		0.43			0.86	
Uniform Delay, d1	20.4	22.8	18.4	14.8	14.9	13.0		14.5			18.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.1	3.1	0.0	3.1	0.2	0.0		0.4			9.9	
Delay (s)	21.6	25.9	18.4	17.9	15.1	13.0		14.9			28.3	
Level of Service	C	C	B	B	B	B		B			C	
Approach Delay (s)		24.9			15.5			14.9			28.3	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	19.6
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

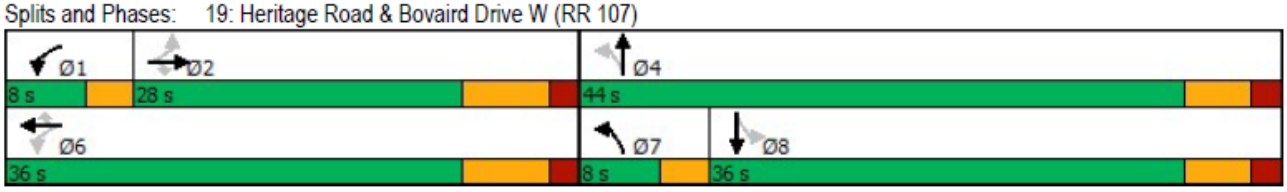
c Critical Lane Group

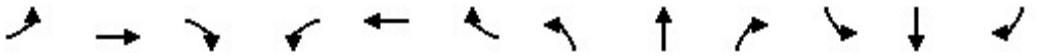
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	98	732	61	149	507	62	299	619
v/c Ratio	0.41	0.75	0.12	0.52	0.36	0.09	0.44	0.86
Control Delay	27.0	28.5	0.9	18.8	16.0	2.5	16.2	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	28.5	0.9	18.8	16.0	2.5	16.2	32.9
Queue Length 50th (m)	10.6	46.4	0.0	11.3	24.5	0.0	25.8	72.7
Queue Length 95th (m)	23.6	64.5	1.2	21.4	35.7	4.4	44.9	#130.9
Internal Link Dist (m)		1087.3			1360.9		1540.2	3042.9
Turn Bay Length (m)	170.0		55.0	145.0		45.0		
Base Capacity (vph)	262	1071	566	286	1487	715	905	758
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.68	0.11	0.52	0.34	0.09	0.33	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Heritage Road & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	627	92	242	539	16	82	308	141	30	847	41
Future Volume (vph)	65	627	92	242	539	16	82	308	141	30	847	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1789	3579	1601	3471	3579	1601	1789	5142	1601	1789	5142	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.20	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	1789	3579	1601	3471	3579	1601	374	5142	1601	1021	5142	1601
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	682	100	263	586	17	89	335	153	33	921	45
RTOR Reduction (vph)	0	0	72	0	0	12	0	0	95	0	0	32
Lane Group Flow (vph)	71	682	28	263	586	5	89	335	58	33	921	13
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)	6.3	20.8	20.8	6.3	20.8	20.8	28.1	28.1	28.1	21.3	21.3	21.3
Effective Green, g (s)	6.3	20.8	20.8	6.3	20.8	20.8	28.1	28.1	28.1	21.3	21.3	21.3
Actuated g/C Ratio	0.09	0.28	0.28	0.09	0.28	0.28	0.38	0.38	0.38	0.29	0.29	0.29
Clearance Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	152	1010	451	296	1010	451	215	1960	610	295	1486	462
v/s Ratio Prot	0.04	c0.19		c0.08	0.16		c0.02	0.07			c0.18	
v/s Ratio Perm			0.02			0.00	0.14		0.04	0.03		0.01
v/c Ratio	0.47	0.68	0.06	0.89	0.58	0.01	0.41	0.17	0.10	0.11	0.62	0.03
Uniform Delay, d1	32.1	23.5	19.3	33.4	22.7	19.0	15.4	15.1	14.6	19.3	22.7	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	1.8	0.1	25.8	0.9	0.0	1.3	0.0	0.1	0.2	0.8	0.0
Delay (s)	34.4	25.3	19.4	59.2	23.6	19.1	16.7	15.1	14.7	19.4	23.5	18.8
Level of Service	C	C	B	E	C	B	B	B	B	B	C	B
Approach Delay (s)		25.3			34.3			15.3			23.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	73.7	Sum of lost time (s)	21.5
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

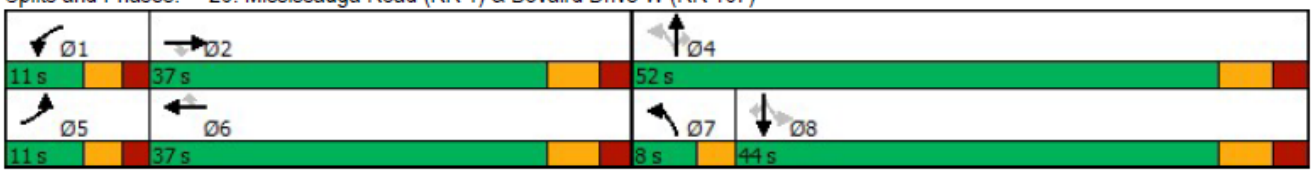
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	682	100	263	586	17	89	335	153	33	921	45
v/c Ratio	0.47	0.68	0.18	0.89	0.58	0.03	0.34	0.18	0.22	0.11	0.62	0.08
Control Delay	49.2	27.9	3.2	70.7	25.9	0.1	17.1	15.9	4.0	22.3	25.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	27.9	3.2	70.7	25.9	0.1	17.1	15.9	4.0	22.3	25.3	0.3
Queue Length 50th (m)	9.8	44.8	0.0	19.4	37.2	0.0	7.0	10.9	0.0	3.4	41.2	0.0
Queue Length 95th (m)	#31.6	70.9	6.3	#53.4	59.9	0.0	17.5	19.5	10.8	10.9	62.3	0.0
Internal Link Dist (m)		1360.9			543.4			1216.7			1814.9	
Turn Bay Length (m)	300.0		150.0	215.0		120.0	180.0		300.0	130.0		125.0
Base Capacity (vph)	152	1547	766	295	1547	766	260	3281	1076	535	2697	899
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.44	0.13	0.89	0.38	0.02	0.34	0.10	0.14	0.06	0.34	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	1	243	11	6	299
Future Volume (Veh/h)	2	1	243	11	6	299
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1	264	12	7	325
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	609	270			276	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609	270			276	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	456	769			1287	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	3	276	332
Volume Left	2	0	7
Volume Right	1	12	0
cSH	527	1700	1287
Volume to Capacity	0.01	0.16	0.01
Queue Length 95th (m)	0.1	0.0	0.1
Control Delay (s)	11.9	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	11.9	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		30.5%	ICU Level of Service A
Analysis Period (min)		15	

Appendix H3

Opening Year (2025) Intersection Operation Calculations (Synchro)

3. Improved Future Total with Site Trips 2025 PM Peak (Summary of Synchro Outputs)

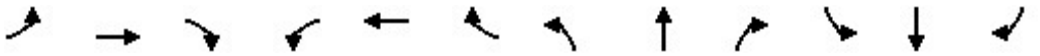
Improved Future Total with Site Trips 2025 PM Peak_report.txt								
INT	MOV	VOL	DEL	LOS	V/C	Q	LLEN	TLEN
3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)	OVERALL			B	0.64			
	EBL	7						
	EBT	449	12	B	0.40	39	1358	
	EBR	23						
	WBL	134						
	WBT	442	15	B	0.64	55	1439	
	WBR	18						
	NBL	21						
	NBT	284	17	B	0.65	75	1224	
	NBR	96						
	SBL	5						
	SBT	167	13	B	0.29	33	281	
	SBR	10						
6: Heritage Road & Mayfield Road (RR 14)	OVERALL			B	0.65			
	EBL	6						
	EBT	537	15	B	0.52	43	1439	
	EBR	8						
	WBL	42						
	WBT	560	16	B	0.62	50	1352	
	WBR	10						
	NBL	29						
	NBT	351	15	B	0.67	76	1220	
	NBR	88						
	SBL	7						
	SBT	120	10	B	0.19	20	1225	
	SBR	6						
9: Mississauga Road (RR 1) & Mayfield Road (RR 14)	OVERALL			B	0.51			
	EBL	139	12	B	0.44	26		80
	EBT	437	11	B	0.38	32	1352	
	EBR	57						
	WBL	62	10	A	0.20	12		80
	WBT	433	10	B	0.36	31	501	
	WBR	35						
	NBL	77	12	B	0.27	16		60
	NBT	347	15	B	0.61	59	1217	
	NBR	111	11	B	0.08	9		
	SBL	38	12	B	0.14	9		60
	SBT	227	15	B	0.57	53	409	
	SBR	101						
12: Heritage Road & Wanless Drive	OVERALL			C	0.84			
	EBL	1						
	EBT	104	15	B	0.19	19	821	
	EBR	1						
	WBL	210						
	WBT	94	27	C	0.78	#63.1	710	
	WBR	1						
	NBL	4	8	A	0.01	2		25
	NBT	465	25	C	0.89	#150.9	3043	
	NBR	265						
	SBL	3	8	A	0.02	2		25
	SBT	165	9	A	0.20	23	1220	
	SBR	1						
13: Mississauga Road (RR 1) & Wanless Drive	OVERALL			B	0.52			
	EBL	8	8	A	0.02	3		40
	EBT	348	11	B	0.40	59	618	
	EBR	17						
	WBL	161	11	B	0.36	32		100
	WBT	281	10	A	0.30	44	710	
	WBR	30	8	A	0.02	4		
	NBL	15						
	NBT	498	26	C	0.73	65	1213	
	NBR	194						
	SBL	26						
	SBT	310	21	C	0.43	33	1217	
	SBR	10						
14: Winston Churchill Blvd (RR 19) & Wanless Drive	OVERALL							
	WB 1	108	19	C	0.29	9		
	NB 1	513	0		0.30	0		
	SB 1	352	1	A	0.01	0		
16: Mississauga Road (RR 1) & Sandalwood Pkwy W	OVERALL			B	0.45			
	EBL							
	EBT							
	EBR							
	WBL	276	14	B	0.56	41	708	

	WBT							
	WBR	61	10	B	0.04	6		
	NBL							
	NBT	645	10	A	0.37	22	1815	
	NBR	268	9	A	0.18	11		75
	SBL	70	10	A	0.29	12		140
	SBT	418	10	A	0.34	22	1213	
	SBR							
18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	OVERALL			F	1.46			
	EBL	81	28	C	0.34	27		100
	EBT	549	117	F	1.15	#319.2	902	
	EBR	209						
	WBL	260	258	F	1.44	#127.3		90
	WBT	596	25	C	0.66	148	864	
	WBR	1						
	NBL	347	199	F	1.32	#155.0		90
	NBT	382	100	F	1.09	#259.7	412	
	NBR	287						
	SBL	4	38	D	0.06	4		120
	SBT	270	98	F	1.02	#159.8	385	
	SBR	118						
19: Heritage Road & Bovaird Drive W (RR 107)	OVERALL			C	0.78			
	EBL	108	39	D	0.62	53		170
	EBT	666	35	C	0.65	117	1087	
	EBR	67	27	C	0.06	13		55
	WBL	103	22	C	0.39	32		145
	WBT	777	25	C	0.56	119	1360	
	WBR	69	19	B	0.07	15		45
	NBL	40						
	NBT	559	36	D	0.86	235	1540	
	NBR	41						
	SBL	67						
	SBT	269	27	C	0.67	129	3043	
	SBR	40						
20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)	OVERALL			C	0.63			
	EBL	57	37	D	0.33	26		300
	EBT	649	26	C	0.61	84	1360	
	EBR	68	20	C	0.05	9		150
	WBL	152	36	D	0.40	28		215
	WBT	794	27	C	0.71	105	543	
	WBR	32	19	B	0.02	1		120
	NBL	68	20	C	0.24	20		180
	NBT	877	23	C	0.54	74	1217	
	NBR	202	20	B	0.14	15		300
	SBL	26	28	C	0.23	14		130
	SBT	545	30	C	0.51	55	1815	
	SBR	86	26	C	0.06	13		125
29: Winston Churchill Blvd (RR 19) & Site Access	OVERALL							
	WB 1	17	14	B	0.04	1		
	NB 1	504	0		0.30	0		
	SB 1	422	0	A	0.00	0		

Appendix H4

Opening Year (2025) Intersection Operation Calculations (Synchro)

4. Improved Future Total with Site Trips 2025 PM Peak (Synchro Reports)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	449	23	134	442	18	21	284	96	5	167	10
Future Volume (vph)	7	449	23	134	442	18	21	284	96	5	167	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.97			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3550			3522			1818			1867	
Flt Permitted		0.94			0.73			0.98			0.99	
Satd. Flow (perm)		3347			2589			1779			1844	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	488	25	146	480	20	23	309	104	5	182	11
RTOR Reduction (vph)	0	4	0	0	2	0	0	13	0	0	3	0
Lane Group Flow (vph)	0	517	0	0	644	0	0	423	0	0	195	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		21.4			21.4			20.2			20.2	
Effective Green, g (s)		21.4			21.4			20.2			20.2	
Actuated g/C Ratio		0.39			0.39			0.37			0.37	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1307			1011			655			679	
v/s Ratio Prot												
v/s Ratio Perm		0.15			c0.25			c0.24			0.11	
v/c Ratio		0.40			0.64			0.65			0.29	
Uniform Delay, d1		12.0			13.5			14.3			12.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			1.3			2.2			0.2	
Delay (s)		12.2			14.9			16.5			12.5	
Level of Service		B			B			B			B	
Approach Delay (s)		12.2			14.9			16.5			12.5	
Approach LOS		B			B			B			B	

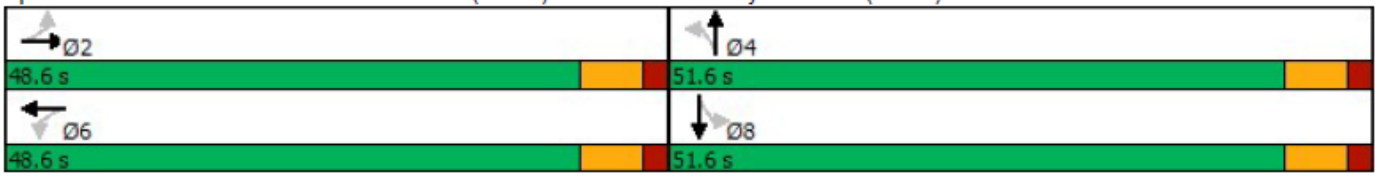
Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	13.2
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

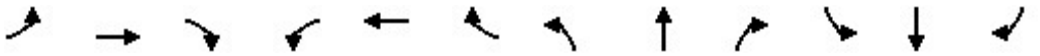
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	521	646	436	198
v/c Ratio	0.40	0.65	0.66	0.30
Control Delay	14.0	18.2	20.5	14.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.0	18.2	20.5	14.6
Queue Length 50th (m)	17.7	24.8	31.9	12.7
Queue Length 95th (m)	39.1	54.8	75.2	32.8
Internal Link Dist (m)	1357.8	1438.9	1224.3	280.8
Turn Bay Length (m)				
Base Capacity (vph)	2617	2024	1468	1517
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.32	0.30	0.13

Intersection Summary

Splits and Phases: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	537	8	42	560	10	29	351	88	7	120	6
Future Volume (vph)	6	537	8	42	560	10	29	351	88	7	120	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			1.00			0.97			0.99	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3568			3557			1830			1866	
Flt Permitted		0.94			0.87			0.97			0.97	
Satd. Flow (perm)		3371			3088			1789			1810	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	584	9	46	609	11	32	382	96	8	130	7
RTOR Reduction (vph)	0	1	0	0	2	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	599	0	0	664	0	0	503	0	0	143	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		18.6			18.6			22.6			22.6	
Effective Green, g (s)		18.6			18.6			22.6			22.6	
Actuated g/C Ratio		0.34			0.34			0.42			0.42	
Clearance Time (s)		6.6			6.6			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1161			1063			748			757	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.22			c0.28			0.08	
v/c Ratio		0.52			0.62			0.67			0.19	
Uniform Delay, d1		14.1			14.8			12.7			9.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			1.2			2.4			0.1	
Delay (s)		14.5			15.9			15.1			10.0	
Level of Service		B			B			B			B	
Approach Delay (s)		14.5			15.9			15.1			10.0	
Approach LOS		B			B			B			B	

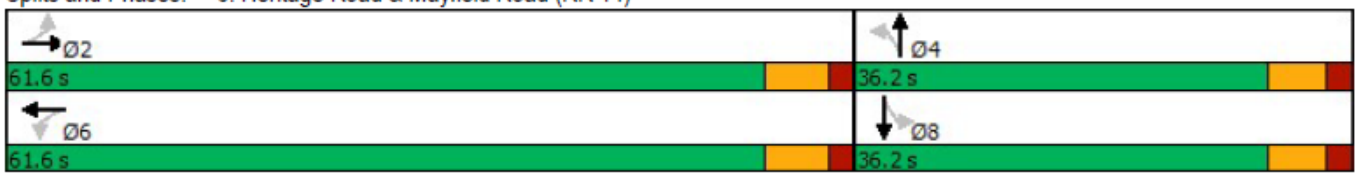
Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

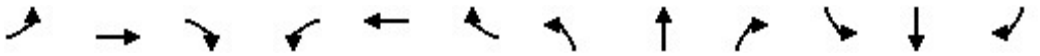
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	600	666	510	145
v/c Ratio	0.52	0.63	0.68	0.19
Control Delay	16.6	18.5	18.5	11.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.6	18.5	18.5	11.3
Queue Length 50th (m)	23.8	27.7	37.4	8.3
Queue Length 95th (m)	43.1	50.0	76.1	20.1
Internal Link Dist (m)	1438.9	1352.3	1220.1	1224.5
Turn Bay Length (m)				
Base Capacity (vph)	3189	2923	1021	1029
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.23	0.50	0.14

Intersection Summary

Splits and Phases: 6: Heritage Road & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	437	57	62	433	35	77	347	111	38	227	101
Future Volume (vph)	139	437	57	62	433	35	77	347	111	38	227	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	3517		1789	3538		1789	1883	1601	1789	1796	
Flt Permitted	0.46	1.00		0.45	1.00		0.50	1.00	1.00	0.47	1.00	
Satd. Flow (perm)	875	3517		851	3538		942	1883	1601	889	1796	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	151	475	62	67	471	38	84	377	121	41	247	110
RTOR Reduction (vph)	0	13	0	0	8	0	0	0	81	0	17	0
Lane Group Flow (vph)	151	524	0	67	501	0	84	377	40	41	340	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	19.1	19.1		19.1	19.1		16.0	16.0	16.0	16.0	16.0	
Effective Green, g (s)	19.1	19.1		19.1	19.1		16.0	16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.33	0.33	0.33	0.33	0.33	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	346	1390		336	1399		312	623	530	294	594	
v/s Ratio Prot		0.15			0.14			c0.20			0.19	
v/s Ratio Perm	c0.17			0.08			0.09		0.03	0.05		
v/c Ratio	0.44	0.38		0.20	0.36		0.27	0.61	0.08	0.14	0.57	
Uniform Delay, d1	10.7	10.4		9.6	10.3		11.9	13.5	11.1	11.3	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.3	0.2		0.5	1.7	0.1	0.2	1.3	
Delay (s)	11.6	10.5		9.9	10.4		12.3	15.2	11.1	11.5	14.7	
Level of Service	B	B		A	B		B	B	B	B	B	
Approach Delay (s)		10.8			10.4			13.9			14.3	
Approach LOS		B			B			B			B	

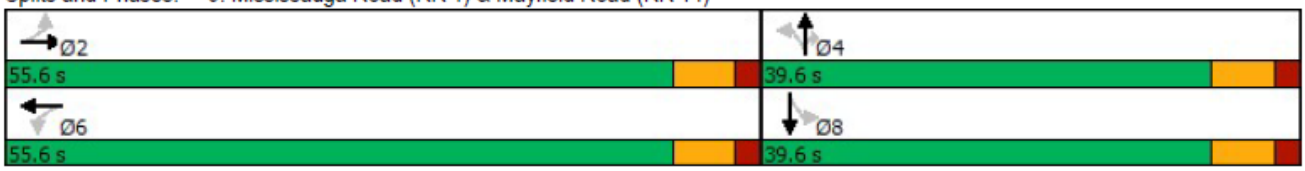
Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	13.2
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	151	537	67	509	84	377	121	41	357
v/c Ratio	0.44	0.39	0.20	0.37	0.27	0.61	0.20	0.14	0.59
Control Delay	16.8	11.5	12.6	11.5	15.5	19.0	4.2	13.7	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	11.5	12.6	11.5	15.5	19.0	4.2	13.7	17.5
Queue Length 50th (m)	8.4	14.6	3.3	14.0	4.5	23.1	0.0	2.1	19.9
Queue Length 95th (m)	26.4	31.8	12.2	30.5	16.3	58.7	8.7	9.1	53.0
Internal Link Dist (m)		1352.3		500.7		1217.2			409.3
Turn Bay Length (m)	80.0		80.0		60.0			60.0	
Base Capacity (vph)	824	3312	801	3331	660	1319	1158	623	1267
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.08	0.15	0.13	0.29	0.10	0.07	0.28

Intersection Summary

Splits and Phases: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	104	1	210	94	1	4	465	265	3	165	1
Future Volume (vph)	1	104	1	210	94	1	4	465	265	3	165	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		1.00			1.00		1.00	0.95		1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1880			1820		1789	1781		1789	1882	
Flt Permitted		1.00			0.72		0.64	1.00		0.14	1.00	
Satd. Flow (perm)		1875			1363		1213	1781		267	1882	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	113	1	228	102	1	4	505	288	3	179	1
RTOR Reduction (vph)	0	1	0	0	0	0	0	31	0	0	1	0
Lane Group Flow (vph)	0	114	0	0	331	0	4	762	0	3	179	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.4			18.4		28.2	28.2		28.2	28.2	
Effective Green, g (s)		18.4			18.4		28.2	28.2		28.2	28.2	
Actuated g/C Ratio		0.31			0.31		0.48	0.48		0.48	0.48	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		588			427		583	857		128	905	
v/s Ratio Prot								c0.43			0.10	
v/s Ratio Perm		0.06			c0.24		0.00			0.01		
v/c Ratio		0.19			0.78		0.01	0.89		0.02	0.20	
Uniform Delay, d1		14.7			18.2		7.9	13.8		8.0	8.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.2			8.6		0.0	11.2		0.1	0.1	
Delay (s)		14.8			26.8		7.9	25.0		8.0	8.8	
Level of Service		B			C		A	C		A	A	
Approach Delay (s)		14.8			26.8			24.9			8.8	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

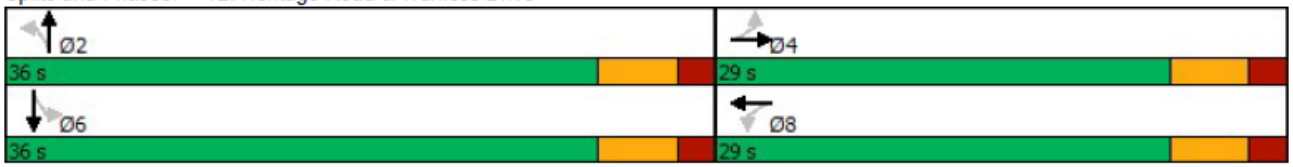
c Critical Lane Group

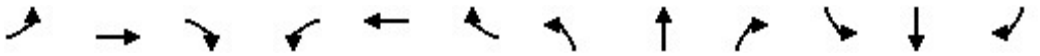
Lane Group	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	115	331	4	793	3	180
v/c Ratio	0.20	0.78	0.01	0.90	0.02	0.20
Control Delay	15.8	32.9	9.5	29.9	10.3	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	32.9	9.5	29.9	10.3	10.4
Queue Length 50th (m)	9.2	33.2	0.2	71.8	0.2	10.9
Queue Length 95th (m)	18.9	#63.1	1.6	#150.9	1.5	22.6
Internal Link Dist (m)	821.1	710.2		3042.9		1220.1
Turn Bay Length (m)			25.0		25.0	
Base Capacity (vph)	750	544	631	956	139	981
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.61	0.01	0.83	0.02	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Heritage Road & Wanless Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	348	17	161	281	30	15	498	194	26	310	10
Future Volume (vph)	8	348	17	161	281	30	15	498	194	26	310	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		0.95			0.95	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)	1789	1871		1789	1883	1601		3427			3550	
Flt Permitted	0.56	1.00		0.48	1.00	1.00		0.94			0.81	
Satd. Flow (perm)	1054	1871		902	1883	1601		3229			2884	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	378	18	175	305	33	16	541	211	28	337	11
RTOR Reduction (vph)	0	1	0	0	0	15	0	52	0	0	3	0
Lane Group Flow (vph)	9	395	0	175	305	18	0	716	0	0	373	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)	40.1	40.1		40.1	40.1	40.1		22.7			22.7	
Effective Green, g (s)	40.1	40.1		40.1	40.1	40.1		22.7			22.7	
Actuated g/C Ratio	0.53	0.53		0.53	0.53	0.53		0.30			0.30	
Clearance Time (s)	6.1	6.1		6.1	6.1	6.1		6.2			6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	562	999		481	1005	854		976			871	
v/s Ratio Prot		c0.21			0.16							
v/s Ratio Perm	0.01			0.19		0.01		c0.22			0.13	
v/c Ratio	0.02	0.40		0.36	0.30	0.02		0.73			0.43	
Uniform Delay, d1	8.2	10.3		10.1	9.7	8.2		23.5			21.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0	0.3		0.5	0.2	0.0		2.9			0.3	
Delay (s)	8.2	10.6		10.6	9.9	8.3		26.4			21.3	
Level of Service	A	B		B	A	A		C			C	
Approach Delay (s)		10.5			10.0			26.4			21.3	
Approach LOS		B			B			C			C	

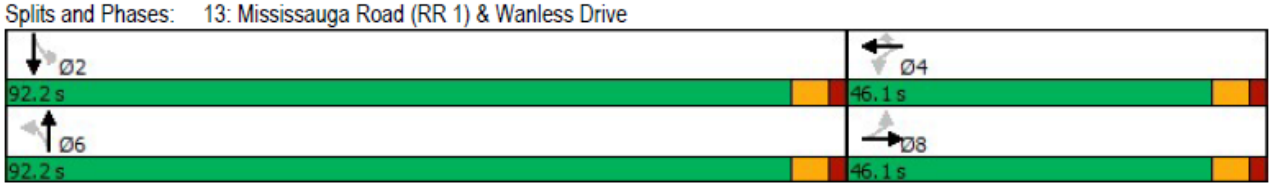
Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	12.3
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	9	396	175	305	33	768	376
v/c Ratio	0.02	0.40	0.36	0.30	0.04	0.75	0.43
Control Delay	10.1	12.6	14.1	11.6	4.1	26.1	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	12.6	14.1	11.6	4.1	26.1	22.2
Queue Length 50th (m)	0.6	30.8	13.4	22.5	0.0	46.1	22.0
Queue Length 95th (m)	3.0	58.9	31.7	44.0	4.1	64.5	33.0
Internal Link Dist (m)		618.1		710.4		1213.3	1217.2
Turn Bay Length (m)	40.0		100.0				
Base Capacity (vph)	562	999	481	1005	870	3229	2887
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.40	0.36	0.30	0.04	0.24	0.13

Intersection Summary

Splits and Phases: 13: Mississauga Road (RR 1) & Wanless Drive





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	78	21	379	93	14	310
Future Volume (Veh/h)	78	21	379	93	14	310
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	85	23	412	101	15	337
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	830	462			513	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	830	462			513	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	96			99	
cM capacity (veh/h)	335	599			1052	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	108	513	352
Volume Left	85	0	15
Volume Right	23	101	0
cSH	370	1700	1052
Volume to Capacity	0.29	0.30	0.01
Queue Length 95th (m)	9.1	0.0	0.3
Control Delay (s)	18.7	0.0	0.5
Lane LOS	C		A
Approach Delay (s)	18.7	0.0	0.5
Approach LOS	C		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	276	61	645	268	70	418
Future Volume (vph)	276	61	645	268	70	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	1601	5142	1601	1789	3579
Flt Permitted	0.95	1.00	1.00	1.00	0.37	1.00
Satd. Flow (perm)	1789	1601	5142	1601	704	3579
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	300	66	701	291	76	454
RTOR Reduction (vph)	0	46	0	183	0	0
Lane Group Flow (vph)	300	20	701	108	76	454
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	12.6	12.6	15.5	15.5	15.5	15.5
Effective Green, g (s)	12.6	12.6	15.5	15.5	15.5	15.5
Actuated g/C Ratio	0.30	0.30	0.37	0.37	0.37	0.37
Clearance Time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	539	482	1906	593	261	1327
v/s Ratio Prot	c0.17		c0.14			0.13
v/s Ratio Perm		0.01		0.07	0.11	
v/c Ratio	0.56	0.04	0.37	0.18	0.29	0.34
Uniform Delay, d1	12.3	10.3	9.6	8.9	9.3	9.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0	0.1	0.1	0.6	0.2
Delay (s)	13.5	10.4	9.7	9.0	9.9	9.6
Level of Service	B	B	A	A	A	A
Approach Delay (s)	12.9		9.5			9.7
Approach LOS	B		A			A

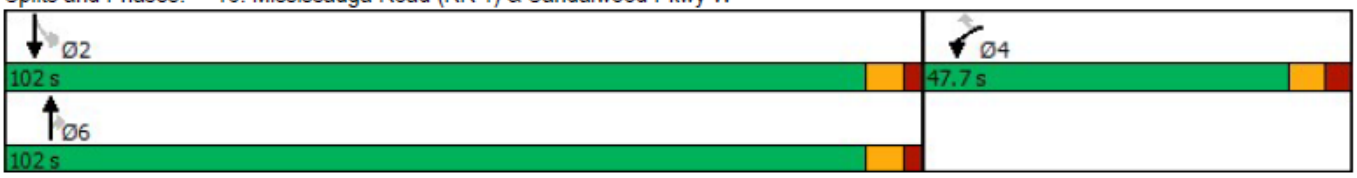
Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	41.8	Sum of lost time (s)	13.7
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

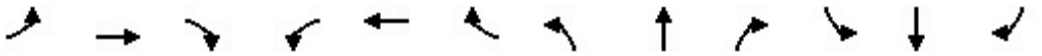
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	300	66	701	291	76	454
v/c Ratio	0.56	0.13	0.37	0.38	0.29	0.35
Control Delay	17.8	4.9	10.4	3.2	13.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	4.9	10.4	3.2	13.3	10.5
Queue Length 50th (m)	17.6	0.0	12.4	0.0	3.6	11.4
Queue Length 95th (m)	41.0	6.1	22.1	10.5	12.1	22.4
Internal Link Dist (m)	708.4		1814.9			1213.3
Turn Bay Length (m)				75.0	140.0	
Base Capacity (vph)	1663	1493	5142	1601	704	3579
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.04	0.14	0.18	0.11	0.13

Intersection Summary

Splits and Phases: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	549	209	260	596	1	347	382	287	4	270	118
Future Volume (vph)	81	549	209	260	596	1	347	382	287	4	270	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Lane Util. Factor	0.95	0.95		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1700	1715		1789	1883		1789	1762		1789	1795	
Flt Permitted	0.30	0.99		0.07	1.00		0.14	1.00		0.15	1.00	
Satd. Flow (perm)	545	1702		141	1883		260	1762		290	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	88	597	227	283	648	1	377	415	312	4	281	128
RTOR Reduction (vph)	0	11	0	0	0	0	0	23	0	0	13	0
Lane Group Flow (vph)	79	822	0	283	649	0	377	704	0	4	396	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	50.5	50.5		62.5	62.5		44.0	44.0		26.0	26.0	
Effective Green, g (s)	50.5	50.5		62.5	62.5		44.0	44.0		26.0	26.0	
Actuated g/C Ratio	0.42	0.42		0.52	0.52		0.37	0.37		0.22	0.22	
Clearance Time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	716		197	980		286	646		62	388	
v/s Ratio Prot				c0.11	0.34		c0.16	0.40			0.22	
v/s Ratio Perm	0.14	0.48		c0.64			c0.32			0.01		
v/c Ratio	0.34	1.15		1.44	0.66		1.32	1.09		0.06	1.02	
Uniform Delay, d1	23.5	34.8		35.1	21.0		33.6	38.0		37.3	47.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.1	82.4		222.9	3.5		165.7	62.4		0.4	50.8	
Delay (s)	27.6	117.1		258.0	24.5		199.3	100.4		37.8	97.8	
Level of Service	C	F		F	C		F	F		D	F	
Approach Delay (s)		109.4			95.4			134.2			97.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	112.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	130.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

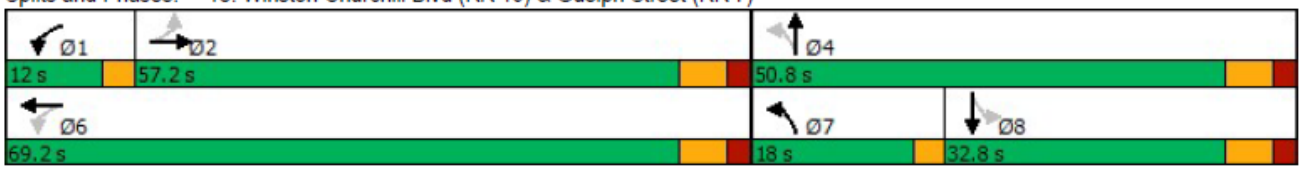
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	79	833	283	649	377	727	4	409
v/c Ratio	0.34	1.15	1.41	0.66	1.28	1.09	0.06	1.02
Control Delay	29.0	113.8	236.2	25.1	178.9	95.7	40.5	94.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	113.8	236.2	25.1	178.9	95.7	40.5	94.2
Queue Length 50th (m)	13.0	~240.1	~73.0	107.8	~95.2	~187.0	0.8	~96.3
Queue Length 95th (m)	27.3	#319.2	#127.3	148.4	#155.0	#259.7	4.0	#159.8
Internal Link Dist (m)		901.6		863.8		411.9		385.1
Turn Bay Length (m)	100.0		90.0		90.0		120.0	
Base Capacity (vph)	229	727	201	980	294	669	62	402
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	1.15	1.41	0.66	1.28	1.09	0.06	1.02

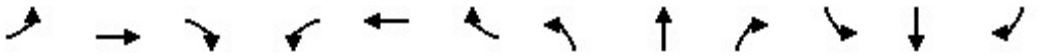
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	666	67	103	777	69	40	559	41	67	269	40
Future Volume (vph)	108	666	67	103	777	69	40	559	41	67	269	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.99			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601		1861			1840	
Flt Permitted	0.32	1.00	1.00	0.21	1.00	1.00		0.95			0.72	
Satd. Flow (perm)	609	3579	1601	402	3579	1601		1776			1330	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	724	73	112	845	75	43	608	45	73	292	43
RTOR Reduction (vph)	0	0	45	0	0	28	0	2	0	0	2	0
Lane Group Flow (vph)	117	724	28	112	845	47	0	694	0	0	406	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	34.8	34.8	34.8	47.5	47.5	47.5		51.1			51.1	
Effective Green, g (s)	34.8	34.8	34.8	47.5	47.5	47.5		51.1			51.1	
Actuated g/C Ratio	0.31	0.31	0.31	0.42	0.42	0.42		0.46			0.46	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4	7.4		6.2			6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	188	1110	496	290	1515	677		808			605	
v/s Ratio Prot		c0.20		0.03	c0.24							
v/s Ratio Perm	0.19		0.02	0.13		0.03		c0.39			0.31	
v/c Ratio	0.62	0.65	0.06	0.39	0.56	0.07		0.86			0.67	
Uniform Delay, d1	33.1	33.5	27.2	21.3	24.4	19.2		27.3			24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	6.3	1.4	0.0	0.9	0.4	0.0		9.1			2.9	
Delay (s)	39.4	34.9	27.2	22.2	24.9	19.3		36.4			26.9	
Level of Service	D	C	C	C	C	B		D			C	
Approach Delay (s)		34.8			24.2			36.4			26.9	
Approach LOS		C			C			D			C	

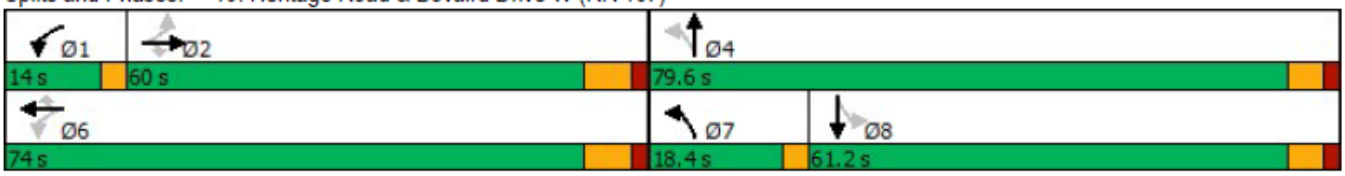
Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	112.2	Sum of lost time (s)	19.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

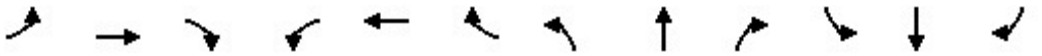
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	117	724	73	112	845	75	696	408
v/c Ratio	0.63	0.66	0.14	0.37	0.56	0.11	0.87	0.68
Control Delay	54.3	38.6	10.3	23.8	27.8	11.2	41.6	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	38.6	10.3	23.8	27.8	11.2	41.6	32.0
Queue Length 50th (m)	21.8	71.7	1.2	13.5	71.5	3.4	130.2	66.6
Queue Length 95th (m)	52.5	116.6	13.0	31.6	119.4	14.8	235.1	129.4
Internal Link Dist (m)		1087.3			1359.7		1540.2	3042.9
Turn Bay Length (m)	170.0		55.0	145.0		45.0		
Base Capacity (vph)	304	1793	834	330	2271	1033	1234	752
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.40	0.09	0.34	0.37	0.07	0.56	0.54

Intersection Summary

Splits and Phases: 19: Heritage Road & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	649	68	152	794	32	68	877	202	26	545	86
Future Volume (vph)	57	649	68	152	794	32	68	877	202	26	545	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1789	3579	1601	3471	3579	1601	1789	5142	1601	1789	5142	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.32	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	1789	3579	1601	3471	3579	1601	607	5142	1601	543	5142	1601
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	705	74	165	863	35	74	953	220	28	592	93
RTOR Reduction (vph)	0	0	50	0	0	23	0	0	144	0	0	72
Lane Group Flow (vph)	62	705	24	165	863	12	74	953	76	28	592	21
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)	9.1	28.4	28.4	10.4	29.7	29.7	30.0	30.0	30.0	19.9	19.9	19.9
Effective Green, g (s)	9.1	28.4	28.4	10.4	29.7	29.7	30.0	30.0	30.0	19.9	19.9	19.9
Actuated g/C Ratio	0.10	0.33	0.33	0.12	0.34	0.34	0.34	0.34	0.34	0.23	0.23	0.23
Clearance Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	186	1164	520	413	1217	544	304	1767	550	123	1172	364
v/s Ratio Prot	0.03	0.20		c0.05	c0.24		0.02	c0.19			0.12	
v/s Ratio Perm			0.02			0.01	0.06		0.05	0.05		0.01
v/c Ratio	0.33	0.61	0.05	0.40	0.71	0.02	0.24	0.54	0.14	0.23	0.51	0.06
Uniform Delay, d1	36.3	24.7	20.2	35.6	25.0	19.1	19.8	23.1	19.7	27.4	29.4	26.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.9	0.0	0.6	1.9	0.0	0.4	0.3	0.1	0.9	0.3	0.1
Delay (s)	37.3	25.6	20.2	36.2	27.0	19.2	20.2	23.4	19.9	28.4	29.7	26.4
Level of Service	D	C	C	D	C	B	C	C	B	C	C	C
Approach Delay (s)		26.0			28.1			22.6			29.3	
Approach LOS		C			C			C			C	

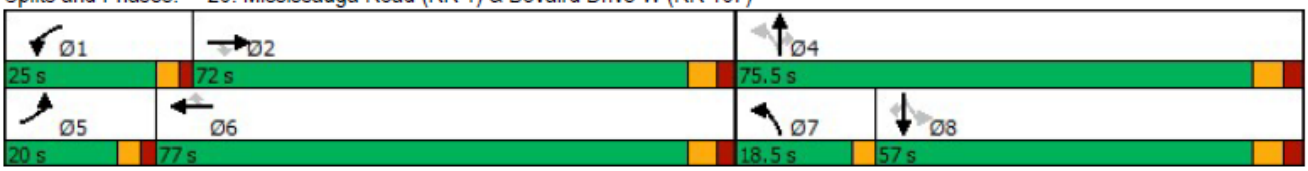
Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	87.3	Sum of lost time (s)	21.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	62	705	74	165	863	35	74	953	220	28	592	93
v/c Ratio	0.33	0.61	0.13	0.40	0.71	0.06	0.21	0.55	0.32	0.23	0.50	0.21
Control Delay	46.1	27.9	6.1	42.0	29.5	0.4	20.9	25.6	4.8	38.5	33.3	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	27.9	6.1	42.0	29.5	0.4	20.9	25.6	4.8	38.5	33.3	9.0
Queue Length 50th (m)	9.7	50.6	0.0	13.1	63.8	0.0	7.7	46.1	0.0	3.9	32.4	0.0
Queue Length 95th (m)	26.2	83.7	9.3	28.2	104.8	0.7	20.2	74.1	15.4	13.7	54.6	12.9
Internal Link Dist (m)		1359.7			543.4			1216.7			1814.9	
Turn Bay Length (m)	300.0		150.0	215.0		120.0	180.0		300.0	130.0		125.0
Base Capacity (vph)	319	2764	1253	825	2920	1320	450	4106	1322	322	3058	989
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.26	0.06	0.20	0.30	0.03	0.16	0.23	0.17	0.09	0.19	0.09

Intersection Summary

Splits and Phases: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	9	463	1	2	386
Future Volume (Veh/h)	6	9	463	1	2	386
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	10	503	1	2	420
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	928	504			504	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	928	504			504	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	297	568			1061	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	17	504	422
Volume Left	7	0	2
Volume Right	10	1	0
cSH	413	1700	1061
Volume to Capacity	0.04	0.30	0.00
Queue Length 95th (m)	1.0	0.0	0.0
Control Delay (s)	14.1	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	14.1	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		34.4%	ICU Level of Service A
Analysis Period (min)		15	

Appendix I
Future Year (2030) Intersection Analysis Summary and Synchro Reports

1. Improved Future Total with Site Trips 2030 AM Peak (Summary of Synchro Outputs)
2. Improved Future Total with Site Trips 2030 AM Peak (Synchro Reports)
3. Improved Future Total with Site Trips 2030 PM Peak (Summary of Synchro Outputs)
4. Improved Future Total with Site Trips 2030 PM Peak (Synchro Reports)

Appendix I1
Future Year (2030) Intersection Analysis Summary and Synchro Reports

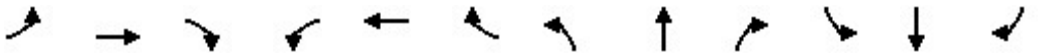
1. Improved Future Total with Site Trips 2030 AM Peak (Summary of Synchro Outputs)

Improved Future Total with Site Trips 2030 AM Peak_report.txt								
INT	MOV	VOL	DEL	LOS	V/C	Q	LLEN	TLEN
3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)	OVERALL			B	0.59			
	EBL	3						
	EBT	864	11	B	0.66	58	1358	
	EBR	33						
	WBL	88						
	WBT	429	11	B	0.57	36	1439	
	WBR	4						
	NBL	15						
	NBT	173	15	B	0.48	38	1224	
	NBR	39						
	SBL	17						
	SBT	159	14	B	0.40	32	281	
	SBR	9						
6: Heritage Road & Mayfield Road (RR 14)	OVERALL			B	0.57			
	EBL	1						
	EBT	729	10	A	0.63	48	1439	
	EBR	192						
	WBL	91						
	WBT	506	10	A	0.61	36	1352	
	WBR	7						
	NBL	12						
	NBT	43	14	B	0.23	18	1220	
	NBR	111						
	SBL	7						
	SBT	192	15	B	0.48	37	1225	
	SBR	2						
9: Mississauga Road (RR 1) & Mayfield Road (RR 14)	OVERALL			C	0.83			
	EBL	92	18	B	0.34	20		80
	EBT	633	22	C	0.68	62	1352	
	EBR	122						
	WBL	108	52	D	0.82	#39.2		80
	WBT	394	18	B	0.39	34	501	
	WBR	46						
	NBL	47	13	B	0.32	16		60
	NBT	212	11	B	0.26	41	1217	
	NBR	57	10	A	0.04	7		
	SBL	51	10	B	0.10	13		60
	SBT	505	23	C	0.83	#182.6	409	
	SBR	164						
12: Heritage Road & Wanless Drive	OVERALL			B	0.56			
	EBL	1						
	EBT	99	11	B	0.12	9	821	
	EBR	10						
	WBL	209						
	WBT	108	12	B	0.46	24	710	
	WBR	5						
	NBL	12	7	A	0.04	3		25
	NBT	160	8	A	0.22	19	3043	
	NBR	271	8	A	0.18	10		
	SBL	18	7	A	0.04	4		25
	SBT	455	11	B	0.63	57	1220	
	SBR	1						
13: Mississauga Road (RR 1) & Wanless Drive	OVERALL			B	0.64			
	EBL	30						
	EBT	305	12	B	0.37	25	618	
	EBR	54						
	WBL	173	15	B	0.58	33		100
	WBT	253	12	B	0.43	38	710	
	WBR	24	10	B	0.02	2		
	NBL	14						
	NBT	261	10	A	0.29	22	1213	
	NBR	149						
	SBL	93						
	SBT	587	14	B	0.69	58	1217	
	SBR	55						
14: Winston Churchill Blvd (RR 19) & Wanless Drive	OVERALL							
	WB 1	89	15	B	0.19	5		
	WB 2	42	10	A	0.05	1		
	NB 1	291	0		0.17	0		
	SB 1	304	1	A	0.03	1		
16: Mississauga Road (RR 1) & Sandalwood Pkwy W	OVERALL			A	0.53			
	EBL							
	EBT							

	EBR							
	WBL	213	15	B	0.52	34	708	
	WBT							
	WBR	29	12	B	0.02	5		
	NBL							
	NBT	395	8	A	0.19	11	1815	
	NBR	136	7	A	0.09	6		75
	SBL	57	8	A	0.15	8		140
	SBT	758	9	A	0.53	35	1213	
	SBR							
18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	OVERALL			F	1.23			
	EBL	48	16	B	0.15	14		100
	EBT	631	111	F	1.15	#366.3	902	
	EBR	336						
	WBL	190	184	F	1.24	#90.8		90
	WBT	569	16	B	0.56	118	864	
	WBR	3						
	NBL	187	111	F	1.03	#80.4		90
	NBT	217	80	E	0.99	#192.0	412	
	NBR	293						
	SBL	5	38	D	0.08	5		120
	SBT	279	60	E	0.84	#123.4	385	
	SBR	46						
19: Heritage Road & Bovaird Drive W (RR 107)	OVERALL			C	0.70			
	EBL	99	21	C	0.46	29		170
	EBT	761	25	C	0.75	80	1087	
	EBR	68	17	B	0.05	3		55
	WBL	165	19	B	0.64	#30.5		145
	WBT	593	14	B	0.41	49	1362	
	WBR	71	12	B	0.05	7		45
	NBL	131	20	C	0.60	23		25
	NBT	274	16	B	0.28	26	1540	
	NBR	108						
	SBL	62	21	C	0.26	17		25
	SBT	575	25	C	0.68	61	3043	
	SBR	37						
20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)	OVERALL			D	0.83			
	EBL	74	50	D	0.52	34		300
	EBT	737	40	D	0.79	111	1362	
	EBR	120	29	C	0.08	14		150
	WBL	337	54	D	0.79	#67.4		215
	WBT	608	31	C	0.56	85	543	
	WBR	18	25	C	0.01	0		120
	NBL	177	43	D	0.81	#64.0		180
	NBT	378	20	C	0.19	30	1217	
	NBR	373	22	C	0.37	45		300
	SBL	32	28	C	0.13	14		130
	SBT	1040	37	D	0.75	102	1815	
	SBR	44	27	C	0.03	0		125
29: Winston Churchill Blvd (RR 19) & Site Access	OVERALL							
	WB 1	3	12	B	0.01	0		
	NB 1	303	0		0.18	0		
	SB 1	359	0	A	0.01	0		

Appendix I2
Future Year (2030) Intersection Analysis Summary and Synchro Reports

2. Improved Future Total with Site Trips 2030 AM Peak (Synchro Reports)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	864	33	88	429	4	15	173	39	17	159	9
Future Volume (vph)	3	864	33	88	429	4	15	173	39	17	159	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.98			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3558			3545			1834			1862	
Flt Permitted		0.95			0.63			0.97			0.95	
Satd. Flow (perm)		3392			2254			1777			1773	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	939	36	96	466	4	16	188	42	18	173	10
RTOR Reduction (vph)	0	3	0	0	1	0	0	9	0	0	2	0
Lane Group Flow (vph)	0	975	0	0	565	0	0	237	0	0	199	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		20.4			20.4			13.0			13.0	
Effective Green, g (s)		20.4			20.4			13.0			13.0	
Actuated g/C Ratio		0.44			0.44			0.28			0.28	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1484			986			495			494	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.25			c0.13			0.11	
v/c Ratio		0.66			0.57			0.48			0.40	
Uniform Delay, d1		10.3			9.8			14.0			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			0.8			0.7			0.5	
Delay (s)		11.4			10.6			14.7			14.2	
Level of Service		B			B			B			B	
Approach Delay (s)		11.4			10.6			14.7			14.2	
Approach LOS		B			B			B			B	

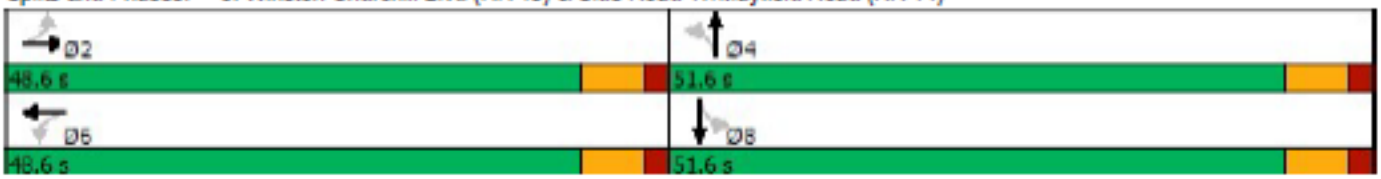
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

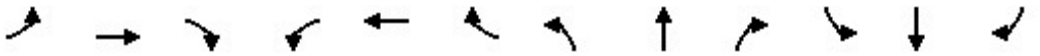
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	978	566	246	201
v/c Ratio	0.67	0.58	0.49	0.41
Control Delay	13.4	13.2	18.2	17.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.4	13.2	18.2	17.5
Queue Length 50th (m)	30.3	16.7	15.7	13.1
Queue Length 95th (m)	57.6	35.5	38.0	32.2
Internal Link Dist (m)	1357.8	1438.9	1224.3	280.8
Turn Bay Length (m)				
Base Capacity (vph)	2978	1978	1623	1618
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.29	0.15	0.12

Intersection Summary

Splits and Phases: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	729	192	91	506	7	12	43	111	7	192	2
Future Volume (vph)	1	729	192	91	506	7	12	43	111	7	192	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			1.00			0.91			1.00	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3466			3545			1707			1878	
Flt Permitted		0.95			0.65			0.96			0.98	
Satd. Flow (perm)		3308			2324			1645			1848	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	792	209	99	550	8	13	47	121	8	209	2
RTOR Reduction (vph)	0	39	0	0	2	0	0	87	0	0	1	0
Lane Group Flow (vph)	0	963	0	0	655	0	0	94	0	0	218	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		20.7			20.7			11.1			11.1	
Effective Green, g (s)		20.7			20.7			11.1			11.1	
Actuated g/C Ratio		0.46			0.46			0.25			0.25	
Clearance Time (s)		6.6			6.6			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1535			1078			409			459	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.28			0.06			c0.12	
v/c Ratio		0.63			0.61			0.23			0.48	
Uniform Delay, d1		9.0			8.9			13.3			14.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			1.0			0.3			0.8	
Delay (s)		9.8			9.9			13.6			15.0	
Level of Service		A			A			B			B	
Approach Delay (s)		9.8			9.9			13.6			15.0	
Approach LOS		A			A			B			B	

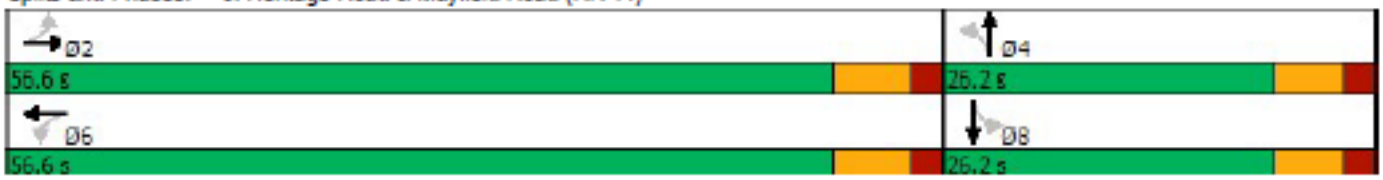
Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	44.6	Sum of lost time (s)	12.8
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	1002	657	181	219
v/c Ratio	0.64	0.62	0.37	0.48
Control Delay	10.8	12.0	9.5	20.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.8	12.0	9.5	20.0
Queue Length 50th (m)	24.8	17.5	3.9	14.2
Queue Length 95th (m)	48.2	36.1	18.4	36.6
Internal Link Dist (m)	1438.9	1352.3	1220.1	1224.5
Turn Bay Length (m)				
Base Capacity (vph)	3200	2248	822	854
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.29	0.22	0.26

Intersection Summary

Splits and Phases: 6: Heritage Road & Mayfield Road (RR 14)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	633	122	108	394	46	47	212	57	51	505	164
Future Volume (vph)	92	633	122	108	394	46	47	212	57	51	505	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	3492		1789	3522		1789	1883	1601	1789	1814	
Flt Permitted	0.46	1.00		0.22	1.00		0.18	1.00	1.00	0.62	1.00	
Satd. Flow (perm)	865	3492		423	3522		331	1883	1601	1159	1814	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	688	133	117	428	50	51	230	62	55	549	178
RTOR Reduction (vph)	0	23	0	0	13	0	0	0	33	0	10	0
Lane Group Flow (vph)	100	798	0	117	465	0	51	230	29	55	717	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	23.5	23.5		23.5	23.5		33.3	33.3	33.3	33.3	33.3	
Effective Green, g (s)	23.5	23.5		23.5	23.5		33.3	33.3	33.3	33.3	33.3	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	290	1172		142	1182		157	895	761	551	862	
v/s Ratio Prot		0.23			0.13			0.12			c0.40	
v/s Ratio Perm	0.12			c0.28			0.15		0.02	0.05		
v/c Ratio	0.34	0.68		0.82	0.39		0.32	0.26	0.04	0.10	0.83	
Uniform Delay, d1	17.5	20.0		21.4	17.8		11.4	11.0	9.8	10.1	15.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	1.6		30.5	0.2		1.2	0.2	0.0	0.1	6.9	
Delay (s)	18.2	21.7		51.8	18.0		12.6	11.1	9.8	10.2	22.8	
Level of Service	B	C		D	B		B	B	A	B	C	
Approach Delay (s)		21.3			24.7			11.1			21.9	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

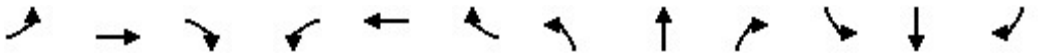
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	100	821	117	478	51	230	62	55	727
v/c Ratio	0.35	0.69	0.83	0.40	0.32	0.26	0.08	0.10	0.83
Control Delay	20.4	22.1	64.8	17.6	21.9	13.7	4.5	13.3	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	22.1	64.8	17.6	21.9	13.7	4.5	13.3	28.3
Queue Length 50th (m)	9.6	45.5	13.8	23.5	3.7	16.1	0.0	3.5	71.9
Queue Length 95th (m)	20.3	61.6	#39.2	34.0	16.3	40.5	6.8	12.6	#182.6
Internal Link Dist (m)		1352.3		500.7		1217.2			409.3
Turn Bay Length (m)	80.0		80.0		60.0			60.0	
Base Capacity (vph)	609	2473	297	2488	157	894	792	549	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.33	0.39	0.19	0.32	0.26	0.08	0.10	0.83

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	99	10	209	108	5	12	160	271	18	455	1
Future Volume (vph)	1	99	10	209	108	5	12	160	271	18	455	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.99			1.00		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3528			3458		1789	1883	1601	1789	1883	
Flt Permitted		0.95			0.74		0.40	1.00	1.00	0.65	1.00	
Satd. Flow (perm)		3355			2649		748	1883	1601	1219	1883	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	108	11	227	117	5	13	174	295	20	495	1
RTOR Reduction (vph)	0	8	0	0	1	0	0	0	172	0	0	0
Lane Group Flow (vph)	0	112	0	0	348	0	13	174	123	20	496	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		11.5			11.5		16.7	16.7	16.7	16.7	16.7	
Effective Green, g (s)		11.5			11.5		16.7	16.7	16.7	16.7	16.7	
Actuated g/C Ratio		0.29			0.29		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)		6.0			6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		959			757		310	782	665	506	782	
v/s Ratio Prot								0.09			c0.26	
v/s Ratio Perm		0.03			c0.13		0.02		0.08	0.02		
v/c Ratio		0.12			0.46		0.04	0.22	0.18	0.04	0.63	
Uniform Delay, d1		10.6			11.8		7.0	7.6	7.4	7.0	9.3	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			0.4		0.1	0.1	0.1	0.0	1.7	
Delay (s)		10.7			12.2		7.0	7.7	7.6	7.0	11.0	
Level of Service		B			B		A	A	A	A	B	
Approach Delay (s)		10.7			12.2			7.6			10.9	
Approach LOS		B			B			A			B	

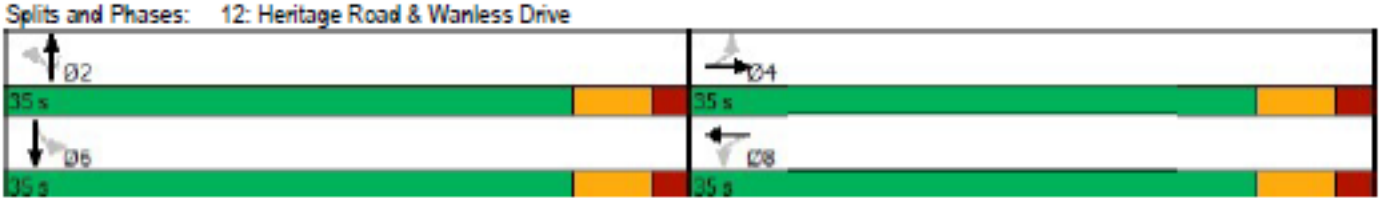
Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	40.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

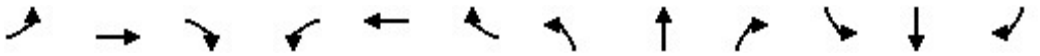
c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	120	349	13	174	295	20	496
v/c Ratio	0.13	0.47	0.04	0.23	0.36	0.04	0.64
Control Delay	11.4	15.0	8.1	9.0	2.7	7.9	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	15.0	8.1	9.0	2.7	7.9	14.3
Queue Length 50th (m)	2.6	9.3	0.5	6.9	0.0	0.7	24.0
Queue Length 95th (m)	8.8	24.0	2.9	18.6	9.8	3.7	56.5
Internal Link Dist (m)	821.1	710.2		3042.9			1220.1
Turn Bay Length (m)			25.0			25.0	
Base Capacity (vph)	2499	1971	556	1400	1266	906	1400
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.18	0.02	0.12	0.23	0.02	0.35

Intersection Summary

Splits and Phases: 12: Heritage Road & Wanless Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	305	54	173	253	24	14	261	149	93	587	55
Future Volume (vph)	30	305	54	173	253	24	14	261	149	93	587	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor		0.95		1.00	1.00	1.00		0.95			0.95	
Frt		0.98		1.00	1.00	0.85		0.95			0.99	
Flt Protected		1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)		3490		1789	1883	1601		3384			3516	
Flt Permitted		0.91		0.50	1.00	1.00		0.92			0.81	
Satd. Flow (perm)		3187		950	1883	1601		3105			2880	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	332	59	188	275	26	15	284	162	101	638	60
RTOR Reduction (vph)	0	22	0	0	0	17	0	98	0	0	9	0
Lane Group Flow (vph)	0	402	0	188	275	9	0	363	0	0	790	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)		16.1		16.1	16.1	16.1		18.7			18.7	
Effective Green, g (s)		16.1		16.1	16.1	16.1		18.7			18.7	
Actuated g/C Ratio		0.34		0.34	0.34	0.34		0.40			0.40	
Clearance Time (s)		6.1		6.1	6.1	6.1		6.2			6.2	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		1089		324	643	547		1232			1143	
v/s Ratio Prot					0.15							
v/s Ratio Perm		0.13		c0.20		0.01		0.12			c0.27	
v/c Ratio		0.37		0.58	0.43	0.02		0.29			0.69	
Uniform Delay, d1		11.7		12.7	11.9	10.3		9.7			11.8	
Progression Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2		2.6	0.5	0.0		0.1			1.8	
Delay (s)		11.9		15.4	12.4	10.3		9.8			13.6	
Level of Service		B		B	B	B		A			B	
Approach Delay (s)		11.9			13.4			9.8			13.6	
Approach LOS		B			B			A			B	

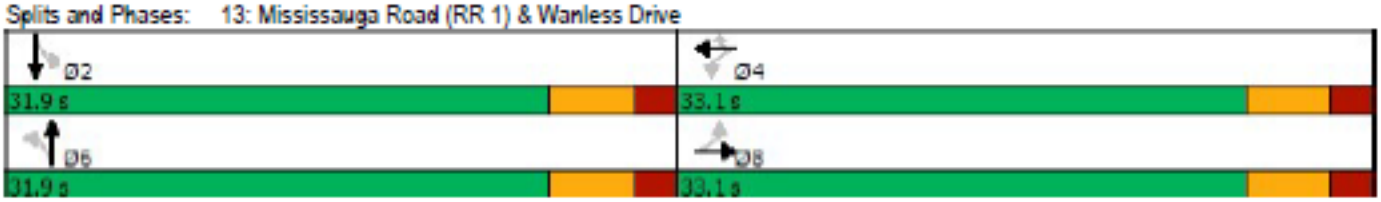
Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	47.1	Sum of lost time (s)	12.3
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	424	188	275	26	461	799
v/c Ratio	0.39	0.59	0.43	0.05	0.35	0.71
Control Delay	12.5	22.5	15.3	1.8	7.8	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	22.5	15.3	1.8	7.8	16.6
Queue Length 50th (m)	12.4	12.4	17.2	0.0	7.7	25.3
Queue Length 95th (m)	24.9	32.6	37.7	1.7	21.5	58.4
Internal Link Dist (m)	618.1		710.4		1213.3	1217.2
Turn Bay Length (m)		100.0				
Base Capacity (vph)	1921	569	1128	980	1839	1649
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.33	0.24	0.03	0.25	0.48

Intersection Summary

Splits and Phases: 13: Mississauga Road (RR 1) & Wanless Drive





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	82	39	189	79	31	248
Future Volume (Veh/h)	82	39	189	79	31	248
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	89	42	205	86	34	270
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	586	248			291	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	586	248			291	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	95			97	
cM capacity (veh/h)	460	791			1271	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	42	291	304
Volume Left	89	0	0	34
Volume Right	0	42	86	0
cSH	460	791	1700	1271
Volume to Capacity	0.19	0.05	0.17	0.03
Queue Length 95th (m)	5.4	1.3	0.0	0.6
Control Delay (s)	14.7	9.8	0.0	1.1
Lane LOS	B	A		A
Approach Delay (s)	13.1		0.0	1.1
Approach LOS	B			

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	213	29	395	136	57	758
Future Volume (vph)	213	29	395	136	57	758
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	1601	5142	1601	1789	3579
Flt Permitted	0.95	1.00	1.00	1.00	0.49	1.00
Satd. Flow (perm)	1789	1601	5142	1601	929	3579
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	232	32	429	148	62	824
RTOR Reduction (vph)	0	24	0	84	0	0
Lane Group Flow (vph)	232	8	429	64	62	824
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	10.9	10.9	18.8	18.8	18.8	18.8
Effective Green, g (s)	10.9	10.9	18.8	18.8	18.8	18.8
Actuated g/C Ratio	0.25	0.25	0.43	0.43	0.43	0.43
Clearance Time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	449	402	2227	693	402	1550
v/s Ratio Prot	c0.13		0.08			c0.23
v/s Ratio Perm		0.01		0.04	0.07	
v/c Ratio	0.52	0.02	0.19	0.09	0.15	0.53
Uniform Delay, d1	14.0	12.2	7.6	7.3	7.5	9.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0	0.0	0.1	0.2	0.4
Delay (s)	15.0	12.3	7.6	7.3	7.7	9.4
Level of Service	B	B	A	A	A	A
Approach Delay (s)	14.7		7.6			9.3
Approach LOS	B		A			A

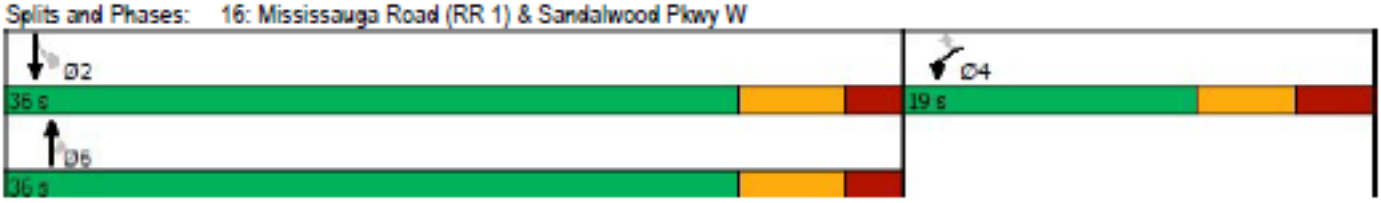
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	43.4	Sum of lost time (s)	13.7
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

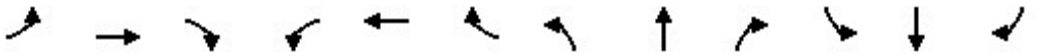
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	232	32	429	148	62	824
v/c Ratio	0.52	0.08	0.19	0.19	0.15	0.53
Control Delay	19.1	6.8	8.0	2.5	8.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	6.8	8.0	2.5	8.8	10.7
Queue Length 50th (m)	13.2	0.0	6.5	0.0	2.5	21.3
Queue Length 95th (m)	33.8	4.7	11.2	6.3	7.7	34.7
Internal Link Dist (m)	708.4		1814.9			1213.3
Turn Bay Length (m)				75.0	140.0	
Base Capacity (vph)	490	462	3526	1144	636	2454
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.07	0.12	0.13	0.10	0.34

Intersection Summary

Splits and Phases: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	631	336	190	569	3	187	217	293	5	279	46
Future Volume (vph)	48	631	336	190	569	3	187	217	293	5	279	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1785		1789	1882		1789	1721		1789	1842	
Flt Permitted	0.36	1.00		0.06	1.00		0.21	1.00		0.15	1.00	
Satd. Flow (perm)	683	1785		119	1882		391	1721		290	1842	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	52	686	365	207	618	3	203	236	318	5	291	50
RTOR Reduction (vph)	0	16	0	0	0	0	0	41	0	0	5	0
Lane Group Flow (vph)	52	1035	0	207	621	0	203	513	0	5	336	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	60.5	60.5		70.5	70.5		36.0	36.0		26.0	26.0	
Effective Green, g (s)	60.5	60.5		70.5	70.5		36.0	36.0		26.0	26.0	
Actuated g/C Ratio	0.50	0.50		0.59	0.59		0.30	0.30		0.22	0.22	
Clearance Time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	899		167	1105		198	516		62	399	
v/s Ratio Prot		0.58		c0.07	0.33		0.06	c0.30			0.18	
v/s Ratio Perm	0.08			c0.66			c0.25			0.02		
v/c Ratio	0.15	1.15		1.24	0.56		1.03	0.99		0.08	0.84	
Uniform Delay, d1	16.0	29.8		35.8	15.2		40.3	41.9		37.5	45.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	81.0		148.3	0.7		70.7	38.1		0.6	14.7	
Delay (s)	16.2	110.7		184.1	15.9		111.0	80.0		38.0	59.7	
Level of Service	B	F		F	B		F	E		D	E	
Approach Delay (s)		106.3			58.0			88.3			59.4	
Approach LOS		F			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	83.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

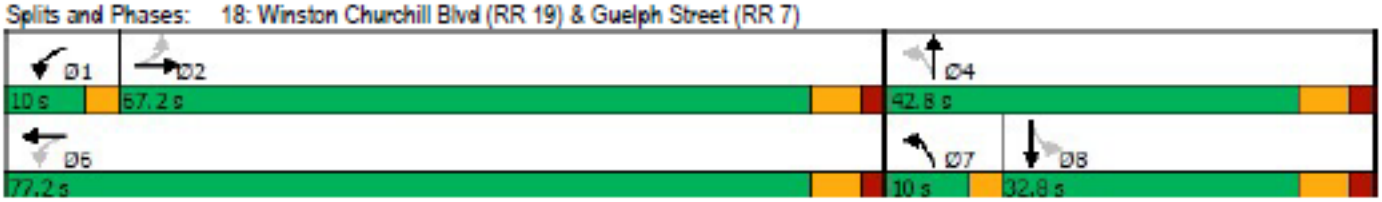
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	1051	207	621	203	554	5	341
v/c Ratio	0.15	1.15	1.22	0.56	0.96	1.00	0.08	0.84
Control Delay	17.5	107.7	165.1	17.7	88.4	75.3	41.4	63.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	107.7	165.1	17.7	88.4	75.3	41.4	63.8
Queue Length 50th (m)	6.4	~287.6	~43.0	85.2	35.9	119.5	0.9	76.0
Queue Length 95th (m)	14.0	#366.3	#90.8	117.5	#80.4	#192.0	4.7	#123.4
Internal Link Dist (m)		901.6		863.8		411.9		385.1
Turn Bay Length (m)	100.0		90.0		90.0		120.0	
Base Capacity (vph)	344	916	170	1105	211	556	62	404
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	1.15	1.22	0.56	0.96	1.00	0.08	0.84

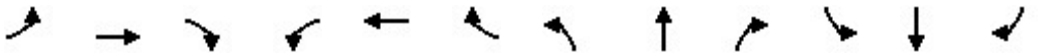
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	761	68	165	593	71	131	274	108	62	575	37
Future Volume (vph)	99	761	68	165	593	71	131	274	108	62	575	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.4	7.4	7.4	3.0	7.4	7.4	3.0	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601	1789	3427		1789	3546	
Flt Permitted	0.41	1.00	1.00	0.19	1.00	1.00	0.23	1.00		0.51	1.00	
Satd. Flow (perm)	766	3579	1601	351	3579	1601	443	3427		959	3546	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	827	74	179	645	77	142	298	117	67	625	40
RTOR Reduction (vph)	0	0	51	0	0	43	0	56	0	0	6	0
Lane Group Flow (vph)	108	827	23	179	645	34	142	359	0	67	659	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	21.8	21.8	21.8	31.0	31.0	31.0	26.2	26.2		19.4	19.4	
Effective Green, g (s)	21.8	21.8	21.8	31.0	31.0	31.0	26.2	26.2		19.4	19.4	
Actuated g/C Ratio	0.31	0.31	0.31	0.44	0.44	0.44	0.37	0.37		0.27	0.27	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4	7.4	3.0	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	235	1102	492	279	1567	701	236	1268		262	971	
v/s Ratio Prot		c0.23		c0.06	0.18		c0.03	0.10			0.19	
v/s Ratio Perm	0.14		0.01	0.22		0.02	c0.19			0.07		
v/c Ratio	0.46	0.75	0.05	0.64	0.41	0.05	0.60	0.28		0.26	0.68	
Uniform Delay, d1	19.8	22.1	17.2	13.7	13.6	11.4	16.1	15.7		20.1	22.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	2.9	0.0	5.0	0.2	0.0	4.3	0.1		0.5	1.9	
Delay (s)	21.2	25.0	17.2	18.6	13.8	11.5	20.4	15.8		20.6	24.8	
Level of Service	C	C	B	B	B	B	C	B		C	C	
Approach Delay (s)		24.0			14.6			17.0			24.4	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	70.8	Sum of lost time (s)	19.6
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

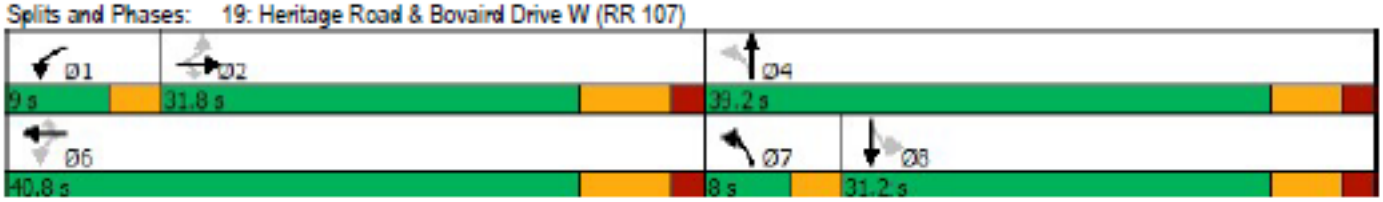
c Critical Lane Group

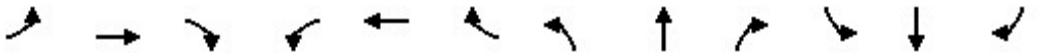
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	108	827	74	179	645	77	142	415	67	665
v/c Ratio	0.46	0.75	0.13	0.59	0.41	0.10	0.51	0.32	0.25	0.68
Control Delay	29.1	27.7	1.7	21.3	15.4	3.5	20.4	13.0	23.9	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	27.7	1.7	21.3	15.4	3.5	20.4	13.0	23.9	26.8
Queue Length 50th (m)	12.0	54.0	0.0	13.4	31.6	0.0	12.3	16.4	7.5	43.9
Queue Length 95th (m)	28.6	79.7	2.9	#30.5	49.0	6.5	22.8	26.0	17.1	60.7
Internal Link Dist (m)		1087.3			1361.7			1540.2		3042.9
Turn Bay Length (m)	170.0		55.0	145.0		45.0	25.0		25.0	
Base Capacity (vph)	273	1275	651	302	1745	824	278	1698	350	1299
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.65	0.11	0.59	0.37	0.09	0.51	0.24	0.19	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Heritage Road & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	737	120	337	608	18	177	378	373	32	1040	44
Future Volume (vph)	74	737	120	337	608	18	177	378	373	32	1040	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1789	3579	1601	3471	3579	1601	1789	5142	1601	1789	5142	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.12	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1789	3579	1601	3471	3579	1601	217	5142	1601	946	5142	1601
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	801	130	366	661	20	192	411	405	35	1130	48
RTOR Reduction (vph)	0	0	93	0	0	13	0	0	162	0	0	34
Lane Group Flow (vph)	80	801	37	366	661	7	192	411	243	35	1130	14
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)	9.4	30.6	30.6	14.5	35.7	35.7	44.8	44.8	44.8	31.7	31.7	31.7
Effective Green, g (s)	9.4	30.6	30.6	14.5	35.7	35.7	44.8	44.8	44.8	31.7	31.7	31.7
Actuated g/C Ratio	0.09	0.28	0.28	0.13	0.33	0.33	0.41	0.41	0.41	0.29	0.29	0.29
Clearance Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	155	1010	451	464	1178	527	236	2125	661	276	1503	468
v/s Ratio Prot	0.04	c0.22		c0.11	0.18		c0.08	0.08			0.22	
v/s Ratio Perm			0.02			0.00	c0.26		0.15	0.04		0.01
v/c Ratio	0.52	0.79	0.08	0.79	0.56	0.01	0.81	0.19	0.37	0.13	0.75	0.03
Uniform Delay, d1	47.3	36.0	28.6	45.5	29.9	24.5	23.7	20.3	22.0	28.2	34.8	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	4.3	0.1	8.7	0.6	0.0	18.9	0.0	0.3	0.2	2.2	0.0
Delay (s)	50.2	40.3	28.7	54.1	30.5	24.5	42.6	20.3	22.3	28.4	37.0	27.4
Level of Service	D	D	C	D	C	C	D	C	C	C	D	C
Approach Delay (s)		39.6			38.7			25.4			36.3	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	108.4	Sum of lost time (s)	21.5
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

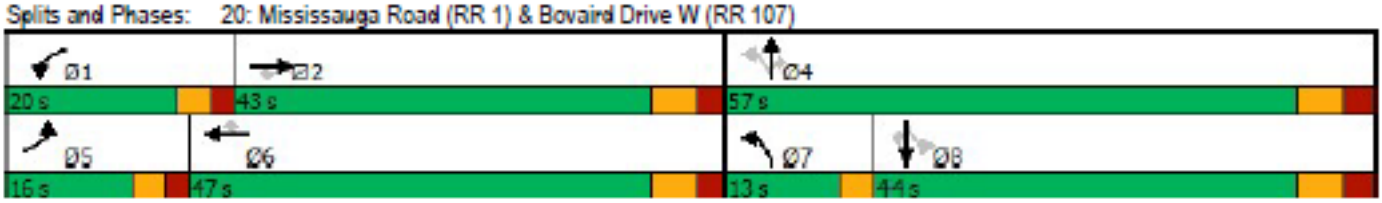
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	80	801	130	366	661	20	192	411	405	35	1130	48
v/c Ratio	0.52	0.80	0.24	0.79	0.56	0.03	0.79	0.19	0.49	0.13	0.76	0.09
Control Delay	62.9	43.1	6.5	60.6	32.7	0.1	45.0	21.2	9.8	31.1	39.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	43.1	6.5	60.6	32.7	0.1	45.0	21.2	9.8	31.1	39.0	0.3
Queue Length 50th (m)	17.0	84.9	0.0	40.8	62.6	0.0	25.4	20.7	17.8	5.6	81.7	0.0
Queue Length 95th (m)	34.3	111.4	13.8	#67.4	84.7	0.0	#64.0	29.5	45.4	14.0	102.4	0.0
Internal Link Dist (m)		1361.7			543.4			1216.7			1814.9	
Turn Bay Length (m)	300.0		150.0	215.0		120.0	180.0		300.0	130.0		125.0
Base Capacity (vph)	183	1219	631	486	1353	673	244	2401	894	326	1776	622
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.66	0.21	0.75	0.49	0.03	0.79	0.17	0.45	0.11	0.64	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	1	268	11	6	324
Future Volume (Veh/h)	2	1	268	11	6	324
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	1	291	12	7	352
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	663	297			303	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	663	297			303	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	424	742			1258	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	3	303	359
Volume Left	2	0	7
Volume Right	1	12	0
cSH	495	1700	1258
Volume to Capacity	0.01	0.18	0.01
Queue Length 95th (m)	0.1	0.0	0.1
Control Delay (s)	12.3	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.3	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		31.9%	ICU Level of Service A
Analysis Period (min)		15	

Appendix I3
Future Year (2030) Intersection Analysis Summary and Synchro Reports

3. Improved Future Total with Site Trips 2030 PM Peak (Summary of Synchro Outputs)

Improved Future Total with Site Trips 2030 PM Peak_report.txt								
INT	MOV	VOL	DEL	LOS	V/C	Q	LLEN	TLEN
3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)	OVERALL			B	0.70			
	EBL	8						
	EBT	518	13	B	0.43	50	1358	
	EBR	28						
	WBL	148						
	WBT	491	18	B	0.71	71	1439	
	WBR	19						
	NBL	23						
	NBT	304	20	B	0.69	96	1224	
	NBR	107						
	SBL	5						
	SBT	197	14	B	0.33	44	281	
	SBR	11						
6: Heritage Road & Mayfield Road (RR 14)	OVERALL			B	0.72			
	EBL	6						
	EBT	612	19	B	0.61	49	1439	
	EBR	12						
	WBL	46						
	WBT	619	23	C	0.76	57	1352	
	WBR	11						
	NBL	34						
	NBT	410	16	B	0.70	#117.9	1220	
	NBR	103						
	SBL	8						
	SBT	187	10	B	0.25	33	1225	
	SBR	6						
9: Mississauga Road (RR 1) & Mayfield Road (RR 14)	OVERALL			B	0.61			
	EBL	154	14	B	0.51	36		80
	EBT	487	12	B	0.43	45	1352	
	EBR	82						
	WBL	90	12	B	0.32	21		80
	WBT	478	12	B	0.39	41	501	
	WBR	39						
	NBL	86	14	B	0.41	22		60
	NBT	387	16	B	0.62	73	1217	
	NBR	123	12	B	0.08	9		
	SBL	42	12	B	0.16	11		60
	SBT	331	19	B	0.72	85	409	
	SBR	112						
12: Heritage Road & Wanless Drive	OVERALL			B	0.62			
	EBL	1						
	EBT	121	12	B	0.15	11	821	
	EBR	12						
	WBL	232						
	WBT	104	14	B	0.51	27	710	
	WBR	1						
	NBL	5	7	A	0.01	2		25
	NBT	544	12	B	0.68	74	3043	
	NBR	310	8	A	0.21	10		
	SBL	3	7	A	0.01	1		25
	SBT	240	8	A	0.30	28	1220	
	SBR	1						
13: Mississauga Road (RR 1) & Wanless Drive	OVERALL			B	0.69			
	EBL	9						
	EBT	401	11	B	0.36	29	618	
	EBR	24						
	WBL	233	21	C	0.73	#55.3		100
	WBT	311	12	B	0.47	47	710	
	WBR	33	10	A	0.02	3		
	NBL	16						
	NBT	555	14	B	0.66	55	1213	
	NBR	216						
	SBL	29						
	SBT	464	12	B	0.47	37	1217	
	SBR	11						
14: Winston Churchill Blvd (RR 19) & Wanless Drive	OVERALL							
	WB 1	95	24	C	0.34	11		
	WB 2	26	12	B	0.05	1		
	NB 1	556	0		0.33	0		
	SB 1	406	1	A	0.03	1		
16: Mississauga Road (RR 1) & Sandalwood Pkwy W	OVERALL			B	0.63			
	EBL							
	EBT							

	EBR							
	WBL	393	17	B	0.70	#74.1	708	
	WBT							
	WBR	67	10	A	0.05	7		
	NBL							
	NBT	720	11	B	0.43	25	1815	
	NBR	299	10	B	0.20	11		75
	SBL	77	12	B	0.37	14		140
	SBT	644	12	B	0.55	35	1213	
	SBR							
18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)	OVERALL			F	1.91			
	EBL	89	113	F	0.95	#62.9		100
	EBT	692	137	F	1.19	#412.4	902	
	EBR	230						
	WBL	286	266	F	1.43	#153.1		90
	WBT	768	453	F	1.92	#478.9	864	
	WBR	2						
	NBL	383	371	F	1.70	#214.9		90
	NBT	421	202	F	1.32	#357.9	412	
	NBR	317						
	SBL	5	46	D	0.09	5		120
	SBT	291	154	F	1.16	#208.2	385	
	SBR	131						
19: Heritage Road & Bovaird Drive W (RR 107)	OVERALL			B	0.71			
	EBL	119	30	C	0.69	#45.6		170
	EBT	778	21	C	0.69	80	1087	
	EBR	116	15	B	0.08	11		55
	WBL	147	15	B	0.57	#24.6		145
	WBT	907	14	B	0.60	82	1360	
	WBR	79	10	B	0.05	8		45
	NBL	104	17	B	0.37	19		25
	NBT	660	21	C	0.66	62	1540	
	NBR	76						
	SBL	74	26	C	0.53	23		25
	SBT	356	23	C	0.50	38	3043	
	SBR	45						
20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)	OVERALL			C	0.74			
	EBL	64	47	D	0.49	31		300
	EBT	745	35	D	0.76	111	1360	
	EBR	119	26	C	0.08	9		150
	WBL	267	45	D	0.65	49		215
	WBT	910	34	C	0.80	132	543	
	WBR	34	22	C	0.02	0		120
	NBL	130	25	C	0.57	33		180
	NBT	974	24	C	0.53	80	1217	
	NBR	361	23	C	0.38	47		300
	SBL	28	29	C	0.23	14		130
	SBT	878	34	C	0.68	84	1815	
	SBR	93	27	C	0.06	4		125
29: Winston Churchill Blvd (RR 19) & Site Access	OVERALL							
	WB 1	17	15	C	0.05	1		
	NB 1	556	0		0.33	0		
	SB 1	465	0	A	0.00	0		

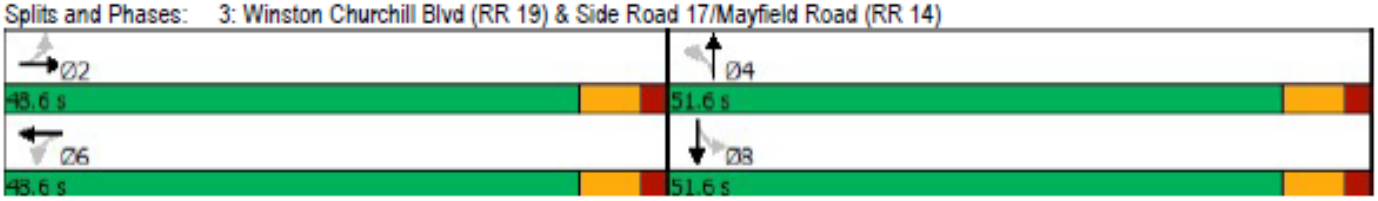
Appendix I4
Future Year (2030) Intersection Analysis Summary and Synchro Reports

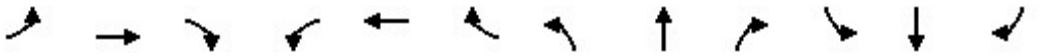
4. Improved Future Total with Site Trips 2030 PM Peak (Synchro Reports)

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	602	716	471	231
v/c Ratio	0.44	0.72	0.70	0.34
Control Delay	15.4	21.3	23.9	17.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.4	21.3	23.9	17.0
Queue Length 50th (m)	24.6	34.2	41.6	17.7
Queue Length 95th (m)	50.3	71.0	96.0	43.8
Internal Link Dist (m)	1357.8	1438.9	1224.3	280.8
Turn Bay Length (m)				
Base Capacity (vph)	2347	1716	1313	1363
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.42	0.36	0.17

Intersection Summary

Splits and Phases: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	518	28	148	491	19	23	304	107	5	197	11
Future Volume (vph)	8	518	28	148	491	19	23	304	107	5	197	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.97			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3549			3523			1816			1868	
Flt Permitted		0.94			0.69			0.97			0.99	
Satd. Flow (perm)		3343			2443			1773			1848	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	563	30	161	534	21	25	330	116	5	214	12
RTOR Reduction (vph)	0	4	0	0	2	0	0	13	0	0	2	0
Lane Group Flow (vph)	0	598	0	0	714	0	0	458	0	0	229	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		26.2			26.2			23.8			23.8	
Effective Green, g (s)		26.2			26.2			23.8			23.8	
Actuated g/C Ratio		0.41			0.41			0.38			0.38	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1385			1012			667			695	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.29			c0.26			0.12	
v/c Ratio		0.43			0.71			0.69			0.33	
Uniform Delay, d1		13.2			15.3			16.6			14.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			2.3			2.9			0.3	
Delay (s)		13.4			17.6			19.5			14.3	
Level of Service		B			B			B			B	
Approach Delay (s)		13.4			17.6			19.5			14.3	
Approach LOS		B			B			B			B	

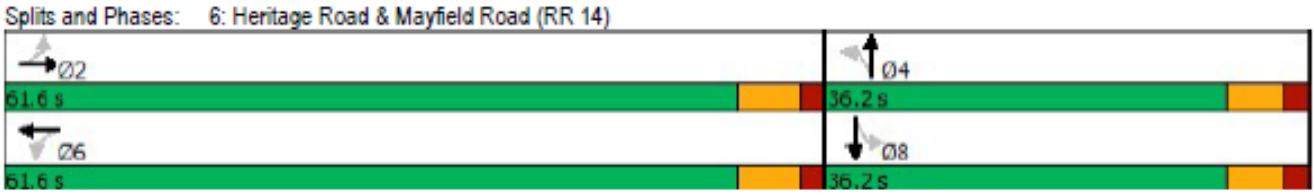
Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	13.2
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

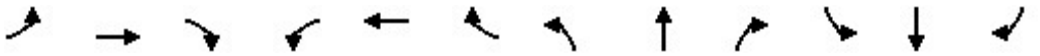
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	685	735	595	219
v/c Ratio	0.61	0.76	0.71	0.26
Control Delay	20.3	24.5	20.6	12.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.3	24.5	20.6	12.4
Queue Length 50th (m)	35.0	39.8	50.8	14.4
Queue Length 95th (m)	49.4	56.8	#117.9	32.7
Internal Link Dist (m)	1438.9	1352.3	1220.1	1224.5
Turn Bay Length (m)				
Base Capacity (vph)	2902	2530	842	858
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.24	0.29	0.71	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	612	12	46	619	11	34	410	103	8	187	6
Future Volume (vph)	6	612	12	46	619	11	34	410	103	8	187	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.2			6.2	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			1.00			0.97			1.00	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3567			3558			1830			1871	
Flt Permitted		0.94			0.82			0.97			0.97	
Satd. Flow (perm)		3371			2937			1780			1826	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	665	13	50	673	12	37	446	112	9	203	7
RTOR Reduction (vph)	0	2	0	0	2	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	683	0	0	733	0	0	589	0	0	218	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		21.2			21.2			30.2			30.2	
Effective Green, g (s)		21.2			21.2			30.2			30.2	
Actuated g/C Ratio		0.33			0.33			0.47			0.47	
Clearance Time (s)		6.6			6.6			6.2			6.2	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1113			969			837			858	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.25			c0.33			0.12	
v/c Ratio		0.61			0.76			0.70			0.25	
Uniform Delay, d1		18.1			19.2			13.5			10.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			3.4			2.7			0.2	
Delay (s)		19.1			22.6			16.2			10.4	
Level of Service		B			C			B			B	
Approach Delay (s)		19.1			22.6			16.2			10.4	
Approach LOS		B			C			B			B	

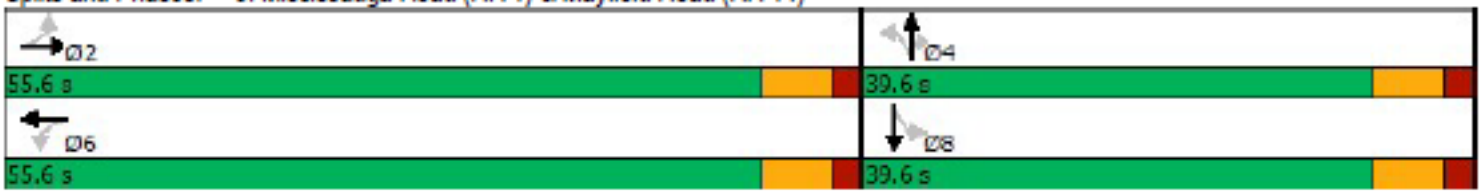
Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	12.8
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

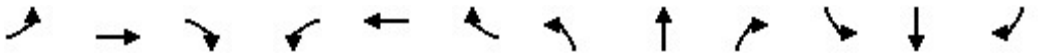
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	167	618	98	562	93	421	134	46	482
v/c Ratio	0.51	0.45	0.33	0.40	0.41	0.63	0.20	0.17	0.73
Control Delay	21.2	13.6	17.1	13.6	21.0	20.0	3.9	15.0	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	13.6	17.1	13.6	21.0	20.0	3.9	15.0	22.8
Queue Length 50th (m)	11.3	20.0	6.1	18.4	6.1	30.3	0.0	2.7	34.8
Queue Length 95th (m)	35.7	44.6	20.9	41.1	21.6	72.8	9.4	10.9	84.9
Internal Link Dist (m)		1352.3		500.7		1217.2			409.3
Turn Bay Length (m)	80.0		80.0		60.0			60.0	
Base Capacity (vph)	726	3062	667	3094	399	1186	1058	487	1149
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.15	0.18	0.23	0.35	0.13	0.09	0.42

Intersection Summary

Splits and Phases: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	487	82	90	478	39	86	387	123	42	331	112
Future Volume (vph)	154	487	82	90	478	39	86	387	123	42	331	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	3501		1789	3538		1789	1883	1601	1789	1812	
Flt Permitted	0.44	1.00		0.40	1.00		0.34	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	831	3501		762	3538		633	1883	1601	773	1812	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	529	89	98	520	42	93	421	134	46	360	122
RTOR Reduction (vph)	0	17	0	0	8	0	0	0	85	0	13	0
Lane Group Flow (vph)	167	601	0	98	554	0	93	421	49	46	469	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	21.7	21.7		21.7	21.7		19.8	19.8	19.8	19.8	19.8	
Effective Green, g (s)	21.7	21.7		21.7	21.7		19.8	19.8	19.8	19.8	19.8	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	329	1388		302	1403		229	681	579	279	655	
v/s Ratio Prot		0.17			0.16			0.22			c0.26	
v/s Ratio Perm	c0.20			0.13			0.15		0.03	0.06		
v/c Ratio	0.51	0.43		0.32	0.39		0.41	0.62	0.08	0.16	0.72	
Uniform Delay, d1	12.5	12.0		11.4	11.8		13.1	14.3	11.5	11.8	15.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.6	0.2		1.2	1.7	0.1	0.3	3.7	
Delay (s)	13.7	12.2		12.1	12.0		14.2	16.0	11.5	12.1	18.8	
Level of Service	B	B		B	B		B	B	B	B	B	
Approach Delay (s)		12.5			12.0			14.8			18.2	
Approach LOS		B			B			B			B	

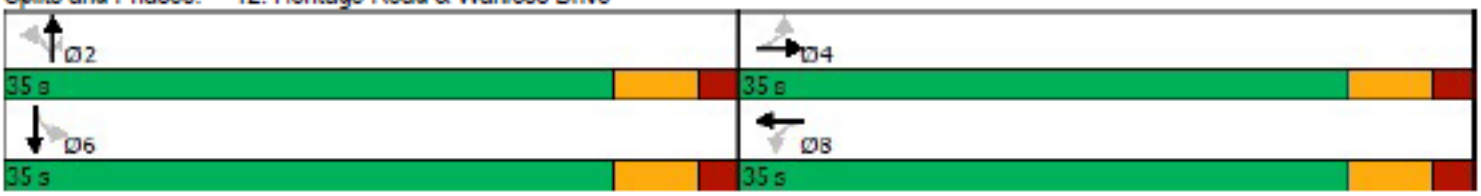
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	13.2
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

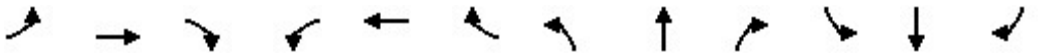
c Critical Lane Group

Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	146	366	5	591	337	3	262
v/c Ratio	0.16	0.52	0.01	0.69	0.37	0.01	0.31
Control Delay	13.4	18.1	7.4	15.2	2.5	7.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	18.1	7.4	15.2	2.5	7.7	9.3
Queue Length 50th (m)	4.2	13.0	0.2	34.3	0.0	0.1	12.1
Queue Length 95th (m)	10.8	27.1	1.6	73.6	10.3	1.2	27.9
Internal Link Dist (m)	821.1	710.2		3042.9			1220.1
Turn Bay Length (m)			25.0			25.0	
Base Capacity (vph)	2213	1697	738	1237	1167	387	1236
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.22	0.01	0.48	0.29	0.01	0.21

Intersection Summary

Splits and Phases: 12: Heritage Road & Wanless Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	121	12	232	104	1	5	544	310	3	240	1
Future Volume (vph)	1	121	12	232	104	1	5	544	310	3	240	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor		0.95			0.95		1.00	1.00	1.00	1.00	1.00	
Frt		0.99			1.00		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3530			3458		1789	1883	1601	1789	1882	
Flt Permitted		0.95			0.72		0.60	1.00	1.00	0.31	1.00	
Satd. Flow (perm)		3360			2582		1125	1883	1601	590	1882	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	132	13	252	113	1	5	591	337	3	261	1
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	183	0	0	0
Lane Group Flow (vph)	0	137	0	0	366	0	5	591	154	3	262	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		12.7			12.7		20.9	20.9	20.9	20.9	20.9	
Effective Green, g (s)		12.7			12.7		20.9	20.9	20.9	20.9	20.9	
Actuated g/C Ratio		0.28			0.28		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)		6.0			6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		935			719		515	863	733	270	862	
v/s Ratio Prot								c0.31			0.14	
v/s Ratio Perm		0.04			c0.14		0.00		0.10	0.01		
v/c Ratio		0.15			0.51		0.01	0.68	0.21	0.01	0.30	
Uniform Delay, d1		12.4			13.8		6.7	9.7	7.4	6.7	7.8	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			0.6		0.0	2.3	0.1	0.0	0.2	
Delay (s)		12.4			14.4		6.7	12.0	7.5	6.7	8.0	
Level of Service		B			B		A	B	A	A	A	
Approach Delay (s)		12.4			14.4			10.4			8.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	45.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

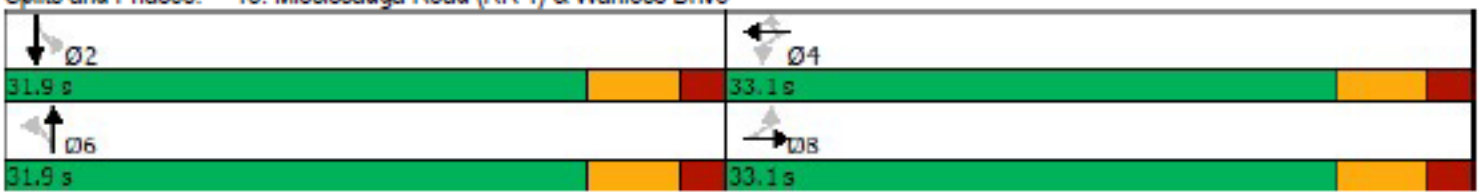
c Critical Lane Group

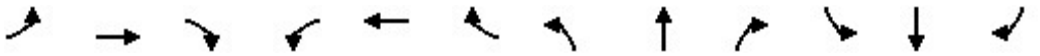
Lane Group	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	472	253	338	36	855	548
v/c Ratio	0.37	0.74	0.48	0.06	0.68	0.48
Control Delay	12.5	30.0	15.2	2.8	15.8	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	30.0	15.2	2.8	15.8	14.7
Queue Length 50th (m)	15.3	19.1	22.4	0.0	30.2	20.0
Queue Length 95th (m)	28.8	#55.3	46.9	3.1	54.6	36.5
Internal Link Dist (m)	618.1		710.4		1213.3	1217.2
Turn Bay Length (m)		100.0				
Base Capacity (vph)	1875	506	1050	916	1753	1639
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.50	0.32	0.04	0.49	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Mississauga Road (RR 1) & Wanless Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	401	24	233	311	33	16	555	216	29	464	11
Future Volume (vph)	9	401	24	233	311	33	16	555	216	29	464	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.1		6.1	6.1	6.1		6.2			6.2	
Lane Util. Factor		0.95		1.00	1.00	1.00		0.95			0.95	
Frt		0.99		1.00	1.00	0.85		0.96			1.00	
Flt Protected		1.00		0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)		3545		1789	1883	1601		3428			3556	
Flt Permitted		0.94		0.48	1.00	1.00		0.94			0.87	
Satd. Flow (perm)		3354		907	1883	1601		3216			3086	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	436	26	253	338	36	17	603	235	32	504	12
RTOR Reduction (vph)	0	7	0	0	0	22	0	62	0	0	2	0
Lane Group Flow (vph)	0	465	0	253	338	14	0	793	0	0	546	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)		19.4		19.4	19.4	19.4		19.1			19.1	
Effective Green, g (s)		19.4		19.4	19.4	19.4		19.1			19.1	
Actuated g/C Ratio		0.38		0.38	0.38	0.38		0.38			0.38	
Clearance Time (s)		6.1		6.1	6.1	6.1		6.2			6.2	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		1280		346	719	611		1209			1160	
v/s Ratio Prot					0.18							
v/s Ratio Perm		0.14		c0.28		0.01		c0.25			0.18	
v/c Ratio		0.36		0.73	0.47	0.02		0.66			0.47	
Uniform Delay, d1		11.3		13.5	11.8	9.8		13.1			12.0	
Progression Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2		7.7	0.5	0.0		1.3			0.3	
Delay (s)		11.4		21.2	12.3	9.8		14.4			12.3	
Level of Service		B		C	B	A		B			B	
Approach Delay (s)		11.4			15.8			14.4			12.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	12.3
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	87	24	409	102	32	341
Future Volume (Veh/h)	87	24	409	102	32	341
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	95	26	445	111	35	371
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	942	500			556	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	942	500			556	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	95			97	
cM capacity (veh/h)	282	570			1015	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	95	26	556	406
Volume Left	95	0	0	35
Volume Right	0	26	111	0
cSH	282	570	1700	1015
Volume to Capacity	0.34	0.05	0.33	0.03
Queue Length 95th (m)	10.9	1.1	0.0	0.8
Control Delay (s)	24.1	11.6	0.0	1.1
Lane LOS	C	B		A
Approach Delay (s)	21.4		0.0	1.1
Approach LOS	C			

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	427	73	783	325	84	700
v/c Ratio	0.71	0.12	0.43	0.42	0.37	0.56
Control Delay	22.8	4.7	11.9	3.4	16.3	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	4.7	11.9	3.4	16.3	13.6
Queue Length 50th (m)	27.5	0.0	17.5	0.0	5.0	23.6
Queue Length 95th (m)	#74.1	6.6	24.8	10.9	13.6	35.3
Internal Link Dist (m)	708.4		1814.9			1213.3
Turn Bay Length (m)				75.0	140.0	
Base Capacity (vph)	684	657	3452	1181	433	2403
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.11	0.23	0.28	0.19	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	393	67	720	299	77	644
Future Volume (vph)	393	67	720	299	77	644
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	1601	5142	1601	1789	3579
Flt Permitted	0.95	1.00	1.00	1.00	0.34	1.00
Satd. Flow (perm)	1789	1601	5142	1601	647	3579
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	427	73	783	325	84	700
RTOR Reduction (vph)	0	48	0	210	0	0
Lane Group Flow (vph)	427	25	783	115	84	700
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	4		6			2
Permitted Phases		4		6	2	
Actuated Green, G (s)	15.2	15.2	15.8	15.8	15.8	15.8
Effective Green, g (s)	15.2	15.2	15.8	15.8	15.8	15.8
Actuated g/C Ratio	0.34	0.34	0.35	0.35	0.35	0.35
Clearance Time (s)	7.2	7.2	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	608	544	1817	565	228	1265
v/s Ratio Prot	c0.24		0.15			c0.20
v/s Ratio Perm		0.02		0.07	0.13	
v/c Ratio	0.70	0.05	0.43	0.20	0.37	0.55
Uniform Delay, d1	12.8	9.9	11.0	10.1	10.7	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	0.0	0.2	0.2	1.0	0.5
Delay (s)	16.5	9.9	11.2	10.2	11.8	12.1
Level of Service	B	A	B	B	B	B
Approach Delay (s)	15.5		10.9			12.1
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	44.7	Sum of lost time (s)	13.7
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

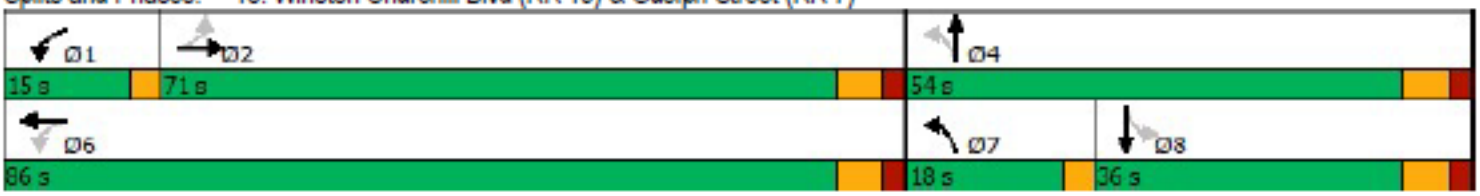
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	97	1002	280	868	416	803	5	445
v/c Ratio	0.95	1.19	1.41	2.06	1.66	1.31	0.09	1.16
Control Delay	115.5	132.0	241.5	506.7	340.0	187.5	50.2	142.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.5	132.0	241.5	506.7	340.0	187.5	50.2	142.2
Queue Length 50th (m)	25.2	~332.6	~92.9	~397.2	~150.2	~280.9	1.1	~141.8
Queue Length 95th (m)	#62.9	#412.4	#153.1	#478.9	#214.9	#357.9	5.3	#208.2
Internal Link Dist (m)		901.6		863.8		411.9		385.1
Turn Bay Length (m)	100.0		90.0		90.0		120.0	
Base Capacity (vph)	102	841	199	421	251	613	53	385
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	1.19	1.41	2.06	1.66	1.31	0.09	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	692	230	286	768	2	383	421	317	5	291	131
Future Volume (vph)	89	692	230	286	768	2	383	421	317	5	291	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1813		1700	1785		1789	1762		1789	1793	
Flt Permitted	0.12	1.00		0.06	0.35		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	224	1813		106	623		234	1762		258	1793	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.92
Adj. Flow (vph)	97	752	250	311	835	2	416	458	345	5	303	142
RTOR Reduction (vph)	0	9	0	0	0	0	0	19	0	0	12	0
Lane Group Flow (vph)	97	993	0	280	868	0	416	784	0	5	433	0
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	64.3	64.3		79.3	79.3		47.2	47.2		29.2	29.2	
Effective Green, g (s)	64.3	64.3		79.3	79.3		47.2	47.2		29.2	29.2	
Actuated g/C Ratio	0.46	0.46		0.57	0.57		0.34	0.34		0.21	0.21	
Clearance Time (s)	6.7	6.7		3.0	6.7		3.0	6.8		6.8	6.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	102	832		196	452		245	594		53	373	
v/s Ratio Prot		0.55		0.12	c0.16		c0.18	0.44			0.24	
v/s Ratio Perm	0.43			0.68	c0.92		c0.39			0.02		
v/c Ratio	0.95	1.19		1.43	1.92		1.70	1.32		0.09	1.16	
Uniform Delay, d1	36.3	37.9		46.1	30.4		40.0	46.4		44.7	55.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	76.6	99.0		219.7	422.3		331.0	155.4		0.8	98.2	
Delay (s)	112.9	136.9		265.8	452.7		371.1	201.8		45.5	153.6	
Level of Service	F	F		F	F		F	F		D	F	
Approach Delay (s)		134.7			407.1			259.5			152.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	255.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	163.2%	ICU Level of Service	H
Analysis Period (min)	15		

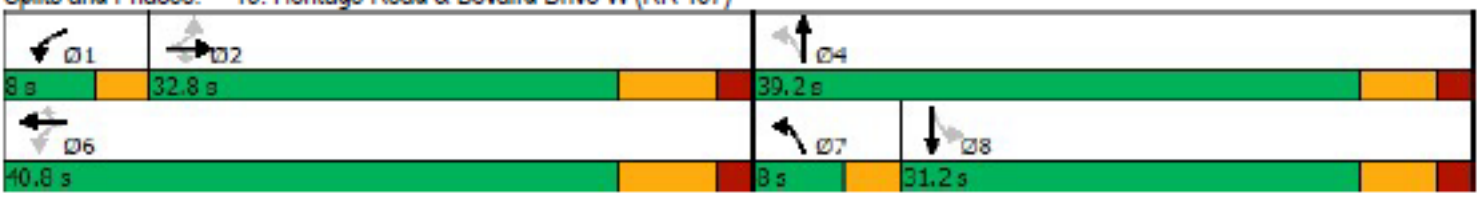
c Critical Lane Group

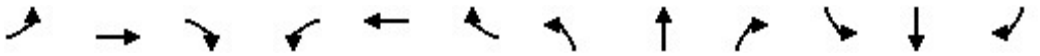
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	129	846	126	160	986	86	113	800	80	436
v/c Ratio	0.69	0.69	0.20	0.52	0.59	0.11	0.32	0.68	0.53	0.51
Control Delay	43.4	23.4	5.0	17.0	16.2	3.9	16.6	22.3	37.9	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	23.4	5.0	17.0	16.2	3.9	16.6	22.3	37.9	24.3
Queue Length 50th (m)	13.3	46.0	0.0	9.3	44.4	0.0	9.6	45.7	9.5	25.8
Queue Length 95th (m)	#45.6	80.2	10.9	#24.6	81.5	7.5	18.7	62.3	22.5	38.0
Internal Link Dist (m)		1087.3			1359.6			1540.2		3042.9
Turn Bay Length (m)	170.0		55.0	145.0		45.0	25.0		25.0	
Base Capacity (vph)	208	1364	688	308	1794	845	355	1753	234	1331
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.62	0.18	0.52	0.55	0.10	0.32	0.46	0.34	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Heritage Road & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	778	116	147	907	79	104	660	76	74	356	45
Future Volume (vph)	119	778	116	147	907	79	104	660	76	74	356	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.4	7.4	7.4	3.0	7.4	7.4	3.0	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601	1789	3523		1789	3518	
Flt Permitted	0.29	1.00	1.00	0.20	1.00	1.00	0.39	1.00		0.33	1.00	
Satd. Flow (perm)	547	3579	1601	382	3579	1601	727	3523		626	3518	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	846	126	160	986	86	113	717	83	80	387	49
RTOR Reduction (vph)	0	0	83	0	0	46	0	13	0	0	14	0
Lane Group Flow (vph)	129	846	43	160	986	40	113	787	0	80	422	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	23.5	23.5	23.5	31.6	31.6	31.6	23.3	23.3		16.5	16.5	
Effective Green, g (s)	23.5	23.5	23.5	31.6	31.6	31.6	23.3	23.3		16.5	16.5	
Actuated g/C Ratio	0.34	0.34	0.34	0.46	0.46	0.46	0.34	0.34		0.24	0.24	
Clearance Time (s)	7.4	7.4	7.4	3.0	7.4	7.4	3.0	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	187	1227	549	280	1651	738	306	1198		150	847	
v/s Ratio Prot		c0.24		0.04	c0.28		0.02	c0.22			0.12	
v/s Ratio Perm	0.24		0.03	0.22		0.02	0.10			0.13		
v/c Ratio	0.69	0.69	0.08	0.57	0.60	0.05	0.37	0.66		0.53	0.50	
Uniform Delay, d1	19.4	19.4	15.2	12.0	13.7	10.2	16.1	19.2		22.6	22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.1	1.6	0.1	2.8	0.6	0.0	0.8	1.3		3.6	0.5	
Delay (s)	29.5	21.0	15.3	14.8	14.3	10.2	16.8	20.5		26.3	22.9	
Level of Service	C	C	B	B	B	B	B	C		C	C	
Approach Delay (s)		21.3			14.1			20.1			23.4	
Approach LOS		C			B			C			C	

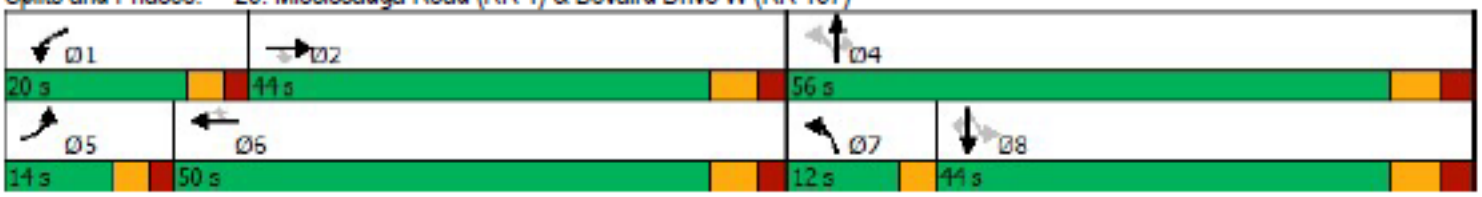
Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	19.6
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

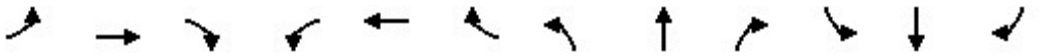
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	70	810	129	290	989	37	141	1059	392	30	954	101
v/c Ratio	0.49	0.76	0.22	0.65	0.80	0.06	0.55	0.53	0.50	0.23	0.68	0.19
Control Delay	61.4	38.6	3.7	51.7	36.4	0.2	27.8	25.6	10.9	35.9	36.4	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	38.6	3.7	51.7	36.4	0.2	27.8	25.6	10.9	35.9	36.4	2.1
Queue Length 50th (m)	13.7	77.6	0.0	28.8	93.3	0.0	17.5	59.8	18.2	4.7	63.4	0.0
Queue Length 95th (m)	31.3	111.3	8.9	48.5	131.8	0.0	32.8	80.2	47.1	13.5	84.2	3.8
Internal Link Dist (m)		1359.6			543.4			1216.7			1814.9	
Turn Bay Length (m)	300.0		150.0	215.0		120.0	180.0		300.0	130.0		125.0
Base Capacity (vph)	162	1352	701	524	1569	763	263	2539	920	181	1917	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.60	0.18	0.55	0.63	0.05	0.54	0.42	0.43	0.17	0.50	0.15

Intersection Summary

Splits and Phases: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	745	119	267	910	34	130	974	361	28	878	93
Future Volume (vph)	64	745	119	267	910	34	130	974	361	28	878	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1789	3579	1601	3471	3579	1601	1789	5142	1601	1789	5142	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.16	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	1789	3579	1601	3471	3579	1601	300	5142	1601	486	5142	1601
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	810	129	290	989	37	141	1059	392	30	954	101
RTOR Reduction (vph)	0	0	91	0	0	24	0	0	156	0	0	73
Lane Group Flow (vph)	70	810	38	290	989	13	141	1059	236	30	954	28
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		7	4			8	
Permitted Phases			2			6	4		4	8		8
Actuated Green, G (s)	8.2	30.2	30.2	13.1	35.1	35.1	39.5	39.5	39.5	27.7	27.7	27.7
Effective Green, g (s)	8.2	30.2	30.2	13.1	35.1	35.1	39.5	39.5	39.5	27.7	27.7	27.7
Actuated g/C Ratio	0.08	0.30	0.30	0.13	0.35	0.35	0.39	0.39	0.39	0.27	0.27	0.27
Clearance Time (s)	5.0	6.5	6.5	5.0	6.5	6.5	3.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	144	1066	477	448	1240	554	246	2005	624	132	1406	437
v/s Ratio Prot	0.04	0.23		c0.08	c0.28		c0.05	0.21			c0.19	
v/s Ratio Perm			0.02			0.01	0.17		0.15	0.06		0.02
v/c Ratio	0.49	0.76	0.08	0.65	0.80	0.02	0.57	0.53	0.38	0.23	0.68	0.06
Uniform Delay, d1	44.5	32.3	25.6	41.9	29.9	21.8	21.7	23.7	22.1	28.5	32.8	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	3.2	0.1	3.2	3.7	0.0	3.2	0.3	0.4	0.9	1.3	0.1
Delay (s)	47.1	35.4	25.6	45.1	33.6	21.8	24.9	24.0	22.5	29.4	34.1	27.3
Level of Service	D	D	C	D	C	C	C	C	C	C	C	C
Approach Delay (s)		35.0			35.8			23.7			33.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	101.3	Sum of lost time (s)	21.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	9	511	1	2	426
Future Volume (Veh/h)	6	9	511	1	2	426
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	10	555	1	2	463
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1022	556			556	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1022	556			556	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			100	
cM capacity (veh/h)	261	531			1015	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	17	556	465
Volume Left	7	0	2
Volume Right	10	1	0
cSH	372	1700	1015
Volume to Capacity	0.05	0.33	0.00
Queue Length 95th (m)	1.1	0.0	0.0
Control Delay (s)	15.1	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	15.1	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix J

SimTraffic Queue Results (2030)

1. SimTraffic Queueing Report Future Total 2030 AM
2. SimTraffic Queueing Report Future Total 2030 PM

Appendix J1

SimTraffic Queue Results (2030)

1. SimTraffic Queueing Report Future Total 2030 AM

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	8:45	8:45	8:45	8:45	8:45	8:45
End Time	10:00	10:00	10:00	10:00	10:00	10:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7406	7532	7337	7425	7440	7424
Vehs Exited	7152	7253	7076	7284	7170	7189
Starting Vehs	787	785	793	831	761	790
Ending Vehs	1041	1064	1054	972	1031	1026
Travel Distance (km)	34889	35574	34756	34897	34975	35018
Travel Time (hr)	993.3	1093.9	1016.4	992.6	981.7	1015.6
Total Delay (hr)	423.4	513.3	448.4	422.5	409.4	443.4
Total Stops	13459	14458	13510	13210	14200	13767
Fuel Used (l)	2748.8	2872.3	2743.1	2755.9	2733.1	2770.6

Interval #0 Information Seeding

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	9:00
End Time	10:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	7406	7532	7337	7425	7440	7424
Vehs Exited	7152	7253	7076	7284	7170	7189
Starting Vehs	787	785	793	831	761	790
Ending Vehs	1041	1064	1054	972	1031	1026
Travel Distance (km)	34889	35574	34756	34897	34975	35018
Travel Time (hr)	993.3	1093.9	1016.4	992.6	981.7	1015.6
Total Delay (hr)	423.4	513.3	448.4	422.5	409.4	443.4
Total Stops	13459	14458	13510	13210	14200	13767
Fuel Used (l)	2748.8	2872.3	2743.1	2755.9	2733.1	2770.6

3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14) Performance by movement

6: Heritage Road & Mayfield Road (RR 14) Performance by movement

9: Mississauga Road (RR 1) & Mayfield Road (RR 14) Performance by movement

12: Heritage Road & Wanless Drive Performance by movement

13: Mississauga Road (RR 1) & Wanless Drive Performance by movement

14: Winston Churchill Blvd (RR 19) & Wanless Drive Performance by movement

16: Mississauga Road (RR 1) & Sandalwood Pkwy W Performance by movement

18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7) Performance by movement

19: Heritage Road & Bovaird Drive W (RR 107) Performance by movement

20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107) Performance by movement

29: Winston Churchill Blvd (RR 19) & Site Access Performance by movement

Total Network Performance

Intersection: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (m)	49.2	56.8	42.0	38.4	59.2	45.3
Average Queue (m)	24.3	30.0	19.9	17.6	25.4	22.4
95th Queue (m)	41.4	47.7	35.3	33.9	49.1	39.5
Link Distance (m)	1371.7	1371.7	1440.4	1440.4	1223.1	291.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Heritage Road & Mayfield Road (RR 14)

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (m)	51.6	57.5	45.1	43.7	49.8	52.1
Average Queue (m)	22.9	27.5	22.6	19.8	19.3	23.2
95th Queue (m)	44.4	51.6	39.8	36.0	37.8	42.5
Link Distance (m)	1440.4	1440.4	1348.9	1348.9	1214.0	1233.3
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	34.2	59.2	64.0	44.3	39.9	35.8	31.6	42.2	18.9	67.5	340.8
Average Queue (m)	13.0	30.1	39.3	20.8	23.4	15.5	11.3	20.5	5.0	23.2	229.7
95th Queue (m)	28.4	50.2	58.9	37.3	36.8	30.1	27.5	38.8	13.3	65.9	453.7
Link Distance (m)		1348.9	1348.9		511.6	511.6	1209.4	1209.4	1209.4		417.8
Upstream Blk Time (%)											19
Queuing Penalty (veh)											0
Storage Bay Dist (m)	80.0			80.0						60.0	
Storage Blk Time (%)											52
Queuing Penalty (veh)											27

Intersection: 12: Heritage Road & Wanless Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	L	T	R	L	TR
Maximum Queue (m)	16.2	17.9	52.6	28.0	10.7	31.2	37.2	17.7	60.8
Average Queue (m)	4.3	7.1	21.8	10.1	1.9	12.0	14.9	3.0	28.5
95th Queue (m)	11.3	16.5	38.5	21.9	7.5	25.2	28.2	11.3	50.5
Link Distance (m)	823.8	823.8	714.9	714.9		3035.2	3035.2		1214.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)					25.0			25.0	
Storage Blk Time (%)						1			7
Queuing Penalty (veh)						0			1

Intersection: 13: Mississauga Road (RR 1) & Wanless Drive

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	R	LT	TR	LT	TR
Maximum Queue (m)	36.1	38.3	43.6	48.2	9.9	29.3	51.7	49.9	49.8
Average Queue (m)	14.6	18.4	21.5	21.3	3.2	10.6	19.7	26.9	25.8
95th Queue (m)	28.0	30.4	36.6	38.4	9.7	23.4	38.3	42.1	41.4
Link Distance (m)	618.4	618.4		714.8	714.8	1207.8	1207.8	1209.4	1209.4
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			100.0						
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 14: Winston Churchill Blvd (RR 19) & Wanless Drive

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	22.9	15.1	26.1
Average Queue (m)	9.5	6.6	2.8
95th Queue (m)	17.8	13.1	14.5
Link Distance (m)	591.9	591.9	1223.1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	R	L	T	T
Maximum Queue (m)	47.9	12.0	21.0	26.7	29.0	22.8	21.7	44.6	44.9
Average Queue (m)	20.9	2.3	9.4	10.0	8.9	8.3	8.7	19.9	23.7
95th Queue (m)	38.1	7.0	18.7	21.1	22.2	18.3	18.7	37.4	39.4
Link Distance (m)	711.6	711.6	1808.8	1808.8	1808.8			1207.8	1207.8
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)						75.0	140.0		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)

Movement	EB	EB	WB	WB	B24	B24	NB	NB	SB	SB
Directions Served	L	TR	L	TR	T		L	TR	L	TR
Maximum Queue (m)	107.5	931.2	97.6	840.3	286.4	128.1	97.6	441.4	33.5	153.4
Average Queue (m)	29.7	873.6	88.9	441.4	43.6	9.5	88.3	327.8	2.7	87.5
95th Queue (m)	100.7	1070.9	116.8	997.4	219.5	81.9	121.5	549.5	20.4	159.4
Link Distance (m)		914.8		870.9	1088.9	1088.9		425.3		389.0
Upstream Blk Time (%)		78		19				46		
Queuing Penalty (veh)		0		143				0		
Storage Bay Dist (m)	100.0		90.0				90.0		120.0	
Storage Blk Time (%)	0	55	64	2			38	38		9
Queuing Penalty (veh)	0	27	369	3			194	71		0

Intersection: 19: Heritage Road & Bovaird Drive W (RR 107)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	TR	L
Maximum Queue (m)	37.1	53.1	54.8	33.1	54.2	69.6	74.2	46.7	30.0	33.9	42.9	32.4
Average Queue (m)	12.3	32.5	35.7	7.8	26.0	32.6	37.9	9.7	15.8	12.7	19.3	10.0
95th Queue (m)	26.0	49.1	51.8	20.9	46.7	58.7	65.4	29.7	27.3	25.4	34.7	24.7
Link Distance (m)		1088.9	1088.9			1349.1	1349.1			1543.8	1543.8	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	170.0			55.0	145.0			45.0	25.0			25.0
Storage Blk Time (%)			0	0			4	0	3	0		1
Queuing Penalty (veh)			0	0			3	0	4	0		2

Intersection: 19: Heritage Road & Bovaird Drive W (RR 107)

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	57.7	58.9
Average Queue (m)	29.3	32.6
95th Queue (m)	49.6	50.3
Link Distance (m)	3035.2	3035.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	11	
Queuing Penalty (veh)	7	

Intersection: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	L	T	T	L	T	T	T
Maximum Queue (m)	32.2	89.2	95.3	17.0	59.4	64.2	78.3	80.0	65.4	34.7	36.2	33.4
Average Queue (m)	11.5	50.4	53.0	1.7	32.9	40.5	48.7	48.9	31.5	18.4	19.9	13.8
95th Queue (m)	26.2	76.4	82.4	9.3	54.8	58.9	71.9	72.2	53.0	30.7	33.4	29.2
Link Distance (m)		1349.1	1349.1				548.2	548.2		1224.8	1224.8	1224.8
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	300.0			150.0	215.0	215.0			180.0			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	T	T	T	R
Maximum Queue (m)	46.6	18.3	85.4	93.2	92.8	15.8
Average Queue (m)	13.2	6.7	54.5	60.1	62.2	5.4
95th Queue (m)	36.7	15.6	76.5	83.2	85.9	13.7
Link Distance (m)			1808.8	1808.8	1808.8	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	300.0	130.0				125.0
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 29: Winston Churchill Blvd (RR 19) & Site Access

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	3.2	8.2
Average Queue (m)	0.4	0.5
95th Queue (m)	2.4	4.7
Link Distance (m)	183.6	361.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 851

Intersection: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)

Phase	2	4	6	8
Movement(s) Served	EBTL	NBTL	WBTL	SBTL
Maximum Green (s)	42.0	45.0	42.0	45.0
Minimum Green (s)	12.0	8.0	12.0	8.0
Recall	Min	None	Min	None
Avg. Green (s)	29.8	15.6	29.8	15.6
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	11	0	11
Cycles Maxed Out (%)	21	0	21	0
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 6: Heritage Road & Mayfield Road (RR 14)

Phase	2	4	6	8
Movement(s) Served	EBTL	NBTL	WBTL	SBTL
Maximum Green (s)	50.0	20.0	50.0	20.0
Minimum Green (s)	8.0	8.0	8.0	8.0
Recall	Min	None	Min	None
Avg. Green (s)	33.1	13.5	33.1	13.5
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	15	0	15
Cycles Maxed Out (%)	20	15	20	15
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)

Phase	2	4	6	8
Movement(s) Served	EBTL	NBTL	WBTL	SBTL
Maximum Green (s)	49.0	33.0	49.0	33.0
Minimum Green (s)	16.0	12.0	16.0	12.0
Recall	Min	None	Min	None
Avg. Green (s)	38.1	32.8	38.1	32.8
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	26	95	26	95
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 12: Heritage Road & Wanless Drive

Phase	2	4	6	8
Movement(s) Served	NBTL	EBTL	SBTL	WBTL
Maximum Green (s)	29.0	29.0	29.0	29.0
Minimum Green (s)	12.0	7.0	12.0	7.0
Recall	Min	None	Min	None
Avg. Green (s)	20.7	13.7	20.7	13.7
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	8	10	8	10
Cycles Maxed Out (%)	13	3	13	3
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 13: Mississauga Road (RR 1) & Wanless Drive

Phase	2	4	6	8
Movement(s) Served	SBTL	WBTL	NBTL	EBTL
Maximum Green (s)	25.7	27.0	25.7	27.0
Minimum Green (s)	10.0	10.0	10.0	10.0
Recall	Min	None	Min	None
Avg. Green (s)	21.5	20.3	21.5	20.3
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	2	3	2	3
Cycles Maxed Out (%)	44	29	44	29
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W

Phase	2	4	6
Movement(s) Served	SBTL	WBL	NBT
Maximum Green (s)	75.0	40.0	96.0
Minimum Green (s)	10.0	10.0	10.0
Recall	Min	None	Min
Avg. Green (s)	24.8	12.9	24.8
g/C Ratio	NA	NA	NA
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	1	40	1
Cycles Maxed Out (%)	0	0	0
Cycles with Peds (%)	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)

Phase	1	2	4	6	7	8
Movement(s) Served	WBL	EBTL	NBTL	WBTL	NBL	SBTL
Maximum Green (s)	7.0	60.5	36.0	70.5	7.0	26.0
Minimum Green (s)	7.0	20.0	10.0	20.0	7.0	10.0
Recall	None	Min	None	Min	None	None
Avg. Green (s)	7.0	61.8	36.7	71.5	7.2	25.9
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0	0	0
Cycles @ Minimum (%)	100	0	0	0	100	0
Cycles Maxed Out (%)	100	100	93	100	100	93
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 19: Heritage Road & Bovaird Drive W (RR 107)

Phase	1	2	4	6	7	8
Movement(s) Served	WBL	EBTL	NBTL	WBTL	NBL	SBTL
Maximum Green (s)	6.0	24.4	33.0	33.4	5.0	25.0
Minimum Green (s)	5.0	12.0	8.0	12.0	5.0	8.0
Recall	None	Min	None	Min	None	None
Avg. Green (s)	5.9	22.7	26.7	29.5	5.0	20.6
g/C Ratio	-0.01	NA	NA	NA	-0.01	NA
Cycles Skipped (%)	25	0	0	0	24	0
Cycles @ Minimum (%)	0	0	0	0	76	0
Cycles Maxed Out (%)	62	57	27	41	76	35
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)

Phase	1	2	4	5	6	7	8
Movement(s) Served	WBL	EBT	NBTL	EBL	WBT	NBL	SBTL
Maximum Green (s)	20.0	66.0	50.0	15.0	66.0	15.0	50.0
Minimum Green (s)	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Recall	None	Min	None	Min	Min	None	None
Avg. Green (s)	18.2	33.7	52.9	8.1	44.7	12.3	38.1
g/C Ratio	NA	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0	0	0	0
Cycles @ Minimum (%)	0	0	0	21	0	0	0
Cycles Maxed Out (%)	46	0	59	3	0	38	17
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Appendix J2

SimTraffic Queue Results (2030)

2. SimTraffic Queueing Report Future Total 2030 PM

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:45	4:45	4:45	4:45	4:45	4:45
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	7917	8108	7945	8016	7954	7989
Vehs Exited	7527	7617	7423	7478	7450	7500
Starting Vehs	1019	962	950	1027	1019	987
Ending Vehs	1409	1453	1472	1565	1523	1483
Travel Distance (km)	38818	39463	38040	38524	38302	38629
Travel Time (hr)	1613.4	1690.3	1613.6	1584.7	1719.4	1644.3
Total Delay (hr)	972.7	1043.2	989.7	950.7	1089.4	1009.1
Total Stops	16936	16857	16684	17042	16582	16821
Fuel Used (l)	3482.2	3588.8	3442.6	3449.6	3537.9	3500.2

Interval #0 Information Seeding

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	7917	8108	7945	8016	7954	7989
Vehs Exited	7527	7617	7423	7478	7450	7500
Starting Vehs	1019	962	950	1027	1019	987
Ending Vehs	1409	1453	1472	1565	1523	1483
Travel Distance (km)	38818	39463	38040	38524	38302	38629
Travel Time (hr)	1613.4	1690.3	1613.6	1584.7	1719.4	1644.3
Total Delay (hr)	972.7	1043.2	989.7	950.7	1089.4	1009.1
Total Stops	16936	16857	16684	17042	16582	16821
Fuel Used (l)	3482.2	3588.8	3442.6	3449.6	3537.9	3500.2

3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14) Performance by movement

6: Heritage Road & Mayfield Road (RR 14) Performance by movement

9: Mississauga Road (RR 1) & Mayfield Road (RR 14) Performance by movement

12: Heritage Road & Wanless Drive Performance by movement

13: Mississauga Road (RR 1) & Wanless Drive Performance by movement

14: Winston Churchill Blvd (RR 19) & Wanless Drive Performance by movement

16: Mississauga Road (RR 1) & Sandalwood Pkwy W Performance by movement

18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7) Performance by movement

19: Heritage Road & Bovaird Drive W (RR 107) Performance by movement

20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107) Performance by movement

29: Winston Churchill Blvd (RR 19) & Site Access Performance by movement

Total Network Performance

Intersection: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (m)	31.3	36.2	53.2	52.3	77.5	46.1
Average Queue (m)	15.7	17.5	27.3	23.9	32.2	22.3
95th Queue (m)	26.7	30.2	48.0	46.6	61.8	39.6
Link Distance (m)	1371.7	1371.7	1440.4	1440.4	1223.1	291.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 6: Heritage Road & Mayfield Road (RR 14)

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (m)	44.8	47.6	53.3	54.4	141.4	57.4
Average Queue (m)	20.7	21.5	28.3	30.6	64.5	21.5
95th Queue (m)	36.8	38.6	48.3	51.1	116.2	43.0
Link Distance (m)	1440.4	1440.4	1348.9	1348.9	1214.0	1233.3
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	50.2	46.8	53.1	27.7	46.4	41.1	59.4	103.0	25.0	39.2	87.1
Average Queue (m)	19.7	18.6	26.7	13.2	26.0	17.9	17.6	42.1	9.3	9.5	46.2
95th Queue (m)	38.1	38.3	48.2	25.2	41.3	34.1	43.3	78.5	19.7	29.9	75.5
Link Distance (m)		1348.9	1348.9		511.6	511.6		1209.7	1209.7		417.8
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	80.0			80.0			60.0			60.0	
Storage Blk Time (%)							0	2			3
Queuing Penalty (veh)							0	2			1

Intersection: 12: Heritage Road & Wanless Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LT	TR	LT	TR	L	T	R	L	TR
Maximum Queue (m)	14.4	16.2	60.0	24.5	7.8	95.1	51.4	6.3	53.0
Average Queue (m)	4.6	5.5	26.8	10.1	0.8	38.9	17.0	0.5	18.9
95th Queue (m)	11.8	13.8	48.8	22.8	4.8	74.4	36.4	3.5	41.8
Link Distance (m)	823.8	823.8	714.9	714.9		3034.6	3034.6		1214.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)					25.0			25.0	
Storage Blk Time (%)						12			4
Queuing Penalty (veh)						1			0

Intersection: 13: Mississauga Road (RR 1) & Wanless Drive

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	T	R	LT	TR	LT	TR
Maximum Queue (m)	35.2	34.6	66.8	59.9	14.4	63.3	70.9	47.0	43.2
Average Queue (m)	15.0	18.5	33.0	26.7	4.2	32.0	39.4	20.3	20.6
95th Queue (m)	29.0	30.2	58.9	47.2	11.9	57.9	67.0	35.4	35.7
Link Distance (m)	618.4	618.4		718.4	718.4	1207.8	1207.8	1209.7	1209.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			100.0						
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 14: Winston Churchill Blvd (RR 19) & Wanless Drive

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	34.4	16.7	25.6
Average Queue (m)	12.3	4.9	3.6
95th Queue (m)	24.4	12.3	16.6
Link Distance (m)	591.9	591.9	1223.1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	T	R	L	T	T
Maximum Queue (m)	99.8	18.1	44.2	45.6	407.4	40.4	35.7	49.4	50.0
Average Queue (m)	49.8	5.2	16.4	20.5	34.2	14.4	15.1	21.5	24.3
95th Queue (m)	82.5	13.0	38.2	42.7	278.0	32.3	28.1	39.0	42.4
Link Distance (m)	711.6	711.6	1808.8	1808.8	1808.8			1207.8	1207.8
Upstream Blk Time (%)					0				
Queuing Penalty (veh)					0				
Storage Bay Dist (m)						75.0	140.0		
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)

Movement	EB	EB	WB	WB	B24	B24	NB	NB	SB	SB	B23	B26
Directions Served	L	TR	L	LTR	T		L	TR	L	TR	T	T
Maximum Queue (m)	107.5	931.2	97.6	898.1	1096.2	1036.3	97.6	443.8	127.4	421.7	321.5	2.5
Average Queue (m)	46.9	864.1	85.0	853.7	724.9	480.9	96.9	431.5	11.6	355.0	98.4	0.1
95th Queue (m)	123.5	1080.8	125.6	1017.8	1423.7	1111.8	101.6	437.4	68.1	512.3	287.3	2.3
Link Distance (m)		914.8		870.9	1089.4	1089.4		425.3		389.0	336.2	1721.8
Upstream Blk Time (%)		71		76	18	5		88		55	1	
Queuing Penalty (veh)		0		807	93	24		0		237	5	
Storage Bay Dist (m)	100.0		90.0				90.0		120.0			
Storage Blk Time (%)	0	56	0	66			79	14		79		
Queuing Penalty (veh)	0	49	0	95			586	55		4		

Intersection: 19: Heritage Road & Bovaird Drive W (RR 107)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	TR	L
Maximum Queue (m)	34.4	55.1	57.0	30.3	131.4	389.9	398.5	52.6	32.4	59.0	61.3	31.9
Average Queue (m)	17.1	30.3	32.6	9.5	29.9	94.1	98.7	24.9	15.6	30.4	36.5	13.2
95th Queue (m)	30.9	49.5	51.7	24.5	91.8	267.1	270.5	61.0	29.9	50.0	54.1	25.8
Link Distance (m)		1089.4	1089.4			1346.7	1346.7			1544.3	1544.3	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	170.0			55.0	145.0			45.0	25.0			25.0
Storage Blk Time (%)			0	0	0	10	28	0	2	9		2
Queuing Penalty (veh)			0	0	0	14	22	1	7	9		4

Intersection: 19: Heritage Road & Bovaird Drive W (RR 107)

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	42.0	46.6
Average Queue (m)	17.1	21.5
95th Queue (m)	32.8	38.0
Link Distance (m)	3034.6	3034.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	3	
Queuing Penalty (veh)	2	

Intersection: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	L	T	T	L	T	T	T
Maximum Queue (m)	26.4	80.7	79.5	17.2	52.1	61.5	108.8	108.6	49.7	70.6	71.9	72.6
Average Queue (m)	10.6	42.1	43.4	0.9	24.6	34.4	64.8	64.4	21.2	39.4	43.4	40.9
95th Queue (m)	22.7	69.1	71.5	7.0	46.3	52.2	95.4	95.5	40.5	60.6	63.4	64.0
Link Distance (m)		1346.7	1346.7				548.2	548.2		1224.5	1224.5	1224.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	300.0			150.0	215.0	215.0			180.0			
Storage Blk Time (%)								0				
Queuing Penalty (veh)								0				

Intersection: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)

Movement	NB	SB	SB	SB	SB	SB
Directions Served	R	L	T	T	T	R
Maximum Queue (m)	40.6	18.1	74.2	79.5	81.7	29.4
Average Queue (m)	9.2	6.9	43.1	49.8	52.3	12.6
95th Queue (m)	29.3	17.1	64.8	72.5	74.3	23.7
Link Distance (m)			1808.8	1808.8	1808.8	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	300.0	130.0				125.0
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 29: Winston Churchill Blvd (RR 19) & Site Access

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	5.3	1.8
Average Queue (m)	1.5	0.1
95th Queue (m)	4.8	1.3
Link Distance (m)	208.5	363.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2021

Intersection: 3: Winston Churchill Blvd (RR 19) & Side Road 17/Mayfield Road (RR 14)

Phase	2	4	6	8
Movement(s) Served	EBTL	NBTL	WBTL	SBTL
Maximum Green (s)	42.0	45.0	42.0	45.0
Minimum Green (s)	12.0	8.0	12.0	8.0
Recall	Min	None	Min	None
Avg. Green (s)	27.5	16.7	27.5	16.7
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	3	8	3	8
Cycles Maxed Out (%)	15	0	15	0
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 6: Heritage Road & Mayfield Road (RR 14)

Phase	2	4	6	8
Movement(s) Served	EBTL	NBTL	WBTL	SBTL
Maximum Green (s)	55.0	30.0	55.0	30.0
Minimum Green (s)	8.0	8.0	8.0	8.0
Recall	Min	None	Min	None
Avg. Green (s)	24.6	24.2	24.6	24.2
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	2	0	2
Cycles Maxed Out (%)	2	45	2	45
Cycles with Peds (%)	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 9: Mississauga Road (RR 1) & Mayfield Road (RR 14)

Phase	2	4	6	8
Movement(s) Served	EBTL	NBTL	WBTL	SBTL
Maximum Green (s)	49.0	33.0	49.0	33.0
Minimum Green (s)	16.0	12.0	16.0	12.0
Recall	Min	None	Min	None
Avg. Green (s)	32.9	28.6	32.9	28.6
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	2	0	2	0
Cycles Maxed Out (%)	15	48	15	48
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 12: Heritage Road & Wanless Drive

Phase	2	4	6	8
Movement(s) Served	NBTL	EBTL	SBTL	WBTL
Maximum Green (s)	29.0	29.0	29.0	29.0
Minimum Green (s)	12.0	7.0	12.0	7.0
Recall	Min	None	Min	None
Avg. Green (s)	24.1	15.4	24.1	15.4
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	4	7	4	7
Cycles Maxed Out (%)	41	6	41	6
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 13: Mississauga Road (RR 1) & Wanless Drive

Phase	2	4	6	8
Movement(s) Served	SBTL	WBTL	NBTL	EBTL
Maximum Green (s)	25.7	27.0	25.7	27.0
Minimum Green (s)	10.0	10.0	10.0	10.0
Recall	Min	None	Min	None
Avg. Green (s)	22.0	23.4	22.0	23.4
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	2	0	2	0
Cycles Maxed Out (%)	55	55	55	55
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 16: Mississauga Road (RR 1) & Sandalwood Pkwy W

Phase	2	4	6
Movement(s) Served	SBTL	WBL	NBT
Maximum Green (s)	75.0	40.0	96.0
Minimum Green (s)	10.0	10.0	10.0
Recall	Min	None	Min
Avg. Green (s)	37.0	21.3	37.0
g/C Ratio	NA	NA	NA
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	8	0
Cycles Maxed Out (%)	2	6	0
Cycles with Peds (%)	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 18: Winston Churchill Blvd (RR 19) & Guelph Street (RR 7)

Phase	1	2	4	6	7	8
Movement(s) Served	WBL	EBTL	NBTL	WBTL	NBL	SBTL
Maximum Green (s)	12.0	64.3	47.2	79.3	15.0	29.2
Minimum Green (s)	7.0	20.0	10.0	20.0	7.0	10.0
Recall	None	Max	None	Max	None	None
Avg. Green (s)	11.8	65.1	47.2	79.3	15.0	29.2
g/C Ratio	NA	NA	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	88	100	100	100	100	100
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 19: Heritage Road & Bovaird Drive W (RR 107)

Phase	1	2	4	6	7	8
Movement(s) Served	WBL	EBTL	NBTL	WBTL	NBL	SBTL
Maximum Green (s)	5.0	22.0	33.0	28.4	5.0	25.0
Minimum Green (s)	5.0	12.0	8.0	12.0	5.0	8.0
Recall	None	Min	None	Min	None	None
Avg. Green (s)	5.0	22.7	28.7	28.3	5.5	23.1
g/C Ratio	-0.01	NA	NA	NA	-0.01	-0.01
Cycles Skipped (%)	29	0	0	0	32	2
Cycles @ Minimum (%)	71	2	0	0	66	0
Cycles Maxed Out (%)	71	78	40	82	68	55
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 20: Mississauga Road (RR 1) & Bovaird Drive W (RR 107)

Phase	1	2	4	5	6	7	8
Movement(s) Served	WBL	EBT	NBTL	EBL	WBT	NBL	SBTL
Maximum Green (s)	20.0	66.0	50.0	15.0	66.0	15.0	50.0
Minimum Green (s)	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Recall	None	Min	None	Min	Min	None	None
Avg. Green (s)	16.0	36.2	47.2	7.6	44.5	10.5	35.2
g/C Ratio	NA	NA	NA	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	0	0	0	7	0
Cycles @ Minimum (%)	0	0	0	23	0	0	0
Cycles Maxed Out (%)	23	0	40	0	3	17	13
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Appendix K

Peel Region's Truck Restriction Map

REGION OF PEEL BY-LAW 15-2013
HEAVY TRUCK RESTRICTIONS

SCALE 1: 60,000

0 2 4 6 8 10

Kilometres

LEGEND

- HEAVY TRUCK RESTRICTION - 11:00 p.m. to 6:30 a.m.
- HEAVY TRUCK RESTRICTION - 11:00 p.m. to 7:00 a.m.
- HEAVY TRUCK RESTRICTION - 7:00 p.m. to 7:00 a.m.
- HEAVY TRUCK RESTRICTION - Anytime
- REGIONAL ROAD
- ROAD NETWORK
- A MAJOR ROAD NAMES
- MUNICIPAL BOUNDARY

Region of Peel
working with you

Map Produced By: Information Management Group, Operations Support, Public Works, Region of Peel
Map Number: PW_IMG_GDA_637
Date: November 11, 2021

Appendix I

Consultation Records

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Appendix I-1

Public Engagement Summary Reports

Heritage Road Layover
Public Information Centre #1
Summary Report

Project # IM21405045

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

March 2022

Heritage Road Layover
Public Information Centre #1 Summary Report
Project # IM21405045

Prepared for:

Metrolinx
277 Front Street West, Suite 400, Toronto, Ontario

Prepared by:

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March 8, 2022

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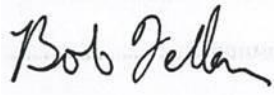
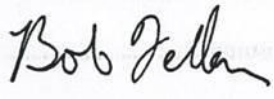
Document Revision History

Version	Date	Description
0	February 9, 2022	Draft
1	March 8, 2022	Revised for Metrolinx Review

Prepared by:	 Louise McAndrew, B.Sc., CAPM Environmental Planner	Date: March 8, 2022
Reviewed by:	 Bob Felker, BES, MCIP, RPP Senior Environmental Planner	Date: March 8, 2022
Issued by:	 Bob Felker, BES, MCIP, RPP Senior Environmental Planner	Date: March 8, 2022

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List of acronyms and abbreviations

CVC	Credit Valley Conservation
EPR	Environmental Project Report
FAQ	Frequently Asked Questions
O.Reg.	*Ontario Regulation*
the Project	Heritage Road Layover
TAC	Technical Advisory Committee
TPAP	Transit Project Assessment Process
Wood	Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited

1.0 Introduction

Metrolinx is proposing to expand its facilities along Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate operations for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under *Ontario Regulation (O.Reg.) 231/08*, *Transit Project and Metrolinx Undertakings*. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Heritage Road Layover (the Project) is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1.1-1).

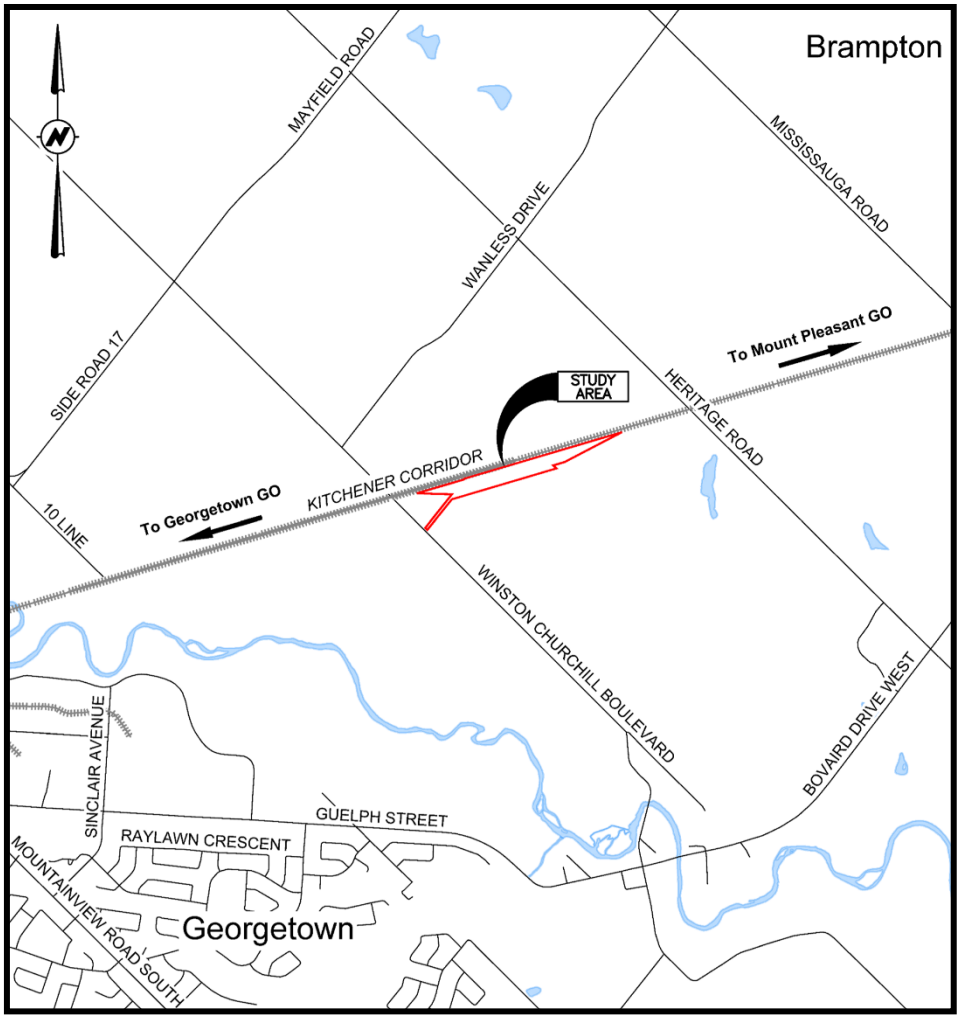

Figure 1.1-1: Project Location

1.2 Purpose of this Report

The purpose of this report is to summarize the first round of public consultation for this project, held virtually between January 12, 2022 and January 26, 2022. This is a summary of the feedback received, highlighting key points and issues brought forward through the meeting period.

Section 2 summarizes points of contact with stakeholders, and agencies. Section 3 discusses comments and common themes from the feedback received, and section 4 provides details of comments received during the meeting period, Metrolinx responses, and how they will be incorporated into the TPAP studies and project design.

2.0 Public Information Centre #1 Overview

From January 12 – 26, 2022 Metrolinx hosted the first Public Information Centre (PIC) for the Heritage Road Layover Facility TPAP. Due to the ongoing COVID-19 pandemic and gathering restrictions the meeting was held virtually through the Metrolinx Engage website. The purpose of this first meeting was to introduce the Project and gather initial input and comments from the community. As well, the meeting provided the opportunity

to understand any concerns surrounding the project at an early phase, so responses can be incorporated into the final reports. The project website was https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover, and participants could communicate through the public Ask a Question page, on page comment forms, by calling Metrolinx at 416-202-7500, or by emailing peel@metrolinx.com.

2.1 Notifications

2.1.1 Newspaper Advertisements

Metrolinx published notices in two local newspapers to inform the public/stakeholders of the scheduled virtual open house. Table 2-1 lists the newspapers and publication dates. Copies of the notices can be found in Appendix A.

Table 2-1: Notice Publication

Newspaper	Dates Published
Brampton Guardian	December 23, 2021 and January 6, 2022
Georgetown/Acton Independent Free Press	December 23, 2021 and January 6, 2022

2.1.2 Social Media

Metrolinx posted a notification on their @GOExpansion page on January 13, 2022. The notice linked to the project website. A copy of the tweet can be found in Appendix A.

2.1.3 Letters

2.1.3.1 Study Area

Metrolinx hand delivered letters to all residents within a minimum of 120 meters of the Project Site on December 23, 2021. A total of 33 letters were hand-delivered, which also included a copy of the published notice. A copy of the letter and distribution map can be found in Appendix B.

2.1.3.2 Property Owner

Metrolinx sent letters to directly impacted property owners via registered mail. A copy of these letters can be found in Appendix B.

2.1.4 E-Mail Correspondence

Notice of the meeting was shared as part of the Metrolinx Peel Region and Halton Region e-newsletters. A copy of the newsletters can be found in Appendix B.

Emails were sent to elected officials notifying their offices of the upcoming meeting and offering to provide a pre-briefing.

2.1.5 Agency Correspondence

Agencies were notified of the meeting as part of the Technical Advisory Committee (TAC). The TAC consisted of representatives from the City of Brampton, Region of

Peel, Town of Halton Hills, and Credit Valley Conservation (CVC), and occurred on December 13, 2021. Minutes from the TAC meeting can be found in Appendix C.

2.1.6 Project Website

The *Metrolinx Engage* website (www.metrolinxengage.com) provides a comprehensive hub for interested stakeholders and members of the public to learn more about a variety of Metrolinx initiatives, including this project. The Project had a dedicated section within the Kitchener Corridor page, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. Materials on the website were made available in both English and French.

The website provided links to all the meeting materials as well as ways to ask questions, both publicly and anonymously, or through an email to the project team. The project team responded to all questions, and responses were posted to the Ask a Question page.

2.2 Virtual Meeting Format

The meeting was held online from January 12, 2022 – January 26, 2022. Project information was presented as a full slide deck that could be downloaded as a PDF file, as well as being broken into the categories of background information, preliminary designs, and TPAP. A Frequently Asked Questions document was also provided to address previously understood concerns.

2.2.1 Meeting Materials

The meeting materials were organized into three (3) main pages:

- Background Information – which provided information about GO Rail Expansion in the Greater Toronto and Hamilton Area (GTHA and on the GO Kitchener corridor, and specifically about the proposed Heritage Road Layover;
- Preliminary Designs – which provided more information about the proposed facility design, existing surroundings, location details, and renderings; and,
- Transit Project Assessment Project (TPAP) – which provided information on the technical studies being completed to ensure any potential adverse effects from the proposed infrastructure are either avoided, mitigated, or minimized.

On each page was the option to submit comments, which were forwarded to the project team for consideration and response. The information presented on these pages was reorganized content from the full presentation PDF. A copy of the full presentation can be found in Appendix C.

In addition, a Frequently Asked Questions (FAQ) Document was made available to clarify key points about the project. This document can be found in Appendix D.

2.3 Participation and Comment Forms

The following is a summary of participation in the meeting:

- A total of 201 unique views of the website;

- The presentation document was viewed 52 times by 43 unique visitors;
- 5 questions were asked on the engage website, 2 through the comment forms;
- 1 question was asked via twitter; and,
- 3 emails were received.

All questions received were responded to by the project team either on the Ask a Question page or via email, depending on how they were received. A summary of comments and key themes can be found in section 3, and a detailed comment and response table can be found in section 4.

3.0 Feedback Received

This section provides an overview of the comments and questions received throughout the engagement period from January 12-26, 2022. Following January 26, the comment forms were closed and the website directed any comments or questions to the peel@metrolinx.com address. The project team will continue to engage with interested stakeholders and the public throughout the TPAP process.

3.1 Common Themes of Feedback Received

- **Questions about the Project**. Generally, participants were interested to find out more detailed information regarding the project. There were no objections to the project expressed through the comments.
- **Frequently asked questions included –** How the layover will be used, when the layover will be used, and what mitigation will be put in place to protect from noise impacts.
- **Key concerns shared by participants**. Participants expressed concern about potential noise, vibration, and air quality impacts due to the project. They noted that they wanted clarity on what the impacts are projected to be, as well as what mitigation measures will be put in place to protect the surrounding areas. There were also questions about the overall impact to surrounding properties, including how this project will impact the development potential of the surrounding area.
- **Other key areas of interest were**:
    - Continued engagement;
    - Archaeological impacts;
    - Aesthetic impacts;
    - Design; and,
    - Requests for further consultation.

4.0 How Feedback Will Be Considered

Table 4-1 includes all comments received through the engagement period, the responses provided by Metrolinx, and notes about how the comment will be incorporated into the TPAP studies going forward. Feedback will be considered both as

part of the TPAP and in the evolution of the design. The comments, as received, and a copy of the Ask a Question page are included in Appendix E.

Table 4-1: Public Information Centre Comments, Responses, and Incorporation Into TPAP and Design

No.	Date Received	Received Through	Issue Category	Objection (Y/N)	Comment/Feedback[1]	Response[2]	Incorporation into TPAP and Design
1	1/07/2022	Email	PIC	N	Please provide a digital copy of the meeting materials in advance of the meeting and add myself and my colleague to the project mailing list.*	Thank you for reaching out in interest of the Heritage Road Layover Project. Unfortunately, the materials are unavailable in advance of the live Public Information Centre on January 12, 2022. However, once the online materials are live, members of the public will have from January 12 – 26 to view the materials and submit questions and comments. I've reached out on your behalf to the project team to ensure yourself and your colleague are included on the mailing list for future reference.	N/A
	1/19/2022	Phone call	PIC	N	via phone: Reached out to confirm they had been added to the mailing list as they did not receive an email when the PIC went live January 12th.	My apologies, it seems there may have been a misunderstanding on my end. I was unaware you were looking to receive notifications on when the Heritage Road PIC was live, as you indicated the date in your original email. If you'd like to receive notifications from the Metrolinx Engage page; including our digital newsletter, PIC's, blog posts and more, you would need to sign up with your email on our website https://www.metrolinxengage.com/en/user/register . I can confirm that yourself and your colleague are added to the project team's mailing list for any notices to be distributed surrounding construction and assessment updates.*	N/A
2	1/13/2022	Website	Noise	N	Your documents indicate that there is a noise impact study being conducted as the former 2009 study did not consider the Heritage Road layover. When is the expected completion date of this study and how will its results impact this project? Living southeast of this area, we currently can hear the trains & want to know how noise will be mitigated.	The study area of the Noise and Vibration Baseline Conditions and Impact Assessment Report will include the project footprint plus an additional 500m of the surrounding area. The study will assess noise and vibration impacts, over and above baseline conditions, of the construction and operations of the Heritage Road Layover. The report is expected to be completed in spring 2022 and is planned to be available for public review in summer 2022. If the assessment indicates that mitigation for noise and vibration is warranted, mitigation measures will be considered and assessed for feasibility. These measures will be incorporated into the design of the layover if they are considered feasible.	1. The findings of the Noise and Vibration Baseline Conditions and Impact Assessment Report will be shared as part of future consultation. 2. Mitigation measures will be incorporated into the design of the layover, where warranted and feasible to implement.

[1] Note: Comments marked with an * have been summarized to remove personally identifiable information
[2] Note: Responses marked with an * have been summarized to remove personally identifiable information

No.	Date Received	Received Through	Issue Category	Objection (Y/N)	Comment/Feedback[1]	Response[2]	Incorporation into TPAP and Design
3	1/15/2022	Website	Archaeology	N	What happens to the pioneer cemetery	Hi, thank you for your question. There is no anticipated disturbance to the McNichol Cemetery (pioneer cemetery) due to the construction and operations of the Heritage Road Layover. During construction, there will be a temporary fence erected at the edge of the Project Site boundary.	• Mitigation measures for the cemetery have been included in the TPAP reporting
4	1/16/2022	Website	Aesthetics	N	1. Make the landscaping better and less grassy. Use natural plantings that convey the feel of agricultural lands. 2. Use better materials and fixtures. A more rural-looking (or less utilitarian) fence and more attractive light standards. Perhaps the use of lower lighting (not highway-style poles) to mitigate light pollution, although that would necessitate more lights to provide the same level of illumination. 3. Try to minimize the land that is used. I'm no expert or engineer, so perhaps you've already done that. 4. Think about how this will integrate with compact development, as planned in the Heritage Heights Secondary Plan. 5. Don't only think about function, also think about how it looks. I wish we prioritized design quality and character in every public project, even with places that we call "infrastructure" such as layovers. We're spending billions of dollars on transit... so let's make our money's worth by making it pretty.	Thank you for your feedback on the proposed Heritage Road Layover Facility. Your comments will be taken into consideration as part of the Environmental Project Report.	• The EPR will describe site design elements such as lighting, fencing, and landscaping that address aesthetics, light intrusion, and erosion and sediment control impacts, consistent with the GO Design Requirements Manual (DRM). The EPR will also describe how the design, and construction and operation of the Heritage Road Layover will consider climate change and sustainability.
5	1/21/2022	Twitter	Alternative Site Locations	N	The FAQ for the Heritage Road Layover (https://metrolinxengage.com/sites/default/files/2022-01-11_heritage_road_layover_-_faqs.pdf) says "An initial study was done by RV Anderson in 2016 to review different sites." I can't find this study on Metrolinx Engage. Can you please point me to where I can download it?	This report was not part of a formalized expansion project, and is unavailable for download. The report reviewed cultural and natural environment impacts, and other considerations. The proposed location of Heritage Road Layover was considered to be the optimal location.	N/A
6	1/22/2022	Website	Facilities	N	Will the Heritage Road Layover replace the existing layover facility at Georgetown?	Thank you for your inquiry. Yes, once the Heritage Road Layover is built and fully operational, the existing Georgetown Layover will be decommissioned.	N/A

No.	Date Received	Received Through	Issue Category	Objection (Y/N)	Comment/Feedback[1]	Response[2]	Incorporation into TPAP and Design
7	1/25/2022	Website	Design	N	Multiple questions. Please address by number in your reply. 1. The Open House notice indicates that a maximum of 4 trains with 2 locomotives will use this new layover. Can this number increase over time? 2. When the trains are at the layover facility, how long does each train idle? 3. What time of day will the trains primarily be idling? Can the trains idle at anytime during a 24 hour period? 4. Please provide a list of "light maintenance activities"? 5. Is Metrolinx aware the City of Brampton is planning on approving the Secondary Plan for the area north and south of the rail line in March 2022? 6. Are the proposed sensitive land uses (residential) within the Secondary Plan being considered as receptors for any assessment such as noise, vibration, air emissions as part of this study? 7. Will a setback for the residential uses be required for noise, safety, vibration, air emissions or for any other reason? If so, what will the setback or other mitigation be?	Hello, thank you for your inquiry. Great questions! Please see below, numbered as requested: 1. The Heritage Road Layover can support a maximum of 4 trains with 2 locomotives + 12 passenger cars, or 8 trains with 1 locomotive + 6 passenger car configurations. This was considered for current and future operations, in order to optimize the Kitchener GO Expansion. 2. Each train will typically idle for approximately 60-90 minutes when at the facility. 3. Idling periods may vary, but it's anticipated to occur at the beginning and end of the service day. There is the possibility of trains idling mid-day, depending on when they arrive at the facility. Outside of these times, trains will be connected to wayside power with the engines turned off. 4. Light maintenance activities can include: • Daily visual inspections to identify obvious defects or damage to equipment prior to the start of revenue service; • Cleaning, servicing and temperature control of trains; • Sanitary flushing and replenishment of the coach washrooms, including emptying of sanitary tanks from rolling stock into temporary storage facilities; and, • refuelling of trains. 5. Yes, Metrolinx is actively engaging with the City of Brampton, and is aware of the Heritage Heights Secondary Plan. Similarly, the City of Brampton is aware of the proposed Heritage Road Layover. 6. The technical studies consider existing conditions within the Study Area, which includes existing residential areas. It is difficult to directly identify specific sensitive receptors within the draft Secondary Plan, as subdivision plans have not been finalized yet. However, the impact assessments will model potential impacts from construction and future operations of Heritage Road layover, which can inform the City's	1. N/A 2. N/A 3. N/A 4. N/A 5. Ongoing consultation with the City of Brampton. 6. The findings of the Noise and Vibration Baseline Conditions and Impact Assessment Report and the Air Quality Baseline Conditions and Impact Assessment Report

No.	Date Received	Received Through	Issue Category	Objection (Y/N)	Comment/Feedback[1]	Response[2]	Incorporation into TPAP and Design
						supplemental plans to support the Secondary Plan. The technical studies and Environmental Project Report are planned to be available for public review in summer of 2022.	will be shared as part of future consultation. Mitigation measures will be incorporated into the design of the layover where warranted and feasible to implement.
						7. Metrolinx will complete a series of technical studies (including examining air quality, noise and vibration) which will evaluate potential construction and operational impacts for Heritage Road Layover. The air quality and noise and vibrational studies will review a 500 m radius of the layover facility, and identify associated mitigation measures for impacts within the study area. The results of these studies are planned to be available for public review in the Summer of 2022. Specific setback requirements and other mitigation measures associated with new development will need to be identified by a Developer through technical studies and confirmed as part of the municipal development review process.	7. The findings of the Noise and Vibration Baseline Conditions and Impact Assessment Report and the Air Quality Baseline Conditions and Impact Assessment Report will be shared as part of future consultation Mitigation measures will be incorporated into the design of the layover where warranted and feasible to implement.
8	1/26/2022	Email	PIC	N	Good afternoon, Thank you for publishing the documentation related to the subject project in the Public Information Centre. We are nearby residents of the proposed location for the layover. We would appreciate being contacted directly by your organisation for an opportunity to exchange information and feedback.*	Thank you for reaching out regarding the Heritage Road Layover project. I'm glad you found the documentation from the Public Information Centre (PIC) helpful, we will be having a second PIC in the spring; a similar notification will go out in advance. If you haven't done so already, I would encourage you to sign up for our Peel Region newsletter to receive updates in your area, as the Heritage Road Layover project is still in the Assessment Process and Design phases. I've reached out to the project team for you to be added to the mailing list as well. If you have any questions or concerns, please feel free to reach out to me directly.	• N/A

No.	Date Received	Received Through	Issue Category	Objection (Y/N)	Comment/Feedback[1]	Response[2]	Incorporation into TPAP and Design
9	1/26/2022	Email	Design	N	1. In addition to the idling trains, are there any other possible activities that will generate noise/vibration/air emissions? 2.What mitigation is being proposed for the Project (including the layover) to mitigate emissions (noise, vibration, air (including odour))? 3.Confirm that this area will not be considered a “yard”.	1. Activities that will generate noise, vibration, and/or air emissions will be examined in the Noise and Vibration Baseline Conditions and Impact Assessment and Air Quality Baseline Conditions and Impact Assessment Reports. The Noise and Vibration modelling for the operational component will include assessments for train idling, as well as heating and ventilation equipment, electrical equipment, or hot air track blowers. In addition to the facility and train infrastructure, the movement of trains from the GO Kitchener Corridor into the layover and crew and maintenance vehicle movement will cause some additional noise, vibration, and air emissions. 2. Any proposed mitigation measures for the Heritage Road Layover will be identified in the Noise and Vibration Baseline Conditions and Impact Assessment and Air Quality Baseline Conditions and Impact Assessment Reports. Both of these technical studies are expected to be completed in summer 2022 and will be available for public review. 3. The Project Site will be referenced as a “Layover” or “Layover Facility”.	1. The findings of the Noise and Vibration Baseline Conditions and Impact Assessment Report and the Air Quality Baseline Conditions and Impact Assessment Report will be shared as part of future consultation. 2. Mitigation measures will be incorporated into the design of the layover if they are considered feasible. 3. N/A

5.0 Next Steps

The background studies to support the TPAP process are currently in progress. These will be presented at the second PIC, currently planned for early April 2022. Additional consultation with the project TAC, interested agencies, and engagement with Indigenous Nations is ongoing. Prior to the second PIC the project TPAP Notice of Commencement will be published along with a draft Environmental Project Report (EPR) for public and stakeholder comments. Comments from this meeting and the second PIC will be incorporated into the final EPR prior to submitting it for approval.

Appendix A

Newspaper Notices

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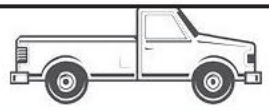

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Transit Project Assessment Process

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The Program
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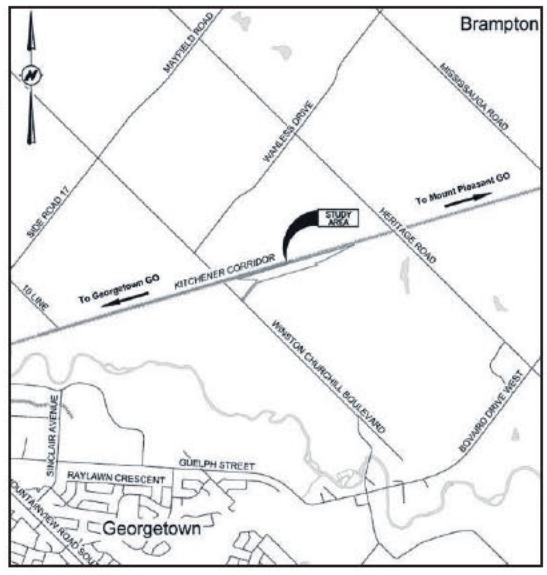

Study Area
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Email: peel@metrolinx.com

Pour plus de renseignements, veuillez composer le 416 874-5900 ou le 1 888 GET–ON-GO (438-6646).

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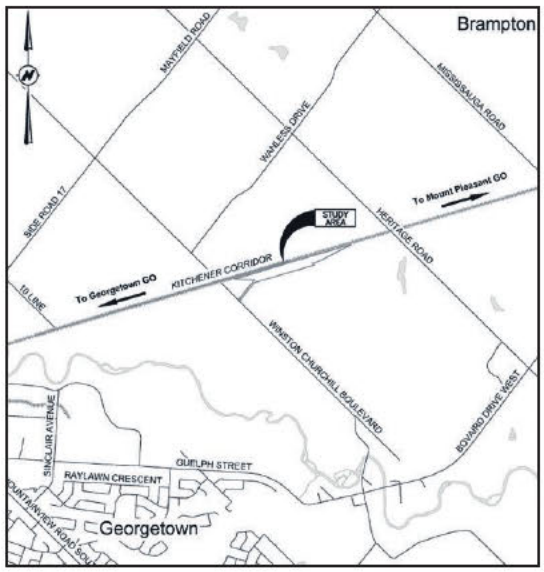

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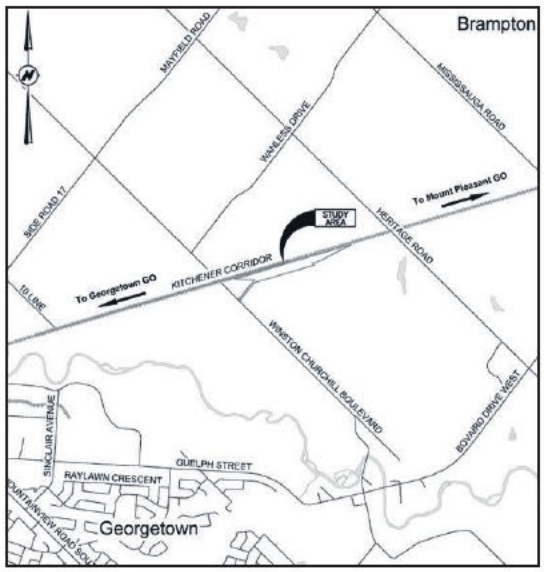

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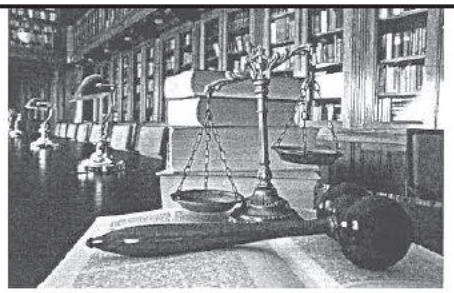

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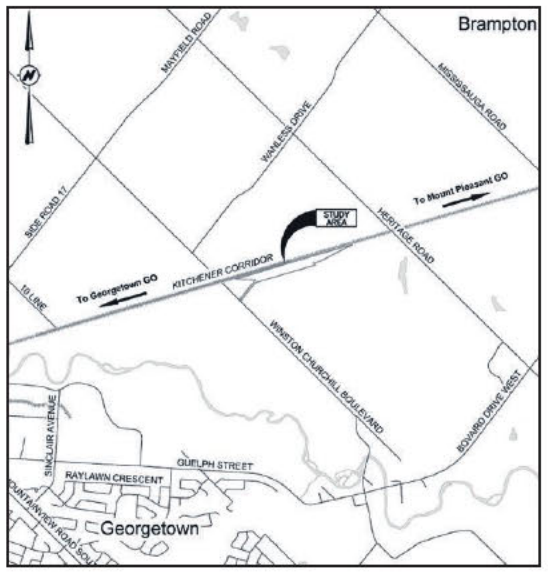

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HOME IMPROVEMENT

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Cell 905-703-0243
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GO Expansion
@GOExpansion

Have your say about the proposed Heritage Road Layover in Peel Region, as part of the Kitchener Expansion Program. Learn about the project and provide your feedback until January 26.
bddy.me/33lcf4O



11:29 AM · Jan 13, 2022 · Salesforce - Social Studio

1 Retweet **1** Like

Appendix B

Correspondence

TRANSFORMING TRANSIT IN YOUR AREA

GO Expansion Program – Kitchener Corridor – Heritage Road Layover Project

Metrolinx GO Expansion Program - Kitchener Corridor - Heritage Road Layover Project

Metrolinx, an agency of the Province of Ontario, is working to transform the way people move by building a seamless, convenient and integrated rapid transit network across the Greater Toronto and Hamilton Area. Under the GO Expansion Program, we are building to deliver more service, planning for connections to new transit lines and making it easier for customers to access our service through new customer initiatives.

To get people moving, we are actively building and upgrading existing GO Rail stations, adding new tracks, building and opening new train maintenance and storage facilities, expanding and revitalizing bridges around our region and improving pedestrian connections. Thanks to a huge investment in infrastructure, Metrolinx is working to quadruple GO Rail service and improve customer experiences.

Metrolinx is working to advance the early designs for each of the GO Expansion projects, one of which is planned in your community. I am writing to inform you that we have identified that your property may be affected by the Heritage Road Layover project. The impacts from this project and associated mitigation measures are currently being identified through a Transit Project Assessment Process (TPAP). Assessments of potential property impacts will be made available in the coming months as the project design is confirmed.

Metrolinx and its partners are committed to providing clear, accurate information at all times, and at times, you may receive additional communications from your municipality and/or Metrolinx. We will work collaboratively with our partners and with affected property owners to ensure that the process is fair and open and causes the least impact possible. We will keep you informed from planning and design stages through construction, and as the levels of train service envisioned for GO Expansion increase.

From January 12 through January 26, 2022, Metrolinx will be hosting a virtual open house to share additional information on the GO Expansion Program, including Heritage Road Layover. Representatives from the Heritage Road Layover Team will be available to answer questions following your review of the online materials to answer any questions you may have.

To find more information about the virtual open houses and the Project please visit https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. The webpage will be live on January 12, 2022.

Sincerely,

Jacquelin Czajka

Jackie Czajka
Senior Manager, Community Engagement (Peel Region)
Metrolinx
416-202-7500
peel@metrolinx.com

Notice of Public Meeting

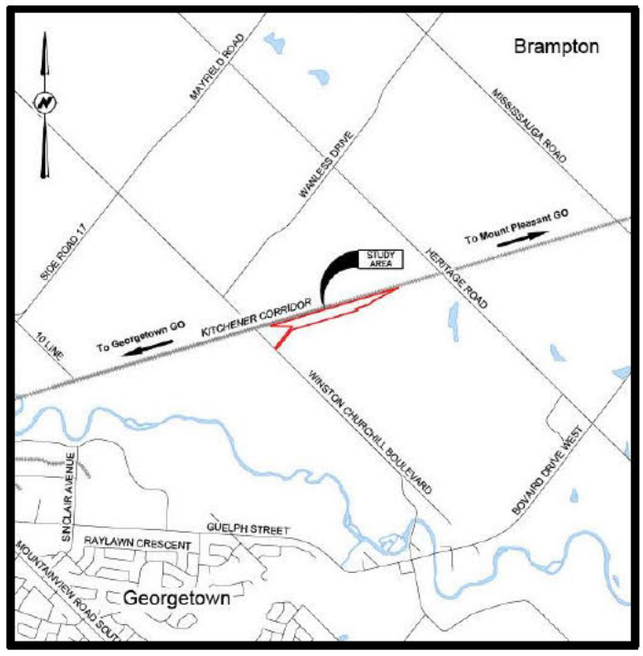
METROLINX

GO Expansion Program – Heritage Road Layover Transit Project Assessment Process

Year after year, train by train, bus by bus, Metrolinx has steadily increased GO Transit service. And now, that work is taking on a whole new energy. We're building transit service that will change life in this region through the GO Expansion program. More than a rush hour commuter service, GO will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network. GO Expansion will make the network better, faster, and easier to travel within.

The Program

Metrolinx is proposing to expand service along the Kitchener Corridor, which runs from Union Station to Kitchener GO Station. A new layover is required to provide additional storage capacity for two-way all-day service to Mount Pleasant GO Station, known as the Heritage Road Layover.



The Project

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Study Area

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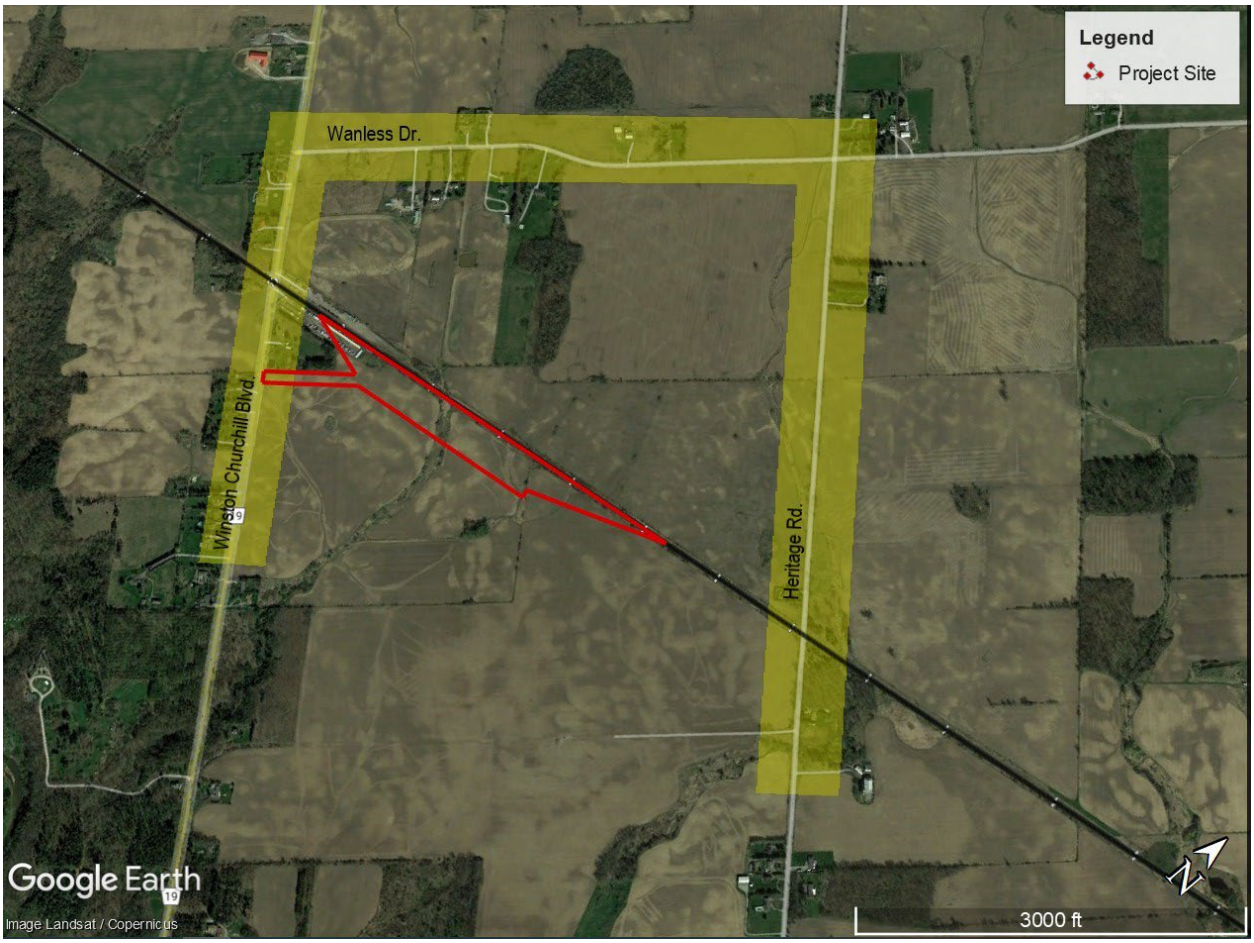
Legend
Project Site
Wanless Dr.
Winston Churchill Blvd.
Heritage Rd.
Google Earth
Image Landsat / Copernicus
3000 ft

Notice Delivery Address List

ADDRESS	MUNICIPALITY
10972 Winston Churchill Blvd	Halton Hills
10948 Winston Churchill Blvd	Halton Hills
10946 Winston Churchill Blvd	Halton Hills
10942 Winston Churchill Blvd	Halton Hills
10906 Winston Churchill Blvd	Halton Hills
10886 Winston Churchill Blvd	Halton Hills
10774 Winston Churchill Blvd	Halton Hills
10758 Winston Churchill Blvd	Halton Hills
10746 Winston Churchill Blvd	Halton Hills
10672 Winston Churchill Blvd	Halton Hills
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10712 Winston Churchill Blvd	Halton Hills
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10628 Winston Churchill Blvd	Halton Hills
10620 Winston Churchill Blvd	Halton Hills
10600 Winston Churchill Blvd	Halton Hills
10578 Winston Churchill Blvd	Halton Hills
10827 Winston Churchill Blvd	Brampton
10625 Winston Churchill Blvd	Brampton
10605 Winston Churchill Blvd	Brampton
2674 Wanless Drive	Brampton
2686 Wanless Drive	Brampton
2798 Wanless Drive	Brampton
2802 Wanless Drive	Brampton
2830 Wanless Drive	Brampton
2852 Wanless Drive	Brampton
2900 Wanless Drive	Brampton
10869 Heritage Rd	Brampton
10618 Heritage Rd	Brampton
10525 Heritage Rd	Brampton

TRANSFORMING TRANSIT IN YOUR AREA

GO Expansion Program – Kitchener Corridor – Heritage Road Layover Project

December 20, 2021

[redacted]

Dear [redacted]

Metrolinx GO Expansion Program - Kitchener Corridor - Heritage Road Layover Project (the "Project")

On behalf of Metrolinx, I just wanted to provide our appreciation and thanks for the ongoing conversations we are having with respect to property permitting and acquisition in support of the proposed Layover Project. Noting that you will remain an owner of lands adjacent the Project, I was thinking that it would be appropriate to also confirm the following.

Metrolinx and its partners are committed to providing clear, accurate information at all times, so you can expect to receive additional communications from your municipality and/or Metrolinx as the Project progresses. Metrolinx will work collaboratively with our partners and with affected property owners to ensure that the process is fair and open and causes the least impact possible. We will keep you informed from planning and design stages through construction, and as the levels of train service envisioned for GO Expansion increase.

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Sincerely,

Brian Matthews
Senior Manager, Property Acquisitions - Capital Projects Group
Metrolinx

Cc: Jackie Czajka
Senior Manager, Community Engagement
Community Engagement-West
[redacted]

Notice of Public Meeting

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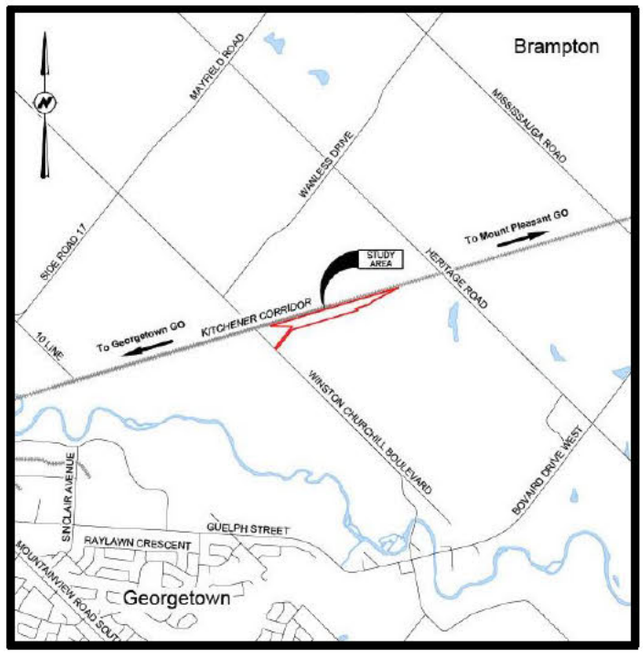

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GO Expansion Program – Kitchener Corridor – Heritage Road Layover Project

December 20, 2021

[redacted]

Dear [redacted]

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On behalf of Metrolinx, I just wanted to affirm our recent agreement, pending final closing of our proposed transaction and provide our appreciation and thanks for working with us regarding the proposed Layover Project. Noting that you will remain an owner of lands adjacent the Project, I was thinking that it would be appropriate to also confirm the following.

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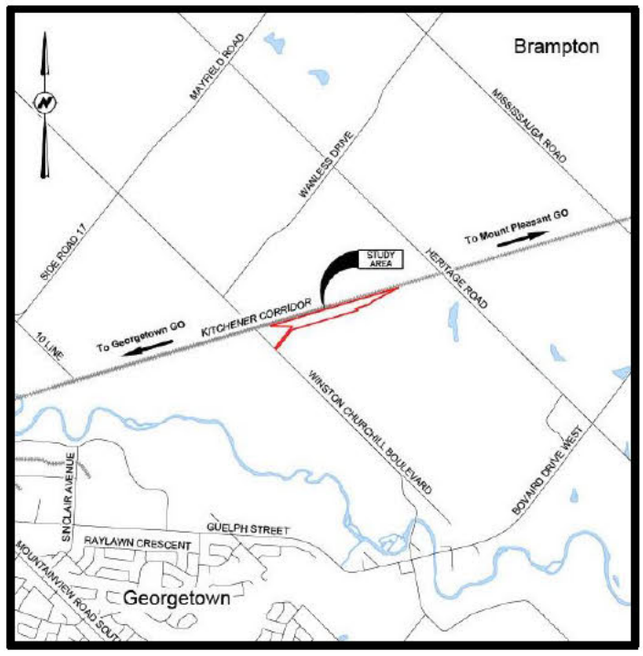

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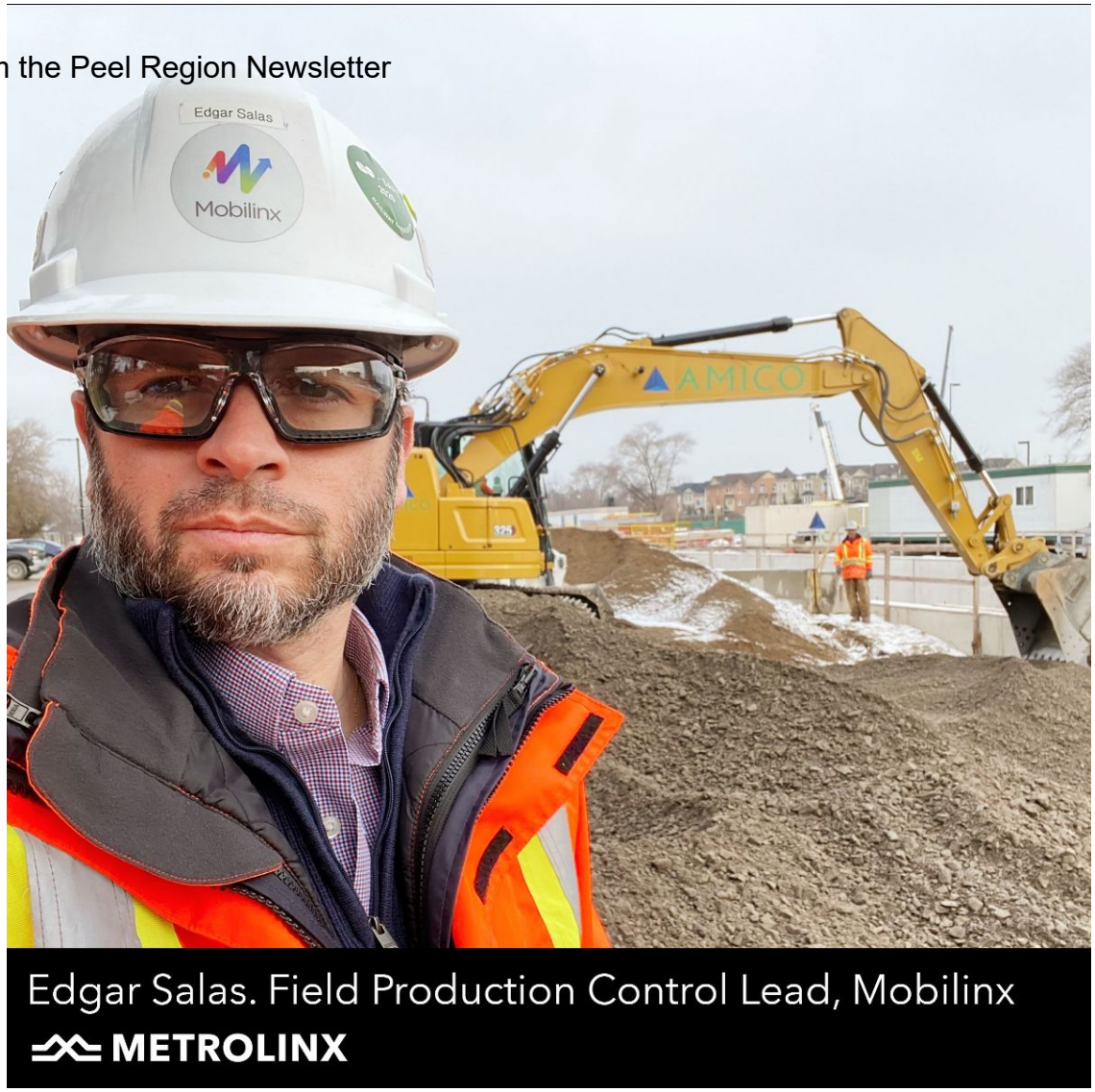
Excerpt from the Peel Region Newsletter



Kitchener Line: Share your input in the Heritage Road Layover

Metrolinx is working to expand service along the Kitchener Corridor, which runs from Union Station to Kitchener GO Station. A new layover is required to provide additional storage capacity for two-way-all-day service to Mount Pleasant GO Station, known as the Heritage Road Layover

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Between the Lines: Metrolinx's first podcast

Audio storytelling features more intimate, detailed transit conversations, which is why Metrolinx has launched a podcast.

The first outing takes an in-depth look at GO Transit service changes, though future podcasts will explore every corner of Metrolinx's world. Metrolinx will regularly put CEO, Phil Verster, in the hot seat and other senior leaders, like the new chief communications officer, David Jang, to help pull the curtain back on the latest Metrolinx news.

View this email in your browser

Excerpt from the Halton Region Newsletter

Halton Region

GO Service Reductions

- Starting January 22, we are reducing and making additional adjustments to GO Transit service to better match demand.
- To make the best use of our resources while demand is low, we're reducing some rail and bus service, replacing some GO train service with buses, and adjusting some schedules.
- While these changes are temporary, we do appreciate our customers' understanding and patience during this challenging time. We will continue to closely monitor staffing levels and ridership and will provide as much notice as possible if additional changes to our service are required.
- We've continued to enhance our measures to help keep our frontline staff safe by making N95 masks and rapid test kits available, and hosting on-site booster clinics. Customers are reminded to always wear a well-fitted mask while on transit.
- Customers are reminded to check gotransit.com before travelling to ensure they have the latest schedule information.

Heritage Road Layover Facility

Public consultation is an essential part of planning for future transit connections. Metrolinx is continuing to advance plans for the Heritage Road Layover Facility. The new facility will accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener rail corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion.

The first round of public consultation for the Heritage Road Public Information Centre launched on January 12, 2022 and you have until January 26 to provide feedback. There will be more opportunities to have your voice heard in the future.



Study Area within regional context

Construction Updates

Appendix C

TAC Minutes

Heritage Road Layover
TAC Meeting Minutes

Meeting title:	TAC Meeting – Heritage Road Layover
Date:	December 13, 2021
Time:	13:00 – 14:00 EST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Simon Strauss	Metrolinx	simon.strauss@metrolinx.com
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Dara Corrigan	Metrolinx	dara.corrigan@metrolinx.com
Brian Poole	Metrolinx	brian.poole@metrolinx.com
Stacey Kenny	Metrolinx	stacey.kenny@metrolinx.com
Flora Devarajah	Metrolinx	flora.devarajah@metrolinx.com
Benjamin Kwok	Metrolinx	benjamin.kwok@metrolinx.com
Jackie Czajka	Metrolinx	jackie.czajka@metrolinx.com
Jeff Yee	Metrolinx	jeff.yee@metrolinx.com
Tahla Asif	Metrolinx	tahla.asif@metrolinx.com
Meaghan Mendonca	Metrolinx	meaghan.mendonca@metrolinx.com
Julie Rorison	Metrolinx	julie.rorison@metrolinx.com
Mandeep Jassal	Metrolinx	mandeep.jassal@metrolinx.com
Tehreem Ashraf	Metrolinx	tehreem.ashraf@metrolinx.com
Bob Felker	Wood	bob.felker@woodplc.com

Louise McAndrew	Wood	louise.mcandrew@woodplc.com
Nadya Mrochkovskaia	Wood	nadya.mrochkovskaia@woodplc.com
Anand Balram	City of Brampton	Anand.Balram@brampton.ca
Andria Oliveira	City of Brampton	Andria.Oliveira@brampton.ca
Henrik Zbogar	City of Brampton	henrik.zbogar@brampton.ca
Kumar Ranjan	City of Brampton	kumar.ranjan@brampton.ca
Richa Dave	Region of Peel	richa.dave@peelregion.ca
Manvir Tatla	Region of Peel	manvir.tatla@peelregion.ca
Christine Wilson	Credit Valley Conservation	Christine.Wilson@cvc.ca
Rizwan Haq	Credit Valley Conservation	Rizwan.Haq@cvc.ca
Maureen Van Ravens	Town of Halton Hills	MaureenV@haltonhills.ca
Melissa Ricci	Town of Halton Hills	mricci@haltonhills.ca

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement/Safety Moment** • Rain turning to ice on roads and sidewalks can be hazardous to driving and walking		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor consists of 3 sections
	  o Union Station to Mount Pleasant GO Station owned by Metrolinx
	  o Halton Subdivision from Mount Pleasant GO to Georgetown GO owned by CN
	  o Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO
	• Bramalea GO to Kitchener GO planned for 30 min service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  o Network Wide GO Expansion
	  o Kitchener GO Expansion		

3	**Overview of Design** • Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance • Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor • Located within agricultural and rural residential adjacent to self-storage business and CN Works Yard • Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train • Site set-up flexibility to accommodate up to eight 1 locomotive 6 car consists • Detailed Design in progress to be available in late 2022 (previously identified in slide deck as spring 2022, updated dates included in the revised deck enclosed), with		

	construction procurement in summer 2023, and Construction Completion by winter 2025		
4	**TPAP Schedule and Studies** • The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings • An Environmental Project Report is in preparation to: o Define Project Scope o Baseline Environmental Studies o Conceptual Engineering Design o Impact Assessment / Mitigation • The Baseline Studies include: o Air Quality o Noise & Vibration o Traffic & Transportation o Archeology o Cultural Heritage o Socio-Economic and Land Use Characteristics o Natural Environment o Tree Inventory Plan • A virtual Public Information Centre is scheduled to commence January 12, 2022		
5	**Questions** **1.** Does the design consider future electrification? o Mx confirmed current design has space allowance protected for future electrification **2.** How many trains will fit onto the layover? Inquiring as earlier data showed slow recovery after COVID-19 pandemic o Mx confirmed layover is 4 track design and allows for 2 locomotive12 car consists, but the design is flexible, which means shorter trains can be parked as well o Layover design is flexible with size and number of trains to account for future commuter volume **3.** How is noise being considered as GO Expansion occurs within Halton Region? o Mx confirmed to provide information about broader GO Expansion noise studies o Mx confirmed for the TPAP of the Heritage Road Layover, noise studies will be conducted and will be based on expected future service levels. A 5 decibel	Mx	

	increase triggers mitigation measures, which then have to go through a feasibility study before being approved. o Mx noted noise mitigation is an ongoing discussion as noise complaints are anticipated to increase **4.** Noted that the Heritage Heights Subwatershed Study is in progress and that a natural heritage system is being mapped out that shows connecting features in proximity to the Heritage Road Layover project site o Wood noted Natural Heritage TPAP study will identify and assess impacts on the features and functions that make up the natural heritage system delineated in relation to the project site o City of Brampton to circulate data for Mx to review **5.** Will there be any site servicing for water and wastewater? o Mx confirmed that water service will be via well, and that wastewater service will be via storage tanks and off-site disposal **6.** How many mainline tracks will be at the layover site? o Mx confirmed 2 CN and 2 GO tracks for a total of four mainline tracks **7.** Is this a covered site? o Mx confirmed open layover site **8.** Will there be a crossover at the site? o Post meeting response provided by Metrolinx: Metrolinx confirmed there will be a crossover installed at the layover. In general, a crossover/ switch is required to build additional tracks. This will allow trains to transfer from one track to another. **9.** Layover design shows train connection eastward only – will trains be able to go westward as necessary? o Mx confirmed priority is to supply trains eastward to Mount Pleasant GO Station due to demand but, if necessary, trains can be reversed for operational need to go west **10.** Will trains be idling at the layover? o Mx confirmed wayside power will be installed on site to allow trains to be powered off with minimal idling required **11.** Inquiry about watercourses and floodplains through site o Mx confirmed that the regulatory requirements with respect to the affected watercourses and floodplains will be addressed through design	Wood	

6	**Notice: Elected Officials Outreach** • Mx indicated that they will be reaching out elected officials in the new year, therefore municipal staff can anticipate questions from councillors		

Adjourn 14:05 pm

Appendix D

Presentation

Welcome to the proposed Heritage Road Layover





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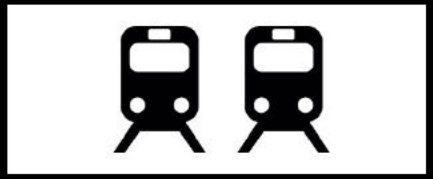
The right investment at the right time; GO Rail Expansion will enable:



MORE TRIPS

6000 weekly trips
2x as many rush-hour options. **3x** as many off-peak options



FASTER TRAVEL

Electric trains **accelerate and decelerate faster.** Introduction of **additional express** services.



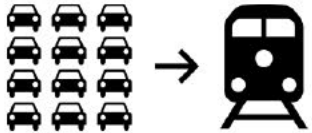
HIGH FREQUENCY

No need to check a schedule with service **every 15 minutes** or better, in both directions, all day



MORE CAPACITY

Doubling regional commuter capacity equivalent to **nine highways the size of the 401**



REDUCED CONGESTION

More trains = reduced congestion across the **region, taking close to 145,000 car trips per day, off the road**



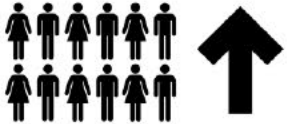
CREATE JOBS

An estimated **8,300 annual jobs** created for the first 12 years of delivery will be created over the lifecycle of the program



SAVES TAXPAYERS MONEY

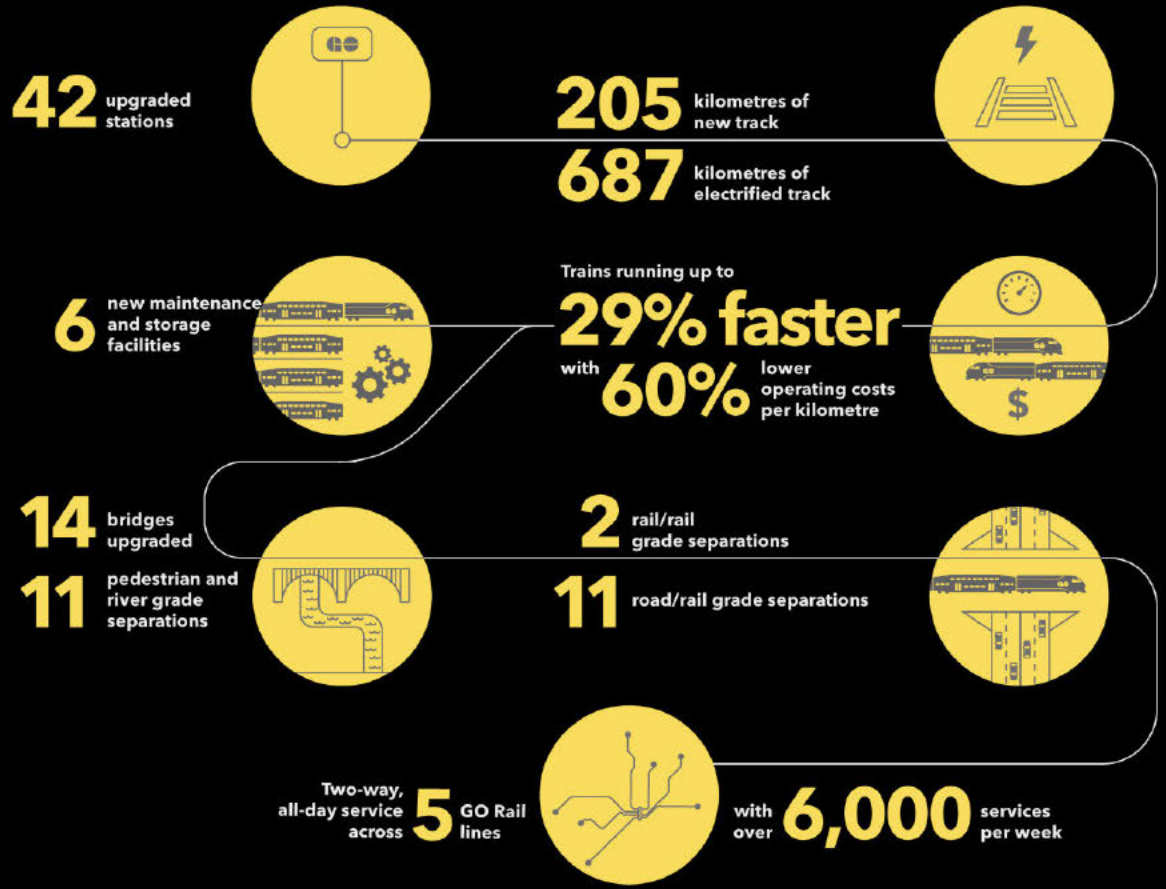
All operating costs covered with fare box revenue. **GO Rail revenues will exceed 110%** of operating costs over the next 60 years



INCREASED RIDERSHIP

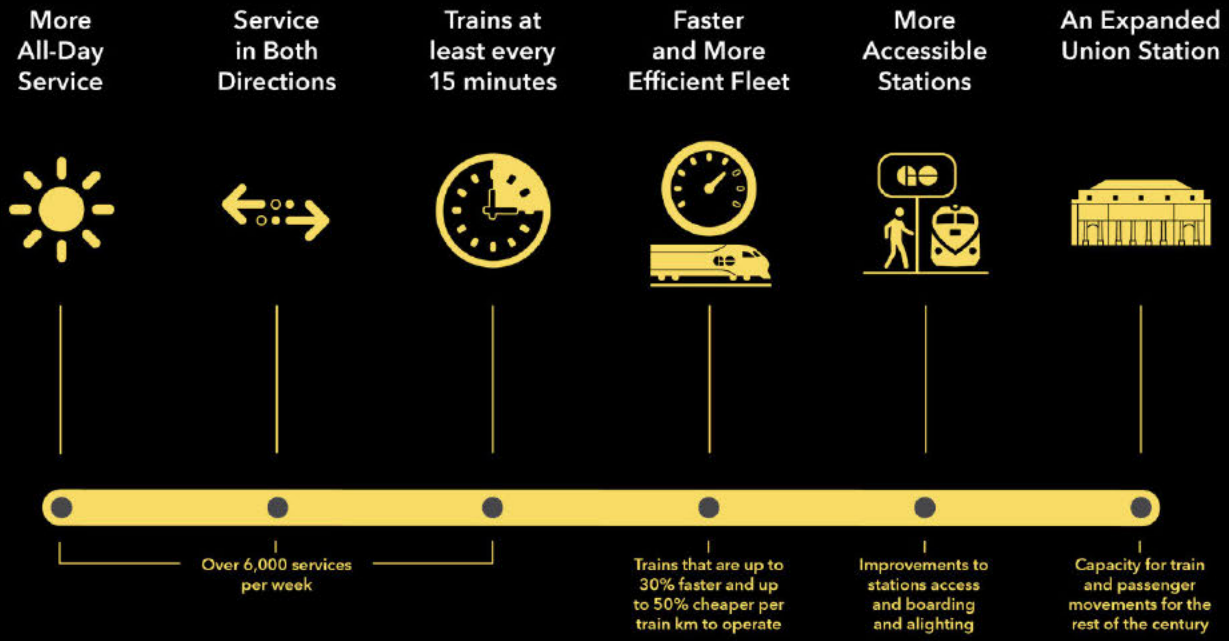
More options and faster trains will increase peak and off peak service. **By 2055, annual ridership will exceed 200 million.**

GO Expansion



GO Ex

The GO Expansion program will provide a range of improvements across the GTHA:



GO Expansion – Kitchener Corridor

To get people moving we are actively building and upgrading existing GO rail stations, adding new track, building and opening new maintenance and storage facilities, expanding and revitalizing bridges around our region and improving pedestrian connections.



Learn more about the GO Expansion program and review the GO Expansion Business Case.

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What is a Train Layover?

A train layover is a support facility that provides:

- Overnight storage for trains
- Train storage midday when less trains are required due to lower passenger capacity
- Access to trains for crews to perform inspection and light maintenance activities when trains not in service

Layover facilities are strategically located throughout the rail network to accommodate service expansion.

To accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor, construction of a train layover (Heritage Road Layover) is proposed. This would reduce congestion along the corridor.



Example of a GO Train layover facility

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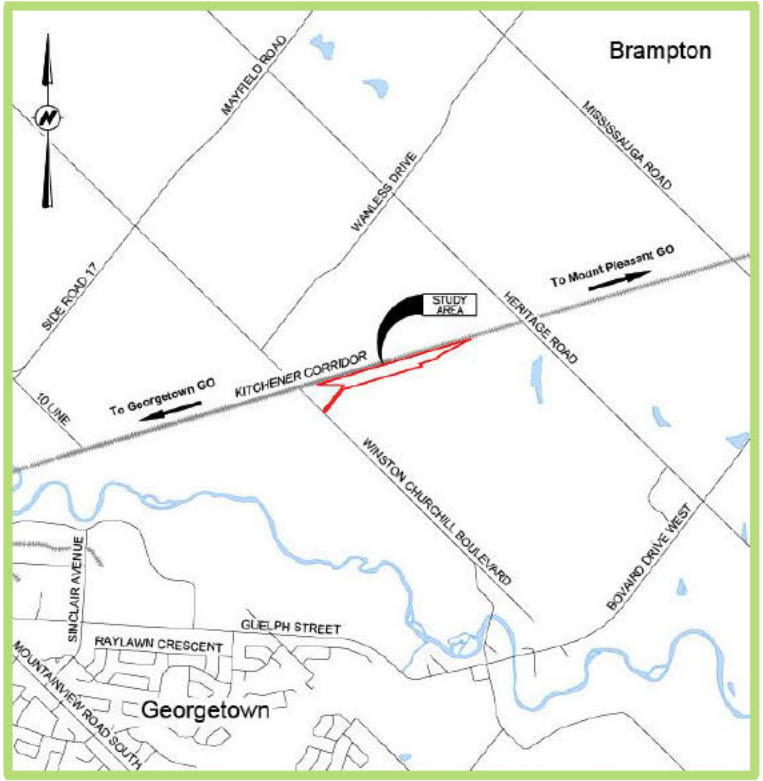
Heritage Road Layover Location Details



Study Area within regional context

- Layover proposed within Halton Subdivision of the Kitchener Corridor
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel
- Between Mount Pleasant GO Station and Georgetown GO Station



Aerial view of Study Area and surrounding landscapes

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Heritage Road Layover – Existing Surroundings

- Surrounding present land uses are primarily agricultural and rural residential, with nearby self-storage business on the south end of the tracks, and CN Works Yard on the north side of the tracks
- Site is within the Heritage Heights Sub-watershed area, which drains to the Credit River



Surrounding agricultural lands



Self storage facility



CN Works Yard

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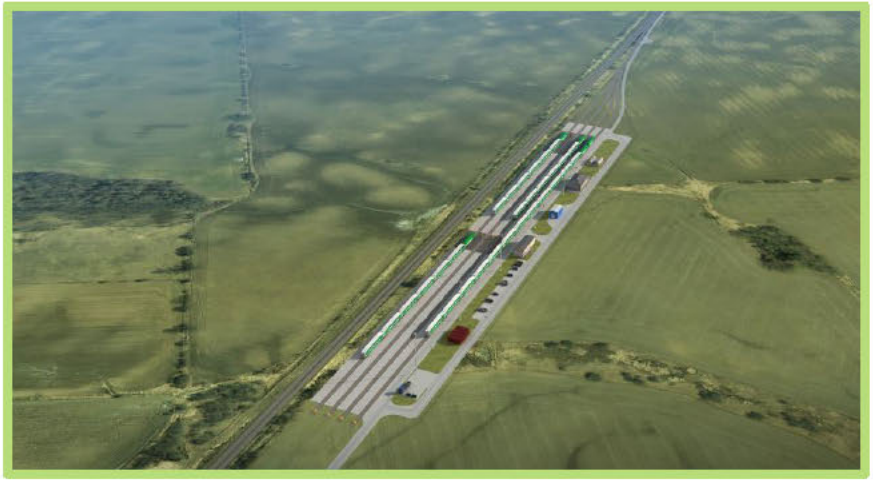
Heritage Road Layover – Renderings (Future)

- Storage tracks will connect easterly to a new mainline track within the CN rail right of way
- Surrounding lands planned for development as identified in the Draft Heritage Heights Secondary Plan
- Various upgrades to the existing road and highway network are planned in concert with the planned growth



Aerial view of proposed project



Ground level view of proposed project

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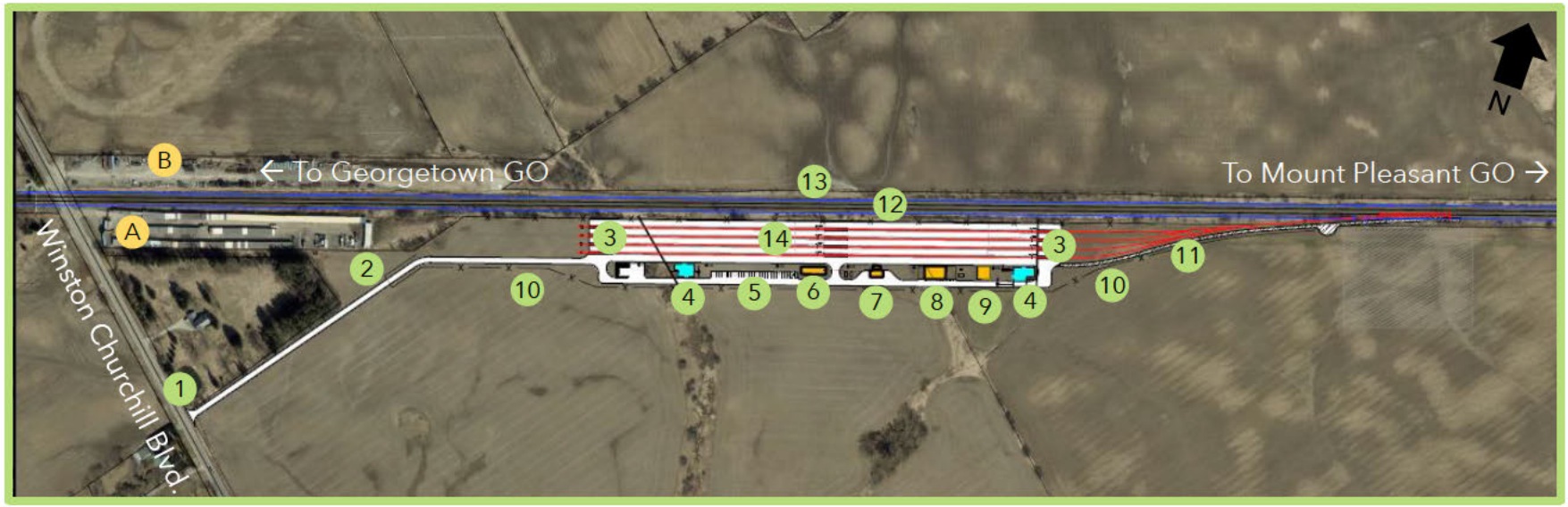
Heritage Road Layover Facility Design



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track

Legend

1 Facility Entrance
2 Gate
3 Culvert
4 Infiltration Facility
5 Parking Area
6 Crew Building
7 Waste Building
8 Substation
9 Concrete Pad
10 Fence
11 Maintenance Road
12 Current Mainline Tracks
13 Future Mainline Tracks
14 Layover Tracks
A U-Need Storage
B CN Works Yard

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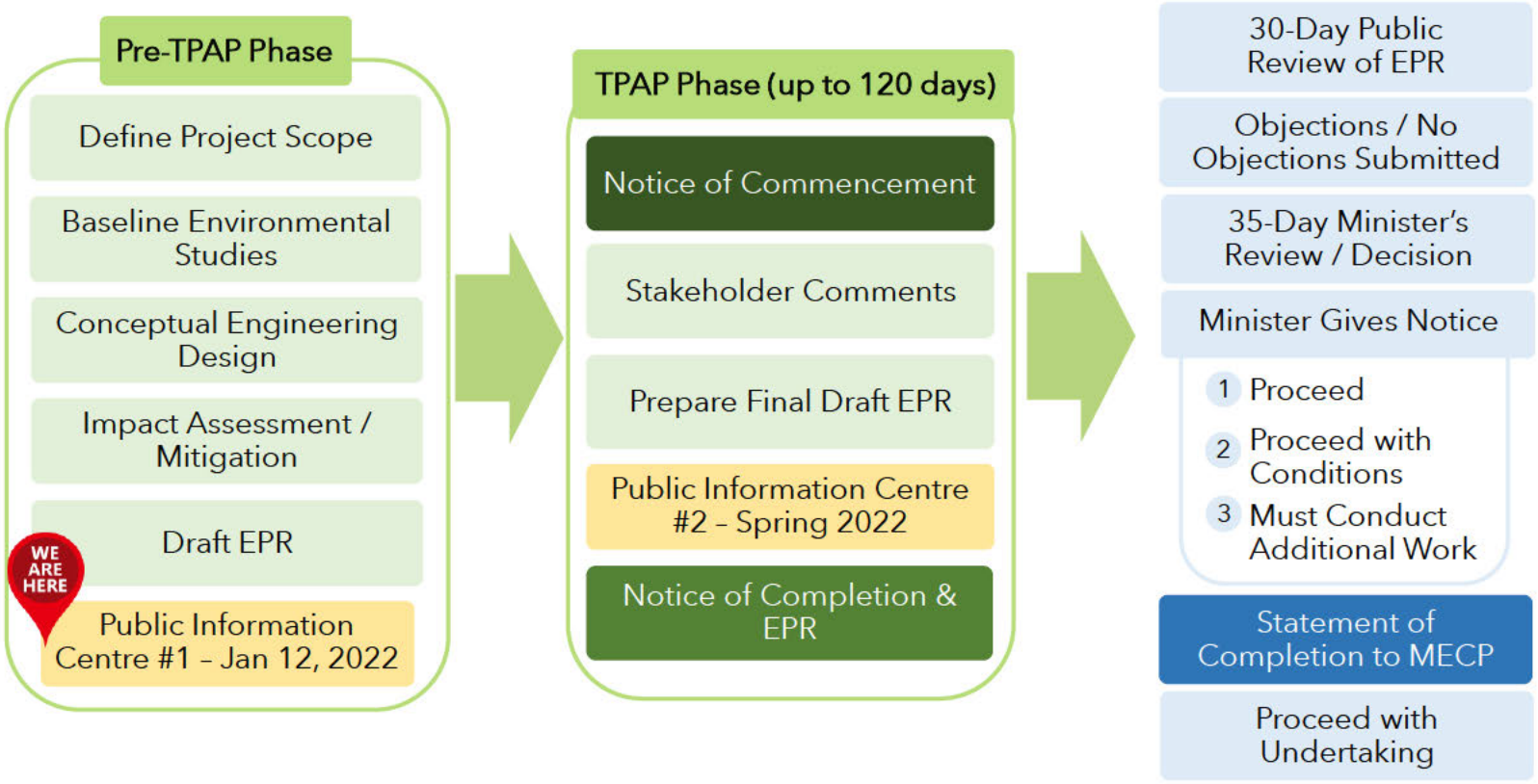
Transit Project Assessment Process (TPAP) Schedule



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Transit Project Assessment Process (TPAP) Studies

A number of technical studies are being completed under the TPAP to ensure that natural, social cultural and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Air Quality



Archaeology



Natural Environment



Noise & Vibration



Cultural Heritage



Tree Inventory Plan



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

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Transit Project Assessment Process (TPAP) Studies

Air Quality

- Identify baseline air quality and air contaminants of concern from existing data sources
- Assess local air quality impacts with construction and operations and provide recommendations for air quality management, mitigation, monitoring
- Predict pollutant concentrations based on current and future vehicular and train traffic information
- Study area extends 500 metres from project site

Noise and Vibration

- Describe existing and predicted future background noise levels
- Assess noise impacts to nearby resident based on the construction and operations of the layover and determine mitigation measures (if any) to reduce impacts
- Study area extends 500 metres from project site and baseline noise monitoring will be in early Spring 2022
- Train passbys analysis will be undertaken for operations vibration assessment/predictions within the area

Transit Project Assessment Process (TPAP) Studies

Traffic and Transportation Studies

- Review available transit operations (e.g. GO Transit, VIA Rail) on railway and road traffic information for area
- Collect data for weekday AM and weekday PM peak hour at numerous intersections in study area
- Analyze and forecast traffic conditions for construction and operations
- Impacts of COVID-19 pandemic traffic volumes, as well as future populations, employment and development will be considered



Northbound on Winston Churchill Blvd.



Train tracks crossing Winston Churchill Blvd.

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Transit Project Assessment Process (TPAP) Studies

Stage 1 Archaeological Assessment

- Summarize existing archaeological information
- Provide recommendations for lands within and adjacent to the study area
- If necessary, recommend further archaeological assessments based on study results
- Field work will be carried out in spring 2022 by licensed professional archaeologists
- Engagement with Indigenous Nations is required as part of the archaeological process

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties



Farmland within study area

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Transit Project Assessment Process (TPAP) Studies

Socio-Economic and Land Use Characteristics

Desktop review of existing socio-economic and land use conditions, including:

- Zoning within City of Brampton
- Planning policies
- Active transportation plans
- Safety and privacy impacts

- Provide assessment and mitigation measures for construction and operations of project
- Local study area is 300 metres from the project footprint
- Broader regional study area encompasses Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills
- Consultation and coordination required with municipalities, property owners, and residents to understand how project may impact the community



Regional Study Area for land use and demographics

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Transit Project Assessment Process (TPAP) Studies

Natural Environment

- Identify existing conditions for animals and landscape features within project study area
- Assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures
- Carry out desktop review of aquatic and land environments
- Field studies to commence in spring 2022 with results distributed in summer 2022



Black Capped Chickadee



Farmlands surrounding study area

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Transit Project Assessment Process (TPAP) Studies

Tree Inventory Plan

- Identify high value trees and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- Study area is 5 metres surrounding project site
- Field surveys will commence early spring 2022
- As necessary, a Tree Protection Zone will be established during the construction process
- Plan to meet City of Brampton, Region of Peel standards, and Metrolinx Vegetation Guideline



Trees and shrubbery within study area

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Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Heritage Road Layover project.

The comment period is until January 26th, 2022. We would greatly value your input!

Contact information:

Phone: 416-202-7500

Email: peel@metrolinx.com



Upcoming dates:

Spring 2022:

- Notice of Commencement
- **Public Information Centre #2**

Summer/Fall 2022:

- Notice of Completion
- Public and Stakeholder Review of EPR
- Minister's Review and Notice to Proceed



For More Information about GO Expansion and to download other materials, use the QR code or visit: MetrolinxEngage.com

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Appendix E

FAQ

Frequently Asked Questions

Heritage Road Layover

What is the purpose of the Heritage Road Layover?

Metrolinx is proposing to expand its facilities along Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide the additional storage capacity needed to achieve the proposed level of service, including enhanced peak service and two-way, all-day service to Mount Pleasant GO Station, and replace an existing layover facility at Georgetown that is approaching the end of its service life.

Why is this site proposed for the Heritage Road Layover? Were other sites considered for the layover location?

Metrolinx looked to identify a potential location for a new layover yard site between the Mount Pleasant GO Station to the east and the Georgetown GO Station to the west to reduce deadhead (empty) train movements and facilitate future two-way, all-day service. The proposed location for the Heritage Road Layover provides convenient storage of trains that will facilitate the increase in service to and from Union Station.

An initial study was done by RV Anderson in 2016 to review different sites. This study recommended the heritage road layover site should be used. The criteria included cultural and natural environment impact, interface with other adjacent environmental assessments (EAs)/secondary plans, operational considerations and cost.

How will plans for Highway 413 affect the Heritage Road Layover project?

The Heritage Road Layover site is well to the west of the study area for the preferred corridor for Highway 413. Through the Transit Project Assessment Process (TPAP), the Ministry of Transportation, the City of Brampton, and Peel Region will be consulted to determine how the respective plans for the layover and the highway may affect one another.

The section of track where the Heritage Road Layover is proposed is owned by CN, does this affect the project?

Metrolinx and CN are cooperating in the planning and design of the infrastructure improvements needed to meet the GO Expansion service needs and CN freight movements. CN will be building additional track(s) within their rail corridor right-of-way for eventual connection to the layover facility, and Metrolinx is coordinating with CN on this work.

Does the Heritage Road Layover site allow for public access?

No. There is no public access to the site as this facility would be utilized for maintenance and train storage.

Does the design of the Heritage Road Layover consider future electrification?

Yes, the facility design protects for future electrification. Tracks will be spaced further apart to enable future installation of overhead catenary poles.

Will there be additional noise as a result of the Heritage Road Layover?

The Halton Subdivision between Mount Pleasant GO Station and Georgetown GO Station is owned by CN. A Noise and Vibration Study was completed as part of the 2009 GO Transit Class EA Georgetown to Kitchener Rail Expansion Environmental Study Report. The Heritage Road Layover was not assessed at that time. A Noise and Vibration Study is in preparation as part of the TPAP, and the results will be shared after study completion.

Will any trees be removed to build the Heritage Road Layover?

Studies for the natural environment and tree inventory will be conducted in spring and summer 2022. Information about the impact on trees within and surrounding the site, as well as appropriate mitigation measures, will be provided after study completion. The Metrolinx Vegetation Guideline 2020 will serve as the implementation framework for vegetation compensation.

Will there be an impact to surrounding wildlife and environment during construction of the Heritage Road Layover?

TPAP studies for the natural environment (including Species at Risk surveys) and tree inventory will be conducted in spring and summer 2022. Information about the impact on wildlife and the environment within and surrounding the site, as well as appropriate mitigation measures, will be provided after study completion.

Will there be an impact to the watercourses within the Heritage Heights subwatershed drainage system?

Studies for site drainage and stormwater management are in preparation as part of the detailed site design. Information about the impact on watercourses throughout the site, as well as appropriate mitigation measures, will be provided after study completion.

What are the Heritage Road Layover construction timelines?

Construction on the Heritage Road Layover is tentatively scheduled to begin in spring 2023 and completed in fall 2025.

Will there be consultation with Indigenous Nations during the TPAP Process for the Heritage Road Layover?

Metrolinx wishes to build a strong, meaningful, and mutually respectful relationship with Indigenous Nations. Metrolinx is committed to engaging with Indigenous Nations on the Heritage Road Layover Project throughout the project lifecycle.

How will traffic be impacted in the area during construction and operation?

A TPAP study of potential traffic impacts from construction and operation of the Heritage Road Layover is underway. Results of the traffic impact analysis will be shared upon study completion. Since construction laydown areas will be outside of the public roadway, and only maintenance vehicles will be allowed to access the site once the layover is operational, impacts to traffic as a result of the layover will likely be very minor.

GO Expansion

Why is Metrolinx expanding GO service?

Two-way, all-day service on the Kitchener Corridor was identified by local communities as a priority to support growth and economic development along the Toronto-Waterloo Innovation Corridor. Service increases have been limited because a portion of the Kitchener Corridor between Bramalea and Georgetown GO stations is a freight rail corridor owned by CN.

Following the recommendations from the 2019 Initial Business Case (IBC) the options to deliver two-way all-day service would all divert from the originally explored expensive rail bypass being built, and instead, through partnership with CN, move forward with an approach that involves sharing tracks and minimal infrastructure. The infrastructure and service concept was further refined and reassessed in the 2021 Preliminary Design Business Case (PDBC). Through its new partnership with CN, Metrolinx was able to implement early service increases on the Kitchener corridor, including the introduction of limited off-peak two-way service to Kitchener in 2019.

Why is Metrolinx continuing to build for increased service when COVID-19 has impacted the ridership across the GO network?

Throughout the pandemic, Metrolinx has demonstrated an unwavering commitment to safety. Metrolinx implemented various health and safety actions in response to changing customer needs and ridership trends, including installation of rail and bus seat dividers and hand sanitizer stations.

In 2021-22, this safety focus will be complemented with frequent service to welcome customers back to GO, as public health restrictions relax, and vaccinations roll out. Ongoing monitoring of government policies, ridership, and customer behaviour trends feed directly into demand-based plans to return service across the network. Services will continue to be adjusted to support changing customer habits

and needs and support economic recovery and growth (Kitchener GO Rail Service Preliminary Design Business Case – March 2021).

The impacts of the COVID-19 pandemic will be temporary whereas Metrolinx is constructing a transit system for the long term. The Greater Toronto and Hamilton Area (GTHA) is experiencing incredible growth with an expected nine million people by 2041 and seeing trends of increased public transit usage and decreased car ownership. Prior to the COVID-19 pandemic, Metrolinx had 1500 weekly trips. GO Expansion will increase this amount to 6000 weekly trips and provide connections to the entire region. While COVID-19 has decreased ridership temporarily, the GO Expansion Full Business Case demonstrates that ridership will increase in the long-term and therefore, the GO Expansion is still financially feasible.

While we expect COVID-19 to have impacts on commuting habits for the next two years, we are building a transit system for the long term. The region is experiencing incredible growth, with an estimated nine million people calling the region home by 2041. COVID-19 will likely have impacts on workforce patterns in the next few years.

Other trends are emerging such as a decrease in car ownership, and new travel patterns. Metrolinx is planning and building a system for the next 50 to 60 years, and will allow customers to move across the region, with two-day, all day service on GO, as well as new LRT, BRT and subway lines. This means more choices not just for commuters travelling downtown, but all transit users, travelling in all directions.

What are GO Expansion plans for the GTHA?

Work is underway to deliver the GO Expansion program - the largest transit expansion in Canadian history. GO will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network. GO Expansion will transform the GO network from a commuter service to a new all-day, all-direction, schedule-free travel option. This is a new approach for GO – moving beyond

commuter trips to provide frequent trains, all day, in a metro-style service. It will be easier than ever to use GO Transit like the subway to get to events, go out to dinner, and visit friends or family in the evening or on weekends.

Here's how Metrolinx is expanding in Toronto:

- Building new GO stations
- Adding track to the Stouffville, Lakeshore East, Kitchener and Barrie lines
- Electrifying the Barrie, Lakeshore, Stouffville, and Kitchener lines
- Building new underpasses and overpasses

What improvements are planned for the Kitchener Corridor?

The Kitchener Line serves urban centres and communities west of Toronto with direct connections to Brampton, Guelph, and Kitchener-Waterloo. To meet substantial growth, just as many riders return to transit, Metrolinx is making major improvements to service on the corridor. Some of the improvements along the Kitchener corridor include:

- Additional track in key locations throughout the corridor to allow trains to pass each other, along with supporting signal and structure modifications to support the new tracks;
- New Mount Dennis GO Station
- Improvements at GO Stations along the corridor, including platform modifications and upgrades to station access facilities and customer amenities
- Track and signal upgrades between Georgetown and Kitchener to allow for higher train speeds

On Sept 7, 2021 Metrolinx announced a service increase that will see 20 train trips per day between Toronto and Kitchener/Guelph (up from 16 pre-pandemic), including weekday rush hour express options for Kitchener, Guelph, Acton, Georgetown, Mount Pleasant, Brampton, and Bramalea GO, trip extensions to and from Kitchener GO, and new and reinstated trips to and from Bramalea GO throughout the day.

Is electrification of the Guelph Subdivision between Acton and Kitchener proceeding?

Metrolinx owns the rail corridor up to Bramalea GO Station, and the section west of Georgetown GO Station. While it would be possible to electrify the rail in the section west of Georgetown, only diesel trains would be able to serve the area due to the lack of electrification in between Bramalea GO Station and Georgetown GO Station. In partnership with CN, Metrolinx continues to work on feasibility and design efforts along the corridor, as key preliminary work is completed.

In 2019, Metrolinx initiated consultation and preliminary studies to support the Guelph Subdivision Electrification TPAP. This study aimed to better understand the impacts of various infrastructure improvements along the Guelph Subdivision of the Kitchener corridor needed to provide electrification for 54 kms of track between the Kitchener GO Station to Mile 30.0 east of Acton. After hearing back from the public and other stakeholders about the constraints and concerns related to the project, Metrolinx collected all study information and consultation feedback to keep on file for future reference prior to advancing with the formal TPAP.

Work is proceeding on implementation of the infrastructure improvements needed to improve service levels, safety and travel times now, and to make the Guelph Subdivision electrification-ready, should Metrolinx and CN reach an agreement to electrify the Halton Subdivision track section between Georgetown GO Station and Bramalea GO Station.

Appendix F

Comments Received

Kitchener Corridor - Heritage Road Layover - Ask a Question

Questions and answers from the first round of public consultation in January 2022 can be found below.

If you have any further questions about the Heritage Road Layover Project, please contact peel@metrolinx.com and include 'Heritage Road Layover' in the subject line.

You can also read the Frequently-Asked Questions document.

Heritage Road Layover project - FAQ PDF →

NOTE: Conduct inconsistent with our policies will result in the removal of your submission.

← *Return*

Sort questions: Date Popularity

Log in or register to tell us your ideas | Français

Heritage Road Layover

Anonymous
Jan 22, 2022 - 09:42

Will the Heritage Road Layover replace the existing layover facility at Georgetown?

0 0

Answer

Metrolinx
Jan 25, 2022 - 16:22

Thank you for your inquiry. Yes, once the Heritage Road Layover is built and fully operational, the existing Georgetown Layover will be decommissioned.

0 0

Kitchener Corridor - Heritage Road Layover - TPAP

Anonymous
Jan 24, 2022 - 11:16

What happens to the pioneer cemetery?

0 0

Answer

Metrolinx
Jan 24, 2022 - 11:21

Hi, thank you for your question. There is no anticipated disturbance to the McNichol Cemetery (pioneer cemetery) due to the construction and operations of the Heritage Road Layover. During construction, there will be a temporary fence erected at the edge of the Project Site boundary.

0 0

Heritage Road Layover

Anonymous
Jan 25, 2022 - 14:35

Multiple questions. Please address by number in your reply.
1. The Open House notice indicates that a maximum of 4 trains with 2 locomotives will use this new layover. Can this number increase over time?
2. When the trains are at the layover facility, how long does each train idle?
3. What time of day will the trains primarily be idling? Can the trains idle at anytime during a 24 hour period?
4. Please provide a list of "light maintenance activities"?
5. Is Metrolinx aware the City of Brampton is planning on approving the Secondary Plan for the area north and south of the rail line in March 2022?
6. Are the proposed sensitive land uses (residential) within the Secondary Plan being considered as receptors for any assessment such as noise, vibration, air emissions as part of this study?
7. Will a setback for the residential uses be required for noise, safety, vibration, air emissions or for any other reason? If so, what will the setback or other mitigation be?

0 0

Answer

Metrolinx
Feb 4, 2022 - 13:52

Hello, thank you for your inquiry. Great questions! Please see below, numbered as requested:

1. The Heritage Road Layover can support a maximum of 4 trains with 2 locomotives + 12 passenger cars, or 8 trains with 1 locomotive + 6 passenger car configurations. This was considered for current and future operations, in order to optimize the Kitchener GO Expansion.

2. Each train will typically idle for approximately 60-90 minutes when at the facility.

3. Idling periods may vary, but it's anticipated to occur at the beginning and end of the service day. There is the possibility of trains idling mid-day, depending on when they arrive at the facility. Outside of these times, trains will be connected to wayside power with the engines turned off.

4. Light maintenance activities can include:

- Daily visual inspections to identify obvious defects or damage to equipment prior to the start of revenue service;
- Cleaning, servicing and temperature control of trains;
- Sanitary flushing and replenishment of the coach washrooms, including emptying of sanitary tanks from rolling stock into temporary storage facilities; and refuelling of trains.

5. Yes, Metrolinx is actively engaging with the City of Brampton, and is aware of the Heritage Heights Secondary Plan. Similarly, the City of Brampton is aware of the proposed Heritage Road Layover.

6. The technical studies consider existing conditions within the Study Area, which includes existing residential areas. It is difficult to directly identify specific sensitive receptors within the draft Secondary Plan, as subdivision plans have not been finalized yet. However, the impact assessments will model potential impacts from construction and future operations of Heritage Road layover, which can inform the City's supplemental plans to support the Secondary Plan. The technical studies and Environmental Project Report are planned to be available for public review in summer of 2022.

7. Metrolinx will complete a series of technical studies (including examining air quality, noise and vibration) which will evaluate potential construction and operational impacts for Heritage Road Layover. The air quality and noise and vibrational studies will review a 500 m radius of the layover facility, and identify associated mitigation measures for impacts within the study area. The results of these studies are planned to be available for public review in the Summer of 2022. Specific setback requirements and other mitigation measures associated with new development will need to be identified by a Developer through technical studies and confirmed as part of the municipal development review process.

0 0

Heritage Road Layover

Anonymous
Jan 25, 2022 - 15:03

1. Make the landscaping better and less grassy. Use natural plantings that convey the feel of agricultural lands.
2. Use better materials and fixtures. A more rural-looking (or less utilitarian) fence and more attractive light standards. Perhaps the use of lower lighting (not highway-style poles) to mitigate light pollution, although that would necessitate more lights to provide the same level of illumination.
3. Try to minimize the land that is used. I'm no expert or engineer, so perhaps you've already done that.
4. Think about how this will integrate with compact development, as planned in the Heritage Heights Secondary Plan.
5. Don't only think about function, also think about how it looks. I wish we prioritized design quality and character in every public project, even with places that we call "infrastructure" such as layovers. We're spending billions of dollars on transit... so let's make our money's worth by making it pretty.

0 0

Answer

Metrolinx
Jan 25, 2022 - 16:20

Thank you for your feedback on the proposed Heritage Road Layover Facility. Your comments will be taken into consideration as part of the Environmental Project Report.

0 0

Noise mitigation

Anonymous
Jan 13, 2022 - 11:20

Your documents indicate that there is a noise impact study being conducted as the former 2009 study did not consider the Heritage Road layover. When is the expected completion date of this study and how will its results impact this project? Living southeast of this area, we currently can hear the trains & want to know how noise will be mitigated.

0 1

Answer

Metrolinx
Jan 17, 2022 - 16:44

The study area of the Noise and Vibration Baseline Conditions and Impact Assessment Report will include the project footprint plus an additional 500m of the surrounding area. The study will assess noise and vibration impacts, over and above baseline conditions, of the construction and operations of the Heritage Road Layover. The report is expected to be completed in spring 2022 and is planned to be available for public review in summer 2022. If the assessment indicates that mitigation for noise and vibration is warranted, mitigation measures will be considered and assessed for feasibility. These measures will be incorporated into the design of the layover if they are considered feasible.

0 0

[redacted] Jan 21

@Metrolinx Hi! The FAQ for the Heritage Road Layover (metrolinxengage.com/sites/default/...) says "An initial study was done by RV Anderson in 2016 to review different sites." I can't find this study on Metrolinx Engage. Can you please point me to where I can download it?

Hi [redacted] apologies for the long delay in this but wanted to get you an answer to your question from your tweet about the Heritage Road layover.

The study of alternate sites referenced in the FAQ was completed to support initial regional planning and feasibility efforts evaluating potential expansion along the Kitchener Corridor. As this report was not part of a formalized expansion project, it has not been included in Metrolinx Engage and is unavailable for download.

The report reviewed a number of aspects, which included cultural and natural environment impacts, interface with other adjacent environmental assessments (EAs)/secondary plans, operational considerations and cost. The current proposed location of Heritage Road Layover was considered to be the optimal location for the layover overall.

Hope this helps! ^jw

3:32 PM ✓

From:	Melissa Simpson
To:	Brian Poole; Clara Chan
Cc:	Simon Strauss; Dara Corrigan; Felker, Bob; Mrochkovskaia, Nadya; Mcandrew, Louise; Jackie Czajka
Subject:	RE: Heritage Rd - External stakeholder
Date:	Tuesday, January 11, 2022 2:48:21 PM
Attachments:	image001.png image003.png

[redacted]

Good afternoon [redacted]

Thank you for reaching out in interest of the Heritage Road Layover Project. Unfortunately, the materials are unavailable in advance of the live Public Information Centre on January 12, 2022. However, once the online materials are live, members of the public will have from January 12 – 26 to view the materials and submit questions and comments.

I've reached out on your behalf to the project team to ensure yourself and Andrew Walker are included on the mailing list for future reference.

If you have any additional questions, please feel free to reach out to me directly.

Warm regards,
Melissa Simpson (she/her)
Peel Community Engagement
Metrolinx
3024 Hurontario St I Unit G12 | Mississauga I Ontario I L5B 4M4
M: 416.202.7500 E: peel@metrolinx.com
---------- Original Message ----------
From: [redacted]
Received: 1/7/2022 10:47 AM
To: <Peel>; Peel@metrolinx.com
Cc: [redacted]
Subject: Request for Information - Virtual Public Information Centre for the introduction of the Heritage Road Layover Project and the Metrolinx GO Expansion Program - PN1478 Metrolinx (YDB)

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

January 7, 2022

Good morning, my name is [redacted] and I am [redacted]

[redacted] This email is in regards to the Virtual Public Information Centre for the introduction of the Heritage Road Layover Project and the Metrolinx GO Expansion program. According to the Public Notice posted in the Brampton Guardian Newspaper, materials will be made available on-line on January 12, 2022. If possible and if available, it would be greatly appreciated if you could provide our office with a digital copy of these materials for our review ahead of the January 12, 2022 date.

Also, kindly add myself and [redacted] of our office to this project's mailing list. [redacted] email is as follows: [redacted]

Looking forward to hearing back from you.

Regards,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

January 26, 2022

Our File No.: [redacted]

Via Email (peel@metrolinx.com)

Metrolinx
97 Front Street West
Toronto, ON M5J 1E6

Dear Sirs/Mesdames:

Re: Heritage Road Layover

We are solicitors for [redacted] in respect of this matter. Our client owns land adjacent to the proposed layover.

We are providing comments in accordance with Metrolinx's deadline of January 26, 2022. We reserve our client's rights to submit additional comments once the following studies have been provided to us for review:

- Air Quality
- Archaeology
- Natural Environment
- Noise & Vibration
- Cultural Heritage
- Tree Inventory Plan
- Traffic & Transportation
- Socio-Economic and Land Use Characteristics

Our client asked the following questions through the Public Information Open House and look forward to receiving a response:

1. The Open House notice indicates that a maximum of 4 trains with 2 locomotives will use this new layover. Can this number increase over time?

2. When the trains are at the layover facility how long does each train idle?

3. Can the trains idle at anytime during a 24-hour period?

4. Provide a list of "light maintenance activities"

5. Are the sensitive uses identified within the Secondary Plan being considered receptors for any assessment, such as noise, vibration, air emissions?

6. Will a setback for residential uses be required for noise, safety, vibration, air emissions or for any other reason?

We reserve our client's rights to submit additional comments once we have had an opportunity to review your responses to our queries above.

In addition, we have the following further questions and we would appreciate receiving a response at your earliest opportunity.

1. In addition to the idling trains, are there any other possible activities that will generate noise/vibration/air emissions?

2. What mitigation is being proposed for the Project (including the layover) to mitigate emissions (noise, vibration, air (including odour))?

3. Confirm that this area will not be considered a "yard".

Our client looks forward to working with you to better understand the Project and ensure that any concerns that may arise when the information and reports are available can be resolved cooperatively.

Yours truly,

[redacted]

METROLINX

February 3, 2022

[redacted]

Delivered Via Email [redacted]

Dear Ms. [redacted],

In response to your letter we received in our peel@metrolinx.com email entitled "Heritage Road Layover", sent January 26, 2022 (File Reference 220227), the following is a response to your Client's questions:

Public Information Centre #1 (Public Information Open House)

1) The Open House notice indicates that a maximum of 4 trains with 2 locomotives will use this new layover. Can this number increase over time?
   Response: The Heritage Road Layover can support a maximum of 4 trains with 2 locomotives + 12 passenger cars, or 8 trains with 1 locomotive + 6 passenger car configurations. This was considered for current and future operations, in order to optimize the Kitchener GO Expansion.

2) When the trains are at the layover facility how long does each train idle?
   Response: Each train will typically idle for approximately 60-90 minutes when at the facility.

3) Can the trains idle at anytime during a 24-hour period?
   Response: Idling periods may vary, but it's anticipated to occur at the beginning and end of the service day. There is the possibility of trains idling mid-day, depending on when they arrive at the facility. Outside of these times, trains will be connected to wayside power with the engines turned off.

4) Provide a list of "light maintenance activities".
   Response: Light maintenance activities can include:
   - Daily visual inspections to identify obvious defects or damage to equipment prior to the start of revenue service;
   - Cleaning, servicing and temperature control of trains;

97 Front Street West
Toronto, ON M5J 1E6
416.874.5900
metrolinx.com

- Sanitary flushing and replenishment of the coach washrooms, including emptying of sanitary tanks from rolling stock into temporary storage facilities; and
- Refuelling of trains.

5) Are the sensitive uses identified within the Secondary Plan being considered receptors for any assessment, such as noise, vibration, air emissions?
Response: The technical studies consider existing conditions within the Study Area, which includes existing residential areas. It is difficult to directly identify specific sensitive receptors within the draft Secondary Plan, as subdivision plans have not been finalized yet. However, the impact assessments will model potential impacts from construction and future operations of Heritage Road layover, which can inform the City's supplemental plans to support the Secondary Plan. The technical studies and Environmental Project Report are planned to be available for public review in summer of 2022.

6) Will a setback for residential uses be required for noise, safety, vibration, air emissions or for any other reason?
Response: Metrolinx will complete a series of technical studies (examining air quality, noise and vibration) for a zone within 500 metres of the layover facility to determine any related impacts to those lands within the influence area, and to identify associated mitigation measures to be integrated into the facility design as practical. Results of these studies are planned to be available for public review in the Summer of 2022.
For any new development contemplated on lands within 300 metres of the layover facility, proponents will be responsible for preparing and submitting technical studies that consider relevant implications of the subject layover facility in their analysis and which address, as required, rail safety matters as well as land use compatibility concerns (including air quality, noise and vibration). These studies will identify appropriate setbacks and other mitigation measures based on the specific parameters of the development plan and in accordance with applicable standards and guidelines. The development studies will be submitted as part of the municipal development review process established under the Planning Act, and circulated to Metrolinx for review and acceptance. Interested parties may contact the Metrolinx Third Party Projects Review team at development.coordinator@metrolinx.com for additional information in this regard.

The responses to the above-noted questions will also be included on the Metrolinx Engage webpage.

<u>Additional Questions</u>

1) In addition to the idling trains, are there any other possible activities that will generate noise/vibration/air emissions?

Response: Activities that will generate noise, vibration, and/or air emissions will be examined in the Noise and Vibration Baseline Conditions and Impact Assessment and Air Quality Baseline Conditions and Impact Assessment Reports. The Noise and Vibration modelling for the operational component will include assessments for train idling, as well as heating and ventilation equipment, electrical equipment, or hot air track blowers.
In addition to the facility and train infrastructure, the movement of trains from the GO Kitchener Corridor into the layover and crew and maintenance vehicle movement will cause some additional noise, vibration, and air emissions.

2) What mitigation is being proposed for the Project (including the layover) to mitigate emissions (noise, vibration, air (including odour))?
Response: Any proposed mitigation measures for the Heritage Road Layover will be identified in the Noise and Vibration Baseline Conditions and Impact Assessment and Air Quality Baseline Conditions and Impact Assessment Reports. Both of these technical studies are expected to be completed in summer 2022 and will be available for public review.

3) Confirm that this area will not be considered a "yard".
Response: The Project Site will be referenced as a "Layover" or "Layover Facility".

Technical studies for air quality; archaeology; natural environment; noise and vibration; cultural heritage; tree inventory plan; traffic and transportation; and socio-economic and land use characteristics will be available for review with the Environmental Project Report during the 30-day public review period.

We hope that these responses provide your Client with a better understanding of the Project. If you have any further questions, please let us know.

Yours truly,

Simon Yale Strauss

Simon Strauss,
Manager,
Environmental Programs and Assessment
Metrolinx

cc: Community Engagement – Peel Region

Heritage Road Layover
Public Information Centre #2
Summary Report

Project # IM21405045

Prepared for:

Metrolinx

277 Front Street West, Suite 400, Toronto, Ontario

June 2022

Heritage Road Layover
Public Information Centre #2 Summary Report
Project # IM21405045

Prepared for:

Metrolinx
277 Front Street West, Suite 400, Toronto, Ontario

Prepared by:

Wood Environment & Infrastructure Solutions, A Division of Wood Canada Limited
3450 Harvester Road
Burlington, Ontario L7N 3W5
Canada
T: (905) 335-2353

June 15, 2022

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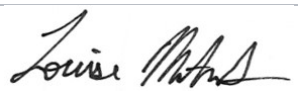
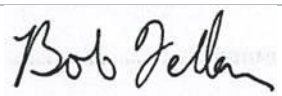
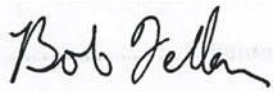
Document Revision History

Version	Date	Description
0	May 4, 2022	Draft
1	June 15, 2022	Final

Prepared by:	 Louise McAndrew, B.Sc., CAPM Environmental Planner	Date: June 15, 2022
Reviewed by:	 Bob Felker, BES, MCIP, RPP Senior Environmental Planner	Date: June 15, 2022
Issued by:	 Bob Felker, BES, MCIP, RPP Senior Environmental Planner	Date: June 15, 2022

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List of acronyms and abbreviations

CVC	Credit Valley Conservation
EPR	Environmental Project Report
FAQ	Frequently Asked Questions
O.Reg.	*Ontario Regulation*
PIC	Public Information Centre
the Project	Heritage Road Layover
TAC	Technical Advisory Committee
TPAP	Transit Project Assessment Process
Wood	Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited

1.0 Introduction

Metrolinx is proposing to expand its facilities along Kitchener Corridor, which runs from Union GO Station to Kitchener GO Station. A new layover is required to provide additional storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and consolidate operations for start and end of service.

Metrolinx retained Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood) to complete the construction design and Transit Project Assessment Process (TPAP) for the proposed facility.

The layover facility will be designed with four (4) tracks with the capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track.

1.1 Project Description

Metrolinx is completing a TPAP under *Ontario Regulation (O.Reg.) 231/08*, *Transit Project and Metrolinx Undertakings*. Metrolinx is expanding its services as part of the GO Expansion Program, which will provide both increased train frequency and availability across its seven rail corridors.

The purpose of the Heritage Road Layover (the Project) is to install a new layover to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Kitchener Corridor that are being planned and implemented as part of Metrolinx's commitment to GO Expansion. The site of the layover facility is proposed on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (See Figure 1-1).

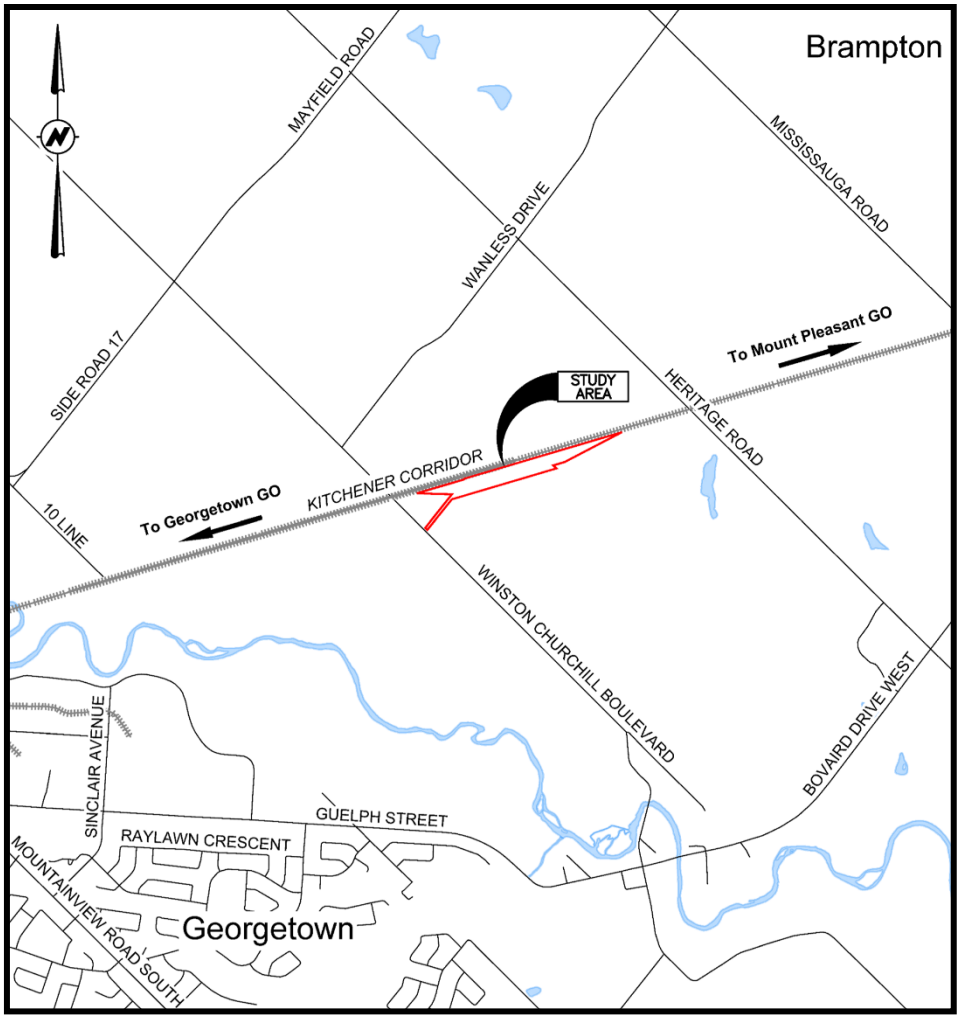

Figure 1-1: Project Location

1.2 Purpose of this Report

The purpose of this report is to summarize the second round of public consultation for this project, held virtually between April 6, 2022 and April 20, 2022. This is a summary of the information shared and feedback received, as well as updating information based on comments from the first public consultation.

Section 2 summarizes points of contact with stakeholders and agencies. Section 3 discusses the feedback received, and section 4 provides details of comments received during the meeting period, Metrolinx responses, and how they will be incorporated into the TPAP studies and project design.

2.0 Public Information Centre #2 Overview

From April 6 – 20, 2022 Metrolinx hosted the second Public Information Centre (PIC) for the Heritage Road Layover Facility TPAP. Due to the ongoing COVID-19 pandemic and gathering restrictions the meeting was held virtually through the Metrolinx Engage website. The purpose of the second PIC was to provide results of all the draft environmental studies and share a draft of the Environmental Project Report (EPR). As

well, key mitigation and monitoring requirements for construction and operations were provided for stakeholder consideration and comment.

The project website was https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover, and participants could communicate through the public Ask a Question page, on page comment forms, by calling Metrolinx at 416-202-7500, by tweeting @GOExpansion, or by emailing peel@metrolinx.com.

2.1 Notifications

2.1.1 Newspaper Advertisements

Metrolinx published notices in three local newspapers, two in English and one in French, to inform the public/stakeholders of the scheduled virtual open house. Table 2-1 lists the newspapers and publication dates. Copies of the notices can be found in Appendix A.

Table 2-1: Notice Publication

Newspaper	Dates Published
Brampton Guardian	March 24, 2022 and March 31, 2022
Georgetown/Acton Independent Free Press	March 24, 2022 and March 31, 2022
Mississauga le Métropolitain (French)	March 24, 2022 and March 31, 2022

2.1.2 Social Media

Metrolinx tweeted from their @GOExpansion account on April 6, 2022 announcing the start of engagement. A second tweet was posted on April 18, 2022 as a reminder that the engagement period was coming to a close. Both tweets provided a link to the project website. A copy of the tweets can be found in Appendix A.

2.1.3 Letters

2.1.3.1 Study Area

Metrolinx hand delivered letters to all residents within a minimum of 120 meters of the Project Site on March 24, 2022. A total of 35 letters were hand-delivered, which also included a copy of the published notice. A copy of this letter and a distribution map can be found in Appendix B. In addition, based on feedback provided from the project Technical Advisory Committee (TAC) a copy of the letter and notice was provided to a representative from the town of Halton Hills to forward to the Churchill Estates development property owners.

2.1.3.2 Property Owner

Metrolinx sent letters to directly impacted property owners via mail. A copy of these letters can be found in Appendix B.

2.1.4 E-Mail Correspondence

Notice of the meeting was shared as part of the Metrolinx Peel Region and Halton Region e-newsletters. A copy of the newsletters can be found in Appendix B.

Emails were sent to elected officials notifying their offices of the upcoming meeting and offering to provide a pre-briefing.

2.1.5 Agency Correspondence

Agencies were informed of the meeting as part of the Notice of Commencement and Public Information Centre #2 letter. Additionally, as part of the TAC. The TAC consisted of representatives from the City of Brampton, Region of Peel, Town of Halton Hills, and Credit Valley Conservation (CVC), and occurred on April 1, 2022. Minutes from the TAC meeting can be found in Appendix C.

2.1.6 Project Website

The *Metrolinx Engage* website (www.metrolinxengage.com) provides a comprehensive hub for interested stakeholders and members of the public to learn more about a variety of Metrolinx initiatives, including this project. The Project had a dedicated section within the Kitchener Corridor page, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. Materials on the website were made available in both English and French. Figure 2-1 shows the What's New text from the projects landing page providing direction to the draft EPR and technical reports for review.

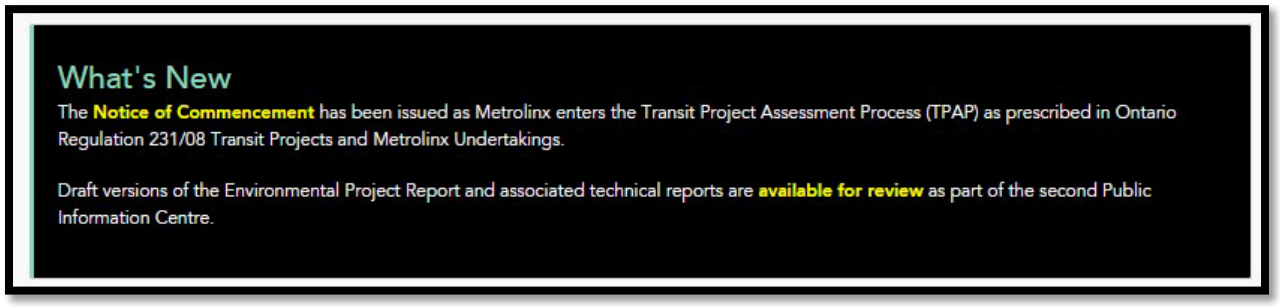

Figure 2-1: What's New

The website provided links to all the meeting materials as well as ways to ask questions, both publicly and anonymously, or through an email to the project team.

2.2 Virtual Meeting Format

The meeting was held online from April 6, 2022 – April 20, 2022. Project information was presented as a full slide deck that could be downloaded as a PDF file, as well as being broken into the categories of background information, preliminary designs, and TPAP. A Frequently Asked Questions document was also provided to address previously understood concerns.

2.2.1 Meeting Materials

The meeting materials were organized into three (3) main pages:

- Project Overview – The main landing page, which provided information about GO Rail Expansion in the Greater Toronto and Hamilton Area and on the GO Kitchener corridor, and specifically about the proposed Heritage Road Layover, as well it provided a TPAP timeline and summary of input provided during the first public engagement session, held from January 12 – 26, 2022;
- Preliminary Designs – which provided more information about the proposed facility design, existing surroundings, location details, and renderings; and,
- TPAP Findings, Mitigation and Monitoring Measures – which provided information about the study findings along with key mitigation and monitoring measures that will be implemented for the project.

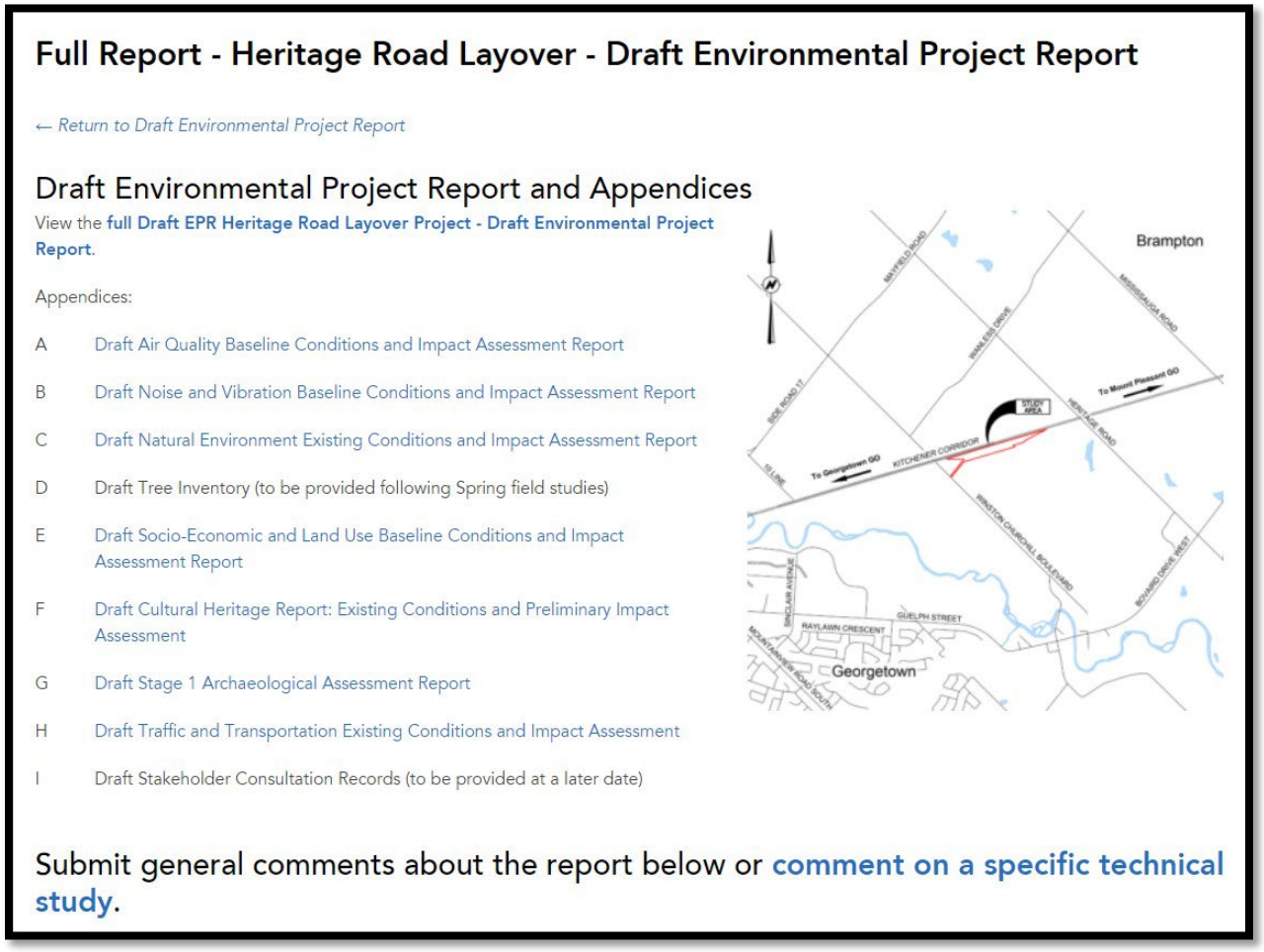

Figure 2-2: Environmental Project Report Page with links to the technical reports

On each page was the option to submit comments, to be forwarded to the project team for consideration and response. The information presented on these pages was reorganized content from the full presentation PDF. A copy of the full presentation can be found in Appendix C. Figure 2-2 shows the EPR webpage that directed to links of all the technical reports.

Additionally, links were provided to all the information provided as part of PIC #1 including the slide deck and project FAQ sheet (see PIC #1 Summary Report). All questions and responses from the first PIC remained available for review on the Ask a Question page.

2.2.2 Draft EPR and Technical Studies

As part of PIC 2 the draft project EPR and technical studies were shared on the project website for review and comment. Each technical study link led to a page providing study highlights and potential effects, mitigation, and monitoring measures. Drafts of the following reports were made available during the consultation period:

- Draft Environmental Project Report
- Air Quality
- Archaeology
- Cultural Heritage
- Natural Environment
- Noise and Vibration
- Socio-Economic & Land Use Characteristics

As part of the EPR a Traffic and Transportation study was in preparation but not available to be shared during the consultation period. The Draft Traffic and Transportation study has since been completed and added to the Engage website for public review. As well the Tree Inventory will be made available once the Spring field studies have been completed. , and the Stakeholder Consultation Records and will be included with the EPR for public review following the project Notice of Completion.

2.3 Participation and Comment Forms

The following is a summary of participation in the meeting:

- A total of 247 unique pageviews from 174 users to the main page of the website;
- A total of 55 unique pageviews from 38 users to the draft environmental project report page;
- The presentation document was viewed 20 times by 17 users;
- The draft EPR was viewed 27 times by 25 users;
- The draft technical reports were viewed 4-9 times;
- 0 questions were asked on the engage website;
- 0 questions were asked via twitter; and,
- 2 emails were received.

The two questions received via email were responded to in the same media. A summary of comments and key themes can be found in section 3, and a detailed comment and response table can be found in section 4.

3.0 Feedback Received

This section provides an overview of the comments and questions received throughout the engagement period from April 6-20, 2022. Following April 20, the comment forms were closed and the website directed any comments or questions to the peel@metrolinx.com address. The project team will continue to engage with interested stakeholders and the public throughout the TPAP process.

3.1 Common Themes of Feedback Received

- **Key Concerns**. The two comments received were concerned with the direct impact that the project will have on the surrounding area and future development. A key issue raised was the impact of noise and vibration on the directly adjacent properties.

4.0 How Feedback Will Be Considered

Table 4-1 includes all comments received through the engagement period, the responses provided by Metrolinx, and notes about how the comment will be incorporated into the TPAP studies going forward. Feedback will be considered both as part of the TPAP and in the evolution of the design. The comments, as received, are included in Appendix D.

Table 4-1: Public Information Centre Comments, Responses, and Incorporation Into TPAP and Design

No.	Date Received	Received Through	Issue Category	Objection (Y/N)	Comment/Feedback	Response	Incorporation into TPAP and Design
1	March 28, 2022	Email	Noise	N	Request for additional information regarding locomotive idling for preparation of acoustic evaluations for an adjacent property development.	Metrolinx provided responses to all questions regarding timing and duration of idling locomotives and future electrification plans.	N/A
2	April 19, 2022	Email	Noise	N	Concern about the impact to directly adjacent properties, specifically with regards to noise impacts to potential future developments. Request for additional information regarding noise levels immediately adjacent to the project and potential additional mitigation measures to mitigate noise and visual impact of the project.	Metrolinx provided information regarding the Noise and Vibration report and how to interpret the noise contours as shown. In addition Metrolinx noted that new developments within 300 m of the layover facility would require the proponent to prepare technical studies considering the impacts of the layover facility which can be coordinated through Metrolinx Third Party Projects Review Team.	Additional review of the noise and vibration report following this engagement regulatory agencies, TAC members, and Indigenous Nations will lead to final revisions of the report to incorporate all comments.

5.0 Next Steps

The background studies to support the TPAP process will be finalized based on comments from the project TAC, interested agencies, and engagement with Indigenous Nations and the public. Following the Notice of Completion, the final draft Environmental Project Report (EPR) will be made available for 30 days for public and stakeholder comments. After this comment period the Minister will have 35 days to review the project and issue their approval.

Appendix A

Notices

METROLINX

Notice of Commencement and Public Information Centre #2

GO Expansion: Heritage Road Layover Transit Project Assessment Process

As part of the GO Expansion Program, Metrolinx is building transit service that will improve how residents and customers move throughout the region! GO will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network to create better, faster, and easier travel within the region and broader Greater Toronto and Hamilton Area.

The Project

Metrolinx is proposing to implement two way all day service along the Kitchener Corridor from Union GO Station to Kitchener GO Station. Metrolinx is proposing to construct a new layover, Heritage Road Layover (the Project), between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional storage capacity to support the planned service expansion.

As part of this Project, Metrolinx will:

- Review the potential effects of the Project on the existing natural, physical, social, and cultural environments; and
- Present possible mitigation measures to manage the potential effects arising from construction and post construction operations.

The Project is being undertaken to support service expansion along the Kitchener Corridor from Union GO Station to Kitchener GO Station.

Project Location

The Project Site is on the Canadian National Railway (CN) Halton Subdivision portion of the Kitchener Corridor between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel.

The Process

The Project is being completed under the Transit Project Assessment Process (TPAP) as prescribed in *Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings*. The TPAP is a proponent driven, self assessment process that provides a defined framework to follow to complete the accelerated assessment of the potential environmental effects and decision making within a regulated assessment timeline. As part of the TPAP, an Environmental Project Report (EPR) is being prepared and will document any potential environmental effects and mitigation requirements of the Project. Following this period, interested persons will have an opportunity to review the EPR during a 30 day period, followed by a 35 day review period by the Ministry of Environment, Conservation and Parks.

Draft versions of the EPR and associated technical reports are available for review as part of the second Public Information Centre described below.

Consultation – Join us at our second Public Information Centre!

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With this formal commencement of the TPAP, Metrolinx will be hosting another virtual PIC with further information regarding the Project and results of the environmental studies of the area, including archaeology, noise and vibration, air quality, natural environment, traffic and transportation, socio economic and land use characteristics, and cultural heritage.

Online engagement will be open from **April 6, 2022 to April 20, 2022.**

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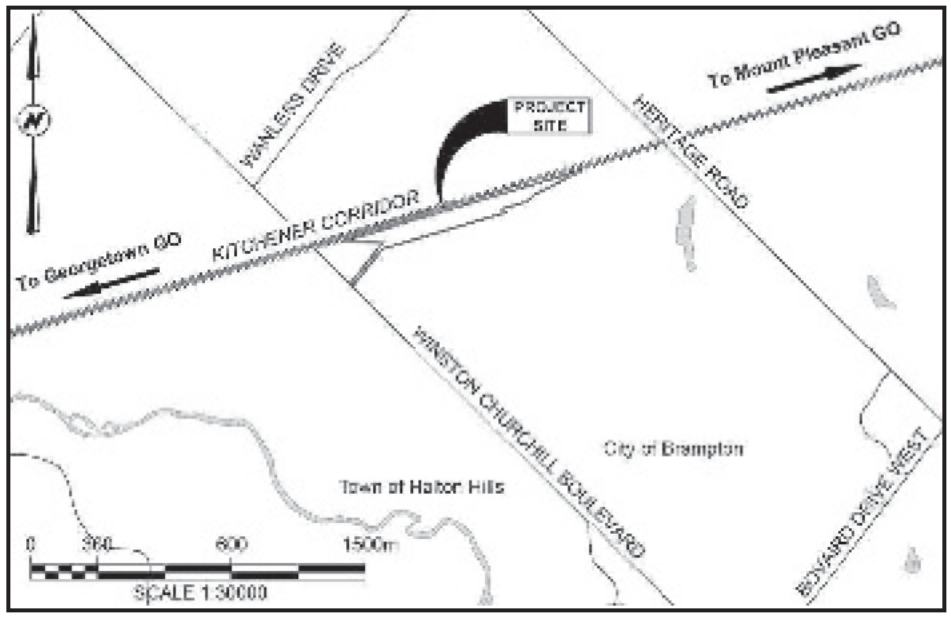

To engage and view draft environmental studies, preliminary design drawings, and the PIC materials, please scan the QR code or visit the consultation website: https://www.metrolinxengage.com/en/content/kitchener corridor heritage road layover

We Welcome Your Questions and Comments

We continue to encourage members of the public, agencies, Indigenous Nations, and other interested persons to ask questions and provide feedback. If you have any project related questions or would like to be added to the Project's mailing list, or would like to provide input please contact us via:

Phone: 416-202-7500 or Email: peel@metrolinx.com

Pour plus de renseignements, veuillez composer le 416 874 5900 ou le 1 888 GET ON GO (438 6646).

Comments and information regarding this project are being collected to assist in meeting the requirements of the *Environmental Assessment Act*. All personal information included in a submission, (such as name, address, telephone number and property location) is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the Environmental Assessment Act or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Senior Privacy Officer for Metrolinx at 416 202 5941.

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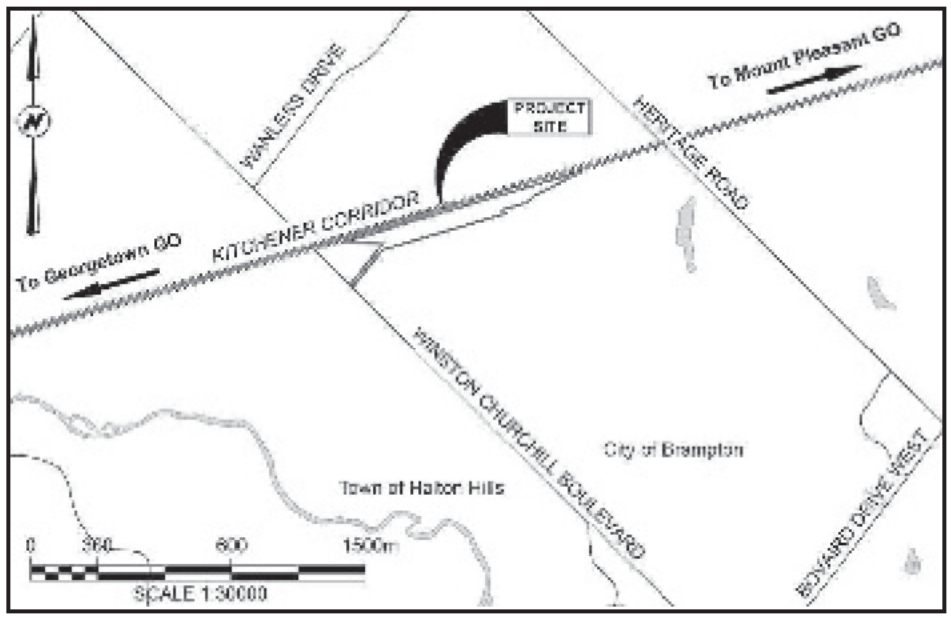

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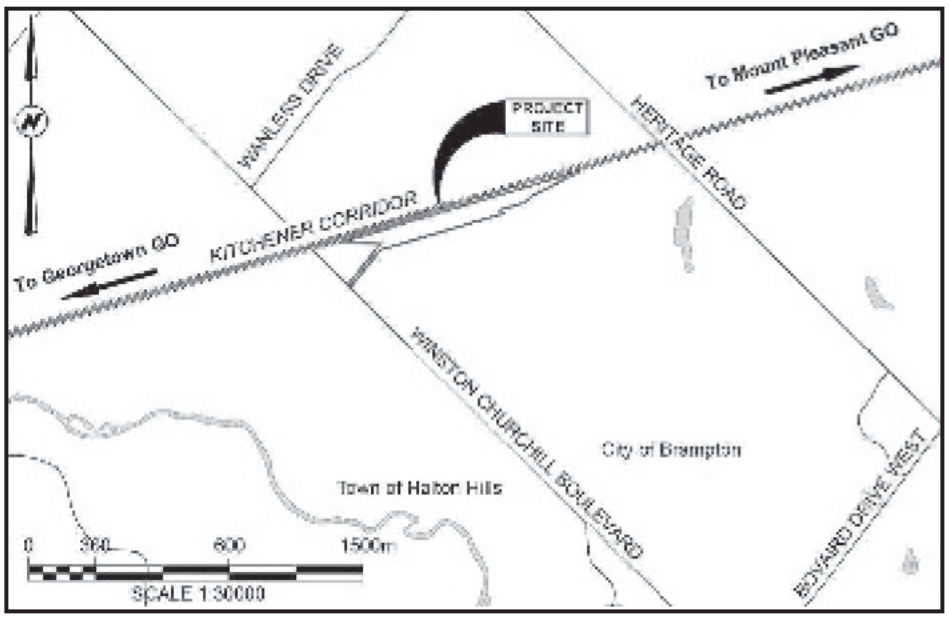

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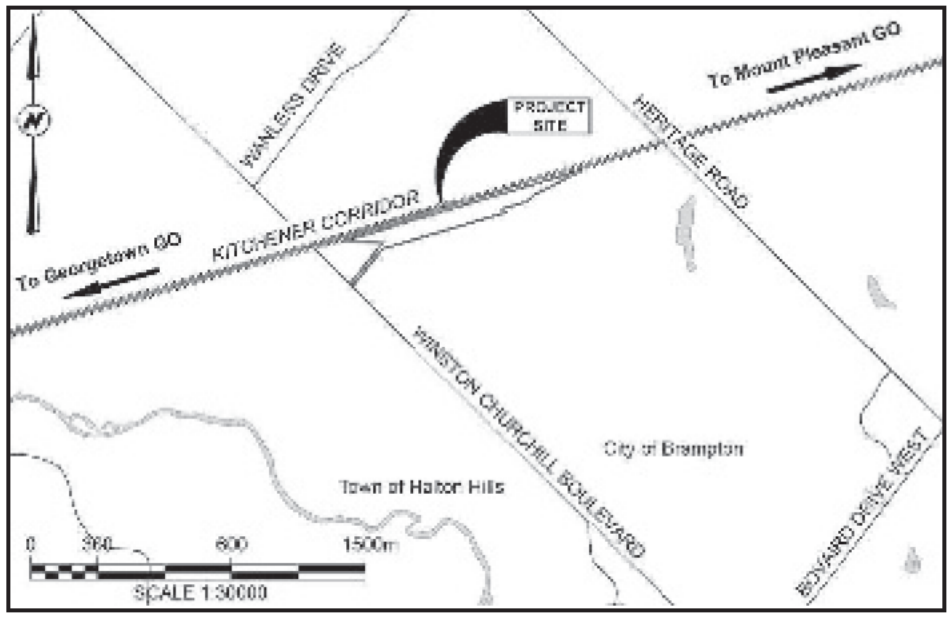

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Avis de commencement et publique en ligne nº 2

Expansion de GO : Processus d'évaluation des projets de transport en commun du remisage de Heritage Road

Dans le cadre du programme d'expansion de GO, Metrolinx met en place un service de transport en commun qui améliorera la façon dont les résidents et les clients se déplacent dans la région! GO offrira plus de services avec des trains plus rapides, des gares et des connexions transparentes à un réseau régional de transport en commun rapide afin d'améliorer, d'accélérer et de faciliter les déplacements dans la région et dans la zone élargie du Grand Toronto et de Hamilton.

Le projet

Metrolinx propose de mettre en place un service bidirectionnel toute la journée le long du couloir Kitchener, de la gare GO d'Union à la gare GO de Kitchener. Metrolinx propose de construire un nouveau remisage, le remisage de Heritage Road (le « Projet »), entre la gare GO de Georgetown et la gare GO de Mount Pleasant. Le remisage fournira une capacité de stockage supplémentaire pour soutenir l'expansion prévue du service.

Dans le cadre de ce Projet, Metrolinx :

- Examinera les effets potentiels du projet sur les environnements naturels, physiques, sociaux et culturels existants; et
- Présentera les mesures d'atténuation possibles pour gérer les effets potentiels découlant des opérations de la construction et la post-construction.

Le projet est entrepris afin d'appuyer l'expansion du service le long du corridor de Kitchener, de la gare GO d'Union à la gare GO de Kitchener.

Emplacement du projet

Le site du projet est situé sur la partie de la subdivision Halton de la Compagnie des chemins de fer nationaux du Canada (CN) du corridor Kitchener, entre Heritage Road et Winston Churchill Boulevard, dans la ville de Brampton, municipalité régionale de Peel.

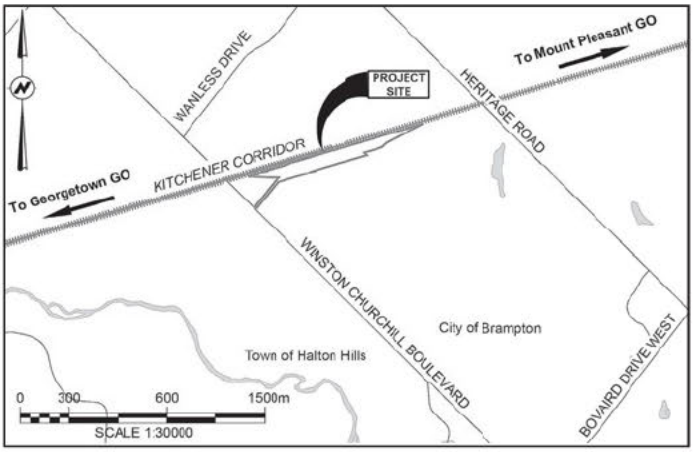
Le processus

Le projet est en cours d'achèvement conformément au Processus d'évaluation des projets de transport en commun indiqué dans le *Règlement de l'Ontario 231/08, Transit Projects and Metrolinx Undertakings*. Le Processus d'évaluation des projets de transport en commun est un processus d'auto-évaluation mené par les promoteurs qui fournit un cadre défini à suivre pour réaliser l'évaluation accélérée des effets environnementaux potentiels et la prise de décision dans un délai d'évaluation réglementée. Dans le cadre du Processus d'évaluation des projets de transport en commun, un rapport de projet environnemental (RPE) est en cours de préparation pour documenter les effets potentiels du projet sur l'environnement et les mesures d'atténuation requises. Après cette période, les personnes intéressées auront l'occasion d'examiner le RPE pendant une période de 30 jours, suivie d'une période d'examen de 35 jours par le ministère de l'Environnement, de la Protection de la nature et des Parcs.

Des versions provisoires du RPE et des rapports techniques associés sont disponibles pour examen dans le cadre du deuxième Centre d'information décrit ci-dessous.

Consultation - Joignez-vous à nous lors du deuxième Centre d'information!

Metrolinx a organisé un Centre d'information virtuel du 12 janvier 2022 au 26 janvier 2022, dans le cadre de la phase de préplanification du Processus d'évaluation des projets de transport en commun. Le premier Centre d'information a présenté le projet et a fourni des informations sur l'expansion de GO et un aperçu des activités du Processus d'évaluation des projets de transport en commun. Nous voulons remercier toutes les personnes qui ont partagé leur opinion.



Avec ce lancement officiel du Processus d'évaluation des projets de transport en commun, Metrolinx tiendra une autre Centre d'information virtuelle avec de plus amples informations concernant le projet et les résultats des études environnementales de la région, y compris l'archéologie, le bruit et les vibrations, la qualité de l'air, l'environnement naturel, la circulation et le transport, les caractéristiques socio-économiques et d'utilisation des terres et le patrimoine culturel.

Une occasion de consultation en ligne sera ouverte du **6 avril 2022 au 20 avril 2022.**

Pour participer et consulter les études environnementales préliminaires, les conceptions préliminaires et les documents relatifs au Centre d'information, veuillez scanner le code QR ou visiter le site Web de la consultation : https://www.metrolinxengage.com/fr/content/expansion-de-kitchener-remisage-de-heritage-road

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Nous continuons d'encourager les membres du public, les organismes, les nations autochtones et les autres personnes intéressées à poser des questions et à offrir des commentaires. Si vous avez des questions relatives au projet, ou si vous voulez être ajouté à la liste de distribution du projet ou si vous souhaitez apporter votre contribution, veuillez prendre contact avec nous :

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Les commentaires et renseignements concernant ce projet seront recueillis pour aider à répondre aux exigences de la *Loi sur les évaluations environnementales*. Tous les renseignements personnels inclus dans une soumission, tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété, sont recueillis, conservés et divulgués par le ministère de l'Environnement, de la Protection de la nature et des Parcs à des fins de transparence et de consultation. Ces renseignements sont recueillis en vertu de la Loi sur les évaluations environnementales ou sont recueillis et conservés en vue de créer un dossier qui sera mis à la disposition du grand public, comme le décrit l'article 37 de la *Loi sur l'accès à l'information et la protection de la vie privée*. Les renseignements personnels feront partie d'un dossier public qui sera à la disposition du grand public, sauf si vous demandez qu'ils soient tenus confidentiels. Pour obtenir de plus amples renseignements, veuillez prendre contact avec l'agent principal du service de la protection de la vie privée de Metrolinx au 416 202-5941.

CET AVIS A ÉTÉ PUBLIÉ POUR LA PREMIÈRE FOIS LE 24 MARS 2022.

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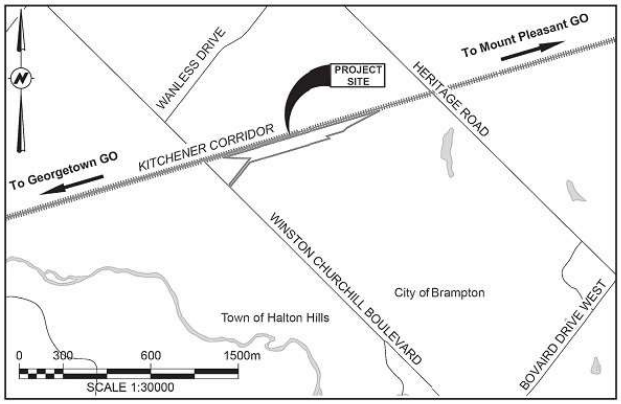

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Les commentaires et renseignements concernant ce projet seront recueillis pour aider à répondre aux exigences de la *Loi sur les évaluations environnementales.* Tous les renseignements personnels inclus dans une soumission, tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété, sont recueillis, conservés et divulgués par le ministère de l'Environnement, de la Protection de la nature et des Parcs à des fins de transparence et de consultation. Ces renseignements sont recueillis en vertu de la Loi sur les évaluations environnementales ou sont recueillis et conservés en vue de créer un dossier qui sera mis à la disposition du grand public, comme le décrit l'article 37 de la *Loi sur l'accès à l'information et la protection de la vie privée.* Les renseignements personnels feront partie d'un dossier public qui sera à la disposition du grand public, sauf si vous demandez qu'ils soient tenus confidentiels. Pour obtenir de plus amples renseignements, veuillez prendre contact avec l'agent principal du service de la protection de la vie privée de Metrolinx au 416 202-5941.

CET AVIS A ÉTÉ PUBLIÉ POUR LA PREMIÈRE FOIS LE 24 MARS 2022.

← **Tweet**

GO Expansion
@GOExpansion

Have your say about the proposed Heritage Road Layover in Peel Region, as part of the Kitchener Expansion Program. Learn about the project and provide your feedback until April 20th.
bddy.me/3x43Krw



4:00 PM · Apr 6, 2022 · Salesforce - Social Studio

7 Retweets **10** Likes

GO Expansion
@GOExpansion

ICYMI: Have your say about the proposed Heritage Road Layover in Peel Region, as part of the Kitchener Expansion Program. Learn about the project and provide your feedback until April 20th.
bddy.me/3McyY3V



12:42 PM · Apr 18, 2022 · Salesforce - Social Studio

2 Retweets **8** Likes

Appendix B

Correspondence

TRANSFORMING TRANSIT IN YOUR AREA

Project Update - GO Expansion Program – Kitchener Corridor – Heritage Road Layover

Metrolinx, an agency of the Province of Ontario, is working to transform the way people move by building a seamless, convenient, and integrated rapid transit network across the Greater Toronto and Hamilton Area. Under the GO Expansion Program, we are building to deliver more service, planning for connections to new transit lines and making it easier for customers to access our service through new customer initiatives.

Metrolinx and its partners are committed to providing clear, accurate information at all times, and you may receive additional communications from your municipality and/or Metrolinx as the project progresses. We will work collaboratively with our partners and with affected property owners to ensure that the process is fair and open and causes the least impact possible. We will keep you informed from planning and design stages through construction, and as the levels of train service envisioned for GO Expansion increase.

Metrolinx is completing a Transit Project Assessment Process (TPAP) for the proposed development of Heritage Road Layover, to support improved service along the Kitchener Rail Corridor. As part of the pre-planning stages of the TPAP, the impacts from this project (construction and future operations) and associated mitigation measures were evaluated and will be included in an Environmental Project Report (EPR). This EPR will be made publicly available for review and comment.

Your participation is an important part of this process. Metrolinx will be holding a second Public Information Centre (PIC) online engagement opportunity from April 6 through April 20, 2022 to share the findings of technical studies that will be summarized in the EPR. Materials will be posted online for a two-week period, and online visitors may review and pose questions regarding the materials during this time. Representatives from the Heritage Road Layover Team will be available to answer any questions or comments that you may have.

To find more information about the Public Information Centre and the Project please feel free to visit https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. The webpage currently contains an overview of the Project and the materials from the January PIC. The materials for this second phase of engagement will be live on the webpage on April 6, 2022.

Sincerely,

Jackie Czajka

Jackie Czajka
Senior Manager, Community Engagement (Peel Region)
Metrolinx
416-202-7500
peel@metrolinx.com

METROLINX

Notice of Commencement and Public Meeting

GO Expansion: Heritage Road Layover Transit Project Assessment Process

As part of the GO Expansion Program, Metrolinx is building transit service that will improve how residents and customers move throughout the region! GO will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network to create better, faster, and easier travel within the region and broader Greater Toronto and Hamilton Area.

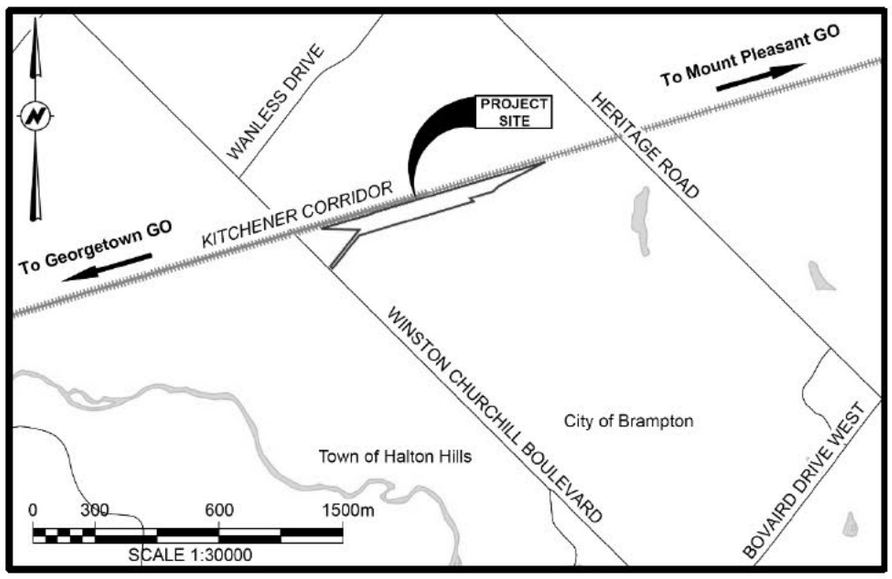
The Project

Metrolinx is proposing to implement two-way all-day service along the Kitchener Corridor from Union GO Station to Kitchener GO Station. Metrolinx is proposing to construct a new layover, Heritage Road Layover (the Project), between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional storage capacity to support the planned service expansion.

As part of this Project, Metrolinx will:

- Review the potential effects of the Project on the existing natural, physical, social, and cultural environments; and
- Present possible mitigation measures to manage the potential effects arising from construction and post-construction operations.

The Project is being undertaken to support service expansion along the Kitchener Corridor from Union GO Station to Kitchener GO Station.



Project Location

The Project Site is on the Canadian National Railway (CN) Halton Subdivision portion of the Kitchener Corridor between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel.

The Process

The Project is being completed under the Transit Project Assessment Process (TPAP) as prescribed in *Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings*. The TPAP is a proponent-driven, self-assessment process that provides a defined framework to follow to complete the accelerated assessment of the potential environmental effects and decision-making within a regulated assessment timeline. As part of the TPAP, an Environmental Project Report (EPR) is being prepared and will document any potential environmental effects and mitigation requirements of the Project. Following this period, interested persons will have an opportunity to review the EPR during a 30-day period, followed by a 35-day review period by the Ministry of Environment, Conservation and Parks.

Draft versions of the EPR and associated technical reports are available for review as part of the second Public Information Centre described below.

Consultation – Join us at our second Public Information Centre!

Metrolinx hosted a virtual Public Information Centre (PIC) from January 12 to January 26, 2022 as part of the pre-planning phase of the TPAP. The first PIC introduced the Project and provided information regarding GO Expansion and an overview of the TPAP activities. We thank everyone for their feedback.

With this formal commencement of the TPAP, Metrolinx will be hosting another virtual PIC with further information regarding the Project and results of the environmental studies of the area, including archeology, noise and vibration, air quality, natural environment, traffic and transportation, socio-economic and land use characteristics, and cultural heritage.

Online engagement will be open from **April 6, 2022 to April 20, 2022**.

To engage and view draft environmental studies, preliminary design drawings, and the PIC materials, please scan the QR code or visit the consultation website:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

We Welcome Your Questions and Comments

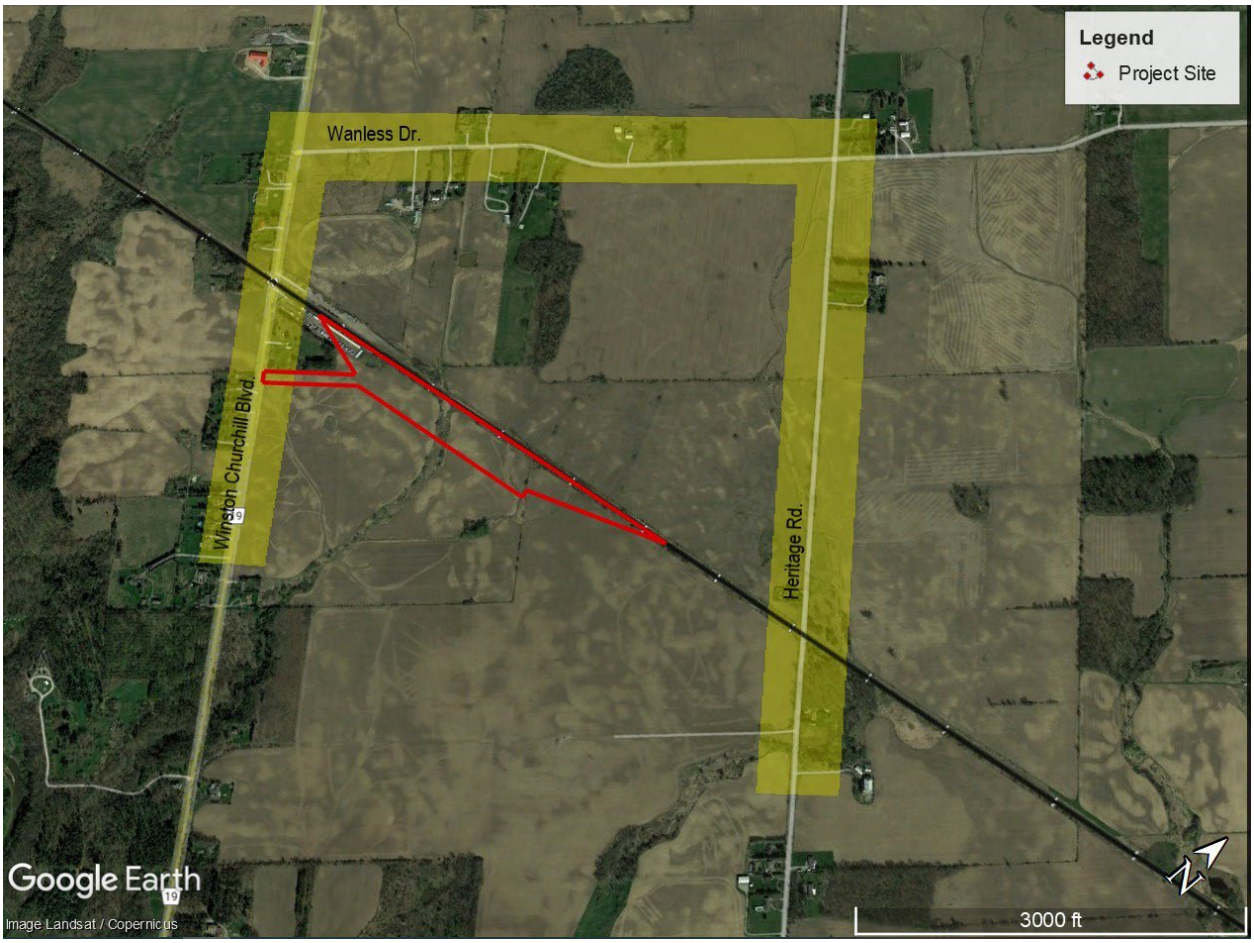
We continue to encourage members of the public, agencies, Indigenous Nations, and other interested persons to ask questions and provide feedback. If you have any project-related questions or would like to be added to the Project's mailing list, or would like to provide input please contact us via:

Phone: 416-202-7500 or Email: peel@metrolinx.ca

Pour plus de renseignements, veuillez composer le 416 874-5900 ou le 1 888 GET-ON-GO (438-6646).

Comments and information regarding this project are being collected to assist in meeting the requirements of the *Environmental Assessment Act*. All personal information included in a submission, (such as name, address, telephone number and property location) is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Senior Privacy Officer for Metrolinx at 416-202-5941.

This Notice was first issued on March 24, 2022.


Legend
Project Site
Wanless Dr.
Winston Churchill Blvd.
Heritage Rd.
Google Earth
Image Landsat / Copernicus
3000 ft

Notice of Commencement and PIC #2 Mailer

Notice Delivery Address List March 24, 2022

ADDRESS	MUNICIPALITY
10578 Winston Churchill Blvd	Halton Hills
10600 Winston Churchill Blvd	Halton Hills
10605 Winston Churchill Blvd	Brampton
10620 Winston Churchill Blvd	Halton Hills
10625 Winston Churchill Blvd	Brampton
10628 Winston Churchill Blvd	Halton Hills
10642 Winston Churchill Blvd	Halton Hills
10654 Winston Churchill Blvd	Halton Hills
10662 Winston Churchill Blvd	Halton Hills
Churchill Estates	Halton Hills
10672 Winston Churchill Blvd	Halton Hills
10712 Winston Churchill Blvd	Halton Hills
10738B Winston Churchill Blvd	Halton Hills
10738A Winston Churchill Blvd	Halton Hills
10746 Winston Churchill Blvd	Halton Hills
10758 Winston Churchill Blvd	Halton Hills
10774 Winston Churchill Blvd	Halton Hills
10827 Winston Churchill Blvd	Brampton
10861Winston Churchill Blvd	Brampton
10886 Winston Churchill Blvd	Halton Hills
10906 Winston Churchill Blvd	Halton Hills
10942 Winston Churchill Blvd	Halton Hills
10946 Winston Churchill Blvd	Halton Hills
10948 Winston Churchill Blvd	Halton Hills
10972 Winston Churchill Blvd	Halton Hills
2660 Wanless Drive	Brampton
2755 Wanless Drive	Brampton
2779 Wanless Drive	Brampton
2788 Wanless Drive	Brampton
2806 Wanless Drive	Brampton
2849 Wanless Drive	Brampton
2883 Wanless Drive	Brampton
10869 Heritage Rd	Brampton
10618 Heritage Rd	Brampton
10525 Heritage Rd	Brampton

TRANSFORMING TRANSIT IN YOUR AREA

GO Expansion Program – Kitchener Corridor – Heritage Road Layover Project

March 24, 2022

[redacted]

[redacted],

Project Update - Metrolinx GO Expansion Program - Kitchener Corridor - Heritage Road Layover Project

On behalf of Metrolinx, I just wanted to keep you apprised of the activities associated with the Heritage Road Layover Project (the "Project"). In December, we circulated a letter to you, advising of a virtual open house that was completed in January to introduce you to the Project.

Metrolinx will be entering into the formalized Transit Project Assessment Process (TPAP) prescribed in *Ontario Regulation 231/08* made under the Environmental Assessment Act on March 24, 2022. As part of the TPAP, an Environmental Project Report summarizing the results of technical studies completed to support the Project, any potential effects to existing natural, physical, social and cultural environments; and possible mitigation measures is being prepared for public review and comment.

Your participation is an important part of the TPAP. An opportunity to review the project materials will be available in the second virtual open house scheduled between April 6 and April 20, 2022. Like the first open house, representatives from the Heritage Road Layover Team will be available during that period to answer any questions or comments that you may have.

To find more information about the virtual open houses and the Project please feel free to visit https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. The webpage currently contains an overview of the Project and the materials from the January open house. The materials for the second open house will be live on April 6, 2022.

[redacted]

Sincerely,

Brian Matthews
Senior Manager, Property Acquisitions - Capital Projects Group
Metrolinx

TRANSFORMING TRANSIT IN YOUR AREA

GO Expansion Program – Kitchener Corridor – Heritage Road Layover Project

[redacted] Czajka
[redacted]agement
Community Engagement-West

[redacted]

[redacted]

TRANSFORMING TRANSIT IN YOUR AREA

GO Expansion Program – Kitchener Corridor – Heritage Road Layover Project

March 24, 2022

[redacted]

[redacted],

Project Update - Metrolinx GO Expansion Program - Kitchener Corridor - Heritage Road Layover Project

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[redacted]

Sincerely,

Brian Matthews
Senior Manager, Property Acquisitions - Capital Projects Group
Metrolinx

Cc:
[redacted]
[redacted]Manager, Community Engagement, Community Engagement-West

[redacted]

View this email in your browser

Peel April 13, 2022

GO Expansion: Heritage Road Layover Public Information Centre #2

On March 24, 2022, Metrolinx commenced the Transit Project Assessment Process (TPAP) for the proposed Heritage Road Layover Project. As part of the TPAP, The Environmental Project Report is available for a 30-day review period. The public has the opportunity to review the Environmental Project Report (EPR) and provide comments.

With this formal commencement of the TPAP, Metrolinx is hosting the second Heritage Road Layover virtual Public Information Centre (PIC). The public can access information regarding the Project and results of the environmental studies of the area, including archeology, noise and vibration, air quality, natural environment, socio-economic and land use characteristics, and cultural heritage Traffic and transportation studies are being developed and will be available soon.

Online engagement is open from **April 6, 2022 to April 20, 2022**

To engage and view draft environmental studies, preliminary design drawings, and the PIC materials, please visit the consultation website: Metrolinx Engage/Heritage Road Layover

Hurontario LRT: Construction in

View this email in your browser

IT'S HAPPENING.
METROLINX

Halton Region

GO Service on the Lakeshore West Line

- As riders return to GO Transit and UP Express, Metrolinx is reinstating service in phases, helping customers to get ready to ride once again.
- Metrolinx is bringing back more evening and weekend service on the Lakeshore lines and on UP Express, with more incremental service increases on the way.
- Starting April 2, some GO train and bus schedules will be adjusted, some rail trips replaced by bus, and some replacement buses suspended.
- On **Sunday, April 3 and Sunday, April 10**, there will be minimal train service between Union Station and Oakville GO. We're carrying out important work related to the construction of the Hurontario Light Rail Transit (LRT) project which can only take place when trains are not running. The work will take place across all tracks. Please plan ahead so you know what your transit options are. For more information and to see schedules, visit gotransit.com or use triplinx.ca to plan your trip.

Heritage Road Train Layover Facility - Engagement Opportunity

- To accommodate the planned growth and service improvements on Kitchener GO Rail Corridor, construction of a new train layover (Heritage Road Layover) is proposed. The facility would be located between the Mount Pleasant GO Station and the Georgetown GO Station.
- Metrolinx will be hosting a second virtual Public Information Centre with further information regarding the Project and results of the initial environmental studies of the area, including archeology, noise and vibration, air quality, natural environment, traffic and transportation, socio-economic and land use characteristics, and cultural heritage.

Online engagement will be open from **April 6, 2022 to April 20, 2022**.

Appendix C

TAC Minutes

Heritage Road Layover
TAC Meeting Minutes

Meeting title:	TAC Meeting – Heritage Road Layover
Date:	March 29, 2022
Time:	9:30 – 11:00 EDST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Simon Strauss	Metrolinx	simon.strauss@metrolinx.com
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Brian Poole	Metrolinx	brian.poole@metrolinx.com
Dara Corrigan	Metrolinx	dara.corrigan@metrolinx.com
Jackie Czajka	Metrolinx	jackie.czajka@metrolinx.com
Stephanie Cardenas	Metrolinx	stephanie.cardenas@metrolinx.com
Benjamin Kwok	Metrolinx	benjamin.kwok@metrolinx.com
Jeff Yee	Metrolinx	jeff.yee@metrolinx.com
Bob Felker	Wood	bob.felker@woodplc.com
Louise McAndrew	Wood	louise.mcandrew@woodplc.com
Nadya Mrochkovskaia	Wood	nadya.mrochkovskaia@woodplc.com
Ivan Drewnitski	Town of Halton Hills	idrewnitski@haltonhills.ca
Jeff Jelsma	Town of Halton Hills	JeffJ@haltonhills.ca
Maureen Van Ravens	Town of Halton Hills	MaureenV@haltonhills.ca

Melissa Ricci	Town of Halton Hills	mricci@haltonhills.ca
Rizwan Haq	CVC	Rizwan.Haq@cvc.ca
Jakub Kilis	CVC	Jakub.Kilis@cvc.ca
Christine Wilson	CVC	Christine.Wilson@cvc.ca
Anand Balram	City of Brampton	Anand.Balram@brampton.ca
Brian Lakeman	City of Brampton	Brian.Lakeman@brampton.ca
Compton Bobb	City of Brampton	Compton.Bobb@brampton.ca
Henrik Zbogar	City of Brampton	Henrik.Zbogar@brampton.ca
Andrew McNeill	City of Brampton	Andrew.McNeill@brampton.ca
Kumar Ranjan	City of Brampton	Kumar.Ranjan@brampton.ca
David Stowe	City of Brampton	David.Stowe@brampton.ca
Manvir Tatla	Peel Region	manvir.tatla@peelregion.ca
Tamara Kwast	Peel Region	tamara.kwast@peelregion.ca

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement** **Safety Moment** • Don't Veer for Deer		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO
	• Bramalea GO to Mount Pleasant GO planned for 15 minute peak service and 30 minute off-peak and counterpeak service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  o Network Wide GO Expansion
	  o Kitchener GO Expansion		

3	**Overview of Project**
	• Kitchener Corridor consists of 3 sections
	  o Union Station to Bramalea GO Station owned by Metrolinx
	  o Halton Subdivision from Bramalea GO to Georgetown GO owned by CN
	  o Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor
	• Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance
	• Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan
	• Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train
	• Site set-up flexibility to alternatively accommodate up to eight 1 locomotive and 6 coaches per train
	• Access road entrance from Winston Churchill Blvd.
	• Connection to Kitchener Corridor mainline track at eastern portion of site		

4	**TPAP Schedule** • The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings • A virtual Public Information Centre (PIC#2) is scheduled to commence April 6, 2022		

	○ PIC will remain open until April 20, 2022, for interested parties to review materials and comment. • Notice of Commencement issued on March 24, 2022. • An Environmental Project Report has been prepared to: ○ Define Project Scope ○ Baseline Environmental Studies ○ Conceptual Engineering Design ○ Impact Assessment / Mitigation ○ Document engagement and consultation ○ Future Commitments for additional studies, permitting, and monitoring		
5	**Previous Engagement Sessions** • Public Information Centre (PIC #1) was held virtually from January 12 to January 26, 2022 • Questions and concerns raised from participants included: ○ Mitigation of effects of noise and vibration ○ Train idling at facility ○ Project effects on air quality ○ Any disturbance to McNichol Cemetery ○ Engagement with community ○ Integration of Project design with area aesthetics ○ Types of maintenance activities at the layover		
6	**TPAP Studies** • The Baseline Studies include: ○ Air Quality ○ Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area ○ Consideration of air pollution and contaminants in the area ○ Mitigation and monitoring measures related to construction and operations to limit the amount of air pollution created by the Project ○ Noise & Vibration ○ Study Area extends 500 m from Project Site ○ Baseline conditions identified at four Representative Sensitive Receptors (RSRs) measures for a total of one month ○ Noise increases are anticipated to be temporary during construction ○ Traffic & Transportation ○ Road traffic effects during construction are expected to be minimal due to the predominantly rural nature of the Project Site ○ During operation, traffic levels in and out of the Layover are anticipated to be minimal ○ Archaeology ○ Recommendation of a Stage 3 Archaeological Assessment (AA) to be carried out on portion of the Project Site in spring or summer 2022 ○ Engagement with Indigenous National required during Stage 3 AA as per Metrolinx procedures		

	○ Cultural Heritage ○ Three Cultural Heritage Resources (CHRs) identified within 50 m of the Project Site ○ Private property (CHR2) adjacent to Project Site may be isolated from its surrounding environment, context, or a significant relationship and mitigation measures will be put into place to reduce these effects ○ No adverse impacts anticipated for any of the properties ○ Socio-Economic and Land Use Characteristics ○ Draft Heritage Heights Secondary Plan shows future low to medium density residential units in the vicinity of the proposed Layover ○ Effects, such as nuisance from construction activities, will be mitigated and monitored ○ Natural Environment ○ Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 ○ Mitigation and monitoring measures should be put into place to reduce disturbance for migratory birds, wildlife, SAR, watercourses, fish and fish habitats, and vegetation ○ Tree Inventory Plan ○ Recommendations for specific tree removal and tree injury will be completed in spring 2022 ○ Compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020)		
7	**Questions** 1. Question (City of Brampton) – Currently, the Kitchener Line is using train consists with 10 cars. Is this layover being planned with future expansion in mind to allow for train consist of 12 cars? • Answer (Metrolinx) – This train layover is being built to accommodate train consist with 12 cars to support planned service increases and passenger capacity needs. The train layover in Georgetown has limited storage capacity and can only accommodate train consists with 10 cars. 2. Question (City of Brampton) – There was mention of fuelling as some of the activities on site. Will fuel be stored on site? • Answer (Metrolinx) – No, fuel will not be stored on site. Fuelling will be completed through direct to locomotive transfer (Trucks will be arriving at the facility for direct refuelling to trains).		

	3. Question (Town of Halton Hills) – Will this new layover replace the storage and maintenance activities currently at the Georgetown facility? • Answer (Metrolinx) – The intent of this facility is to replace the Georgetown facility and maintenance activities. All train storage will be moved from Georgetown to Heritage Layover and Georgetown will function as a regular station. Georgetown storage facility is at the end of its useful life. 4. Question (Metrolinx) – An Elected Official at an earlier meeting flagged potential flooding issues on sites located slightly north of the Kitchener Corridor. Has CVC noticed any issues on the site itself or surrounding the site in regards to flooding issues? • Answer (CVC) – Most of the flooding is localized to a property close to Wanless Drive and Winston Churchill Boulevard and has been an ongoing historical issue in the area. At the moment, do not have any further details or information about the flooding itself. Discussions about this issue are ongoing in relation to Heritage Heights. 5. Questions (Town of Halton Hills) – a) The information presented does not indicate the planned subdivision on the west side of Winston Churchill Blvd, just south of the railway tracks. Can this subdivision be included as part of the TPAP studies moving forward? • Answer (Technical Advisor – Wood) – References to Churchill Estates can be included into the technical documents. b) Were there any notification boards or signage put up on Winston Churchill Blvd to indicate information about the planned layover? • Answer (Technical Advisor – Wood) - A copy of the Notice of Commencement was provided to the construction office for the subdivision. The developer has not been contacted directly. c) Can the Notice of Commencement be forwarded to Halton Hills to circulate to the developer? • Answer (Metrolinx) – Yes, the Notice of Commencement will be forwarded to the Town of Halton Hills.		

	6. Question (Town of Halton Hills) – Have there been discussions regarding a potential underpass at Winston Churchill? • Answer (Metrolinx) - CN is the owner of the rail corridor and grade separation proposals need to be raised with CN. Metrolinx will be involved once a project has been initiated by CN.. 7. Question (City of Brampton) – Does the Noise and Vibration study only consider construction, or does it factor in ongoing operations? • Answer (Technical Advisor – Wood) – The Noise and Vibration Report looks at both construction and operations, however it is specific to the layover itself and the trains arriving and leaving the facility. Also, the design that is being developed is electrification ready, however electrification is not part of the current plan. 8. Question (City of Brampton) – Since the Noise and Vibration Report focuses on the facility itself, is there a suggested buffer where development should not occur around the facility? E.g. 100 or 200 m? • Answer (Technical Advisor – Wood) – Based on the assessment about operations of the layover, the noise did not exceed the 5-decibel threshold, therefore, no mitigation measures are not required. Depending on the type of development that would occur around the facility, the future developer would go through the process of understand whether any noise barriers are required for their planned community. • Answer (Metrolinx) – When a site plan application through the municipality occurs, the Third Party Projects Review team at Metrolinx would be able to provide more specific advice on development in the vicinity of the layover, including setback distances. 9. Comment (City of Brampton) – In regard to noise from the facility, with the Heritage Heights Secondary Plan, there will be future development of hundreds of houses in the surrounding area and this will not remain rural, agricultural land. Next week, the Heritage Heights Secondary Plan is being taken to council for approval. 10. Question (City of Brampton) – The map indicates that the layover would sever a key piece of the road network within the Heritage Heights Secondary Plan. Is there any way this could be modified? It should be emphasized this is a		

	significant roadway that provides connection for the entire community. • Answer (Metrolinx) – The layover is limited to development on the south side of the Kitchener Corridor due to the connection to Mount Pleasant GO. It also provides for a future western connection to Winston Churchill Boulevard which limits the ability to shift towards Winston Churchill Blvd. Metrolinx is acquiring properties to proceed with the current footprint of the layover. A grade separation for the new roadway is a possibility but it would require discussion with both Metrolinx and CN. 11. Question (City of Brampton) – Why does this new layover need to be created – would it be possible for the existing facility in Georgetown to be modified to accommodate future GO Expansion? Would it be possible to reduce the new layover to 10 car consists? • Answer (Metrolinx) – The current layover in Georgetown is at its end of life and undersized for future plans along the Kitchener Corridor. Property outside of the Georgetown facility to expand its services is not readily available for acquisition. 12 car capacity is needed to provide sufficient capacity to serve projected ridership at Mount Pleasant, Brampton and Bramalea GO stations. Note that prior to the pandemic many trips on the Kitchener corridor were already at or exceeded full capacity. 12. Comment (City of Brampton) – The Heritage Heights team at City of Brampton has been trying to communicate with CN regarding this layover. Further discussion is required regarding transportation in the area. Also note that the team has not connected with CN regarding this issue but an underpass of the rail line for the new roadway would be preferable. 13. Question (City of Brampton) – Due to disruptions during construction, would it be possible to coincide the planned third track expansion with the Heritage Road Layover? • Answer (Metrolinx) – Since the Project is happening separately, the Heritage Road construction will occur first and then the third track construction will follow at a later date. Construction schedules and communication will be coordinated as the start of the project construction approaches.		

	14. Question (CVC) – Land use planning for the Heritage Heights Subwatershed Study has identified SWM pond locations that do not seem to match the planned layout of the Heritage Road Layover. This obstruction may create challenges in drainage for the area. Was information regarding SWM utilized during the design process for the layover? • Answer (Metrolinx) – The Stormwater Management Report still requires completion following field studies. Information regarding current flooding near the Project (shared by an Elected Official) is new information and may be considered during the report preparation. • Answer (Technical Advisor – Wood) – Information from the Heritage Heights Subwatershed Study has been provided to Wood and is being considered for this facility. The drainage design for the layover considers the regional and hundred-year storms and future climate change considerations, however, there is a constraint given the limited capacity of the two existing culverts under the CN ROW. Modifications are being considered to the existing watercourses downstream of the existing CN culverts, within the Project site to direct drainage through the facility. The sizing of the new west and central culverts on the Project site is based on the existing capacity of the two CN culverts. A third, eastern culvert, is sized to accommodate drainage from the existing trackside ditch. Direct onsite drainage will be handled by a minor system of subdrains and infiltration ponds for evaporation, with overflow discharged downstream. 15. Comment (CVC) - The design does not seem to recognize the hazards and impacts coming through the surrounding area. This infrastructure will impact the SWM in the area significantly. Further discussions are required for SWM considerations of the area. 16. Comment (City of Brampton) – City of Brampton would prefer to be included in the conversations regarding SWM in the area. 17. Comment (Town of Halton Hills): In the Town of Halton Hills, there are documented noise issues with train noise in general. New residents to the area may not anticipate the noise that will be generated and the Town would need to		

	navigate through noise complaints. Halton Hills would support a grade separation at Winston Churchill Boulevard. 18. Comment (Town of Halton Hills) – Winston Churchill Boulevard has truck restrictions on it and the intersection in Norval is not able to accommodate truck traffic adequately. If truck traffic is required in the area, it should avoid the intersection and utilize Mayfield Road instead, turning south on Winston Churchill Boulevard. • Answer (Metrolinx) – This will be considered during construction and operations. 19. Question (CVC) – The layover is proposed to cross an important north to south Natural Heritage Corridor. How is this being addressed in the design of the layover? Any changes to the Natural Heritage features should be completed in consultation with CVC and City of Brampton. • Answer (Technical Advisor – Wood) – This is a restraint that is recognized in the project and further work is occurring. 20. Comment (City of Brampton) – Request for Metrolinx to follow up with City of Brampton about impacts to the road network, Natural Heritage and SWM within and around the Project Site. 21. Question (City of Brampton) – Does the layover provide protection for western movement/connection to the rail line? • Answer (Metrolinx) – The layover does protect for a future western connection but this is outside of the current project scope. 22. Question (City of Brampton) – Will any mitigation be implemented regarding train idling and in particular, engine noise for example a shell or covering or provision of one in the future? • Answer (Metrolinx) – Upon arrival at the layover facility, the trains idle briefly but are then connected to wayside power to minimize noise impact.		
8	**ACTION ITEMS** 1) Mx to forward Notice of Commencement to Town of Halton Hills – Complete (circulated April 6, 2022) 2) Mx to connect further with CVC and City of Brampton regarding identified issues	Mx Mx	Completed TBD

Adjourn 11:00 ESDT

Appendix D

Presentation

Public Information Centre #2

April 6, 2022 – April 20, 2022

Welcome to the proposed Heritage Road Layover





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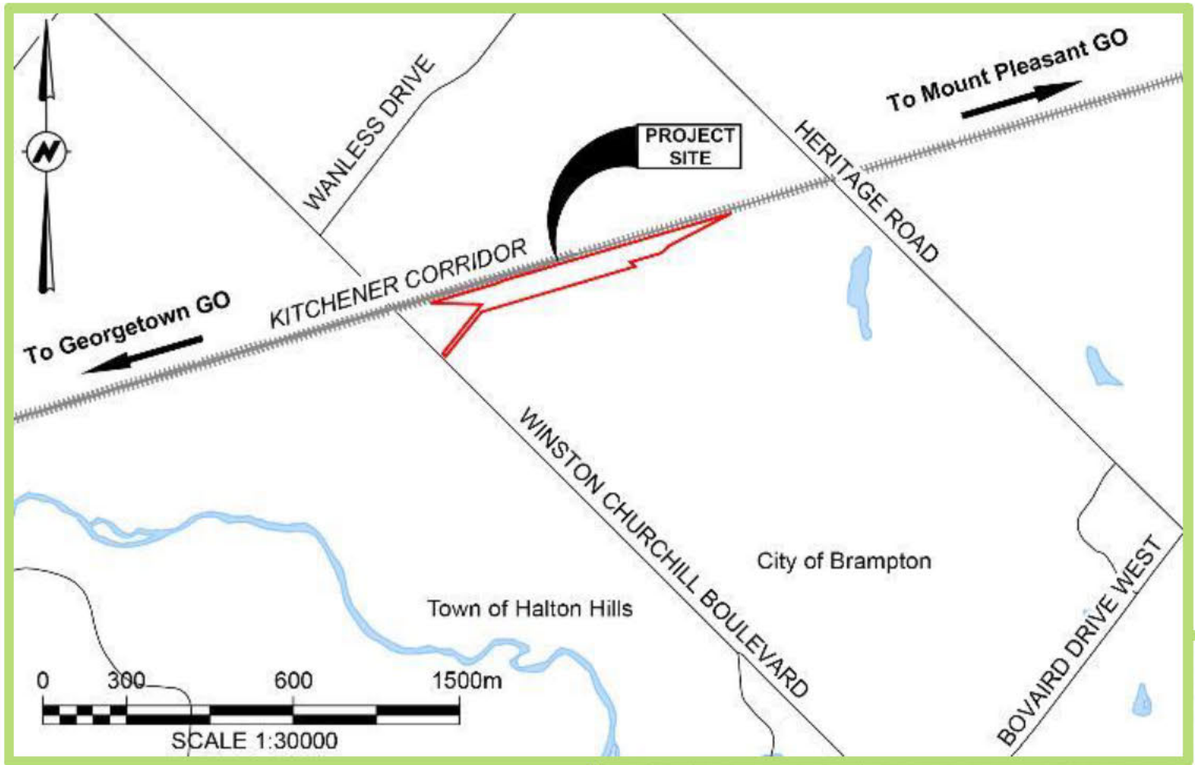
Heritage Road Layover – Project Overview



Location of Project Site on the Kitchener Corridor (above) and regionally throughout the Greater Toronto and Hamilton Area (right).

- Welcome to the 2nd Public Information Center (PIC) for the proposed Heritage Road Layover! For background on the project, please see documentation **here** from PIC #1 held from January 12 to January 26, 2022.
- The layover will be strategically located on the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station, between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.
- A train layover is a support facility that provides:
    - Overnight and potential midday storage for trains
    - Access to trains for crews to perform inspection and light maintenance activities when trains not in service



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Feedback & FAQs from Public Information Centre #1

Between January 12 and January 26, 2022, Public Information Centre #1 (PIC) was virtually hosted. The following questions and concerns were raised:

- Mitigation of any effects of noise and vibration on surrounding areas.
- Train idling time at the facility.
- Mitigation of any effects on air quality in the surrounding area, including receptors utilized for monitoring.
- Disturbance of the McNichol Cemetery during construction and/or operations.
- Engagement with community, including City of Brampton, Town of Halton Hills, Credit Valley Conservation, and property owners.
- Integration of the Project with the aesthetics of the surrounding area and cohesion of the DRAFT Heritage Heights Secondary Plan during the Detailed Design phases of the project.
- Number of trains supported at the facility (4 trains with 2 locomotives and 12 cars or 8 trains with 1 locomotive and 6 cars) to account for current and future operations and optimize the Kitchener GO Expansion.
- Activities at the layover, including information regarding storage and light maintenance such as daily visual inspections for defects or damage, cleaning, sanitary flushing, and refueling of trains.

All questions and responses from PIC#1 are available on Metrolinx Engage: https://www.metrolinxengage.com/en/content/heritage-road-layover-ask-question

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Transit Project Assessment Process (TPAP) Schedule

Pre-TPAP Phase
(Sept 2021 – March 2022)

Prepared background studies and impact assessments

Prepared preliminary and early detail designs

Engaged with Indigenous Nations

Consulted with Stakeholders and the Public

Documented findings from background studies and prepared draft Environmental Project Report (EPR) which included:

- Description of transit project
- Assessment and evaluation of impacts and proposed mitigation measures

Virtual Public Information Centre #1 – January 12 to January 26, 2022

TPAP Phase – Up to 120 Days
(March – Summer 2022)

Document updated findings in Final Draft EPR

Engage with Indigenous Nations

Consult with Stakeholders and the Public

WE ARE HERE

Notice of Commencement – March 24, 2022

Virtual Public Information Centre #2 – April 6 to April 20, 2022

Notice of Completion & EPR – Summer 2022

Post-TPAP Phase
(Summer – Fall 2022)

30-Day Public Review of EPR – Summer 2022

Objections / No Objections Submission

35-Day Minister's Review / Decision – Fall 2022

Minister Gives Notice

1. Proceed
2. Proceed with Conditions
3. Must Conduct Additional Work

Statement of Completion to MECP

Proceed with procurement and construction.

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Heritage Road Layover - Renderings





- Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan (see Socio-Economic section for details).
- Various upgrades to the existing road and highway network are planned in concert with the planned growth.

Design Elements

- Four tracks in total, with each track being able to accommodate up to:
    - One train with two locomotives and 12 coaches; OR
    - Two trains with one locomotive and 6 coaches
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track at eastern portion of site



Aerial view of Project Site and surrounding landscapes

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Transit Project Assessment Process (TPAP) Studies

A number of technical studies were completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies are:

- Air Quality
- Archaeology
- Natural Environment*
- Noise & Vibration*
- Cultural Heritage
- Tree Inventory Plan*
- Traffic & Transportation
- Socio-Economic and Land Use Characteristics

The following pages present the study baselines along with key mitigation and monitoring measures that will be implemented for the project. Further details can be found in the technical reports as they become available.

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

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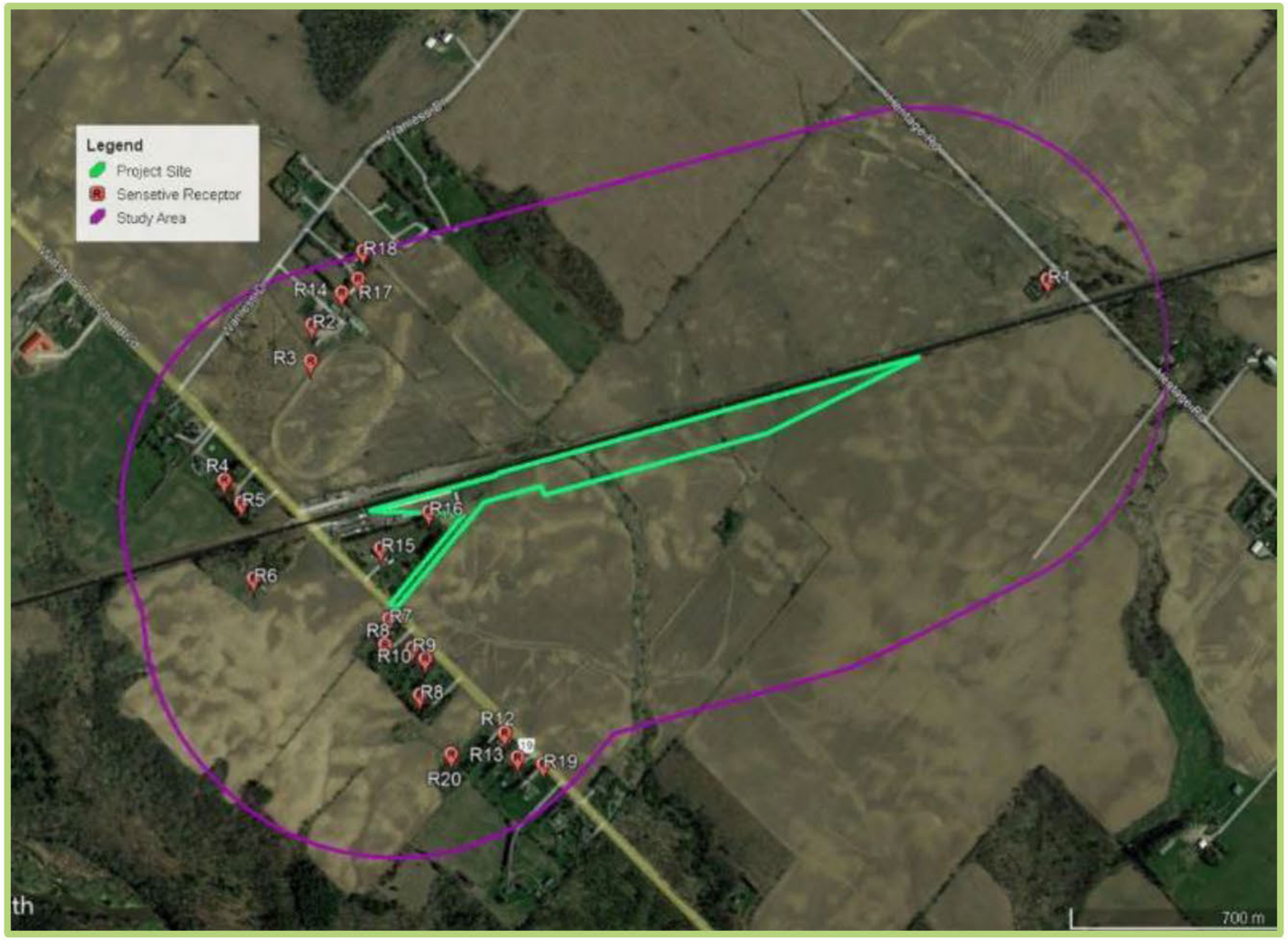
Air Quality

Study Highlights



Sensitive receptors within Study Area of the Project

- Determines the air quality impacts generated as part of construction and operation of the Project and develops mitigation strategies for any issues
- Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area, which were residences
- Considered contaminants include:
  - Particulate matter
  - Criteria air contaminants (nitrogen dioxide, carbon monoxide, sulphur dioxide)
  - Volatile Organic Compounds (VOCs)
  - Odorous contaminants
- Sources of air pollution in the area include:
  - Traffic on local arterials and railroads
  - Residential, institutional, and commercial heating
  - Transboundary sources
- Air quality monitoring stations in similar surrounding land uses and close to the Project Site established baseline air concentrations

Air Quality

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction related air pollution may pose risks to human health and wellbeing	• Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan (AQMP). • Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. • Dust prevention and control methodologies not limited to: o Proper maintenance of equipment and vehicles o Minimizing size of active areas on storage piles o Usage of non-chemical dust suppressant to reduce dust emissions from temporary unpaved roads or parking lots	• Develop and implement Weekly Air Quality Monitoring Plans that document how air quality monitoring has been conducted and compliance assessed to effectively prevent unacceptable rates of air emissions in accordance with the following guidelines. • Monitor placement should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks (MECP) Operations Manual for Air Quality Monitoring in Ontario (2018).
Operations related exhaust emissions of diesel powered trains contribute to local and regional air pollution.	• A detailed Operations AQMP will be developed and implemented to limit the generation and dispersion of airborne particulate matter, nitrogen oxides and other air contaminants associated with the project operations. • Unnecessary train / engine / propulsion system idling will be minimized through technical and operational measures.	• On-site inspections will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • Annually, test train propulsion and auxiliary power units, which produces exhaust emissions and ensure that they remain in compliance with applicable emission standards. • Develop an Air Sampling and Monitoring Plan and submit an annual report summarizing all sampling and monitoring results accumulated over the preceding year.

Noise and Vibration

Study Highlights



Location of four sensitive receptors for baseline condition monitoring

- Reviews construction and stationary sources of sound that will be produced from the Project
- Study Area extends 500 m from Project Site
- Construction phase was modelled based on construction activities and assumed equipment that will likely be utilized for the Project
- Operations phase was monitored on stationary noise and vibration sources for the layover-built scenario
- Baseline conditions at four identified representative sensitive receptors have been measured for a total of one month
- Major sources of existing noise include rail traffic from CN freight, VIA Rail, GO trains, and road traffic
- During construction, noise increases are anticipated to be temporary in nature and considered short-term nuisance to nearby residents

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Noise and Vibration

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
The predicted sound indicate that it is feasible to operate most construction equipment within MECP limits.	The following are recommended to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation.	• Construction activities will be monitored by a qualified Environmental Inspector.
Vibration levels from the construction equipment are not expected to affect the receptors in the Study Area.	Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas.	

Traffic and Transportation

Study Highlights

- Reviews traffic in the surrounding community and during construction and operations of the Project
- Construction activities anticipated to commence in 2023 and finish in winter 2025
- Road traffic effects during construction are expected to be minimal given the predominantly rural location of the Project Site and the forecast background traffic levels. They may include:
    - Queues at the level crossing on Winston Churchill Boulevard may stretch back to access road entrance
    - Occasional temporary (e.g. less than 15 min) lane closures during construction and utilization of access road
- No current or planned transit services operating on Winston Churchill Boulevard or Heritage Road
- During operation, traffic levels in and out of the Layover are anticipated to be minimal



Level train crossing at Winston Churchill Boulevard.

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Traffic and Transportation

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction may result in the need for temporary road or lane closures changing access to nearby land uses	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Access to nearby land uses will be maintained to the extent possible. Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur. • Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period. • Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjust as necessary during the construction period.

Stage 1 Archaeological Assessment

Study Highlights

The Stage 1 Archaeological Assessment report summarized existing archaeological information and recommended a Stage 3 Archeological Assessment to be completed on a portion of the Project Site by licensed professional archaeologists in spring or summer 2022.

- Engagement with Indigenous Nations required during Stage 3 Archaeological Assessment



Location of previous archaeological studies within the Study Area for the Heritage Road Layover

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Stage 1 Archaeological Assessment

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Completion of Stage 3 Archaeological Assessment • If archaeological materials are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot will be protected from impact an assessment is completed by a professionally licensed archaeologist. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments (ie. Stage 2, 3, 4 as required) will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. • If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted. • All Archaeological Assessment findings will be shared with Indigenous Nations, as per Metrolinx procedures.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Cultural Heritage

Study Highlights



Location of cultural heritage resources with proximity to the Project Site

- Three (3) cultural heritage resources identified:
  - CHR1: Cultural heritage landscape (McNichol Cemetery)
  - CHR2: Built heritage landscape (private residence)
  - CHR3: Built heritage landscape (private residence)
- City of Brampton is currently in the process of heritage designation for the McNichol Cemetery
- Completed a preliminary impact assessment for any identified and proposed heritage properties within the Study Area and surrounding streets

Cultural Heritage

Mitigation Measures

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No adverse impacts anticipated.	• Proposed work should be planned in a manner that avoids the cemetery and should be clearly demarked on project drawings
CHR2 (Private property)	Isolation from its surrounding environment, context, or a significant relationship.	• Proposed work should be planned to maximize the buffer between the access road/layover facility and the residential property. The property and should be clearly demarked on project drawings as a "potential heritage property" • Post-construction landscaping should be planned to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.



CHR1: Rail crossing near McNichol Cemetery



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

Socio-Economic and Land Use Characteristics

Study Highlights

A desktop review of existing socio-economic and land use conditions and an assessment to mitigate and monitor measures for construction and operations of Project.

- The Local Study Area (LSA) included the Project Site and surrounding 300 m.
- The broader Regional Study Area (RSA) encompassed Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills.

The following components were evaluated within the report:

- Property
- All land uses and adjacent lands
- Aesthetics / visual characteristic
- Light pollution
- Utilities
- Transportation / traffic

City of Brampton's DRAFT Heritage Heights Secondary Plan

- The LSA falls within the DRAFT Heritage Heights Secondary Plan area which, in the vicinity of the proposed layover facility, consists of low to medium density residential units. It is identified as a high potential mineral aggregate resource area. The figure to the right shows the potential future land use for the area under this draft plan.

* Exact location of streets in adjacent figure is conceptual and subject to refinement through future Precinct Planning for Heritage Heights





DRAFT Heritage Heights Secondary Plan
Land Use Structure

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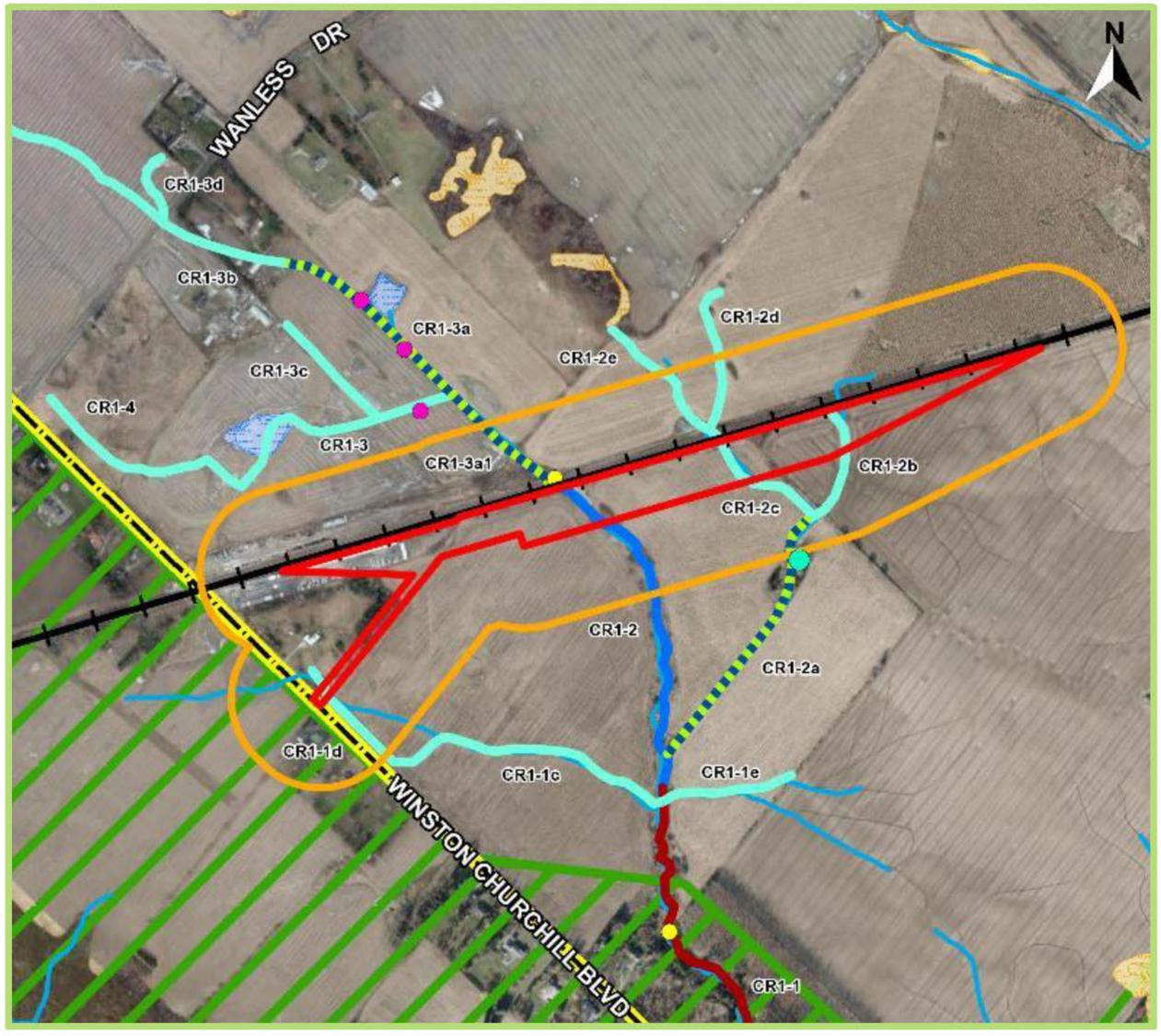
Socio-Economic and Land Use Characteristics

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
All land uses and adjacent lands	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • A Communications Protocol and a Complaints Protocol will be developed during construction	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received
Aesthetics / visual characteristics	Visual effects from construction / operations areas / activities	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	Light trespass, glare and light pollution effects	• Develop a plan to reduce the effects of light pollution with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents and/or businesses. • The lights would be designed to minimize off-site light pollution during operations.	• Number and resolution of complaints received.

Natural Environment

Study Highlights



Aquatic habitats and watercourses within the Study Area and surrounding areas

- The purpose of the study was to identify existing conditions for wildlife and landscape features within the project study area and assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures.
- Based on a desktop review of policies and previous studies relating to the aquatic and land environments.
- Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 and results will be distributed in summer 2022.



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Natural Environment

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• Vegetation removal shall be kept to a minimum and limited to within the construction area.	

Tree Inventory

Study Overview and Example Mitigation and Monitoring Measures

A Tree Inventory Report with recommendations for specific tree removal and tree injury will be completed in spring 2022 after field studies are carried out by an I.S.A Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable.

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Tree / Vegetation removal, injury and protection	• If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adherence to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals.

Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Project and supporting environmental studies.

We would greatly value your input! **The comment period is between April 6 and April 20, 2022.** You can leave an anonymous comment on Metrolinx Engage or use the following contact information:

Phone: 416-202-7500
Email: peel@metrolinx.com

Upcoming Dates

Summer/Fall 2022:

- 30 Day Public and Stakeholder Review of Environmental Project Report (EPR)*
- 35 Day Minister's Review and Decision with Notice to Proceed or Revise
- Statement of Completion

*Veuillez communiquer avec Metrolinx par courriel ou par téléphone pour demander que le résumé du REP soit traduit en français.

For More Information about GO Expansion and to download other materials, use the QR code or visit: MetrolinxEngage.com





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Appendix E

Comments Received

[redacted]

[redacted]

March 28, 2022

Our File No.: [redacted]

Via Email (peel@metrolinx.com)

Metrolinx
97 Front Street West
Toronto, ON M5J 1E6

Dear Sirs/Mesdames:

Re: [redacted] Heritage Road Layover

As a result of the Public Information Centre #1, our client has some questions regarding proposed operations. Your responses will assist our client in carrying out its own acoustic evaluations and will help ensure that our client is ready to review Metrolinx's acoustic report.

1. Metrolinx has indicated that idling will occur at the "beginning and end of the service day". What are the specific hours?

2. Will all locomotives idle simultaneously?

3. Does the electrification of the line alter any of the layover functions with respect to idling?

4. If electrification of the line were to occur when is that expected to be implemented?

5. Do the locomotives idle by being turned on/off manually or are they programmed to idle based on temperature?

6. Where are the hot air track blowers placed within the layover facility? How many blowers are proposed? Are there any blowers on the main line tracks in the vicinity of the layover?

We look forward to your responses.

[redacted]

Yours truly,

[redacted]



[redacted]

cc: [redacted]

[redacted]

METROLINX

April 11, 2022

[redacted]

Delivered Via Email [redacted]

Dear [redacted]

In response to your letter we received in our peel@metrolinx.com email entitled "[redacted] Heritage Road Layover", sent March 28, 2022 (File Reference [redacted] the following is a response to your Client's questions:

1) Metrolinx has indicated that idling will occur at the "beginning and end of the service day". What are the specific hours?
   Response: The beginning and end of the service day will vary for each train, depending on the scheduled trips that they operate. Metrolinx is currently developing the service plans for the GO Expansion program, and details on the specific hours are not currently available. However, for reference, the pre-COVID service schedule had trains start going into service in the Mt. Pleasant area at approximately 5:30 a.m. Trains go out of service as early as 16:30 p.m. for trains operating p.m. peak service only, and as late as 23:45 p.m. for trains operating evening service. Future service may also use this layover to turnaround mid-day and evening service, and as such, mid-day and evening idling may also occur (as per our previous correspondence).

2) Will all locomotives idle simultaneously?
   Response: The technician typically moves from locomotive to locomotive to start up in the morning pre-dispatch, so locomotives can be idling simultaneously for a duration of time. Similarly, trains will also be shut down in sequence at the end of the day, prior to being plugged into wayside power. If trains are brought to the layover mid-day, they may be idling for a short period of time.

3) Does the electrification of the line alter any of the layover functions with respect to idling?
   Response: When a line is electrified, equipment will no longer require diesel fuel and GO Trains will not need to "idle" at the layover.

97 Front Street West
Toronto, ON M5J 1E6
416.874.5900
metrolinx.com

4) If electrification of the line were to occur when is that expected to be implemented?
Response: This portion of the Kitchener corridor is owned by CN and there is no approved plan or firm timeline for the electrification of freight-owned corridors. The project designs protect for future electrification should the opportunity arise.

5) Do the locomotives idle by being turned on/off manually or are they programmed to idle based on temperature?
Response: The locomotives are operated manually.

6) Where are the hot air track blowers placed within the layover facility? How many blowers are proposed? Are there any blowers on the main line tracks in the vicinity of the layover?
Response: The hot air track blowers are located with the switches. There are four blowers proposed, one of which will be located on the mainline.

We hope that these responses provide your Client with a better understanding of the Project. If you have any further questions, please let us know.

Yours truly,

Simon Yale Strauss

Simon Strauss,
Manager,
Environmental Programs and Assessment
Metrolinx

cc: Community Engagement – Peel Region

Project Delivery Team – Heritage Road Layover

[redacted]

April 19, 2022

To whomever it may concern,

Re: Heritage Road Layover - Metrolinx
Public Information Centre #2,
April 6 – April 20, 2022
Brampton 52/53 Landowners Group

We are the planning consultants for [redacted], with respect to their lands ("the subject lands") identified by PIN [redacted], with no listed municipal address. These lands are located [redacted]

This letter serves as to comment on the materials presented at the online Public Information Centre #2 ("PIC #2") for the proposed layover yard, which is open for comments from April 6, 2022 to April 20, 2022.

[redacted] primary concerns focus on ongoing impacts on the remaining lands which are not required for the project, which the Owner intends to ultimately develop for residential uses, as permitted in the recently council-approved Heritage Heights Secondary Plan. Specifically, [redacted] holds concerns regarding the noise, vibration and setback impacts resulting from the yard following its completion.

The public consultation presentation for PIC #2 focuses on construction related noise, vibration, air quality, and visual impacts on adjacent planned residential areas, and does not significantly speak to long term impacts resulting from the layover yards day-to-day operations. The Draft Noise and Vibration Impact Assessment Report ("NVAR"), provided for review, does detail projected noise impacts from the layover yard.

We note that the NVAR does not review noise levels immediately adjacent to the proposed layover yard, where residential uses are proposed in the Heritage Road Secondary Plan. The NVAR instead measures impacts only on existing residential properties surrounding the proposed layover yard, which are a greater distance away from the proposed layover facility than the contemplated residential uses on the subject site would be. While noise levels are found to be acceptable on the studied properties, we are concerned that, given greater proximity of the subject site to the

[redacted]

proposed layover yard, noise levels would exceed the requirements under the MECP NPC-300 guidelines.

As a result, we are concerned by the lack of mitigating features proposed, such as noise barriers, which could be implemented to minimize noise and visual impacts on the subject site and its planned residential uses. While these sensitivities do not exist on the lands today, planning of the facility and mitigating it's impacts on adjacent future residential development would be prudent.

Additionally, we would like to be kept appraised of any further developments and public consultation opportunities which may arise for the proposed layover yard. Please ensure we are circulated on all public notices moving forward.

Yours very truly,

[redacted]

METROLINX

May 16, 2022

[redacted]

Delivered Via Email [redacted]

Dear [redacted],

Thank you for your letter submission to our peel@metrolinx.com email entitled "Heritage Road Layover", sent April 19, 2022 regarding the content presented in Public Information Centre #2 ("PIC #2") for the proposed Heritage Road Layover.

We recognize that the letter is focused on your Client's [redacted] concern regarding their lands surrounding the Heritage Road Layover project [redacted], and the day-to-day impacts following construction.

The goal of the Transit Project Assessment Process (TPAP) is to identify project impacts during construction and future operations of Heritage Road Layover (the "Facility"), including noise and vibration, as it relates to the surrounding environment and properties. In the TPAP, potential mitigative strategies are also developed to address the impacts identified.

To that end, our Consultant, Wood, prepared the Noise and Vibration Impact Assessment Report (the NVAR), to support the Heritage Road Layover TPAP and Preliminary Design project. As the Heritage Heights Secondary Plan identifies the proposed development blocks and not the specific locations of the proposed developments, the report examined potential "worst case" noise and vibration impacts at four existing (4) Representative Sensitive Receptor (RSR) locations in the area for both during construction of the layover facility, and when the facility is in operation.

The nearest of the four RSRs is located at 10827 Winston Churchill Boulevard, approximately 50 metres away from the Heritage Road Layover footprint. In the NVAR conclusion section (Section 8.0), it states that:

- Under the predictable worst-case hour scenario (LAeq-1hr), the modelled operational noise levels are predicted to meet the applicable Ministry of Environment, Conservation and Parks Noise Guideline NPC-300, *Noise*

Assessment Criteria for Stationary Sources and for Land Use Planning (MECP, 2013) at the identified RSRs, during daytime and night-time periods.
- The operational vibration impacts are expected to be insignificant from slow moving trains due to the proximity of the closest RSR being at least 100 metres away from the tracks. (Wood, 2022, p. 28).

While the Report does not directly address the potential noise and vibration operational impacts for planned residential development as set out in the latest draft Heritage Heights Secondary Plan (March 21, 2022), the modelling does provide some results from which some predictive assessments can be made:

- The noise contours provided in Appendix C of the NVAR identify the setback distances predicted from the Facility's operations. The most conservative night-time 55 dBA setback line represents the extent of the NPC-300 limit, which extends approximately 120 metres north of the "Future Mainline Tracks", and 50 metres south of the Facility. Outside of this line, noise levels are expected to be in compliance with NPC-300 limits.

Future development planning can use this predictive assumption as a guide for subdivision layout, and consideration can be made to place multi-use pathways, utility easements or other uses adjacent to the layover to provide a degree of separation to sensitive receptors.

For any new development contemplated on lands within 300 metres of the layover facility, proponents will be responsible for preparing and submitting technical studies that consider relevant implications of the subject layover facility in their analysis and which address, as required, rail safety matters as well as land use compatibility concerns (including noise and vibration). These studies will identify appropriate setbacks and other mitigation measures based on the specific parameters of the development plan and in accordance with applicable standards and guidelines. The development studies will be submitted as part of the municipal development review process established under the *Planning Act*, and circulated to Metrolinx for review and acceptance. Interested parties may contact the Metrolinx Third Party Projects Review team at development.coordinator@metrolinx.com for additional information in this regard.

We hope this information provides your Client with sufficient information. If you have any further questions, please let us know.

Yours truly,



Simon Strauss,
Manager,
Environmental Programs and Assessment
Metrolinx

cc: Community Engagement – Peel Region

Appendix I-2a

Pre-Planning Correspondence Record:

Meetings – TAC and Stakeholder

TAC Meeting #1
December 13, 2021

Technical Advisory Committee Kick-off Meeting

December 13, 2021

Welcome to the proposed Heritage Road Layover





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Agenda

1. Round Table Introductions
2. Land Acknowledgement/Safety Moment
3. Overview of GO Expansion
4. Overview of Design
5. TPAP Schedule and Studies
6. Questions Period

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Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

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Safety Moment

- During the winter months, when rain quickly turns to ice, sidewalks and roads can become extremely hazardous.
- While driving, stay alert, drive slow and with caution, this will help prevent sliding on the roads. Additionally, snow tires should be considered for your vehicle to help avoid collisions.
- When walking on the sidewalks, be sure to keep stable footing, and wear boots/shoes with good tread/grip to avoid slips, trips, and falls.



Source: https://www.insauga.com/wp-content/uploads/2021/08/freezing-rain-locke-st-hamilton-1-scaled.jpg

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GO Expansion

Year after year, train by train, bus by bus, Metrolinx has steadily increased GO Transit service. And now, that work is taking on a whole new energy.

We're building transit service that will change life in this region through the GO Expansion program.

More than a rush hour commuter service, GO will offer more service with faster trains, more stations and seamless connections to a regional rapid transit network.

GO Expansion will make the network better, faster, and easier to travel within.

More All-Day Service



6000 weekly trips

2x as many rush hour options

3x as many off peak options

Faster, More Efficient Fleet



Electric trains accelerate and decelerate faster

Additional express services

High Frequency



Trains at least every 15 minutes

Service all day in both directions

More Accessible Stations



42 upgraded stations

Pedestrian grade separations



Job Creation

8300 annual jobs created during first 12 years of delivery



Reduced Congestion

145,000 car trips taken off the road per day

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GO Expansion – Kitchener Corridor

To get people moving we are actively building and upgrading existing GO rail stations; adding new track; building and opening new maintenance and storage facilities, including train layovers; expanding and revitalizing bridges around our region; and improving pedestrian connections.



Learn more about the GO Expansion program and review the GO Expansion Business Case.

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What is a Train Layover?

A train layover is a support facility that provides:

- Overnight storage for trains
- Train storage midday when less trains are required due to lower passenger capacity
- Access to trains for crews to perform inspection and light maintenance activities when trains not in service

Layover facilities are strategically located throughout the rail network to accommodate service expansion.

To accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor, construction of a train layover (Heritage Road Layover) is proposed. This would reduce congestion along the corridor.



Example of a GO Train layover facility

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Heritage Road Layover Location Details



Study Area within regional context

- Layover proposed within Halton Subdivision of the Kitchener Corridor
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel
- Between Mount Pleasant GO Station and Georgetown GO Station



Aerial view of Study Area and surrounding landscapes

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Heritage Road Layover – Existing Surroundings

- Surrounding present land uses are primarily agricultural and rural residential, with nearby self-storage business on the south end of the tracks, and CN Works Yard on the north side of the tracks



Surrounding agricultural lands



Self storage facility



CN Works Yard

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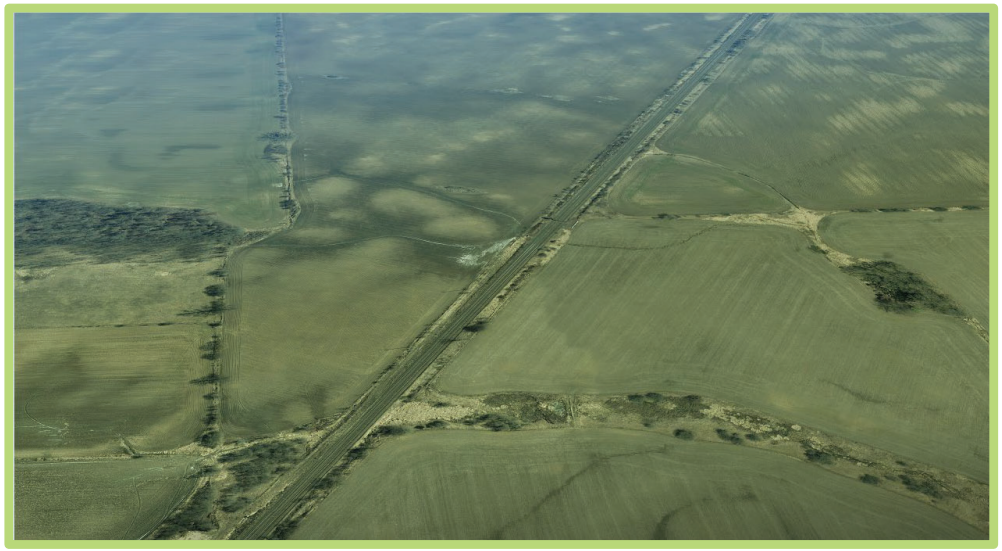
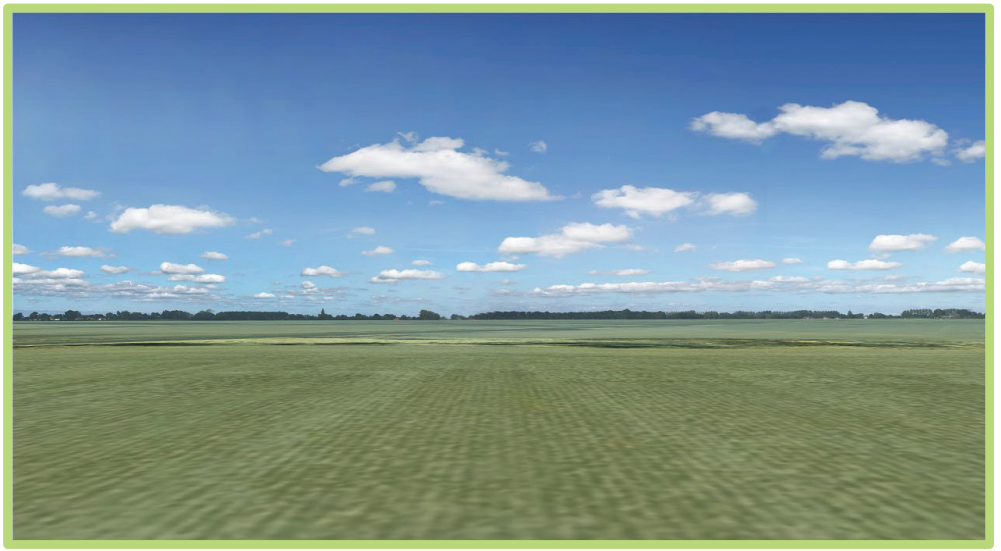
Heritage Road Layover – Renderings (Existing)

- Storage tracks will connect easterly to a new mainline track within the CN rail right of way
- Site is within the Heritage Heights Sub-watershed area, which drains to the Credit River
- Property is not currently owned by Metrolinx



Aerial view of site



Resident's view of site

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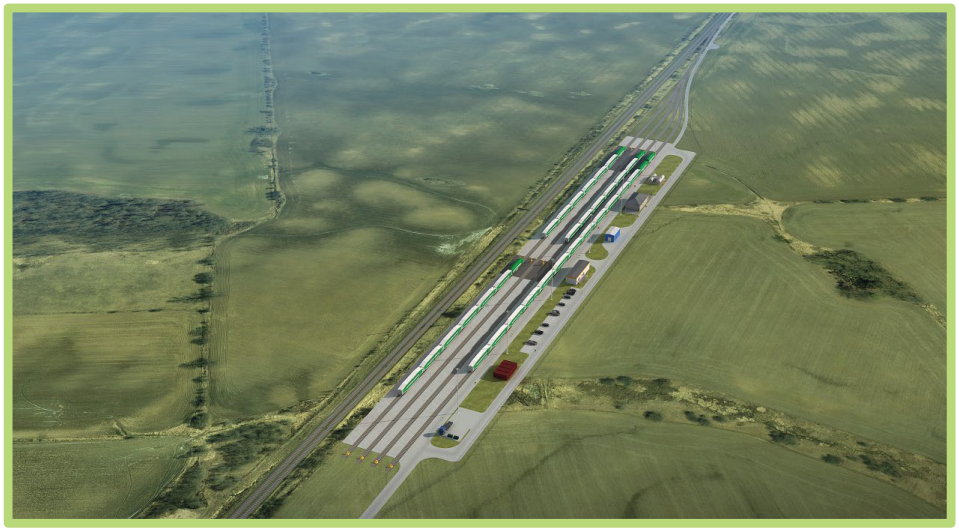
Heritage Road Layover – Renderings (Future)

- Surrounding lands planned for development as identified in the Draft Heritage Heights Secondary Plan
- Various upgrades to the existing road and highway network are planned in concert with the planned growth



Aerial view of proposed project



Ground level view of proposed project

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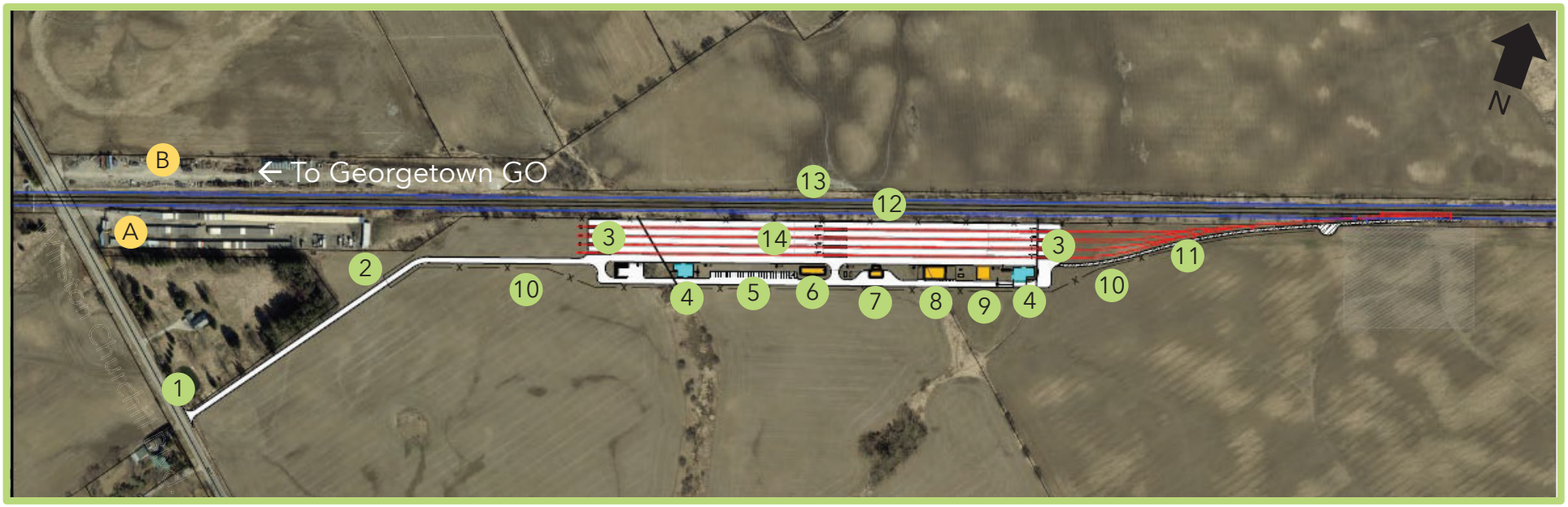
Heritage Road Layover Facility Design



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track

Legend

1 Facility Entrance
2 Gate
3 Culvert
4 Infiltration Facility
5 Parking Area
6 Crew Building
7 Waste Building
8 Substation
9 Concrete Pad
10 Fence
11 Maintenance Road
12 Current Mainline Tracks
13 Future Mainline Tracks
14 Layover Tracks
A U-Need Storage
B CN Works Yard

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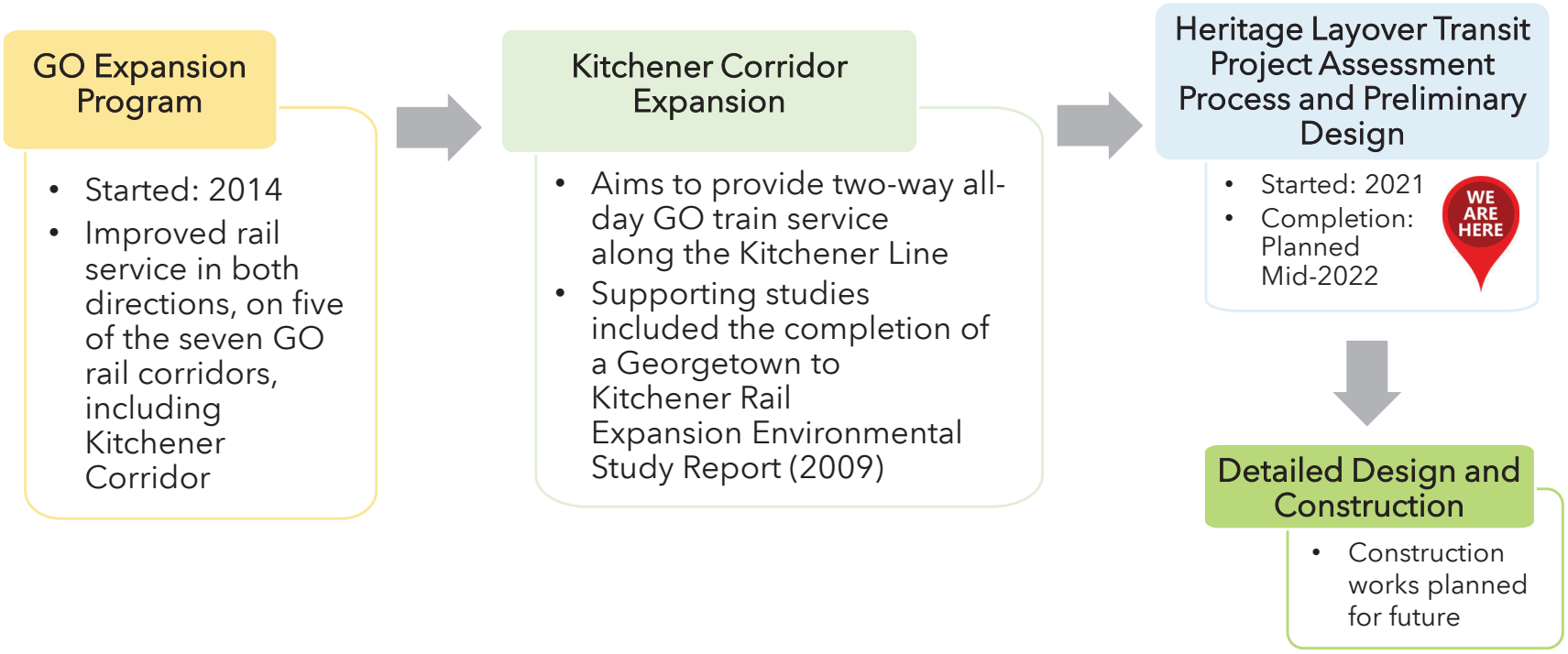
Milestone Schedule

Task/Milestone	Completion Date
Commencement of Detailed Design	Winter 2021
100% Detailed Design	Early 2022
TPAP notice of commencement	Spring 2022
TPAP of completion	Summer/Fall 2022
Construction Procurement	Summer 2023
Construction Completion	Winter 2025

Heritage Road Layover – Project Process

Metrolinx is completing a Transit Project Assessment Process (TPAP) Environmental Project Report (EPR) under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings.



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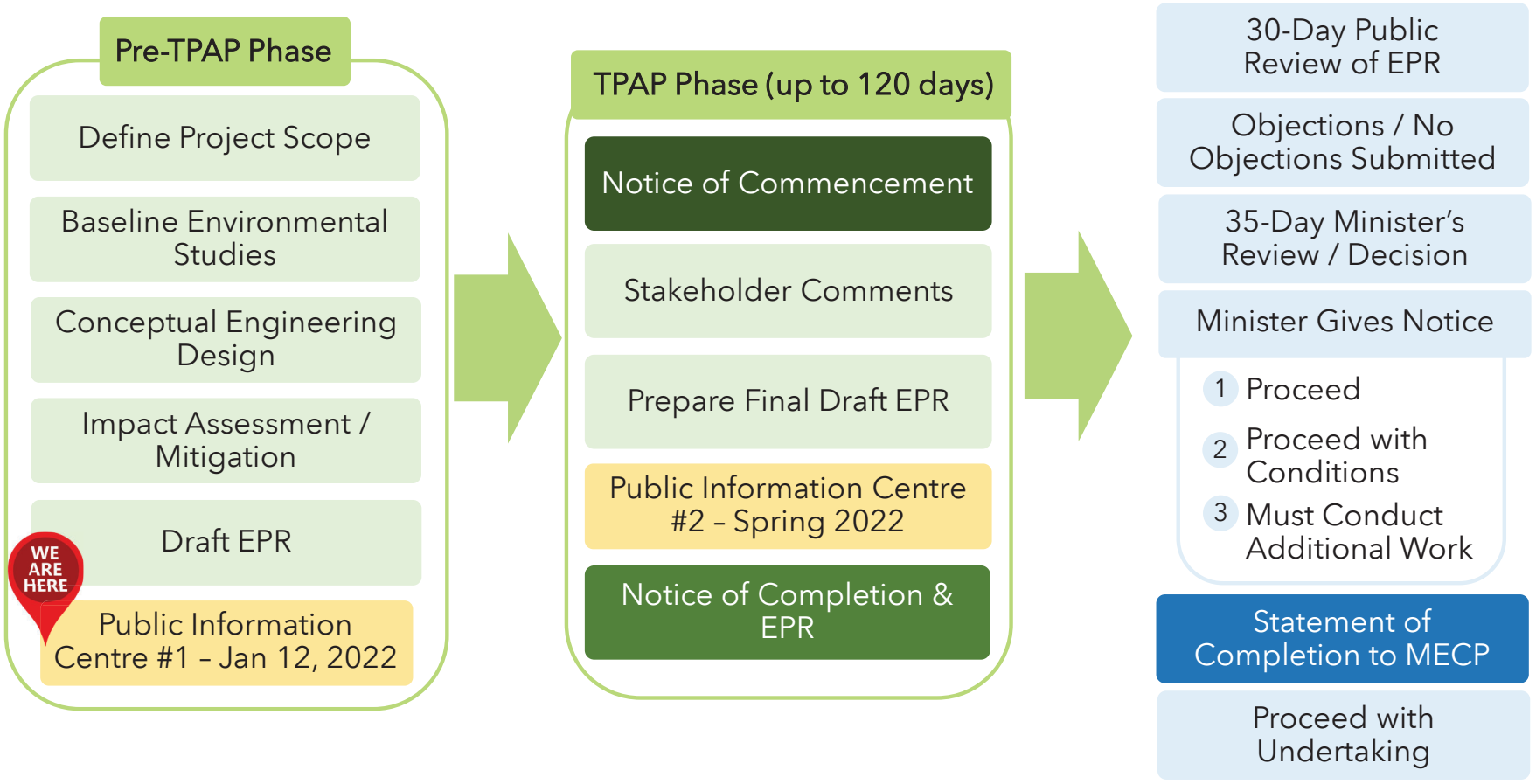
Transit Project Assessment Process (TPAP) Schedule



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Transit Project Assessment Process (TPAP) Studies

A number of technical studies are being completed under the TPAP to ensure that natural, social cultural and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Air Quality



Archaeology



Natural Environment



Noise & Vibration



Cultural Heritage



Tree Inventory Plan



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

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Transit Project Assessment Process (TPAP) Studies

Air Quality

- Identify baseline air quality and air contaminants of concern from existing data sources
- Assess local air quality impacts with construction and operations and provide recommendations for air quality management, mitigation, monitoring
- Predict pollutant concentrations based on current and future vehicular and train traffic information
- Study area extends 500 metres from project site

Noise and Vibration

- Describe existing and predicted future background noise levels
- Assess noise impacts to nearby resident based on the construction and operations of the layover and determine mitigation measures (if any) to reduce impacts
- Study area extends 500 metres from project site and baseline noise monitoring will be in early Spring 2022
- Train passbys analysis will be undertaken for operations vibration assessment/predictions within the area

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Transit Project Assessment Process (TPAP) Studies

Traffic and Transportation Studies

- Review available transit operations (e.g. GO Transit, VIA Rail) on railway and road traffic information for area
- Collect data for weekday AM and weekday PM peak hour at numerous intersections in study area
- Analyze and forecast traffic conditions for construction and operations
- Impacts of COVID-19 pandemic traffic volumes, as well as future populations, employment and development will be considered



Northbound on Winston Churchill Blvd.



Train tracks crossing Winston Churchill Blvd.

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Transit Project Assessment Process (TPAP) Studies

Stage 1 Archaeological Assessment

- Summarize existing archaeological information
- Provide recommendations for lands within and adjacent to the study area
- If necessary, recommend further archaeological assessments based on study results
- Field work will be carried out in spring 2022 by licensed professional archaeologists
- Engagement with Indigenous Nations is required as part of the archaeological process

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties



Farmland within study area

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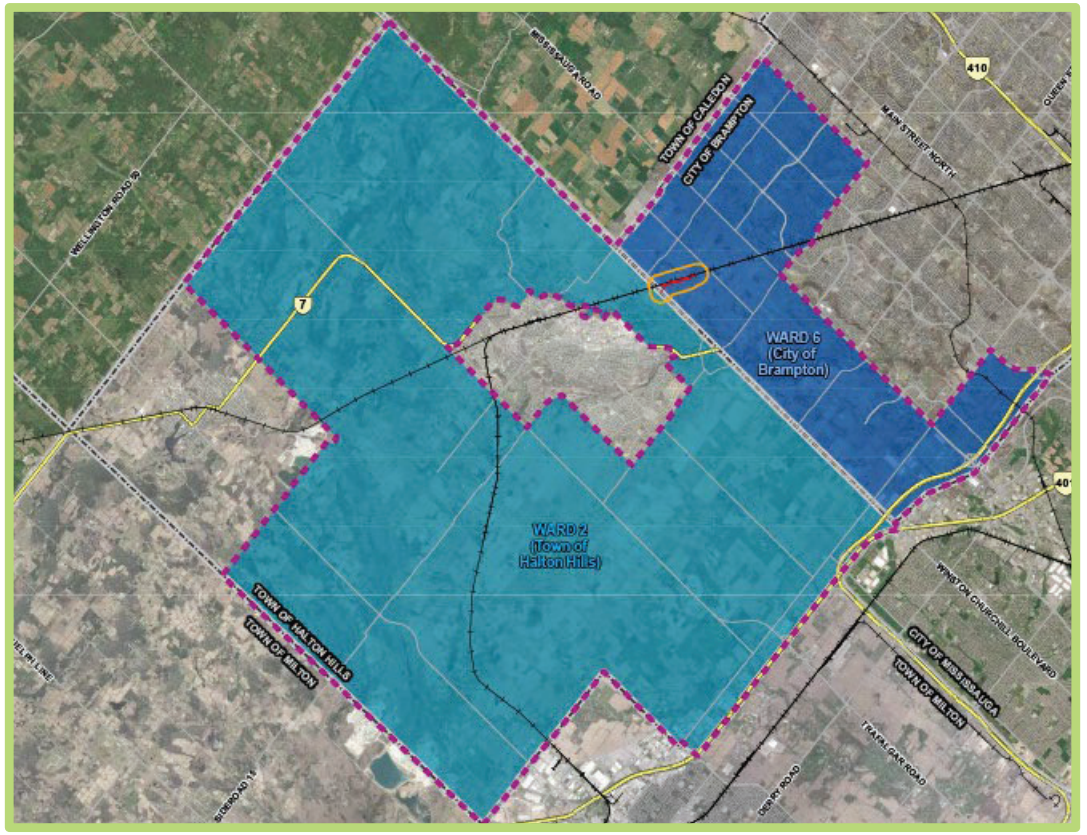
Transit Project Assessment Process (TPAP) Studies

Socio-Economic and Land Use Characteristics

Desktop review of existing socio-economic and land use conditions, including:

- Zoning within City of Brampton
- Planning policies
- Active transportation plans
- Safety and privacy impacts

- Provide assessment and mitigation measures for construction and operations of project
- Local study area is 300 metres from the project footprint
- Broader regional study area encompasses Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills
- Consultation and coordination required with municipalities, property owners, and residents to understand how project may impact the community



Regional Study Area for land use and demographics

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Transit Project Assessment Process (TPAP) Studies

Natural Environment

- Identify existing conditions for animals and landscape features within project study area
- Assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures
- Carry out desktop review of aquatic and land environments
- Species at risk in the area are the Barn Swallow, Bobolink, Eastern Meadowlark, and Butternut
- Field studies to commence in spring 2022 with results distributed in summer 2022



Barn Swallow



Farmlands surrounding study area

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Transit Project Assessment Process (TPAP) Studies

Tree Inventory Plan

- Identify high value trees and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- Study area is 5 metres surrounding project site
- Field surveys will commence early spring 2022
- As necessary, a Tree Protection Zone will be established during the construction process
- Plan to meet City of Brampton, Region of Peel standards, and Metrolinx Vegetation Guideline



Trees and shrubbery within study area

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Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Heritage Road Layover project.

The comment period is until January 26th, 2021. We would greatly value your input!

Contact information:

Phone: 416-202-7500

Email: peel@metrolinx.com



Upcoming dates:

Spring 2022:

- Notice of Commencement
- **Public Information Centre #2**

Summer/Fall 2022:

- Notice of Completion
- Public and Stakeholder Review of EPR
- Minister's Review and Notice to Proceed



For More Information about GO Expansion and to download other materials, use the QR code or visit: MetrolinxEngage.com

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Heritage Road Layover
TAC Meeting Minutes

Meeting title:	TAC Meeting – Heritage Road Layover
Date:	December 13, 2021
Time:	13:00 – 14:00 EST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Simon Strauss	Metrolinx	simon.strauss@metrolinx.com
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Dara Corrigan	Metrolinx	dara.corrigan@metrolinx.com
Brian Poole	Metrolinx	brian.poole@metrolinx.com
Stacey Kenny	Metrolinx	stacey.kenny@metrolinx.com
Flora Devarajah	Metrolinx	flora.devarajah@metrolinx.com
Benjamin Kwok	Metrolinx	benjamin.kwok@metrolinx.com
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Jeff Yee	Metrolinx	jeff.yee@metrolinx.com
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Meaghan Mendonca	Metrolinx	meaghan.mendonca@metrolinx.com
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Kumar Ranjan	City of Brampton	kumar.ranjan@brampton.ca
Richa Dave	Region of Peel	richa.dave@peelregion.ca
Manvir Tatla	Region of Peel	manvir.tatla@peelregion.ca
Christine Wilson	Credit Valley Conservation	Christine.Wilson@cvc.ca
Rizwan Haq	Credit Valley Conservation	Rizwan.Haq@cvc.ca
Maureen Van Ravens	Town of Halton Hills	MaureenV@haltonhills.ca
Melissa Ricci	Town of Halton Hills	mricci@haltonhills.ca

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement/Safety Moment** • Rain turning to ice on roads and sidewalks can be hazardous to driving and walking		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor consists of 3 sections
	  ○ Union Station to Mount Pleasant GO Station owned by Metrolinx
	  ○ Halton Subdivision from Mount Pleasant GO to Georgetown GO owned by CN
	  ○ Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO
	• Bramalea GO to Kitchener GO planned for 30 min service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  ○ Network Wide GO Expansion
	  ○ Kitchener GO Expansion		

3	**Overview of Design** • Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance • Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor • Located within agricultural and rural residential adjacent to self-storage business and CN Works Yard • Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train • Site set-up flexibility to accommodate up to eight 1 locomotive 6 car consists • Detailed Design in progress to be available in late 2022 (previously identified in slide deck as spring 2022, updated dates included in the revised deck enclosed), with		

	construction procurement in summer 2023, and Construction Completion by winter 2025		
4	**TPAP Schedule and Studies** • The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings • An Environmental Project Report is in preparation to: o Define Project Scope o Baseline Environmental Studies o Conceptual Engineering Design o Impact Assessment / Mitigation • The Baseline Studies include: o Air Quality o Noise & Vibration o Traffic & Transportation o Archeology o Cultural Heritage o Socio-Economic and Land Use Characteristics o Natural Environment o Tree Inventory Plan • A virtual Public Information Centre is scheduled to commence January 12, 2022		
5	**Questions** **1.** Does the design consider future electrification? o Mx confirmed current design has space allowance protected for future electrification **2.** How many trains will fit onto the layover? Inquiring as earlier data showed slow recovery after COVID-19 pandemic o Mx confirmed layover is 4 track design and allows for 2 locomotive12 car consists, but the design is flexible, which means shorter trains can be parked as well o Layover design is flexible with size and number of trains to account for future commuter volume **3.** How is noise being considered as GO Expansion occurs within Halton Region? o Mx confirmed to provide information about broader GO Expansion noise studies o Mx confirmed for the TPAP of the Heritage Road Layover, noise studies will be conducted and will be based on expected future service levels. A 5 decibel	Mx	

	increase triggers mitigation measures, which then have to go through a feasibility study before being approved. o Mx noted noise mitigation is an ongoing discussion as noise complaints are anticipated to increase **4.** Noted that the Heritage Heights Subwatershed Study is in progress and that a natural heritage system is being mapped out that shows connecting features in proximity to the Heritage Road Layover project site o Wood noted Natural Heritage TPAP study will identify and assess impacts on the features and functions that make up the natural heritage system delineated in relation to the project site o City of Brampton to circulate data for Mx to review **5.** Will there be any site servicing for water and wastewater? o Mx confirmed that water service will be via well, and that wastewater service will be via storage tanks and off-site disposal **6.** How many mainline tracks will be at the layover site? o Mx confirmed 2 CN and 2 GO tracks for a total of four mainline tracks **7.** Is this a covered site? o Mx confirmed open layover site **8.** Will there be a crossover at the site? o Post meeting response provided by Metrolinx: Metrolinx confirmed there will be a crossover installed at the layover. In general, a crossover/ switch is required to build additional tracks. This will allow trains to transfer from one track to another. **9.** Layover design shows train connection eastward only – will trains be able to go westward as necessary? o Mx confirmed priority is to supply trains eastward to Mount Pleasant GO Station due to demand but, if necessary, trains can be reversed for operational need to go west **10.** Will trains be idling at the layover? o Mx confirmed wayside power will be installed on site to allow trains to be powered off with minimal idling required **11.** Inquiry about watercourses and floodplains through site o Mx confirmed that the regulatory requirements with respect to the affected watercourses and floodplains will be addressed through design	Wood	

6	**Notice: Elected Officials Outreach** • Mx indicated that they will be reaching out elected officials in the new year, therefore municipal staff can anticipate questions from councillors		

Adjourn 14:05 pm

MTCS Meeting
December 16, 2021

Welcome to the proposed Heritage Road Layover





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Agenda

1. Round Table Introductions
2. Land Acknowledgement/Safety Moment
3. Overview of GO Expansion
4. Overview of Design
5. TPAP Schedule and Studies
6. Questions Period

Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

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Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

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Safety Moment

- During the winter months, when rain quickly turns to ice, sidewalks and roads can become extremely hazardous.
- While driving, stay alert, drive slow and with caution, this will help prevent sliding on the roads. Additionally, snow tires should be considered for your vehicle to help avoid collisions.
- When walking on the sidewalks, be sure to keep stable footing, and wear boots/shoes with good tread/grip to avoid slips, trips, and falls.



Source: https://www.insauga.com/wp-content/uploads/2021/08/freezing-rain-locke-st-hamilton-1-scaled.jpg

GO Expansion

Year after year, train by train, bus by bus, Metrolinx has steadily increased GO Transit service. And now, that work is taking on a whole new energy.

We're building transit service that will change life in this region through the GO Expansion program.

More than a rush hour commuter service, GO will offer more service with faster trains, more stations and seamless connections to a regional rapid transit network.

GO Expansion will make the network better, faster, and easier to travel within.

More All-Day Service



6000 weekly trips

2x as many rush hour options

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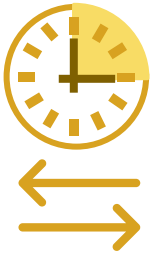
Faster, More Efficient Fleet



Electric trains accelerate and decelerate faster

Additional express services

High Frequency



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42 upgraded stations

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8300 annual jobs created during first 12 years of delivery



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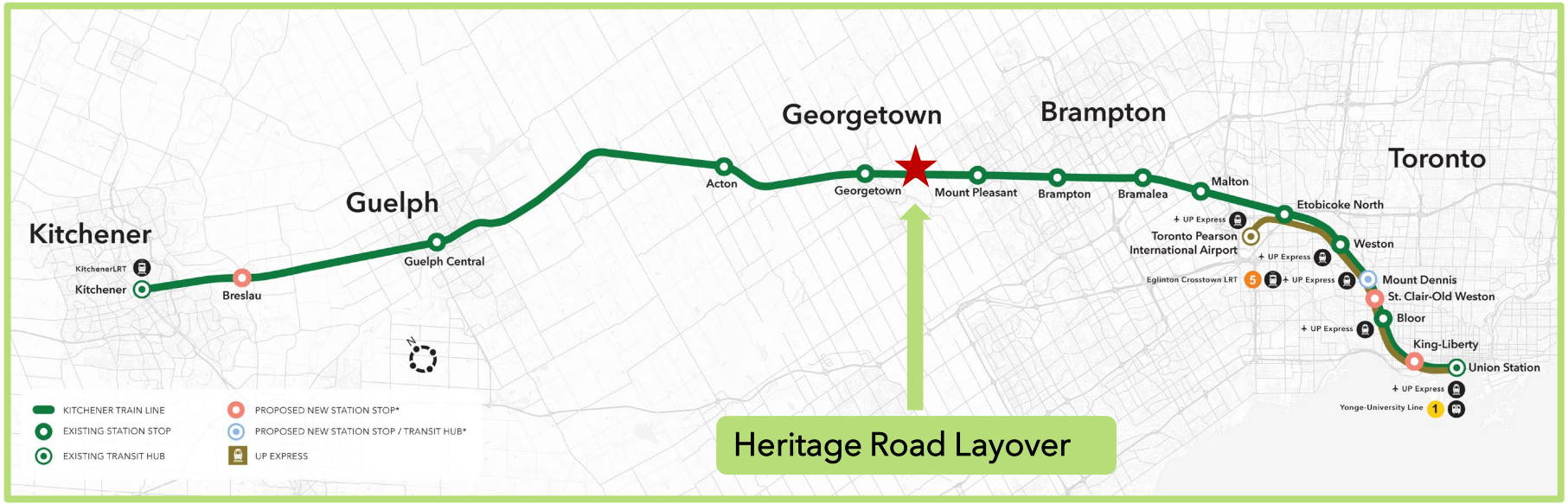

Learn more about the GO Expansion program and review the GO Expansion Business Case.

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What is a Train Layover?

A train layover is a support facility that provides:

- Overnight storage for trains
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Layover facilities are strategically located throughout the rail network to accommodate service expansion.

To accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor, construction of a train layover (Heritage Road Layover) is proposed. This would reduce congestion along the corridor.



Example of a GO Train layover facility

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Heritage Road Layover Location Details



Study Area within regional context

- Layover proposed within Halton Subdivision of the Kitchener Corridor
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel
- Between Mount Pleasant GO Station and Georgetown GO Station



Aerial view of Study Area and surrounding landscapes

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Heritage Road Layover – Existing Surroundings

- Surrounding present land uses are primarily agricultural and rural residential, with nearby self-storage business on the south end of the tracks, and CN Works Yard on the north side of the tracks
- Site is within the Heritage Heights Sub-watershed area, which drains to the Credit River



Surrounding agricultural lands



Self storage facility



CN Works Yard

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Heritage Road Layover – Renderings (Future)

- Storage tracks will connect easterly to a new mainline track within the CN rail right of way
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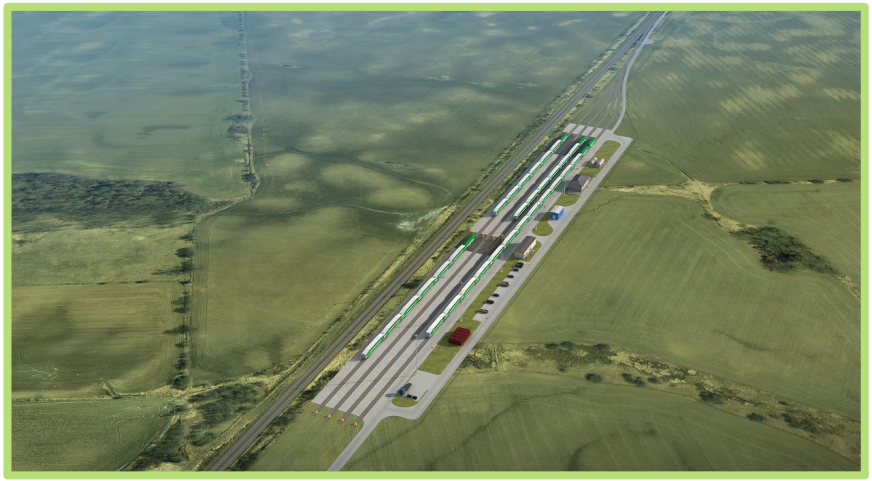

Aerial view of proposed project



Ground level view of proposed project

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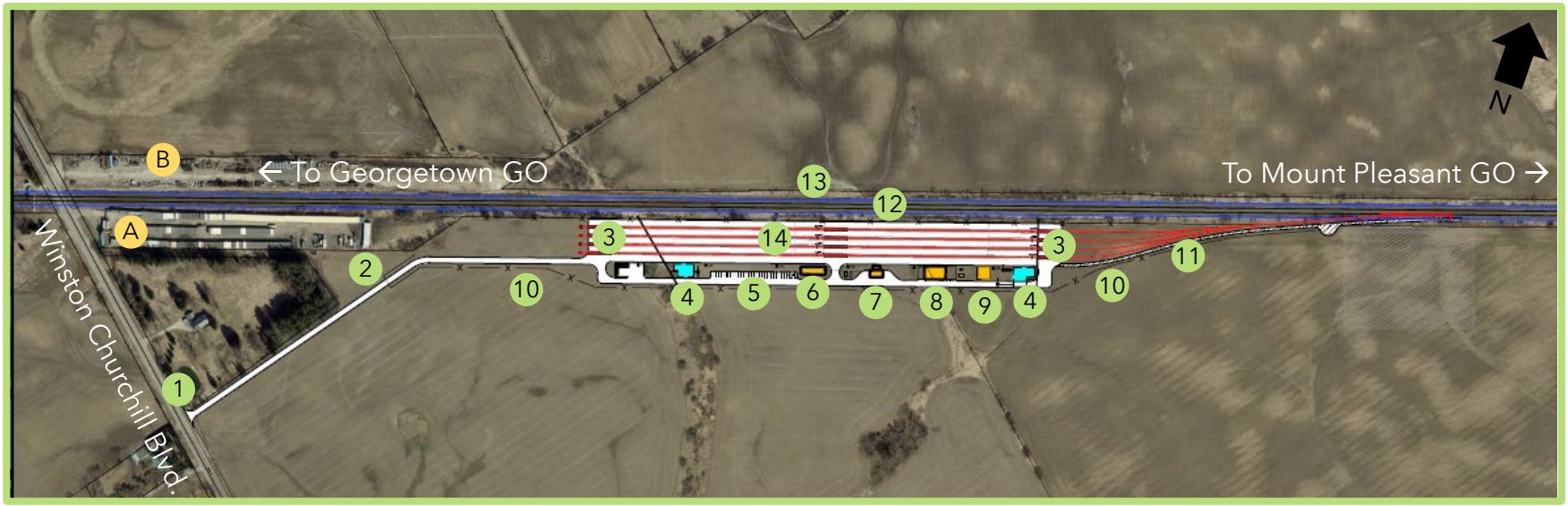
Heritage Road Layover Facility Design



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track

Legend

1. Facility Entrance
2. Gate
3. Culvert
4. Infiltration Facility
5. Parking Area
6. Crew Building
7. Waste Building
8. Substation
9. Concrete Pad
10. Fence
11. Maintenance Road
12. Current Mainline Tracks
13. Future Mainline Tracks
14. Layover Tracks

A. U-Need Storage

B. CN Works Yard

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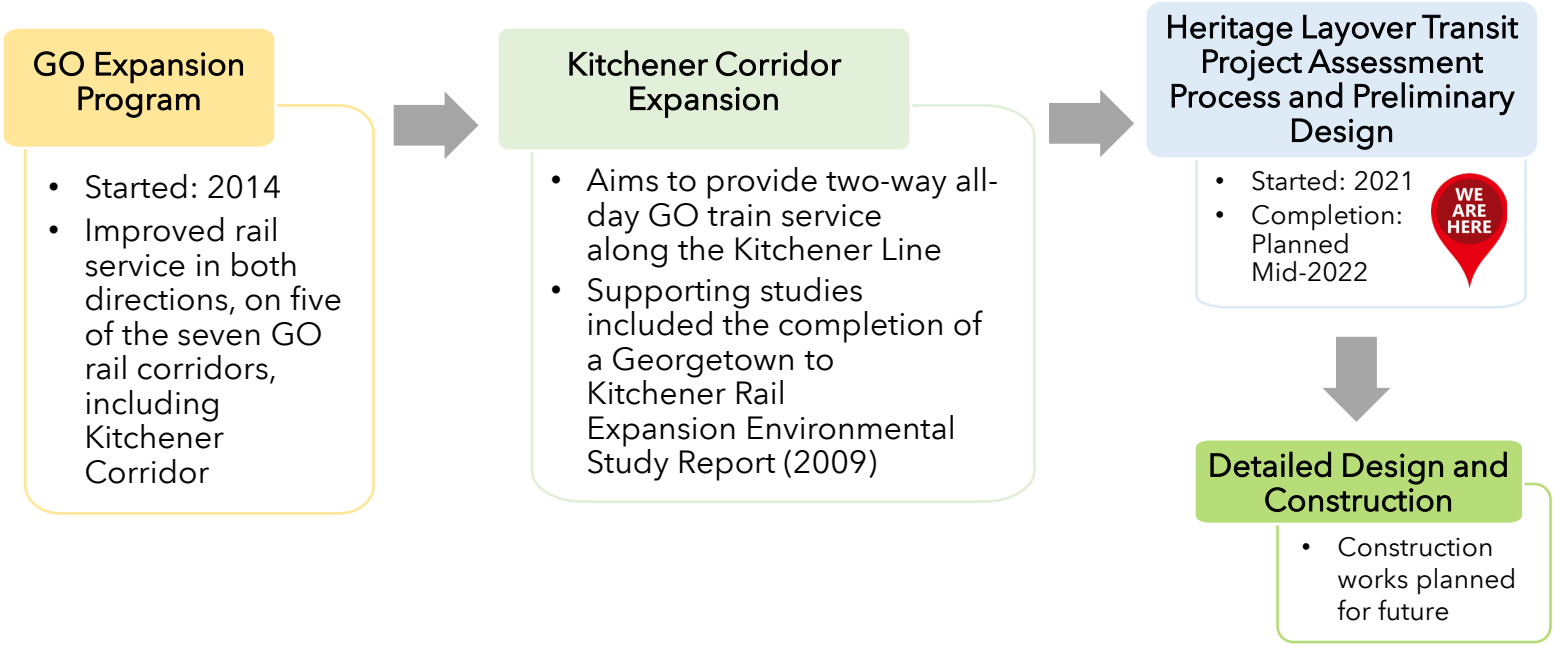
Milestone Schedule

Task/Milestone	Completion Date
Commencement of Detailed Design	Winter 2021
TPAP notice of commencement	Spring 2022
TPAP of completion	Summer/Fall 2022
100% Detailed Design	Late 2022
Construction Procurement	Summer 2023
Construction Completion	Winter 2025

Heritage Road Layover – Project Process

Metrolinx is completing a Transit Project Assessment Process (TPAP) Environmental Project Report (EPR) under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings.



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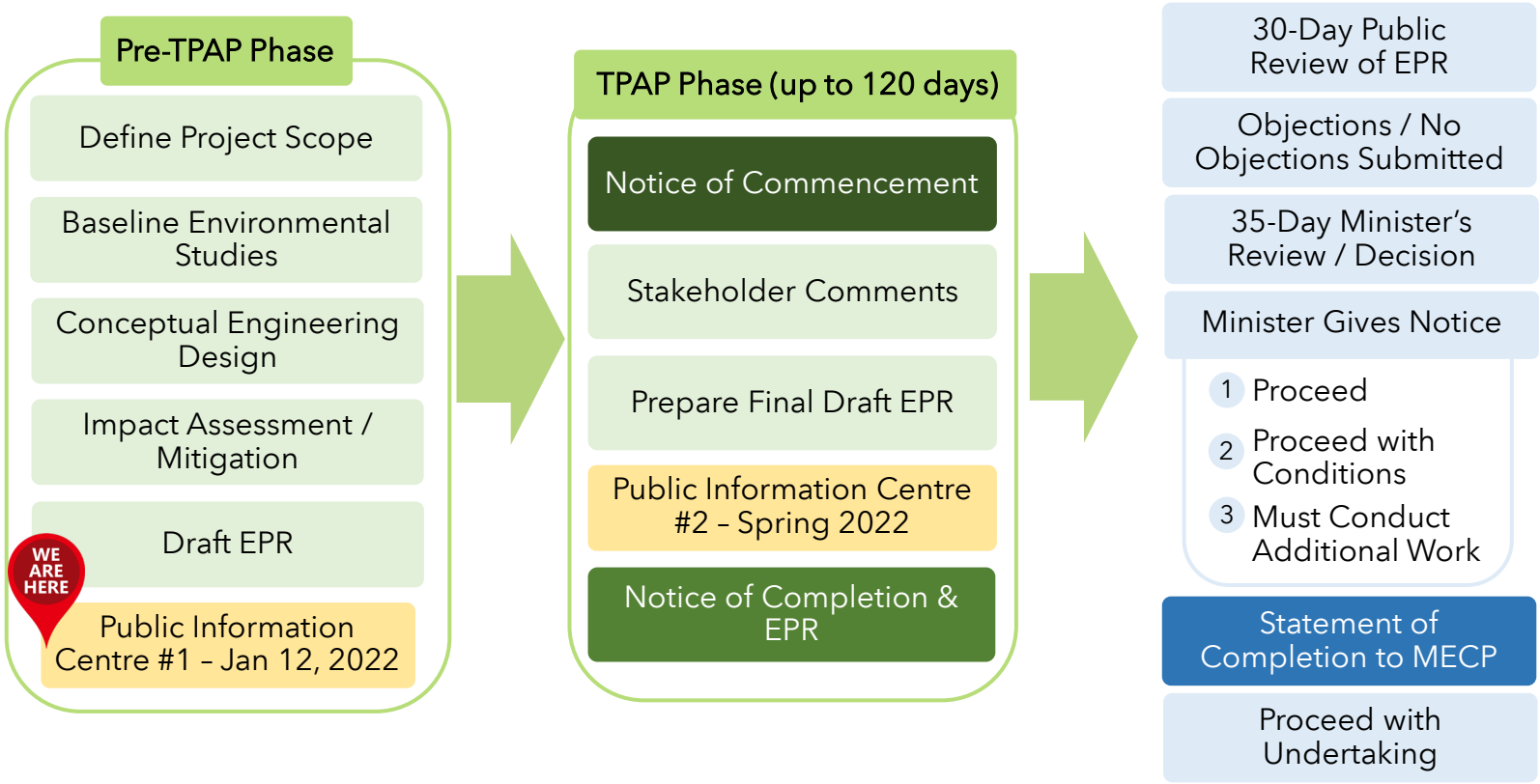
Transit Project Assessment Process (TPAP) Schedule



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Transit Project Assessment Process (TPAP) Studies

A number of technical studies are being completed under the TPAP to ensure that natural, social cultural and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Air Quality



Archaeology



Natural Environment



Noise & Vibration



Cultural Heritage



Tree Inventory Plan



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

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Transit Project Assessment Process (TPAP) Studies

Stage 1 Archaeological Assessment

- Summarize existing archaeological information
- Provide recommendations for lands within and adjacent to the study area
- If necessary, recommend further archaeological assessments based on study results
- Field work will be carried out in spring 2022 by licensed professional archaeologists
- Engagement with Indigenous Nations is required as part of the archaeological process

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties



Farmland within study area

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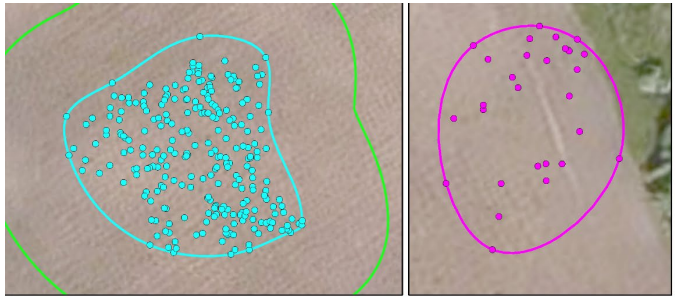
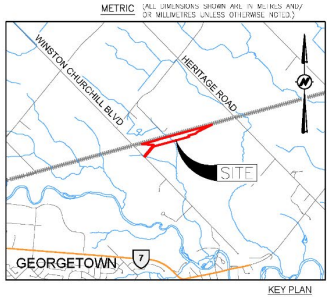
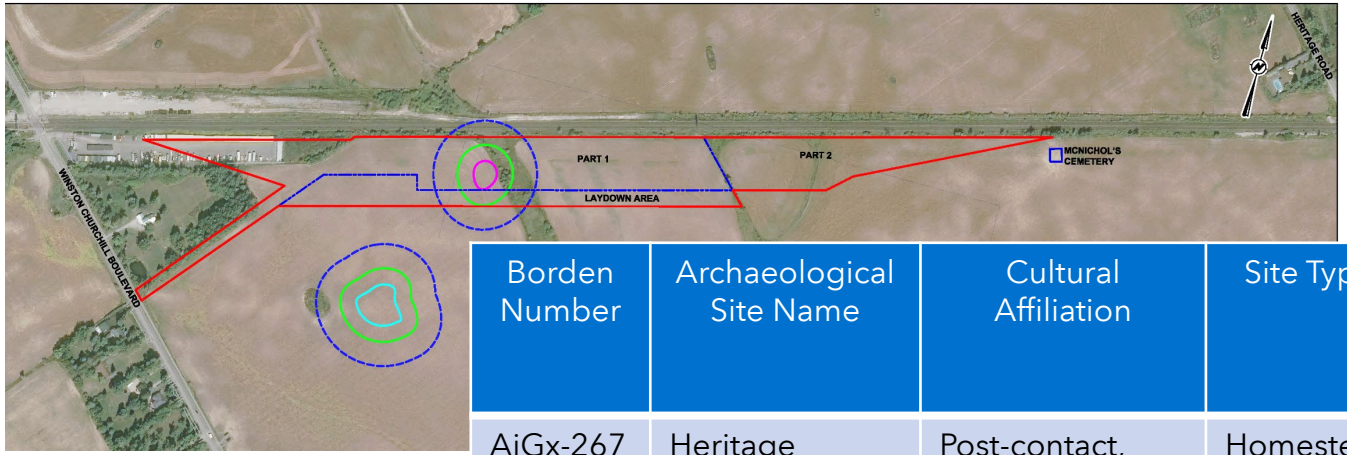
Previous Archaeological Studies









Borden Number	Archaeological Site Name	Cultural Affiliation	Site Type	Location Relative to Current Study Area	Cultural Heritage Value or Interest Status
AjGx-267	Heritage Layover H1	Post-contact, Euro-Canadian	Homestead	0 m	Further CHVI
AjGx-268	Heritage Layover H2	Post-contact, Euro-Canadian	Homestead	100 m	Further CHVI

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Archaeology Studies Next Steps

Stage 3 AA Recommendations

- Based on the results of Wood's Stage 1 archaeological assessment [AA], and the previous Stage 2 AA recommendations by Archeoworks (2017a:29-30), the requirement for a Stage 3 site-specific assessment at AjGx-267 remain in effect. These are:

a) The Stage 3 AA should be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy

b) Stage 3 AA must commence with the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the Archeoworks 2017a Stage 2 CSP), followed by test unit excavation.

c) The primary goal is to determine any patterning within the site, to ensure that a larger site sample is generated in case of a lack of features, and to determine site extent prior to mechanical topsoil stripping. Given that the level of cultural heritage value or interest is evident that the aforementioned site will result in a recommendation for Stage 4 mitigation of development impacts, the excavation of a series of one metre by one metre test units in a 10 metre grid across the site within the established grid must be pursued

- A Stage 3 Cemetery Investigation has been completed for the McNichol's Cemetery adjacent to the study area and the Cemetery has been recommended for long term avoidance and protection (Archeoworks 2017b:15).

Archaeology Studies Next Steps

Consultation with Indigenous Nations

Of the several features used to assess the potential for Indigenous archaeological resources, the study area has a primary natural water source (an unnamed permanent tributary of the Credit River) that runs south through the centre of the study area.

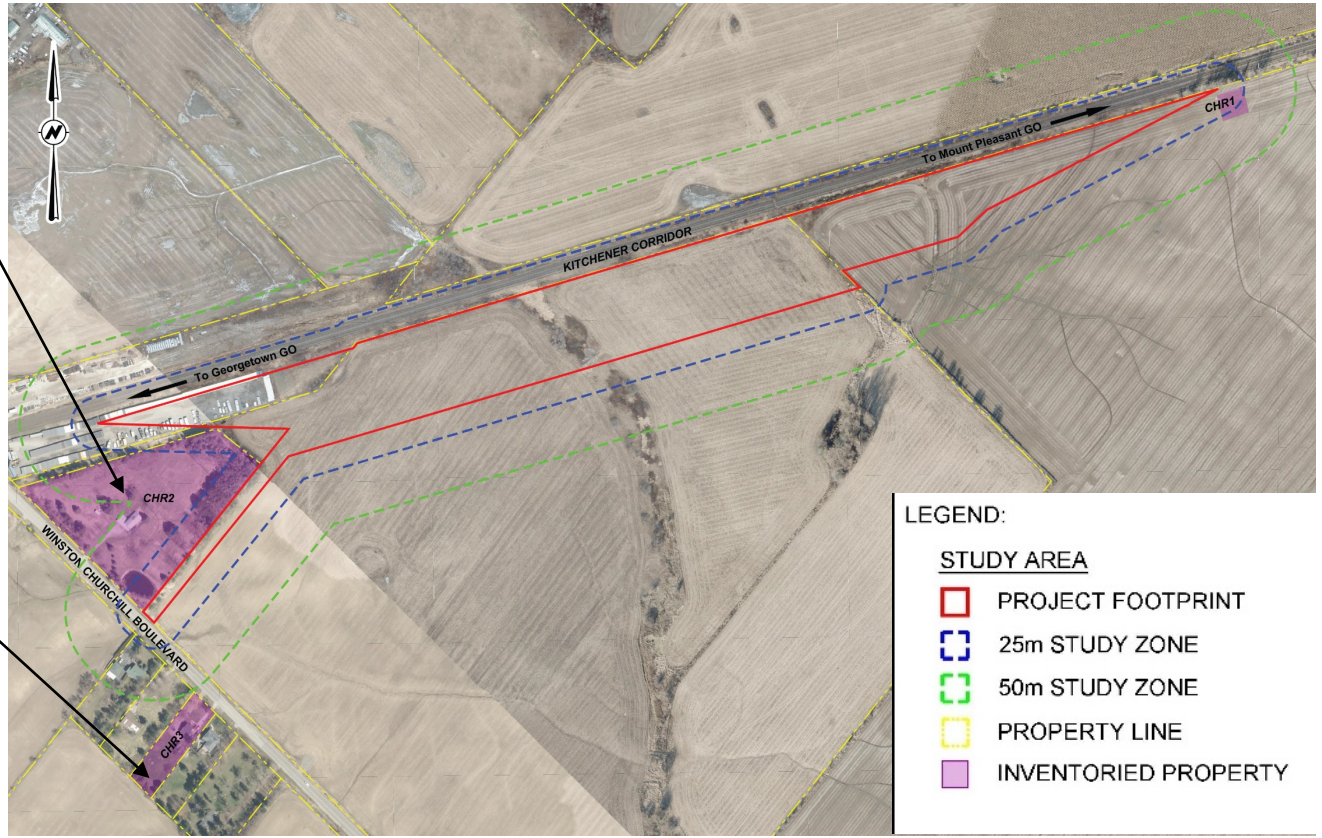
- Although no Indigenous sites with CHVI have been registered within the study area or within a 300 m radius of the study area, one pre-contact Indigenous findspot (Heritage Layover P1 Site) was identified within a 300 m radius of the study area (Archeoworks 2017b) and the study area includes well-drained land and a flat topography that would have been conducive to human settlement in the pre-contact period.

- Metrolinx will be engaging Indigenous Nations on the planned future field activities, and provide opportunity to review the findings of the archaeological reports.
    - Indigenous monitors will be invited to participate in Stage 3 and Stage 4 AA Investigations

Cultural Heritage Inventory







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Cultural Heritage Next Steps

Based on the results of the impact assessment, the following recommendations are made:

1) Direct adverse impacts are anticipated to CHR 2 (10827 Winston Churchill Boulevard). Accordingly, a Cultural Heritage Evaluation Report (CHER) should be completed to evaluate if this property meets the criteria for cultural heritage value or interest (CHVI) prescribed in *O. Reg. 9/06* and/or *O. Reg. 10/06*.
    - If the CHER determines the property has CHVI, a property specific Heritage Impact Assessment (HIA) will be conducted following the TPAP to assess the direct and indirect adverse impacts to the property's significance and heritage attributes resulting from the Project and recommend appropriate mitigation measures.
2) No direct or indirect impacts are anticipated to CHR 1 (McNichol's Cemetery, 10510 Winston Churchill Boulevard) from a cultural heritage perspective. However, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, the recommendations to conserve the cemetery contained in the Stage 1 Archaeological Assessment prepared for this project must be followed, including guidance on the installation of protective fencing and appropriate buffers (Wood 2021b).
3) This report should be circulated to the City of Brampton, Region of Peel, MHSTCI, and Ontario Heritage Trust for review and comment.

Upcoming Key Dates

PIC #1 - Wednesday, January 12, 2022

- Slides will be on the Metrolinx Engage site between January 12 through January 26, 2022.

Contact information:

Phone: 416-202-7500

Email: peel@metrolinx.com



Other Upcoming dates:

Spring 2022:

- Notice of Commencement
- **Public Information Centre #2**

Summer/Fall 2022:

- Notice of Completion
- Public and Stakeholder Review of EPR
- Minister's Review and Notice to Proceed



For More Information about GO Expansion and to download other materials, use the QR code or visit: MetrolinxEngage.com

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Heritage Road Layover
MHSTCI Meeting Minutes

Meeting title:	Introduction to Heritage Road Layover Project and Team
Date:	December 16, 2021
Time:	10:30 – 11:30 EST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Simon Strauss	Metrolinx	simon.strauss@metrolinx.com
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Dara Corrigan	Metrolinx	dara.corrigan@metrolinx.com
Brian Poole	Metrolinx	brian.poole@metrolinx.com
Bob Felker	Wood	bob.felker@woodplc.com
Louise McAndrew	Wood	louise.mcandrew@woodplc.com
Nadya Mrochkovskaia	Wood	nadya.mrochkovskaia@woodplc.com
Heidy Schopf	Wood	heidy.schopf@woodplc.com
Barbara Slim	Wood	barbara.slim@woodplc.com
Henry Cary	Wood	henry.cary@woodplc.com
Peter Popkin	Wood	peter.popkin@woodplc.com
James Hamilton	MHSTCI	james.hamilton@ontario.ca
Karla Barboza	MHSTCI	karla.barboza@ontario.ca
Laura E Hatcher	MHSTCI	laura.e.hatcher@ontario.ca
Rosi Zirger	MHSTCI	rosi.zirger@ontario.ca

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement/Safety Moment** • Rain turning to ice on roads and sidewalks can be hazardous to driving and walking		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor consists of 3 sections
	  ○ Union GO Station to Mount Pleasant GO Station owned by Metrolinx
	  ○ Halton Subdivision from Mount Pleasant GO Station to Georgetown GO Station owned by CN
	  ○ Guelph Subdivision from Georgetown GO Station to Kitchener GO Station owned by Metrolinx
	• Kitchener Corridor will have 15 min service and electrification from Union GO Station to Bramalea GO Station
	• Bramalea GO Station to Kitchener GO Station planned for 30 min service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  ○ Network Wide GO Expansion
	  ○ Kitchener GO Expansion		

3	**Overview of Design** • Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance • Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor • Located within agricultural and rural residential adjacent to self-storage business and CN Works Yard • Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train • Site set-up flexibility to accommodate up to eight 1 locomotive 6 car consists • Detailed Design in progress to be available in late 2022, with construction procurement in Summer 2023, and Construction Completion by Winter 2025		

4	**TPAP Schedule and Studies**
	• The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings
	• An Environmental Project Report is in preparation to:
	  o Define Project Scope
	  o Baseline Environmental Studies
	  o Conceptual Engineering Design
	  o Impact Assessment / Mitigation
	• The Baseline Studies include:
	  o Air Quality
	  o Noise & Vibration
	  o Traffic & Transportation
	  o Archeology
	  o Cultural Heritage
	  o Socio-Economic and Land Use Characteristics
	  o Natural Environment
	  o Tree Inventory Plan
	• A virtual Public Information Centre is scheduled to commence January 12, 2022		

5	**Archaeological Studies**
	• Previously, Stage 1 and Stage 2 Archaeological Assessments were completed for two sites within the Heritage Road Layover Study Area
	  o AjGx-267 (Heritage Layover H1) located within Study Area
	  o AjGx-268 (Heritage Layover H2) located south of Study Area
	  o Both sites contained Post-Contact, Euro-Canadian artifacts
	• Stage 1 Archaeological Assessment completed for Study Area and currently under review by Mx
	• Stage 3 Archaeological Assessment required for AjGx-267
	  o Stage 4 mitigation strategy may be required
	• McNichol Cemetery located just east of Project Footprint and has not been registered as an archaeological site
	  o Stage 4 mitigation strategy may be required
	• Consultation with Indigenous Nations
	  o No Indigenous sites have been registered within Study Area or 300 m radius of Study Area
	  o Potential for pre-contact Indigenous artifacts to be discovered on site
	  o Indigenous Nations will be engaged for any Stage 3 AA activities		

6	**Cultural Heritage**
	• Three Cultural Heritage sites identified in the Study Area
	  o CHR1 - McNichol Cemetery is located east of the Study Area and currently undergoing heritage registration with City of Brampton. No direct or indirect impacts anticipated but there is a potential for land disturbance.
	  ▪ Wood recommends following Stage 1 Archaeological Assessment protocols
	  o CHR2 – 10827 Winston Churchill - Residential home from 19th or 20th century adjacent to west edge of Study Area. Direct adverse impacts are anticipated.
	  o CHR3 – 10510 Winston Churchill - Residential home across the road from Study Area. No direct or indirect impacts anticipated.
	• Cultural Heritage report to be submitted by Wood for review by Mx
		Wood	

7	**Questions**
	• Since the Notice of Commencement is in March, when is the Notice of Completion anticipated?
	  o Mx confirmed Notice of Completion likely to occur in summer or fall 2021, post-Ontario election
	• Is there access to the project site to conduct studies?
	  o Mx confirmed site access is still being acquired
	• For the Cultural Heritage report, what is the timing for the draft review and can it be aligned with the Notice of Commencement timeline?
	  o Wood to submit Cultural Heritage report to Mx
	  o Mx to review Cultural Heritage report, provide comments, and distribute report to MHSTCI in early 2022
	• Why do the TPAP materials refer to the detailed design as opposed to the preliminary design as with previous projects?
	  o Mx confirmed design was advanced further than is typical for a TPAP because early investigations were started then put on hold in 2016; there is still time for design to be modified based on any findings during the studies
	• For the Cultural Heritage report, can CHERs be completed off property and can this documentation process be expedited prior to spring 2022?
	  o Wood confirmed heavy tree cover around heritage site properties and conflicting site construction data,
		Wood
		Mx
			Dec 17, 2021

	thus site visits to properties must be conducted to validate findings • Can the Stage 1 Archaeological Assessment be submitted for review? o Wood confirmed Stage 1 Archaeological Assessment submitted to Mx o Mx confirmed internal technical review underway for Stage 1 Archaeological Assessment, and will be submitted to MHSTCI in early 2022	Mx	

Adjourn 11:18 EST

Appendix I-2b

Pre-Planning Correspondence Record:

Meetings – Elected Officials

MPP Sandhu's Office
January 7, 2022

Welcome to the proposed Heritage Road Layover





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Agenda

1. Round Table Introductions
2. Land Acknowledgement/Safety Moment
3. Overview of GO Expansion
4. Overview of Design
5. TPAP Schedule and Studies
6. Questions Period

Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

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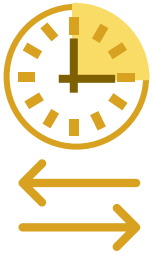

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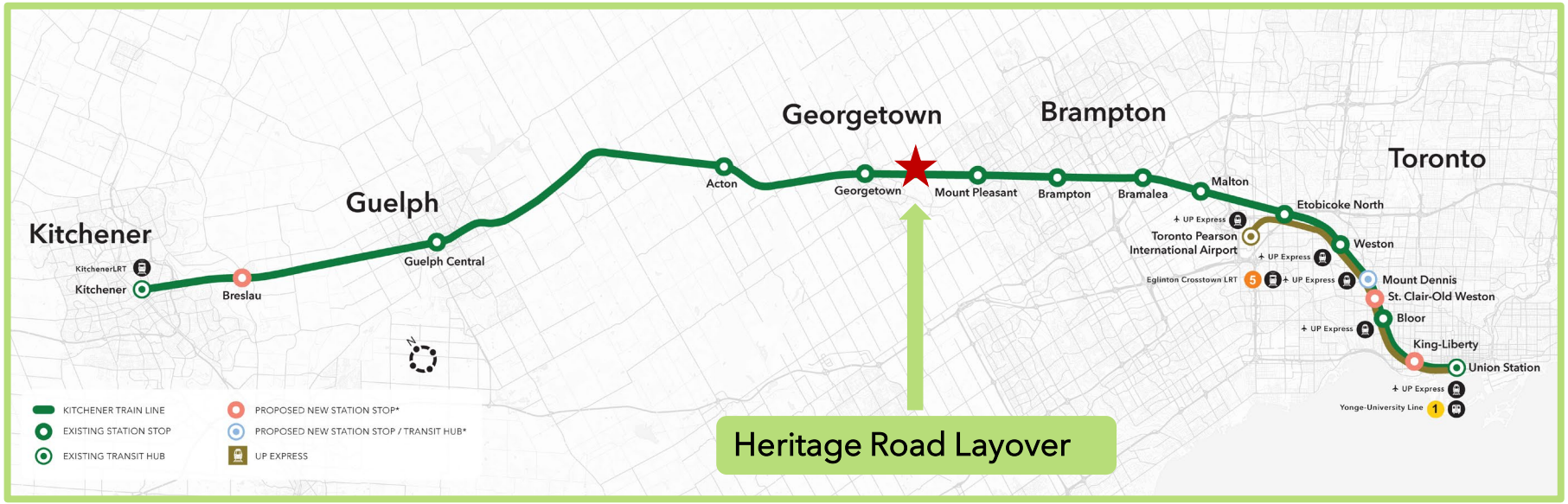

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Example of a GO Train layover facility

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CN Works Yard

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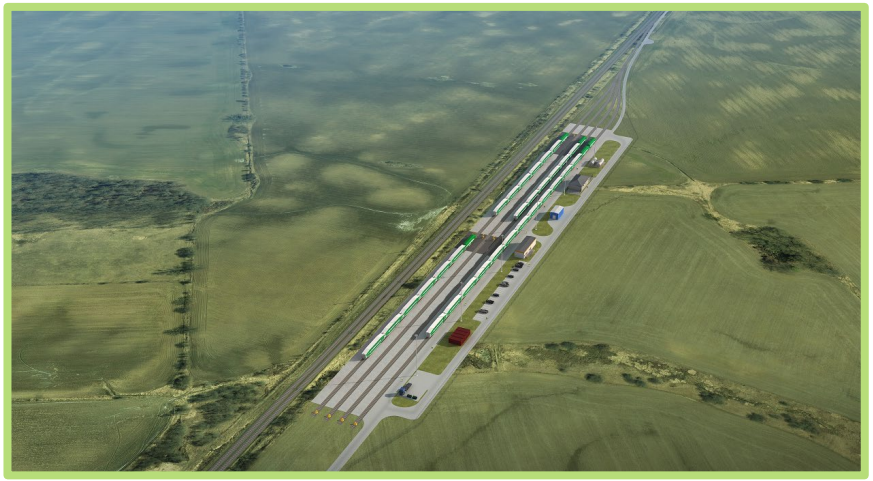

Aerial view of proposed project



Ground level view of proposed project

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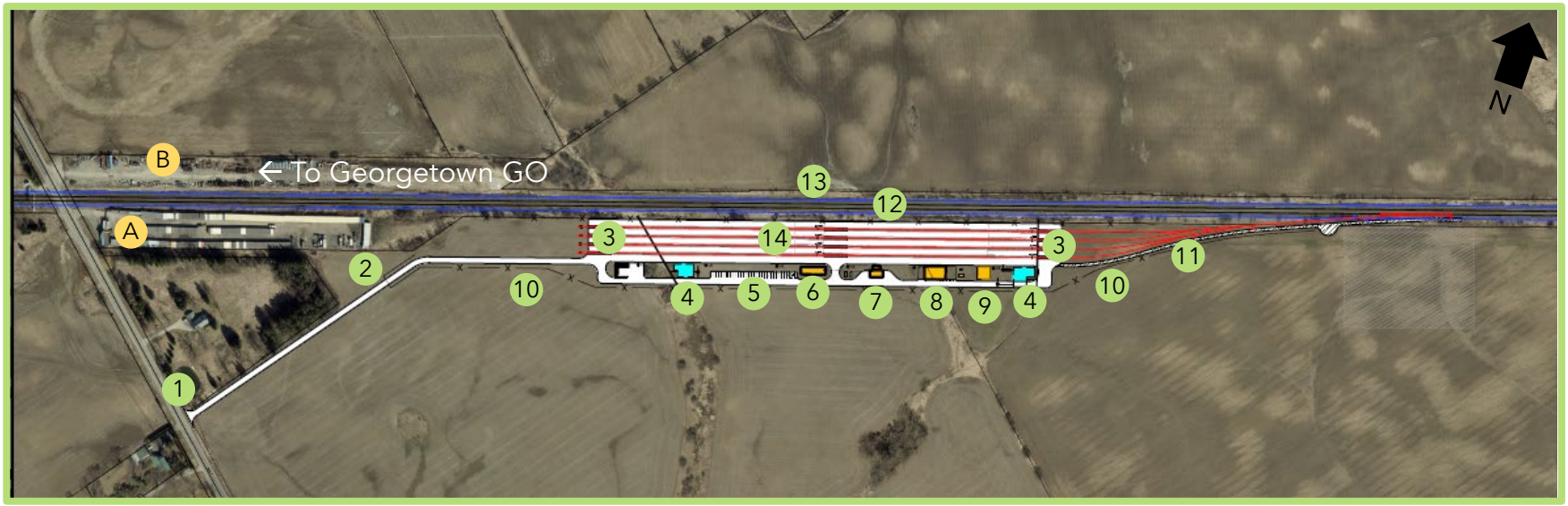
Heritage Road Layover Facility Design



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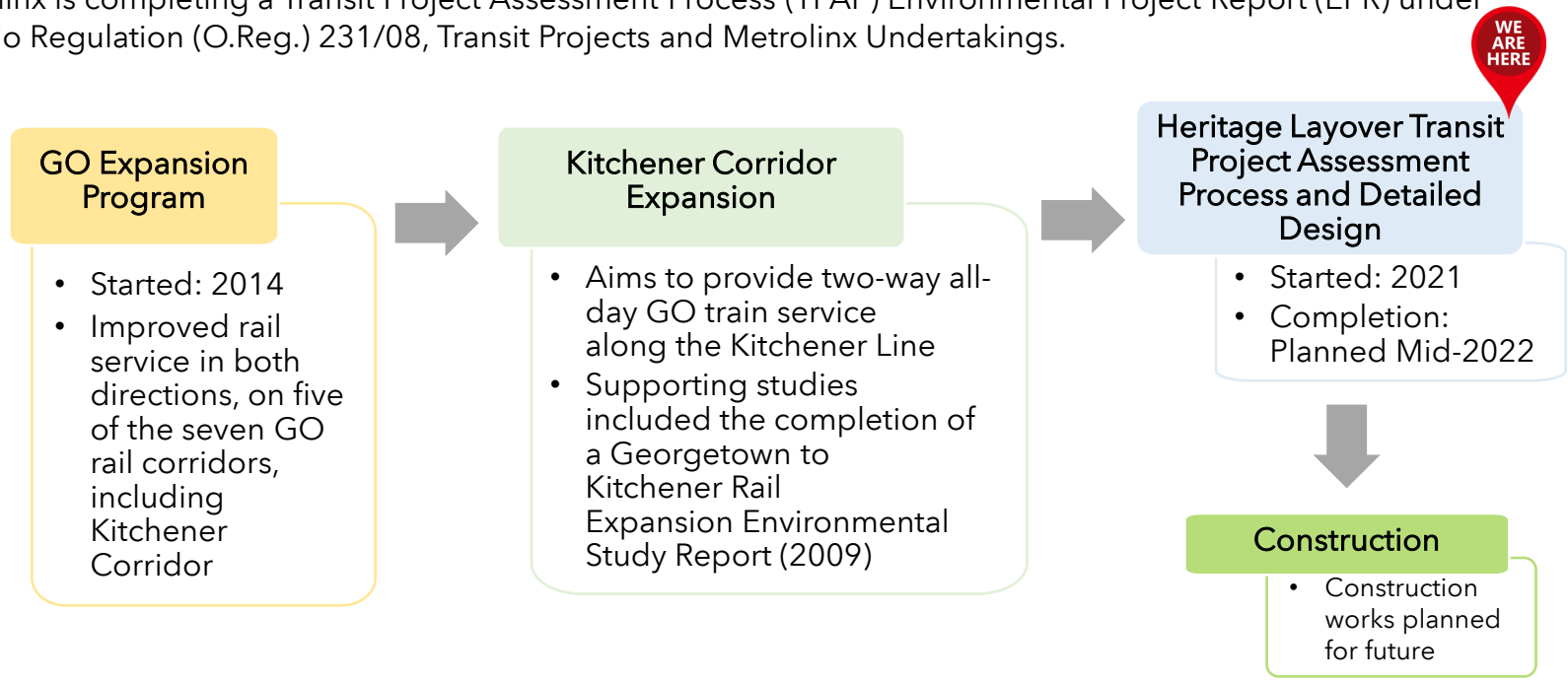
Heritage Road Layover – Project Process

Metrolinx is completing a Transit Project Assessment Process (TPAP) Environmental Project Report (EPR) under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings.



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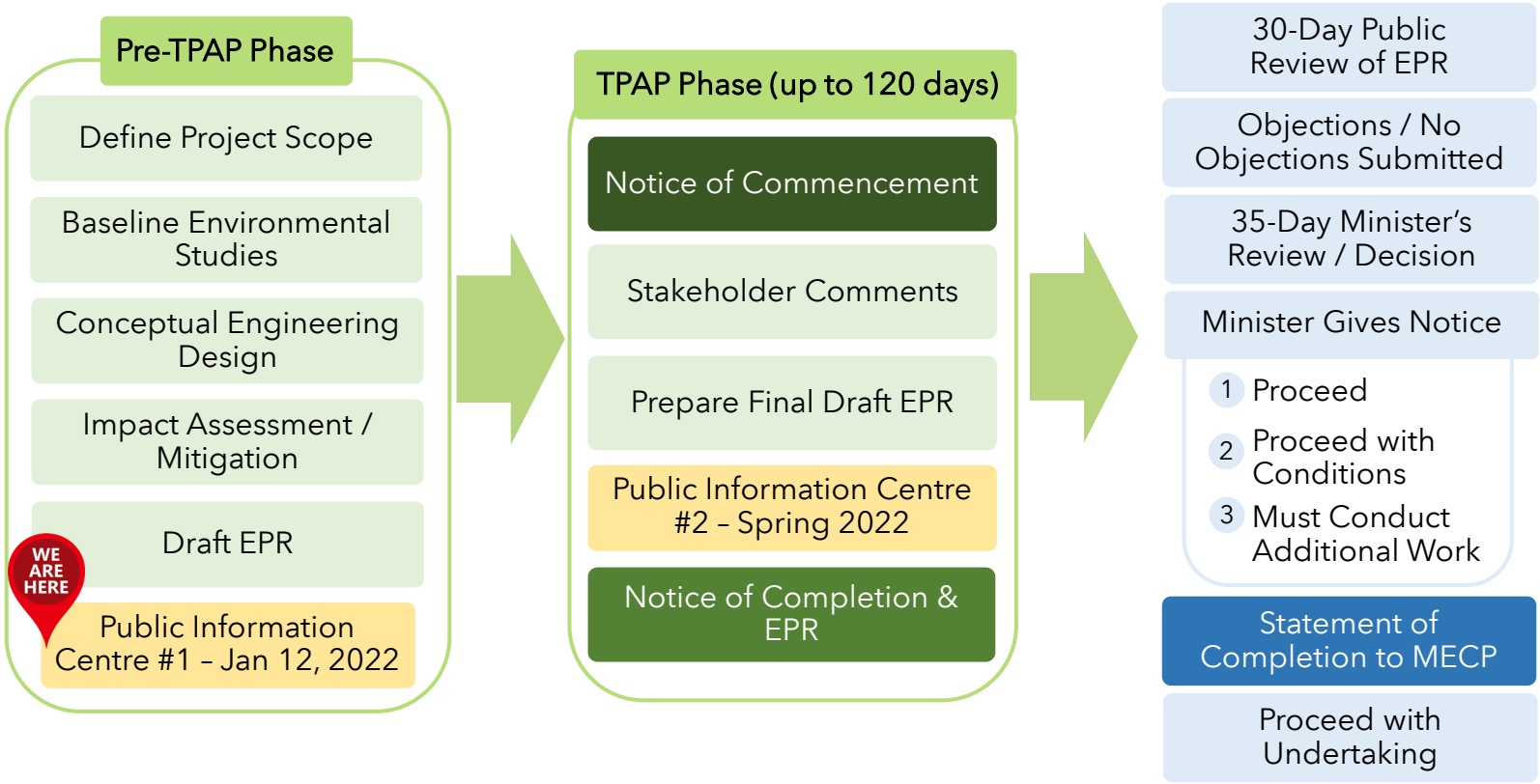
Transit Project Assessment Process (TPAP) Schedule



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Transit Project Assessment Process (TPAP) Studies

A number of technical studies are being completed under the TPAP to ensure that natural, social cultural and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Air Quality



Archaeology



Natural Environment



Noise & Vibration



Cultural Heritage



Tree Inventory Plan



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

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Transit Project Assessment Process (TPAP) Studies

Air Quality

- Identify baseline air quality and air contaminants of concern from existing data sources
- Assess local air quality impacts with construction and operations and provide recommendations for air quality management, mitigation, monitoring
- Predict pollutant concentrations based on current and future vehicular and train traffic information
- Study area extends 500 metres from project site

Noise and Vibration

- Describe existing and predicted future background noise levels
- Assess noise impacts to nearby resident based on the construction and operations of the layover and determine mitigation measures (if any) to reduce impacts
- Study area extends 500 metres from project site and baseline noise monitoring will be in early Spring 2022
- Train passbys analysis will be undertaken for operations vibration assessment/predictions within the area

Transit Project Assessment Process (TPAP) Studies

Traffic and Transportation Studies

- Review available transit operations (e.g. GO Transit, VIA Rail) on railway and road traffic information for area
- Collect data for weekday AM and weekday PM peak hour at numerous intersections in study area
- Analyze and forecast traffic conditions for construction and operations
- Impacts of COVID-19 pandemic traffic volumes, as well as future populations, employment and development will be considered



Northbound on Winston Churchill Blvd.



Train tracks crossing Winston Churchill Blvd.

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Transit Project Assessment Process (TPAP) Studies

Stage 1 Archaeological Assessment

- Summarize existing archaeological information
- Provide recommendations for lands within and adjacent to the study area
- If necessary, recommend further archaeological assessments based on study results
- Field work will be carried out in spring 2022 by licensed professional archaeologists
- Engagement with Indigenous Nations is required as part of the archaeological process

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties



Farmland within study area

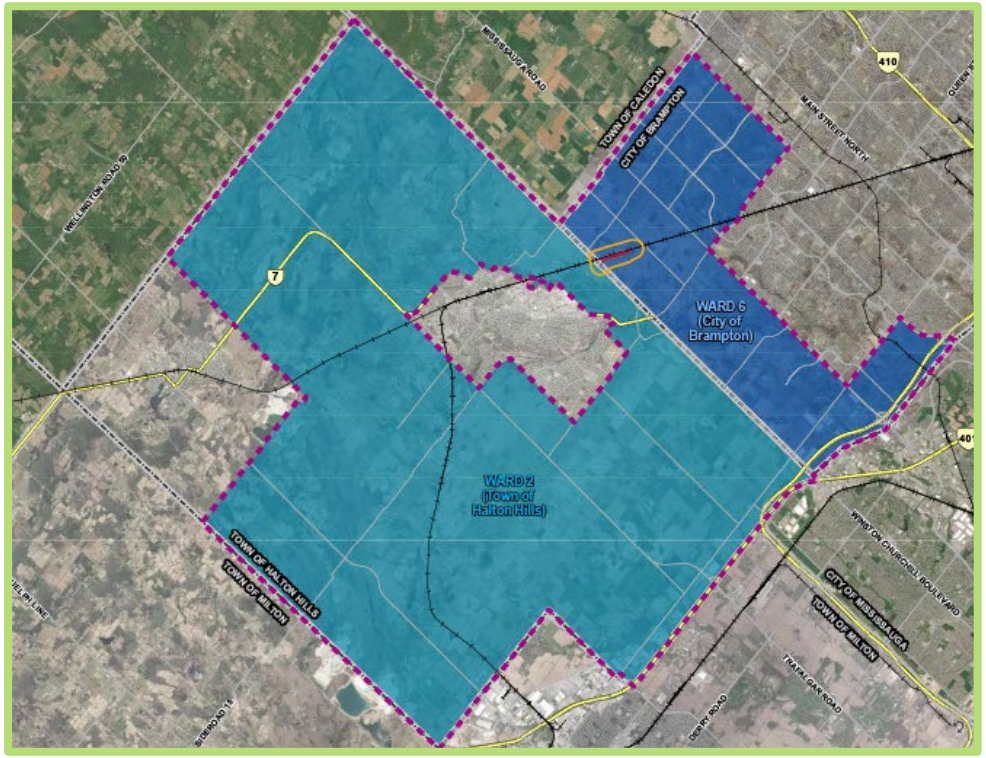
Transit Project Assessment Process (TPAP) Studies

Socio-Economic and Land Use Characteristics

Desktop review of existing socio-economic and land use conditions, including:

- Zoning within City of Brampton
- Planning policies
- Active transportation plans
- Safety and privacy impacts

- Provide assessment and mitigation measures for construction and operations of project
- Local study area is 300 metres from the project footprint
- Broader regional study area encompasses Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills
- Consultation and coordination required with municipalities, property owners, and residents to understand how project may impact the community



Regional Study Area for land use and demographics

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Transit Project Assessment Process (TPAP) Studies

Natural Environment

- Identify existing conditions for animals and landscape features within project study area
- Assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures
- Carry out desktop review of aquatic and land environments
- Field studies to commence in spring 2022 with results distributed in summer 2022



Black Capped Chickadee



Farmlands surrounding study area

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Transit Project Assessment Process (TPAP) Studies

Tree Inventory Plan

- Identify high value trees and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- Study area is 5 metres surrounding project site
- Field surveys will commence early spring 2022
- As necessary, a Tree Protection Zone will be established during the construction process
- Plan to meet City of Brampton, Region of Peel standards, and Metrolinx Vegetation Guideline



Trees and shrubbery within study area

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Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Heritage Road Layover project.

The comment period is until January 26th, 2022. We would greatly value your input!

Contact information:

Phone: 416-202-7500

Email: peel@metrolinx.com



Upcoming dates:

Spring 2022:

- Notice of Commencement
- **Public Information Centre #2**

Summer/Fall 2022:

- Notice of Completion
- Public and Stakeholder Review of EPR
- Minister's Review and Notice to Proceed



For More Information about GO Expansion and to download other materials, use the QR code or visit: MetrolinxEngage.com

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Heritage Road Layover
Elected Official pre-PIC Briefing Meeting Minutes

Meeting title:	EO Briefing – Heritage Road Layover
Date:	January 7, 2022
Time:	14:30 – 15:00 EST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Simon Strauss	Metrolinx	simon.strauss@metrolinx.com
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Benjamin Kwok	Metrolinx	benjamin.kwok@metrolinx.com
Jackie Czajka	Metrolinx	jackie.czajka@metrolinx.com
Jeff Yee	Metrolinx	jeff.yee@metrolinx.com
Greg Medulun	Metrolinx	greg.medulun@metrolinx.com
Melissa Simpson	Metrolinx	melissa.simpson@metrolinx.com
Bob Felker	Wood	bob.felker@woodplc.com
Louise McAndrew	Wood	louise.mcandrew@woodplc.com
Sumeet Kang	MPP Sandhu's Office	sumeet.kang@pc.ola.org

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement/Safety Moment** • Rain turning to ice on roads and sidewalks can be hazardous to driving and walking		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor consists of 3 sections
	  ○ Union Station to Mount Pleasant GO Station owned by Metrolinx
	  ○ Halton Subdivision from Mount Pleasant GO to Georgetown GO owned by CN
	  ○ Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO Station
	• Bramalea GO Station to Mount Pleasant GO Station planned for 30 min two-way all-day service and 15 min peak period peak direction without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  ○ GO Expansion Full Business Case
	  ○ Kitchener Extension Preliminary Design Business Case		

3	**Overview of Design** • Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance • Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor • Located within agricultural and rural residential adjacent to self-storage business and CN Works Yard • Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train • Site set-up flexibility to alternatively accommodate up to eight trains with 1 locomotive and 6 coaches per train		

	• Detailed Design in progress to be available in late 2022, with construction procurement in summer 2023, and Construction Completion by winter 2025		

4	**TPAP Schedule and Studies**
	• The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings
	• An Environmental Project Report is in preparation to:
	  o Define Project Scope
	  o Baseline Environmental Studies
	  o Conceptual Engineering Design
	  o Impact Assessment / Mitigation
	  o Future Commitments for additional studies, permitting, and monitoring
	• The Baseline Studies include:
	  o Air Quality
	  o Noise & Vibration
	  o Traffic & Transportation
	  o Archeology
	  o Cultural Heritage
	  o Socio-Economic and Land Use Characteristics
	  o Natural Environment
	  o Tree Inventory Plan
	• A virtual Public Information Centre (PIC#1) is scheduled to commence January 12, 2022
	  o PIC will remain open until January 26, 2022, for the public to review materials and comment.
	• PIC#2 will commence Spring 2022		

5	**Questions** **1.** Are there any residential properties that are going to be affected? o Clara showed the property at 10827 Winston Churchill Blvd. There are not a significate number of other residence although there is a potential for future development as part of the build out of the Heritage Heights Secondary Plan now being prepared by the City of Brampton. The majority of residents would be closest to Winston Churchill Blvd. **2.** Has the property been acquired by Metrolinx, or what is the process for that?		

	○ Jeff noted that there are two parcels and that one of the parcels is close to being acquired, and for the other, negotiations are ongoing, and we are optimistic that a deal will be reached.		
6	**ACTION ITEMS** • Any additional questions/comments from MPP Sandhu's office can be directed to Metrolinx's Community Relations (Peel) Office • Metrolinx requested that the PIC information be shared through the MPPs social channels or newsletters.		

Adjourn 15:05 pm

Appendix I-2c

Pre-Planning Correspondence Record:

Technical and Community Stakeholders

Ministry of Environment, Conservation and Parks

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: Wednesday, December 8, 2021 12:07 PM
To: Simon Strauss
Cc: Desautels, Solange (MECP); Brian Poole; Dara Corrigan; Clara Chan; Batista, Cindy (MECP)
Subject: RE: Heritage Layover - TPAP introduction and contacts

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Hello Simon.

Ministry staff have no concerns with the timelines proposed below, but please be aware that ministry staff do not know at this time if the blackout period for the June 2022 election will impact the project timelines at this time. It is too early.

With a proposed date of March 30, 2022 to formally initiate the TPAP, can it be assumed that we will received draft reports in Winter of 2022?

Thanks,

Cindy

From: Simon Strauss <Simon.Strauss@metrolinx.com>
Sent: December 1, 2021 10:24 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Heritage Layover - TPAP introduction and contacts

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Hi Cindy,

Regarding dates, we are planning the following:

- Notice of Commencement – March 30, 2022
- Notice of Completion – June 13, 2022
- Statement of Completion – August 19, 2022

We have planned these dates around the expected blackout period for the upcoming election, which would be one of the key discussion points we'd like to have with MECP to ensure there are no issues with this plan.

Thanks very much,

Simon Strauss (he/him) (il/lui)
T: 416.202.3919 C: 647.283.0895

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: November-29-21 10:09 AM

To: Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Cc: Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Heritage Layover - TPAP introduction and contacts

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Good Morning Simon and Clara,

Thank you for your email below. In order to assign MECP staff to the proposed project, it would be helpful to know the anticipated timing of the submission of a draft EPR and draft supporting technical documents. Can you tell us when that might be? Until such time, please continue to correspond with me.

Thanks,

Cindy

From: Simon Strauss <Simon.Strauss@metrolinx.com>
Sent: November 25, 2021 11:08 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Layover - TPAP introduction and contacts

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Good morning Cindy,

I hope all's well!

By way of this email, I'm reaching out to begin conversations around the Heritage Layover TPAP. The layover is a new facility proposed on the Kitchener Corridor in Brampton, between Heritage Road and Winston Churchill (see attached .kmz file and preliminary design, for reference). We are in the early stages of planning the TPAP for this project, which has previously been flagged in our monthly touchpoints with MECP. It should be noted that some preliminary environmental studies for the project were undertaken in 2015/2016, but the project was put on hold so the TPAP was never formally started.

A summary of the design is as follows:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.
- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
    - Note: there is a reduction of two tracks from the layover proposed in 2015/2016.
- The facility will include ancillary buildings (e.g. staff, sanitary, electrical, storage).
- Connections to the existing CN Rail corridor will be completed outside of any proposed works by CN.
- The project will include consideration of future electrification on the rail corridor.

Your primary Metrolinx contact for this project will be **Clara Chan (Project Manager)**, who I've cc'd on this email along with the rest of the team.

Please note that we are planning an initial virtual PIC on the project starting on January 12, 2022 and lasting for 2 weeks.

Could you identify who the Project Officer will be on this file? And please let us know if you'd like to set up a project-specific meeting.

Thanks very much,

Simon Strauss (he/him) (il/lui)
Manager, Environmental Programs & Assessment
Metrolinx
10 Bay St., 15th Floor | Toronto | Ontario | M5J 2W3
T: 416.202.3919 C: 647.283.0895

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From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: Thursday, January 13, 2022 11:01 AM
To: Clara Chan; Simon Strauss
Cc: Brian Poole; Dara Corrigan; Indigenous Relations; Batista, Cindy (MECP)
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover
Attachments: Ack Aboriginal Contacts Letter_13Jan2022.pdf

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Hello Clara,

Please find attached the ministry's formal acknowledgement letter confirming the communities to be consulted for Metrolinx's proposed Heritage Road Layover Facility project.

Regards,

Cindy

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: January 7, 2022 10:37 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

Good Morning Clara,

The ministry can confirm that the communities identified by Metrolinx that may have an interest in this proposed transit project is appropriate in which to engage. Please note that for Mississaugas of the Credit, the email address is MCFN.Consultation@mncfn.ca" or "DOCA.Admin@mncfn.ca". A formal acknowledgement letter confirming communities by the ministry will be sent to you next week.

Regards,

Cindy

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: January 5, 2022 1:24 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Averill, Jon (MECP) <Jon.Averill@ontario.ca>; O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

Hello Clara.

Thanks for following up. The information you shared with the ministry on December 21st is now with our Aboriginal Advisor and at this time we do not require any further information. Project information and preliminary community list are being reviewed. Once the review is complete, I will confirm the list with you and your team.

Happy New Year to you too!

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: January 5, 2022 1:03 PM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good afternoon Cindy,

Happy New Year!

I just wanted to follow up on the information provided before the holidays. Does your Aboriginal Advisor require any further information?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

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From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: December-21-21 8:22 AM
To: Simon Strauss <Simon.Strauss@metrolinx.com>; O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good Morning Simon.

Thanks for sending the ministry additional information to confirm the community list. I will now share the information with our Aboriginal Advisor.

Take care,

Cindy

From: Simon Strauss <Simon.Strauss@metrolinx.com>
Sent: December 20, 2021 5:16 PM
To: O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good evening Kathleen and Cindy,

Clara's off this week, so I'm sending this information through on her behalf. As per Cindy's conversation with Clara last week, below and attached are more information on the Heritage Road Layover Project, to support MECP's review of potentially interested Indigenous Nations.

Background
To support proposed service increases along the Kitchener Corridor, Metrolinx is completing a Transit Project Assessment Project (TPAP) for the construction of a new train layover between Heritage Road and Winston Churchill Boulevard, south of the CN corridor, called Heritage Road Layover. This train layover is a support facility for Metrolinx's rail operations, which will provide overnight storage for trains. While trains are stored overnight, crews can perform inspection and light maintenance activities (including cleaning and fuelling) when the trains are not in service.

Study Area
The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (extent identified as "Study Area" in Figure 1). The project limits are predominantly within an agricultural landscape dominated by row cropped fields. The Study Area contains several watercourses which flow intermittently throughout the year and function as agricultural swales (Figure 2). Two of these watercourses (unnamed tributaries to the Credit River) cross the proposed Heritage Road Layover facility site, and an extension of two existing culverts crossing the Right Of Way is required. As part of the project, a new access road south of the at-grade crossing at Winston Churchill Boulevard is proposed. The maximum study radius for the various studies supporting the TPAP – used for the traffic analysis – is a distance of 2 km around the proposed Heritage Road Layover facility footprint.

Project Scope
The following items are proposed to be installed at Heritage Road Layover facility:

- Four (4) tracks that have a capacity to store up to four trains consisting of two locomotives and 12 coaches; or eight trains consisting of one locomotive and 6 coaches.
- Four (4) buildings will also be constructed at the facility to support layover functions (staff, electrical, sanitary, storage).
- No modifications are proposed to existing roads; however, a service roadway will be constructed for access to Heritage Road Layover. The service roadway will branch from Winston Churchill Boulevard.
- Two culverts run through the proposed Heritage Road Layover footprint to drain two intermittent watercourses. To maintain existing stormwater flow requirements established by the City of Brampton, modifications of the culverts may be required. Details of the proposed modifications will be further clarified in later stages of the design, following the stormwater management studies

Potential Impacts

1) Archaeology:
   Site: Previous Stage 1 and 2 archaeological assessments (AAs) have been completed within the Heritage Road Layover footprint and lands to the south of the proposed layover on behalf Metrolinx. The studies identified the presence of two archaeological sites that were Euro-Canadian in nature. One of these archaeological sites is located within the Heritage Road Layover footprint. The second site is described in the below, since it was located outside of the Heritage Road Layover extent.

   An updated Stage 1 AA and Stage 3 AA is as part of our studies.

   Surrounding lands*:* In the Stage 1 and 2 AA that was completed on behalf of Metrolinx, a post-contact Euro-Canadian site was identified, and located within 300 m of Heritage Road Layover. In addition to the studies completed for Metrolinx, Stage 1-3 AAs were completed for a property developer at a former cemetery (McNichol Cemetery) located east of the Heritage Road Layover footprint. The studies completed at the McNichol Cemetery confirmed the remains associated with the McNichol Family that previously occupied the lands.

   We have already discussed these findings and our plan with MHSTCI.

2) Cultural Heritage:
   Site: There are no records of any buildings present within the Heritage Road Layover footprint, so there are no anticipated built heritage resources or cultural heritage landscapes on the site.

   Surrounding lands: In addition to McNichol's Cemetery (confirmed cultural heritage landscape), located east of the Heritage Road Layover footprint (as described in the Archaeology impacts above), two residential properties west of the Heritage Road Layover footprint have been identified to have potential built heritage resources due to the construction or architecture of the buildings.

   A Cultural Heritage Evaluation Report (CHER) is anticipated for the residential property that may have direct impacts due to construction activities.

   We have already discussed these findings and our plan with MHSTCI.

3) Natural Heritage:
   Site and Surrounding Lands: As noted, two intermittent watercourse run through the site, and culvert extensions may be required. Some vegetation will require removal in order to construct the layover. Potential Species at Risk in the area based on a desktop review are Barn Swallow, Bobolink, Eastern Meadowlark, and Butternut. Field studies are planned for spring 2022 to confirm trees for removal and any SAR habitat.

Please note that this project is undergoing a Duty to Consult assessment through our Legal team, and we've received early indication that it has triggered Duty to Consult requirements. We're waiting to receive the full assessment.

If you have any questions or require anything further, please let us know.

Best regards,

Simon Strauss (he/him) (il/lui)
Manager, Environmental Programs & Assessment
Metrolinx
10 Bay St., 15th Floor | Toronto | Ontario | M5J 2W3
T: 416.202.3919 C: 647.283.0895

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December-08-21 4:22 PM
To: kathleen.oneill@ontario.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: Indigenous Nations Engagement List for Heritage Road Layover

Hi Kathleen,

My name is Clara Chan and I'm a Project Manager within our Environmental Programs and Assessment group at Metrolinx. My team and I are preparing for the Heritage Road Layover TPAP. The layover is a new facility proposed on the Kitchener Corridor in Brampton, between Heritage Road and Winston Churchill Boulevard (see attached .kmz file and preliminary design, for reference).

We are currently in the Pre-TPAP stage of the project and want to ensure Indigenous Nations receive an early introduction to the project and invitation for their engagement.

Our Indigenous Relations Office has recommended the below list of Indigenous Nations to be consulted; they include:

- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Mississaugas of the Credit First Nation
- Huron-Wendat Nation (Archaeology only)

We appreciate if you have any feedback regarding the list of proposed Indigenous Nations noted above early next week, if possible. Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

January 13, 2022

Clara Chan
Project Manager, Environmental Programs and Assessment
Metrolinx
Clara.Chan@metrolinx.com

Re: Transit Project Assessment Process - Identifying Interested Indigenous Communities

Dear Clara Chan:

Thank you for your email on December 8, 2021, regarding Metrolinx's proposed Heritage Road Layover project, for the construction of a new train layover, in the City of Brampton, between Heritage Road and Winston Churchill Boulevard, in the Regional Municipality of Peel. In your letter you request that the Ministry of the Environment, Conservation and Parks (ministry) provide assistance in identifying Indigenous communities that may have an interest in this Project.

As you are aware, the Government of Ontario (the "Crown") has a constitutional duty to consult Aboriginal communities when Crown project approvals could lead to an adverse impact on established or asserted Aboriginal or treaty rights. The Crown may use existing regulatory processes as a vehicle for fulfilling its constitutional duty, including an assessment process under the Ontario Regulation 231/08, Transit Projects and Metrolinx Undertakings.

The Crown has a duty to consult communities when it knows about established or credibly asserted Aboriginal or treaty rights and contemplates decisions or actions that could adversely affect them. As an agency of the Crown, Metrolinx' actions can trigger the Crown's duty to consult. As the proponent of the undertaking, Metrolinx is in the best position to lead the consultation process on behalf of the Crown with Ministry of the

Environment, Conservation and Parks collaborating with Metrolinx during the process. Please contact the ministry if an Indigenous community identifies a potential negative impact on an existing constitutionally protected Aboriginal or treaty right.

List of Communities to Consult

Based on the information you have provided and the Crown's preliminary assessment of Aboriginal community rights and potential Project impacts and interested communities identified, the ministry would ask that the following communities be included in the consultation process:

- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Mississaugas of the Credit First Nation
- Huron-Wendat Nation (Archaeology only)

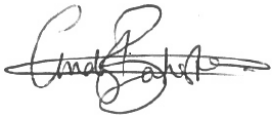
Huron-Wendat Nation is to be consulted if there are potential archaeological impacts but not to the exclusion of the other communities. The other communities are also interested in archaeology.

Notice of Commencement

The ministry is pleased that you intend to follow the transit project assessment process as per Ontario Regulation 231/08 for the project. Please be advised that when you initiate the transit project assessment process, a Notice of Commencement should be sent to Kathleen O'Neill, Director of Environmental Assessment Branch and the ministry's Regional Director for the region in which the project is located, as well as to the Indigenous communities identified above. Prior to issuing a Notice, proponents are encouraged to contact this branch and other government agencies to determine their level of interest in the project.

Should you or any members of your project team have any questions regarding the material above, please contact me at 437-248-0058 or by email at Cindy.Batista@ontario.ca.

Sincerely,



Cindy Batista
Special Project Officer
Environmental Assessment Branch

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: Friday, January 7, 2022 10:37 AM
To: Clara Chan; Simon Strauss
Cc: Brian Poole; Dara Corrigan; Indigenous Relations; Batista, Cindy (MECP)
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good Morning Clara,

The ministry can confirm that the communities identified by Metrolinx that may have an interest in this proposed transit project is appropriate in which to engage. Please note that for Mississaugas of the Credit, the email address is MCFN.Consultation@mncfn.ca" or "DOCA.Admin@mncfn.ca". A formal acknowledgement letter confirming communities by the ministry will be sent to you next week.

Regards,

Cindy

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: January 5, 2022 1:24 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Averill, Jon (MECP) <Jon.Averill@ontario.ca>; O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

Hello Clara.

Thanks for following up. The information you shared with the ministry on December 21st is now with our Aboriginal Advisor and at this time we do not require any further information. Project information and preliminary community list are being reviewed. Once the review is complete, I will confirm the list with you and your team.

Happy New Year to you too!

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: January 5, 2022 1:03 PM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations

<IndigenousRelations@metrolinx.com>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good afternoon Cindy,

Happy New Year!

I just wanted to follow up on the information provided before the holidays. Does your Aboriginal Advisor require any further information?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: December-21-21 8:22 AM
To: Simon Strauss <Simon.Strauss@metrolinx.com>; O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good Morning Simon.

Thanks for sending the ministry additional information to confirm the community list. I will now share the information with our Aboriginal Advisor.

Take care,

Cindy

From: Simon Strauss <Simon.Strauss@metrolinx.com>
Sent: December 20, 2021 5:16 PM
To: O'Neill, Kathleen (MECP) <Kathleen.Oneill@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Indigenous Nations Engagement List for Heritage Road Layover

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Good evening Kathleen and Cindy,

Clara's off this week, so I'm sending this information through on her behalf. As per Cindy's conversation with Clara last week, below and attached are more information on the Heritage Road Layover Project, to support MECP's review of potentially interested Indigenous Nations.

Background

To support proposed service increases along the Kitchener Corridor, Metrolinx is completing a Transit Project Assessment Project (TPAP) for the construction of a new train layover between Heritage Road and Winston Churchill Boulevard, south of the CN corridor, called Heritage Road Layover. This train layover is a support facility for Metrolinx's rail operations, which will provide overnight storage for trains. While trains are stored overnight, crews can perform inspection and light maintenance activities (including cleaning and fuelling) when the trains are not in service.

Study Area

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (extent identified as "Study Area" in Figure 1). The project limits are predominantly within an agricultural landscape dominated by row cropped fields. The Study Area contains several watercourses which flow intermittently throughout the year and function as agricultural swales (Figure 2). Two of these watercourses (unnamed tributaries to the Credit River) cross the proposed Heritage Road Layover facility site, and an extension of two existing culverts crossing the Right Of Way is required. As part of the project, a new access road south of the at-grade crossing at Winston Churchill Boulevard is proposed. The maximum study radius for the various studies supporting the TPAP – used for the traffic analysis – is a distance of 2 km around the proposed Heritage Road Layover facility footprint.

Project Scope

The following items are proposed to be installed at Heritage Road Layover facility:

- Four (4) tracks that have a capacity to store up to four trains consisting of two locomotives and 12 coaches; or eight trains consisting of one locomotive and 6 coaches.
- Four (4) buildings will also be constructed at the facility to support layover functions (staff, electrical, sanitary, storage).
- No modifications are proposed to existing roads; however, a service roadway will be constructed for access to Heritage Road Layover. The service roadway will branch from Winston Churchill Boulevard.
- Two culverts run through the proposed Heritage Road Layover footprint to drain two intermittent watercourses. To maintain existing stormwater flow requirements established by the City of Brampton, modifications of the culverts may be required. Details of the proposed modifications will be further clarified in later stages of the design, following the stormwater management studies

Potential Impacts

1) Archaeology:

   Site: Previous Stage 1 and 2 archaeological assessments (AAs) have been completed within the Heritage Road Layover footprint and lands to the south of the proposed layover on behalf Metrolinx. The studies identified the presence of two archaeological sites that were Euro-Canadian in nature. One of these archaeological sites is located within the Heritage Road Layover footprint. The second site is described in the below, since it was located outside of the Heritage Road Layover extent.

   An updated Stage 1 AA and Stage 3 AA is as part of our studies.

   Surrounding lands: In the Stage 1 and 2 AA that was completed on behalf of Metrolinx, a post-contact Euro-Canadian site was identified, and located within 300 m of Heritage Road Layover. In addition to the studies completed for Metrolinx, Stage 1-3 AAs were completed for a property developer at a former cemetery (McNichol Cemetery) located east of the Heritage Road Layover footprint. The studies completed at the

McNichol Cemetery confirmed the remains associated with the McNichol Family that previously occupied the lands.

We have already discussed these findings and our plan with MHSTCI.

2) Cultural Heritage:
Site: There are no records of any buildings present within the Heritage Road Layover footprint, so there are no anticipated built heritage resources or cultural heritage landscapes on the site.

Surrounding lands: In addition to McNichol's Cemetery (confirmed cultural heritage landscape), located east of the Heritage Road Layover footprint (as described in the Archaeology impacts above), two residential properties west of the Heritage Road Layover footprint have been identified to have potential built heritage resources due to the construction or architecture of the buildings.

A Cultural Heritage Evaluation Report (CHER) is anticipated for the residential property that may have direct impacts due to construction activities.

We have already discussed these findings and our plan with MHSTCI.

3) Natural Heritage:
Site and Surrounding Lands: As noted, two intermittent watercourse run through the site, and culvert extensions may be required. Some vegetation will require removal in order to construct the layover. Potential Species at Risk in the area based on a desktop review are Barn Swallow, Bobolink, Eastern Meadowlark, and Butternut. Field studies are planned for spring 2022 to confirm trees for removal and any SAR habitat.

Please note that this project is undergoing a Duty to Consult assessment through our Legal team, and we've received early indication that it has triggered Duty to Consult requirements. We're waiting to receive the full assessment.

If you have any questions or require anything further, please let us know.

Best regards,

Simon Strauss (he/him) (il/lui)
Manager, Environmental Programs & Assessment
Metrolinx
10 Bay St., 15th Floor | Toronto | Ontario | M5J 2W3
T: 416.202.3919 C: 647.283.0895

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December-08-21 4:22 PM
To: kathleen.oneill@ontario.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: Indigenous Nations Engagement List for Heritage Road Layover

Hi Kathleen,

My name is Clara Chan and I'm a Project Manager within our Environmental Programs and Assessment group at Metrolinx. My team and I are preparing for the Heritage Road Layover TPAP. The layover is a new facility proposed on the Kitchener Corridor in Brampton, between Heritage Road and Winston Churchill Boulevard (see attached .kmz file and preliminary design, for reference).

We are currently in the Pre-TPAP stage of the project and want to ensure Indigenous Nations receive an early introduction to the project and invitation for their engagement.

Our Indigenous Relations Office has recommended the below list of Indigenous Nations to be consulted; they include:

- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Mississaugas of the Credit First Nation
- Huron-Wendat Nation (Archaeology only)

We appreciate if you have any feedback regarding the list of proposed Indigenous Nations noted above early next week, if possible. Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: Wednesday, March 2, 2022 12:31 PM
To: Clara Chan
Cc: Simon Strauss; Dara Corrigan; Brian Poole; Batista, Cindy (MECP)
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review
Attachments: MKHL_Comment Review Sheet_NVIA MECP 2022-03_Noise.xlsx

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Hello Clara:

Please find attached ministry's comments on the noise and vibration for Metrolinx's review and response.

Thanks,

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: March 2, 2022 9:14 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

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Good morning Cindy!

Can you please confirm if we're on track to received feedback of the memo by end of this week?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: February-08-22 11:17 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole

<Brian.Poole@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

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Hello Clara.

The ministry's noise reviewer will need 4 weeks to complete the review of the memo. You can expect ministry comments the week of February 28.

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: February 4, 2022 10:17 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover Noise and Vibration Assumptions Review

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Good morning Cindy,

Our Consultant is planning to complete field activities to support the noise and vibration monitoring for Heritage Road Layover to support our TPAP studies in the upcoming weeks. Would you be able to facilitate an expedited review of the assumptions that Wood has made for their studies? We are on a hurried timeline to ensure that this can be included in our 75% EPR in advance of the PIC scheduled for April 6, and we would appreciate any and all assistance on this review.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of Tourism, Culture and Sport

From: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>
Sent: Thursday, December 9, 2021 9:42 AM
To: Clara Chan
Cc: Hamilton, James (MHSTCI); Zirger, Rosi (MHSTCI); Simon Strauss; Dara Corrigan; Brian Poole; 'Felker, Bob'; 'Mcandrew, Louise'; Hatcher, Laura (MHSTCI)
Subject: RE: Heritage Layover TPAP Team Introductions (Email 1 of 2)

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Thanks Clara!
At this time, Thursday, December 16 (1030 – 1130) works for us.

Regards,
Karla

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December-08-21 5:34 PM
To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>
Cc: Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise' <louise.mcandrew@woodplc.com>; Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: RE: Heritage Layover TPAP Team Introductions (Email 1 of 2)

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Hi Karla,

Yes, mine was as well! Sorry for the delay in response; the week has flown by!

Our team and our Consultant would have availability on the following dates:

- Wednesday, December 15: 1430 – 1530;
- Thursday, December 16: 0930 – 1030
- Thursday, December 16: 1030 – 1130

Please us know if any of the times suits you and your team.

Look forward to speaking with you!

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>
Sent: December-06-21 12:45 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise' <louise.mcandrew@woodplc.com>; Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: RE: Heritage Layover TPAP Team Introductions (Email 1 of 2)

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Hi Clara,

We did have a good weekend, thanks! Hope the same with you.

Thanks for the additional background information. I just responded Wood regarding background data – see attached.

We would also welcome a meeting with Metrolinx and its consultants to be better under this project and its timelines as well as clarify our expectations around technical cultural heritage studies. If you want to send a few dates/times for a meeting, we can then confirm our availability.

Thanks again,
Karla

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December-06-21 9:12 AM
To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>
Cc: Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise' <louise.mcandrew@woodplc.com>
Subject: RE: Heritage Layover TPAP Team Introductions (Email 1 of 2)

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Good morning Karla,

I hope you had a good weekend.

The Site was part of a broader study for the GO Transit Georgetown to Kitchener Rail Expansion ESR completed in 2009. However, there were no formal TPAPs completed for this site; one was initiated in 2015/2016, but a Notice of Commencement was not filed as the project was put on hold.

Thank you,

Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>
Sent: November-29-21 10:11 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise' <louise.mcandrew@woodplc.com>
Subject: FW: Heritage Layover TPAP Team Introductions (Email 1 of 2)

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Hi Clara (et al.),

Thanks for sending this information to us and offering to arrange a meeting to discuss this project.
Before we arrange a meeting to discuss more detail, could you please share some additional background information? We are trying to see whether this project was part of a previous completed TPAP e.g. 2016, or new track and facilities etc. We can then provide information as requested below and send some preliminary.

We look forward to hearing from you.

Thanks in advance,
Karla

Karla Barboza MCIP, RPP, CAHP | (A) Team Lead, Heritage
Ministry of Heritage, Sport, Tourism and Culture Industries
Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit
T. 416. 660.1027 | Email: karla.barboza@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: November-24-21 11:29 AM
To: Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise'

<louise.mcandrew@woodplc.com>
Subject: Heritage Layover TPAP Team Introductions (Email 1 of 2)

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Hi Karla, James and Rosi,

Hope everything is well!

My name is Clara Chan, and I am an Environmental Project Manager within Metrolinx's Environmental Programs and Assessment Group. My team and I are working are working with our consultants (Wood) to prepare the Transit Project Assessment Process (TPAP) for the Heritage Layover project, a new layover proposed on the Kitchener Corridor in Brampton, between Heritage Road and Winston Churchill (see attached .kmz file). My colleague, Simon, suggested that you would likely be the able to direct us to the best points of contact for the project.

A summary of the design is as follows:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.
- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
  Note: there is a reduction of two tracks from the layover proposed in 2015/2016.
- The facility will also have ancillary buildings (e.g. staff, sanitary, electrical, storage).
- Connections to the existing CN Rail corridor will be completed outside of the proposed works by CN.
- The project will include consideration of future electrification on the rail corridor.

Metrolinx previously completed two archaeological studies (Stage 1 and 2) for the proposed layover in 2016 that were entered into the register. I've attached a copy of the Stage 1 AA in the enclosed and a notice of register entry for your reference. A separate email with the Stage 2 AA report will be sent due to file size restrictions.

As part of this TPAP, a new Stage 1 AA will be completed to reflect the updated study area, with the intention of a Stage 3 AA to follow. A Stage 3 AA was recommended in the previous Stage 2, as Euro-Canadian artifacts were found within and in close proximity to the 2016 project footprint, and were considered to be culturally significant. The former McNichol Cemetery is also in close proximity to the study area.

Concurrently to the Stage 1 AA, a Cultural Heritage study will also be completed. As such, Wood will be reaching out to you or your team with some data requests to support these studies; I've copied them (Bob Felker and Louise Mcandrew) for reference.

If you have can provide points of contact within MHSTCI who Metrolinx and Wood can reach out to as the process moves forward, that would be greatly appreciated. Please also let us know if you would like to set up a meeting to discuss further details of the Heritage Layover TPAP.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Brian Poole
Sent: Thursday, January 6, 2022 9:17 AM
To: Hamilton, James (MHSTCI); Barboza, Karla (MHSTCI); Zirger, Rosi (MHSTCI); Hatcher, Laura (MHSTCI)
Cc: Simon Strauss; Clara Chan; Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; heidy.schopf@woodplc.com; barbara.slim@woodplc.com; henry.cary@woodplc.com; peter.popkin@woodplc.com
Subject: Final Meeting Minutes - December 16th, 2021
Attachments: 2021.12.16 Heritage Road Layover MHSTCI Meeting Minutes_Rev1.pdf

Hi everyone,
Here are the attached final meeting minutes from the December 16th 2021 meeting. If you have any final comments or edits needed, please let me know by the end of this week.
Thank you,
-Brian

Brian J. Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 647.334.9949

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From: info-attachmail@ontario.ca
Sent: Friday, March 4, 2022 3:22 PM
To: karla.barboza@ontario.ca; james.hamilton@ontario.ca; rosi.zirger@ontario.ca; laura.e.hatcher@ontario.ca
Subject: Metrolinx Heritage Road Layover - Transmittal for Cultural Heritage Report

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brian.poole@metrolinx.com sent you a secure message

Access message

Dear Karla, Laura, Jim and Rosi, We are pleased to provide you with the draft Cultural Heritage Report (see attached) for your review as par..

Attachments expire on Mar 09, 2022

1 spreadsheet
2022-03-04_Comments_Draft Report_Cultural Heritage.xlsx

1 PDF
IM21405045_Heritage Layover_CHR_REV4.pdf

This message requires that you sign in to access the message and any file attachments.

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accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

City of Brampton

From: Clara Chan
Sent: Thursday, December 2, 2021 8:59 AM
To: Zbogar, Henrik
Cc: Oliveira, Andria; Balram, Anand; Ranjan, Kumar; Dara Corrigan; Brian Poole
Subject: RE: [EXTERNAL]Proposed TAC Meeting - Heritage Layover (Monday, December 13)

Hi Henrik,

Will do!

I'll send a meeting invitation when I have received feedback from the other parties.

Look forward to speaking to you soon!

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: December-01-21 4:57 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Oliveira, Andria <Andria.Oliveira@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>
Subject: RE: [EXTERNAL]Proposed TAC Meeting - Heritage Layover (Monday, December 13)

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Thank you Clara. I am available for either of the proposed times.

Could you also include in the meeting invitation the additional Brampton staff copied here.

Regards,
H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

BRAMPTON

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2021/12/01 11:02 AM
To: manvir.tatla@peelregion.ca; Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Kilis, Jakub <jakub.kilis@cvc.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>; Flora Devarajah <Flora.Devarajah@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Felker, Bob <bob.felker@woodplc.com>
Subject: [EXTERNAL]Proposed TAC Meeting - Heritage Layover (Monday, December 13)

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Good morning Everyone,

Metrolinx beginning preparation of a TPAP for the Heritage Road Layover Facility, we wanted to extend a meeting to:

1) Formally introduce ourselves and our consulting team,
2) Provide an overview to the Heritage Road Layover Project, including design and TPAP scheduling, and
3) Review the content for the PIC presentation with you before finalization.

As part of the TPAP process, our first proposed PIC is scheduled for Wednesday, January 12.

Based our PIC timelines, we would like to extend the meeting with you all for Monday, December 13. There are a couple of times available:

- 11:00 – 12:00 (preferred)
- 13:00 – 1400

Please let me know if either of those times work for you.

For reference, some upcoming key dates are as follows:

- Tuesday, December 14 - Initiate engagement with Elected Officials
- Friday, December 17 – PIC notice mailer circulated through Canada Post
- Saturday, December 18 – First PIC #1 notice advertisement in newspapers
- Saturday, January 8 - Second PIC #1 notice advertisement in newspapers
- January 7/10-11 – Briefings with Elected Officials

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: Wednesday, December 8, 2021 10:29 AM
To: Clara Chan; Ranjan, Kumar; Oliveira, Andria; Doug Rieger
Cc: Meaghan Mendonca; Jackie Czajka; Andrew Pagetta; Jeff Yee; Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Brian Poole; Benjamin Kwok
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Thank you Clara.
If we could have a separate meeting on the Heritage Heights station at a later date, that would be appreciated. I will defer to you to suggest possible dates, and will coordinate with City staff.

H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

BRAMPTON

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2021/12/07 3:58 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Rieger, Doug <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Brian Poole <Brian.Poole@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

Good afternoon Henrik,

Hope all is well!

I just wanted to confirm that in the TAC meeting scheduled this upcoming Monday, that we won't have any discussions with regards to Heritage Heights Station, as the discussions have not been formalized and made public yet. To that end, if you would like have a separate meeting to discuss Heritage Heights Stations considerations outside our conversation with the Region and CVC on Monday, please let us know.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment

Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: November-19-21 9:32 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Doug Rieger <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Noelle Wannamaker <Noelle.Wannamaker@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Subject: Re: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Good morning Clara. Thank you for this update. You can continue to send communications through me as a Brampton single point of contact, and I can disseminate info and coordinate input from other City stakeholders, including Transit and our Policy staff (wrt to planning for Heritage Heights). It might be helpful if we could have a brief meeting, for you to be able to summarize the project work-to-date and this latest concept, and to identify any potential issues and next steps.

Regards,
H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Tuesday, November 16, 2021 1:50:27 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Rieger, Doug <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Noelle Wannamaker <Noelle.Wannamaker@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Subject: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Hi Henrik, Kumar, Andria, and Doug:
Hope everything is well!
My name is Clara Chan, and I am an Environmental Project Manager within Metrolinx's Environmental Programs and Assessment Group. My team and I are working are working with our consultants (Wood) to prepare the Transit Project Assessment Process (TPAP) for Heritage Layover. My colleague, Meaghan, had suggested that you would likely be the best sources of contact at the City for this project.
There have been a few modifications since the last time we had reached out to your team; I've included a figure of the updated site location for reference. A summary of the design is as follows:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.
- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
  Note: there is a reduction of two tracks from the layover proposed in 2015/2016.
- The facility will also have ancillary buildings (e.g. staff, sanitary, electrical).
- Connections to the existing CN Rail corridor will be completed outside of the proposed works by CN.
- The project will include consideration of future electrification on the rail corridor.

Wood will be completing a number of technical studies to support the TPAP, and they will be reaching out shortly to you or your team with some data requests to support these studies. To that end, I've copied them (Bob Felker and Louise Mcandrew) for reference.
Please let us know if you would like to set up a meeting to discuss further details of the Heritage Layover TPAP, and if you have a preferred single point of contact at the City who Metrolinx and Wood can reach out to as the process moves forward.
Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com
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From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: Tuesday, December 14, 2021 3:46 PM
To: Mohammad, Ghazanfar
Cc: Felker, Bob; Mcandrew, Louise; Clara Chan; Dara Corrigan; Brian Poole
Subject: RE: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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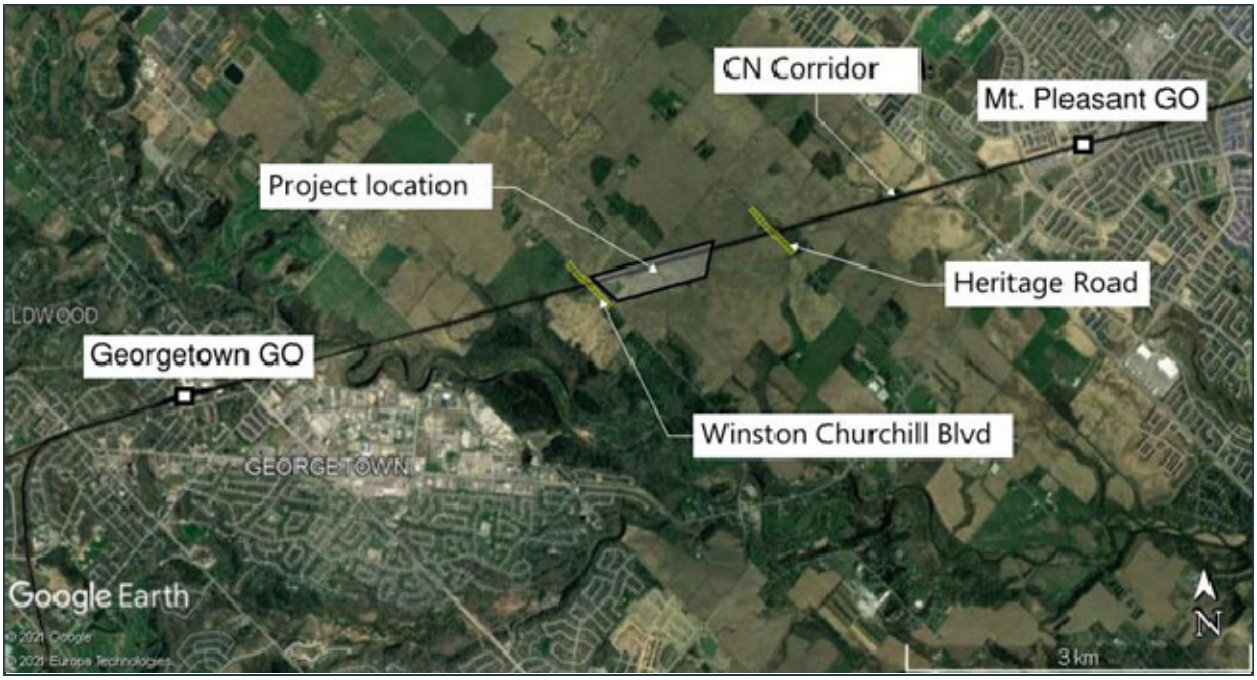
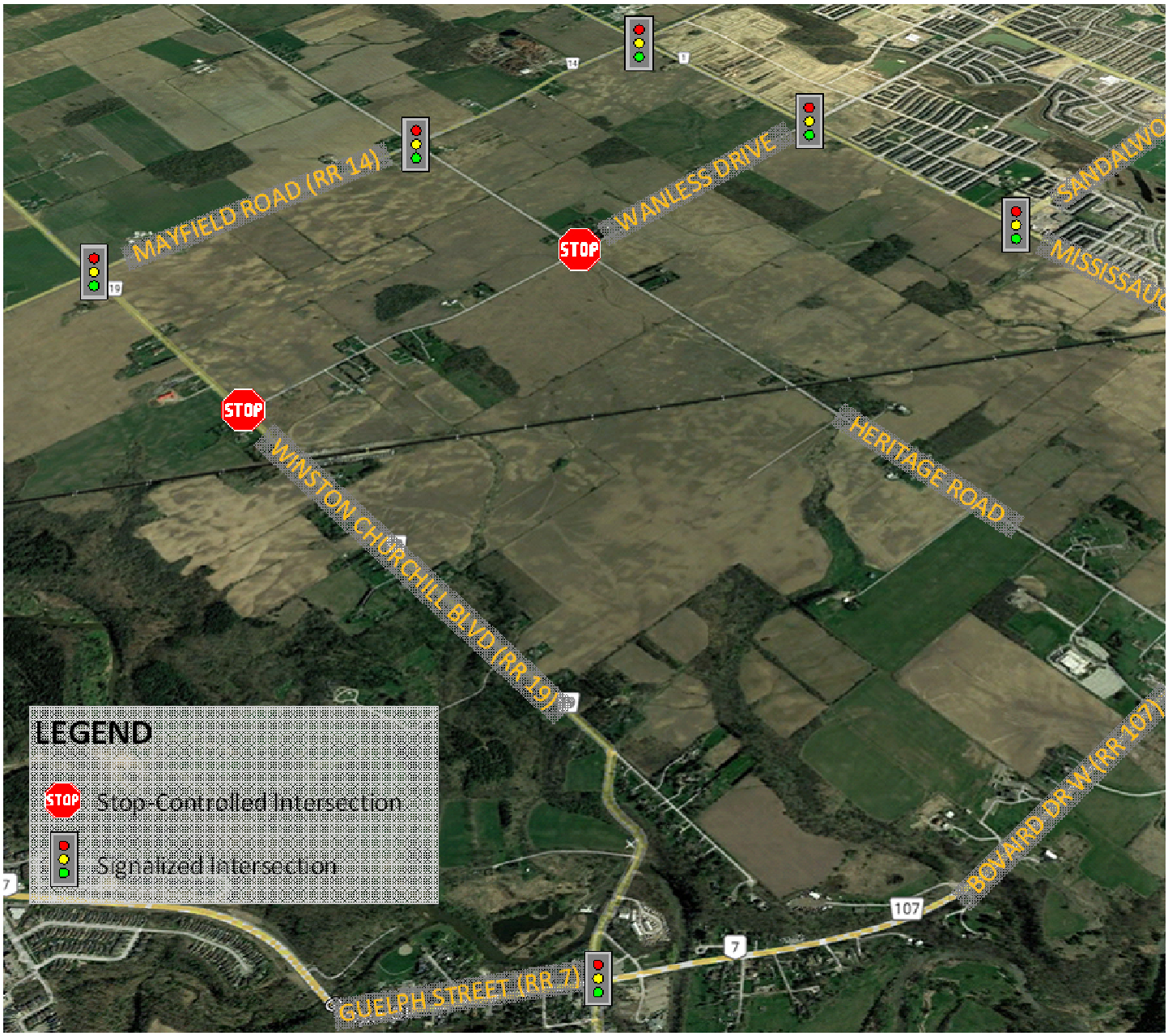
Hi Ghaz –

Thanks for the follow up inquiry.

The site is in the southeast quadrant of the intersection of Winston Churchill and the CN Rail crossing between Wanless Drive and Guelph Street. The first graphic below illustrates.

Our study includes the broader area captured by the area bounded by Mayfield Road, Winston Churchill Boulevard, Bovaird Road and Mississauga Road, so we are interested in development of a location and size that would add significant volumes of traffic to these roads.





Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Mohammad, Ghazanfar [mailto:Ghazanfar.Mohammad@brampton.ca]
Sent: Tuesday, December 14, 2021 3:12 PM

To: Fellows, Kari <kari.fellows@woodplc.com>
Subject: RE: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hi Kari,
Can you please send me site location plan to correctly identify the City's roads improvement projects?
Thanks.

Ghaz Mohammad, *M.Eng., P.Eng, PMP*
Sr.Project Engineer, Infrastructure Planning

Public Works & Engineering
WPOC, 1975 Williams Parkway
Brampton, ON L6S 6E5
Tel: 905 874 2949
Email: Ghazanfar.mohammad@brampton.ca



From: Parajuli, Bishnu <Bishnu.Parajuli@brampton.ca>
Sent: 2021/12/14 2:37 PM
To: Mohammad, Ghazanfar <Ghazanfar.Mohammad@brampton.ca>
Subject: FW: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Ghaz,
Please see below. Can you please make TMP as reference and identify the road improvement projects around the proposed site?

Thanks,

Bishnu

From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: 2021/12/14 1:11 PM
To: Parajuli, Bishnu <Bishnu.Parajuli@brampton.ca>
Subject: FW: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Bishnu – per the request below (see highlighted item), could one of your staff put together a list of currently planned (5-10 years) road improvements in the study area. I thing it amounts to Wanless, Sandalwood, and Heritage.

Thanks
H./

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: 2021/11/29 5:38 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>

Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hello Henrik –

Wood has been retained for a TPAP assessment of the Metrolinx Heritage Layover site, and I will be leading a Traffic and Transportation Impact Assessment for the facility. Your name was provided as the person at the City of Brampton who could provide available traffic data.

The proposed site will be just east of Georgetown, south of the CN Rail Line and east of Winston Churchill Boulevard. The site itself will generate relatively few trips as the primary purpose of the site is for overnight train storage. Some employees will begin and end their shifts on the trains at this location, and no more than 24 parking spaces are anticipated at the site.

We will be undertaking a comprehensive review of current and forecast traffic volumes and operating conditions in the area, and are seeking any available peak period **turning movement counts** and the **signal timings** (where applicable) for the following intersections:

- Wanless Road & Heritage Road
- Guelph Street (Regional Road 7) & Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Winston Churchill Boulevard (Regional Road 19) & Wanless Road – (Stop Control)
- Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Mayfield Road (Regional Road 14) & Heritage Road – (Stop Control)
- Mayfield Road (Regional Road 14) & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Wanless Road & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Mississauga Road (Regional Road 1) & Sandalwood Parkway West) – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Heritage Road – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Mississauga Road (Regional Road 1) – (Traffic Signal)

Some of this information is likely under Peel Region's jurisdiction, and I have contacted them with a similar request.

If **recent ATR** data is available **along these routes**, we would be information in that information also, to help with estimation of any locations where recent data is not available.

To assist with evaluating future conditions, we are also requesting **available information about** the following topics for the study area:

- **Approved/anticipated land development** (for the next 5-10 years)
- **Road network improvements** (in the next 5-10 years)

If some of these inquiries should be redirected to others, can you suggest who else I might contact?

Please let me know if you need clarification or would like to discuss.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$

Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com



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From: Felker, Bob <bob.felker@woodplc.com>
Sent: Tuesday, December 14, 2021 10:01 AM
To: Clara Chan; Monaghan, David; Ashrafi, Ghazi; Melendez, Nelson; Zbogar, Henrik
Cc: Mcandrew, Louise; Mrochkovskaia, Nadya; Fellows, Kari; Dara Corrigan; Brian Poole
Subject: RE: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hi Clara, Apologies that I neglected to communicate the need to copy you on these information/data requests to our Municipal Partners.

Bob

Bob Felker
M: 226-751-3854

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: Tuesday, December 14, 2021 5:55 AM
To: Monaghan, David <David.Monaghan@brampton.ca>; Ashrafi, Ghazi <Ghazi.Ashrafi@brampton.ca>; Melendez, Nelson <Nelson.Melendez@brampton.ca>; Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: FW: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Nelson –

Thanks for the update regarding the signal timing request.

In addition to signal timings, our work requires turning movement counts, ATR data and information related to development applications and planned road network improvements. The original request was sent to Henrik.

Henrik, can you or the appropriate person please confirm that someone is handling the other parts of this request? If there is someone else at Brampton who I should contact with the request, can you please direct me to that person? Thanks, Kari

Here is a recap of the original request:

We will be undertaking a comprehensive review of current and forecast traffic volumes and operating conditions in the area, and are seeking any available peak period **turning movement counts** and the **signal timings** (where applicable) for the following intersections:

- Wanless Road & Heritage Road
- Guelph Street (Regional Road 7) & Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Winston Churchill Boulevard (Regional Road 19) & Wanless Road – (Stop Control)
- Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Mayfield Road (Regional Road 14) & Heritage Road – (Stop Control)

- Mayfield Road (Regional Road 14) & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Wanless Road & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Mississauga Road (Regional Road 1) & Sandalwood Parkway West) – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Heritage Road – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Mississauga Road (Regional Road 1) – (Traffic Signal)

Some of this information is likely under Peel Region's jurisdiction, and I have contacted them with a similar request.

If **recent ATR** data is available **along these routes**, we would be information in that information also, to help with estimation of any locations where recent data is not available.

To assist with evaluating future conditions, we are also requesting **available information about** the following topics for the study area:

- **Approved/anticipated land development** (for the next 5-10 years)
- **Road network improvements** (in the next 5-10 years)

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Melendez, Nelson <Nelson.Melendez@brampton.ca>
Sent: Tuesday, December 14, 2021 5:22 AM
To: Fellows, Kari <kari.fellows@woodplc.com>
Subject: Re: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hi Kari,

I forwarded this to my staff and they reminded me that signal timing requests are handle directly by the Region of Peel. We only maintain and operate these traffic signals. I have forwarded your request to Rick Laing and asked them to please put a rush on this.

Regards,

Nelson Melendez, C.E.T.
Supervisor, Traffic Signals | Public Works & Engineering | City of Brampton
T: 905.874.3823 | F: 905.874.2599 | C: 647.200.6759 | 1975 Williams Parkway, Brampton, ON L6S

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: Thursday, December 2, 2021 7:07:38 AM

To: Melendez, Nelson <Nelson.Melendez@brampton.ca>
Subject: RE: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Nelson – great to hear from you! Thanks for the well wishes, and the same back to you. I moved back in the summer, and am in London, where my daughter, son-in-law and their two children live.

Regarding the data request, is there a typical turnaround time for providing signal timing information? Our client is Metrolinx and they are keen to have our analysis ASAP.

Anything that can expedite this would be appreciated.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Melendez, Nelson <Nelson.Melendez@brampton.ca>
Sent: Wednesday, December 1, 2021 10:05 PM
To: Fellows, Kari <kari.fellows@woodplc.com>
Subject: FW: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover
Importance: High

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Hi Kari,

I didn't know you were back in Ontario. I'm happy to hear that you are doing some work for Brampton and you never know we may end up working on project together. I hope you and your daughter are doing good and I look forward to seeing you in the near future. I have assigned this task to one my staff to help you with signal timing information. If you need anything from me please give me a call.

Regards,

Notice:
I am currently working remotely due to building occupancy limits during COVID-19. Please note Williams Parkway Operations Centre has re-opened to the public by appointment only. For information on safety, closures and reopening, please visit www.brampton.ca/reopening To book an appointment, visit www.brampton.ca/skiptheline

Nelson Melendez, C.E.T.
Supervisor, Traffic Signals | Public Works & Engineering | City of Brampton
T: 905.874.3823 | F: 905.874.2599 | C: 647.200.6759 | 1975 Williams Parkway, Brampton, ON L6S 6E5
Our Focus Is People

From: Monaghan, David <David.Monaghan@brampton.ca>
Sent: 2021/12/01 8:39 AM
To: Melendez, Nelson <Nelson.Melendez@brampton.ca>; Ashrafi, Ghazi <Ghazi.Ashrafi@brampton.ca>
Subject: FW: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover
Importance: High

Good Morning Ghazi and Nelson.

Can you have one of your staff reach out to Kari to provide the requested information for the TPAP assessment?

David Monaghan
Supervisor, Traffic Planning| Public Works and Engineering
T: 905-874-2591 | C: 416-806-0860 |
1975 Williams Parkway, Brampton

"Notice"
Thank you for your message. I am currently working remotely due to building occupancy limits during COVID-19. Please note Williams Parkway Operations Centre has re-opened to the public by appointment only. For information on safety, closures and reopening, please visit www.brampton.ca/reopening To book an appointment, visit www.brampton.ca/skiptheline

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: 2021/11/30 7:19 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Monaghan, David <David.Monaghan@brampton.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: RE: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Henrik –

Thanks for responding quickly to my inquiry.

Dave, please let me know if you need any further information or clarification.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: Monday, November 29, 2021 7:07 PM
To: Fellows, Kari <kari.fellows@woodplc.com>; Monaghan, David <David.Monaghan@brampton.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: RE: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Good evening Kari.

By copy of this email to Dave Monaghan, Supervisor Traffic Planning, I will ask that his team provide you with the operational data for Brampton-controlled intersections that you have requested below.

Regards,
H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

BRAMPTON

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: 2021/11/29 5:38 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: [EXTERNAL]FW: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hello Henrik –

Wood has been retained for a TPAP assessment of the Metrolinx Heritage Layover site, and I will be leading a Traffic and Transportation Impact Assessment for the facility. Your name was provided as the person at the City of Brampton who could provide available traffic data.

The proposed site will be just east of Georgetown, south of the CN Rail Line and east of Winston Churchill Boulevard. The site itself will generate relatively few trips as the primary purpose of the site is for overnight train storage. Some employees will begin and end their shifts on the trains at this location, and no more than 24 parking spaces are anticipated at the site.

We will be undertaking a comprehensive review of current and forecast traffic volumes and operating conditions in the area, and are seeking any available peak period **turning movement counts** and the **signal timings** (where applicable) for the following intersections:

- Wanless Road & Heritage Road
- Guelph Street (Regional Road 7) & Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Winston Churchill Boulevard (Regional Road 19) & Wanless Road – (Stop Control)
- Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
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- Mayfield Road (Regional Road 14) & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Wanless Road & Mississauga Road (Regional Road 1) – (Traffic Signal)
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- Bovaird Drive West (Regional Road 107) & Heritage Road – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Mississauga Road (Regional Road 1) – (Traffic Signal)

Some of this information is likely under Peel Region's jurisdiction, and I have contacted them with a similar request.

If **recent ATR** data is available **along these routes**, we would be information in that information also, to help with estimation of any locations where recent data is not available.

To assist with evaluating future conditions, we are also requesting **available information about** the following topics for the study area:

- **Approved/anticipated land development** (for the next 5-10 years)
- **Road network improvements** (in the next 5-10 years)

If some of these inquiries should be redirected to others, can you suggest who else I might contact?

Please let me know if you need clarification or would like to discuss.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com



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From: Brian Poole
Sent: Friday, December 17, 2021 2:42 PM
To: Stacey Kenny; Flora Devarajah; Benjamin Kwok; Jackie Czajka; Jeff Yee; Talha Asif; Meaghan Mendonca; Julie Rorison; Mandeep Jassal; Tehreem Ashraf; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; anand.balram@brampton.ca; andria.oliveira@brampton.ca; henrik.zbogar@brampton.ca; kumar.ranjan@brampton.ca; richa.dave@peelregion.ca; christine.wilson@cvc.ca; manvir.tatla@peelregion.ca; rizwan.haq@cvc.ca; maureenv@haltonhills.ca; mricci@haltonhills.ca
Cc: Clara Chan; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TAC Meeting Minutes - December 13, 2021
Attachments: 2021.12.13 Heritage Layover TAC Meeting Rev 1_clean.docx

Hi All,
Please see attached the meeting minutes from the TAC meeting on Monday December 13th, 2021.
If there are any additional comments or suggested changes, let us know within a week and we'll finalize the minutes.
Thank you,
-Brian

Brian J. Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 647.334.9949

METROLINX

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From: Rieger, Doug <Doug.Rieger@brampton.ca>
Sent: Tuesday, January 18, 2022 8:28 AM
To: Clara Chan; Derek Davies
Cc: Ranjan, Kumar; Oliveira, Andria; Zbogar, Henrik
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Thanks Clara – this is perfect.

Derek – if you could also share what's public with respect to the Heritage Heights Station that would be great too.

Thanks,
Doug

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/01/18 8:18 AM
To: Rieger, Doug <Doug.Rieger@brampton.ca>
Cc: Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Derek Davies <Derek.Davies@metrolinx.com>
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

Good morning Doug,

Can you please confirm if the query is with regards to Heritage Road Layover or a Station supporting Heritage Heights?

If this is in regards to the Layover, the PIC is currently online at https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover-project-processes. The question period for this wraps up next week, Wednesday, January 26. If this is in regards to the Station, I have cc'ed my colleague Derek, who may be able to provide an update.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Rieger, Doug <Doug.Rieger@brampton.ca>
Sent: January-17-22 5:29 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Zbogar, Henrik

<Henrik.Zbogar@brampton.ca>
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Hi Clara,

We recently had an inquiry from one of our Transit Advisory Committee members on the status of the Heritage Heights Layover. Is there anything that Metrolinx can provide publically to respond to this inquiry?

Please let me know if you have any questions.

Regards,

Doug Rieger
Director, Transit Development, Brampton Transit | City of Brampton
O 905 874 2750, x62349
E doug.rieger@brampton.ca
W: www.bramptontransit.com

Our Focus Is People

From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: 2021/12/08 10:29 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Rieger, Doug <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Brian Poole <Brian.Poole@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

Thank you Clara.
If we could have a separate meeting on the Heritage Heights station at a later date, that would be appreciated. I will defer to you to suggest possible dates, and will coordinate with City staff.

H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

BRAMPTON

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2021/12/07 3:58 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria

<Andria.Oliveira@brampton.ca>; Rieger, Doug <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Brian Poole <Brian.Poole@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>
Subject: RE: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

Good afternoon Henrik,

Hope all is well!

I just wanted to confirm that in the TAC meeting scheduled this upcoming Monday, that we won't have any discussions with regards to Heritage Heights Station, as the discussions have not been formalized and made public yet. To that end, if you would like have a separate meeting to discuss Heritage Heights Stations considerations outside our conversation with the Region and CVC on Monday, please let us know.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: November-19-21 9:32 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Doug Rieger <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Noelle Wannamaker <Noelle.Wannamaker@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Subject: Re: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Good morning Clara. Thank you for this update. You can continue to send communications through me as a Brampton single point of contact, and I can disseminate info and coordinate input from other City stakeholders, including Transit and our Policy staff (wrt to planning for Heritage Heights). It might be helpful if we could have a brief meeting, for you to be able to summarize the project work-to-date and this latest concept, and to identify any potential issues and next steps.

Regards,
H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Tuesday, November 16, 2021 1:50:27 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Oliveira, Andria <Andria.Oliveira@brampton.ca>; Rieger, Doug <Doug.Rieger@brampton.ca>
Cc: Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Noelle Wannamaker <Noelle.Wannamaker@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Subject: [EXTERNAL]Metrolinx Heritage Layover Team Introductions

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Hi Henrik, Kumar, Andria, and Doug:
Hope everything is well!
My name is Clara Chan, and I am an Environmental Project Manager within Metrolinx's Environmental Programs and Assessment Group. My team and I are working are working with our consultants (Wood) to prepare the Transit Project Assessment Process (TPAP) for Heritage Layover. My colleague, Meaghan, had suggested that you would likely be the best sources of contact at the City for this project.
There have been a few modifications since the last time we had reached out to your team; I've included a figure of the updated site location for reference. A summary of the design is as follows:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.
- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
  Note: there is a reduction of two tracks from the layover proposed in 2015/2016.
- The facility will also have ancillary buildings (e.g. staff, sanitary, electrical).
- Connections to the existing CN Rail corridor will be completed outside of the proposed works by CN.
- The project will include consideration of future electrification on the rail corridor.

Wood will be completing a number of technical studies to support the TPAP, and they will be reaching out shortly to you or your team with some data requests to support these studies. To that end, I've copied them (Bob Felker and Louise Mcandrew) for reference.
Please let us know if you would like to set up a meeting to discuss further details of the Heritage Layover TPAP, and if you have a preferred single point of contact at the City who Metrolinx and Wood can reach out to as the process moves forward.
Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com
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From: Clara Chan
Sent: Monday, March 21, 2022 9:48 AM
To: Ranjan, Kumar
Cc: Stowe, David; Simon Strauss; Dara Corrigan; Brian Poole
Subject: RE: [EXTERNAL]FW: TAC Meeting in advance of Notice of Commencement and Second PIC (Heritage Road Layover)

Hi Kumar,

Thanks for your message. We will be circulating the deck with the meeting invite as the event draws near. Further, we will follow up with a round of meeting minutes following the meeting. If you have any questions, or items of interest, we can arrange to go through the material with you in more detail.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Ranjan, Kumar <Kumar.Ranjan@brampton.ca>
Sent: March-21-22 9:19 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Stowe, David <David.Stowe@brampton.ca>
Subject: Re: [EXTERNAL]FW: TAC Meeting in advance of Notice of Commencement and Second PIC (Heritage Road Layover)

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Hi Clara,

Thank you so much for reaching out. I have forwarded the meeting invitation to David Stowe, Manager Service Development for information purposes and needful. Dave and I have scheduling conflict on April 1. I may join as the time permits. Please keep us in the loop on the project.

Thanks,
Kumar

Get Outlook for iOS

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Friday, March 11, 2022 1:45:51 PM

To: Oliveira, Andria <Andria.Oliveira@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]FW: TAC Meeting in advance of Notice of Commencement and Second PIC (Heritage Road Layover)

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Good afternoon Everyone,

Apologies for not initially extending this invitation to you. Would you please let us know if the City would be interested in participating, and advise the times that you may be available on April 1?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: March-02-22 12:33 PM
To: 'manvir.tatla@peelregion.ca' <manvir.tatla@peelregion.ca>; Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; 'Kilis, Jakub' <Jakub.Kilis@cvc.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Stephanie Cardenas <Stephanie.Cardenas@metrolinx.com>; Melissa Simpson <Melissa.Simpson@metrolinx.com>; Julie Rorison <Julie.Rorison@metrolinx.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; 'Felker, Bob' <bob.felker@woodplc.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>
Subject: TAC Meeting in advance of Notice of Commencement and Second PIC (Heritage Road Layover)

Good day Everyone,

Metrolinx will be issuing a Notice of Commencement combined with a notice of the second PIC for Heritage Road Layover on Thursday, March 24. The second virtual PIC is scheduled to “go live” on Wednesday, April 6.
In advance of the PIC, we wanted to set up a meeting to review the content of the PIC presentation.

The PIC material will cover the preliminary findings from the technical studies completed to support the TPAP, including:

- Summary of baseline conditions;
- Identified potential impacts associated with construction and operations of the future layover; and
- Recommended mitigative strategies to address the identified potential impacts.

Based our PIC timelines, we would like to arrange a meeting with you all for Friday, April 1. There are currently a couple of times available:

- 09:30 – 11:00 (preferred)
- 13:30 – 1500

Please let me know if either of those times work for you.

For reference, some upcoming key dates are as follows:

- March 16 – Initiate preliminary outreach to elected officials, follow up March 21 as needed
- Thursday, March 24 – First Notice of Commencement and PIC notice in newspapers, and circulated to Elected Officials and surrounding properties
- Thursday, March 31 – Second Notice of Commencement and PIC notice in newspapers
- March 28, 29 (requested prior to Apr 1) – Briefings with interested Elected Officials

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: Tuesday, March 22, 2022 1:59 PM
To: Clara Chan
Cc: Brian Poole; Dara Corrigan; Simon Strauss; Benjamin Kwok; Jeff Yee; McNeill, Andrew; Balram, Anand
Subject: RE: [EXTERNAL]Follow-up on Heritage Road Layover Emails

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Hi Clara, and thank you for your responses. As you've noted, I think we can get into further details at the TAC mtg. In regards to a crossing of the Halton Subdivision in Heritage Heights, I am not sure whether there have yet been any discussions with CN. I know that our staff overseeing the Heritage Heights planning work had tried on multiple occasions, some months ago, to contact CN, but were unsuccessful in reaching Michael Vallins at the time. Any other discussions with CN on the third track expansion have been focused on the Downtown Brampton area grade separations only. Again, trusting that we can delve further into this at our upcoming meeting.

Regards,
H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

BRAMPTON

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/03/22 1:37 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>
Subject: RE: [EXTERNAL]Follow-up on Heritage Road Layover Emails

Hi Henrik,

Thank you for the feedback.

We will be making changes to our PIC deck per your recommended feedback outlined in item #1.

With respect to item #2, please see responses from the Project Team in blue below.

Please let me know if you have any questions. This can also be something that can be discussed in a bit more detail in the TAC.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Sent: March-11-22 5:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: [EXTERNAL]Follow-up on Heritage Road Layover Emails

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Good afternoon Clara

1. I believe the language highlighted on the slide is generally OK. The only point that I might quibble with is where it says "… which consists of low to medium density residential units." I suspect this is speaking to the portion of Heritage Heights within the LSA, but it comes across sounding like a description of Heritage Heights generally, which is not the case. Suggest modifying by adding "which**, in the vicinity of the proposed layover facility,** consists of…"

   Please modify the last sentence as follows: "**Exact location of streets in adjacent figure is conceptual and subject to refinement through future Precinct Planning for Heritage Heights**"

2. With respect to the issue of the planned Heritage Heights roadway network intersecting within the layover facility, Brampton staff has noted some concerns, should this road connection be lost.
   - Wondering if we can discuss the potential to bridge over, or tunnel under the layover facility? Not sure if either is technically feasible but may be worthy of an initial conversation.
     There are precedents for bridges / tunnels through rail yards in the GTA; but feasibility in this location will dependent on site specific conditions and operations. Discussions on these solutions should also include CN as the owner of the Halton Subdivision adjacent to the yard. Has a discussion with CN on the crossing of the Halton Subdivision already begun?
   - Can the layover facility shift westward to allow the road connection to be accommodated? Similary, we can see if there is any latitude to shift the street alignment eastward – the combination may get us the clearance we need. The NHS in the area may be problematic in this regard, but we notice that Wood is also the City's consultantso perhaps they can assist us in finding a creative solution.
     Unfortunately, due to the design constraints, it won't be feasible for Metrolinx to move the facility further west. For the purposes of the City's consideration, if the City moves the roadway east, it may encroach or pass through the McNichol Cemetery, unless the roadway is shifted significantly more east.

Let me know if this is something wish to discuss further in advance of our April 1 mtg.

Thanks, and again my apologies for the delay in responding.
Have a great weekend!

H./

Henrik Zbogar, RPP, MCIP
Senior Manager, Transportation Planning
City of Brampton | Planning, Building & Economic Development
T 905.874.3553 | E henrik.zbogar@brampton.ca

BRAMPTON

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/03/11 1:44 PM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Follow-up on Heritage Road Layover Emails

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Good afternoon Henrik,

I just wanted to follow up to see if you had any feedback to the TAC meeting invitation and the Heritage Heights Secondary Plan inquiry.

If you have any questions, please let me know. I'll also forward the TAC Meeting invitation to Andria, Anand and Kumar.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Region of Peel

From: Clara Chan
Sent: Wednesday, December 1, 2021 11:02 AM
To: manvir.tatla@peelregion.ca; Zbogar, Henrik; Kilis, Jakub
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Jeff Yee; Andrew Pagetta; Talha Asif; Meaghan Mendonca; Benjamin Kwok; Flora Devarajah; Jackie Czajka; Mrochkovskaia, Nadya; Mcandrew, Louise; Felker, Bob
Subject: Proposed TAC Meeting - Heritage Layover (Monday, December 13)

Good morning Everyone,

Metrolinx beginning preparation of a TPAP for the Heritage Road Layover Facility, we wanted to extend a meeting to:

1) Formally introduce ourselves and our consulting team,
2) Provide an overview to the Heritage Road Layover Project, including design and TPAP scheduling, and
3) Review the content for the PIC presentation with you before finalization.

As part of the TPAP process, our first proposed PIC is scheduled for Wednesday, January 12.

Based our PIC timelines, we would like to extend the meeting with you all for Monday, December 13. There are a couple of times available:

- 11:00 – 12:00 (preferred)
- 13:00 – 1400

Please let me know if either of those times work for you.

For reference, some upcoming key dates are as follows:

- Tuesday, December 14 - Initiate engagement with Elected Officials
- Friday, December 17 – PIC notice mailer circulated through Canada Post
- Saturday, December 18 – First PIC #1 notice advertisement in newspapers
- Saturday, January 8 - Second PIC #1 notice advertisement in newspapers
- January 7/10-11 – Briefings with Elected Officials

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: Thursday, December 2, 2021 11:39 PM
To: Clara Chan
Cc: Simon Strauss; Dara Corrigan; Brian Poole
Subject: RE: Proposed TAC Meeting - Heritage Layover (Monday, December 13)

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Good evening Clara,

Thanks for following up – this date and time works on our end. I'll keep an eye out for the meeting invite and pass it along internally.

Manvir

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December 2, 2021 12:37 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: Proposed TAC Meeting - Heritage Layover (Monday, December 13)

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Good afternoon Manvir!

I was just following up on this email.

It looks like our other Municipal/Regional Partners has availability between 13:00 and 14:00 for Monday, December 13. Does this time work for you and your team?

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: December-01-21 11:02 AM
To: 'manvir.tatla@peelregion.ca' <manvir.tatla@peelregion.ca>; 'Zbogar, Henrik' <Henrik.Zbogar@brampton.ca>; 'Kilis, Jakub' <Jakub.Kilis@cvc.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>; Flora Devarajah <Flora.Devarajah@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Felker, Bob <bob.felker@woodplc.com>
Subject: Proposed TAC Meeting - Heritage Layover (Monday, December 13)

Good morning Everyone,

Metrolinx beginning preparation of a TPAP for the Heritage Road Layover Facility, we wanted to extend a meeting to:

1) Formally introduce ourselves and our consulting team,
2) Provide an overview to the Heritage Road Layover Project, including design and TPAP scheduling, and
3) Review the content for the PIC presentation with you before finalization.

As part of the TPAP process, our first proposed PIC is scheduled for Wednesday, January 12.

Based our PIC timelines, we would like to extend the meeting with you all for Monday, December 13. There are a couple of times available:

- 11:00 – 12:00 (preferred)
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Please let me know if either of those times work for you.

For reference, some upcoming key dates are as follows:

- Tuesday, December 14 - Initiate engagement with Elected Officials
- Friday, December 17 – PIC notice mailer circulated through Canada Post
- Saturday, December 18 – First PIC #1 notice advertisement in newspapers
- Saturday, January 8 - Second PIC #1 notice advertisement in newspapers
- January 7/10-11 – Briefings with Elected Officials

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Felker, Bob <bob.felker@woodplc.com>
Sent: Tuesday, December 14, 2021 10:02 AM
To: Clara Chan; Jahan, Shajin
Cc: Mcandrew, Louise; Mrochkovskaia, Nadya; Bero, John; Dali, Anas; Fellows, Kari; Dara Corrigan; Brian Poole
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hi Clara, Apologies that I neglected to communicate the need to copy you on these information/data requests to our Municipal Partners.

Bob

Bob Felker
M: 226-751-3854

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: Tuesday, December 14, 2021 5:49 AM
To: Jahan, Shajin <shajin.jahan@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Bero, John <john.bero@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Jahan –

I hope your week is going well.

Regarding our request for signal timing information related to this Metrolinx site in Brampton, can you provide an update on when the information will be sent to us? See below for the details of the request. Metrolinx is interested in our analysis ASAP, so the sooner we can receive the data the better.

If you need further information from me to complete the request please let me know.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Fellows, Kari
Sent: Tuesday, December 7, 2021 10:32 AM
To: Jahan, Shajin <shajin.jahan@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Bero, John <john.bero@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Great – thanks for your assistance with this Jahan.

Please let me know if there is any other clarification we can provide in order to get the information as soon as possible.

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Jahan, Shajin <shajin.jahan@peelregion.ca>
Sent: Tuesday, December 7, 2021 10:22 AM
To: Fellows, Kari <kari.fellows@woodplc.com>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Bero, John <john.bero@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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HI Kari,

No supporting documents required for the fee waiver as I confirmed it with the Supervisor.

Regards,
Shajin

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: December 7, 2021 10:02 AM
To: Jahan, Shajin <shajin.jahan@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Bero, John <john.bero@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hi Jahan –

Thank you for your response to my inquiry.

It is my understanding that since our client is Metrolinx, the fee for this information will be waived. Please let me know if you require further supporting documentation in order to provide the data for this work at no cost.

Any efforts that you can make to expedite this request would be appreciated.

If a conversation would be helpful please let me know and I can set up a Teams call.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Jahan, Shajin <shajin.jahan@peelregion.ca>
Sent: Tuesday, December 7, 2021 9:58 AM
To: Fellows, Kari <kari.fellows@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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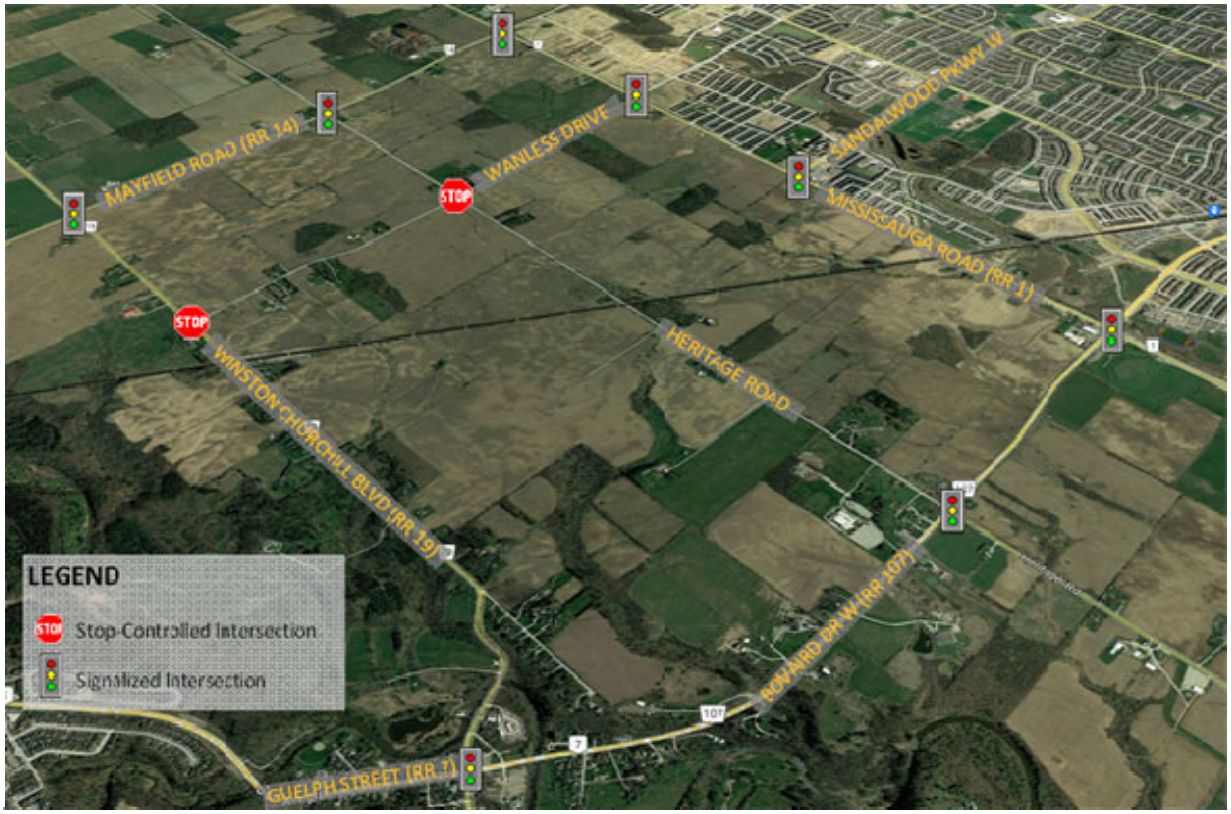
Hello Kari,

This is in response to your request for the Signal Timing Plans (STPs) for the eight intersections.

The cost for one STP is $56.30 and your total would be $450.40. You can pay with a credit card after scheduling a 10-minute phone appointment with me through email. I am available today from 11am till 2pm. Please email me the preferred time an hour prior to when you want to call. The phone number to contact during the appointment is 905-791-7800 Ext.7460.

Once the payment is processed, we will begin collecting the signal timing data. When the data is available and is ready for delivery (usually takes 1-2 weeks), it would be emailed to you. Please ignore this email in case you are already being attended by another signals staff from the Region.



Regards,
Shajin Jahan, P.Eng
Technical Analyst, Traffic Signals and Streetlighting
Traffic Engineering
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Brampton, ON L6T 4B9
905-791-7800 Ext. 7460

Region of Peel
working with you

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From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: December 3, 2021 1:29 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>; Bero, John <john.bero@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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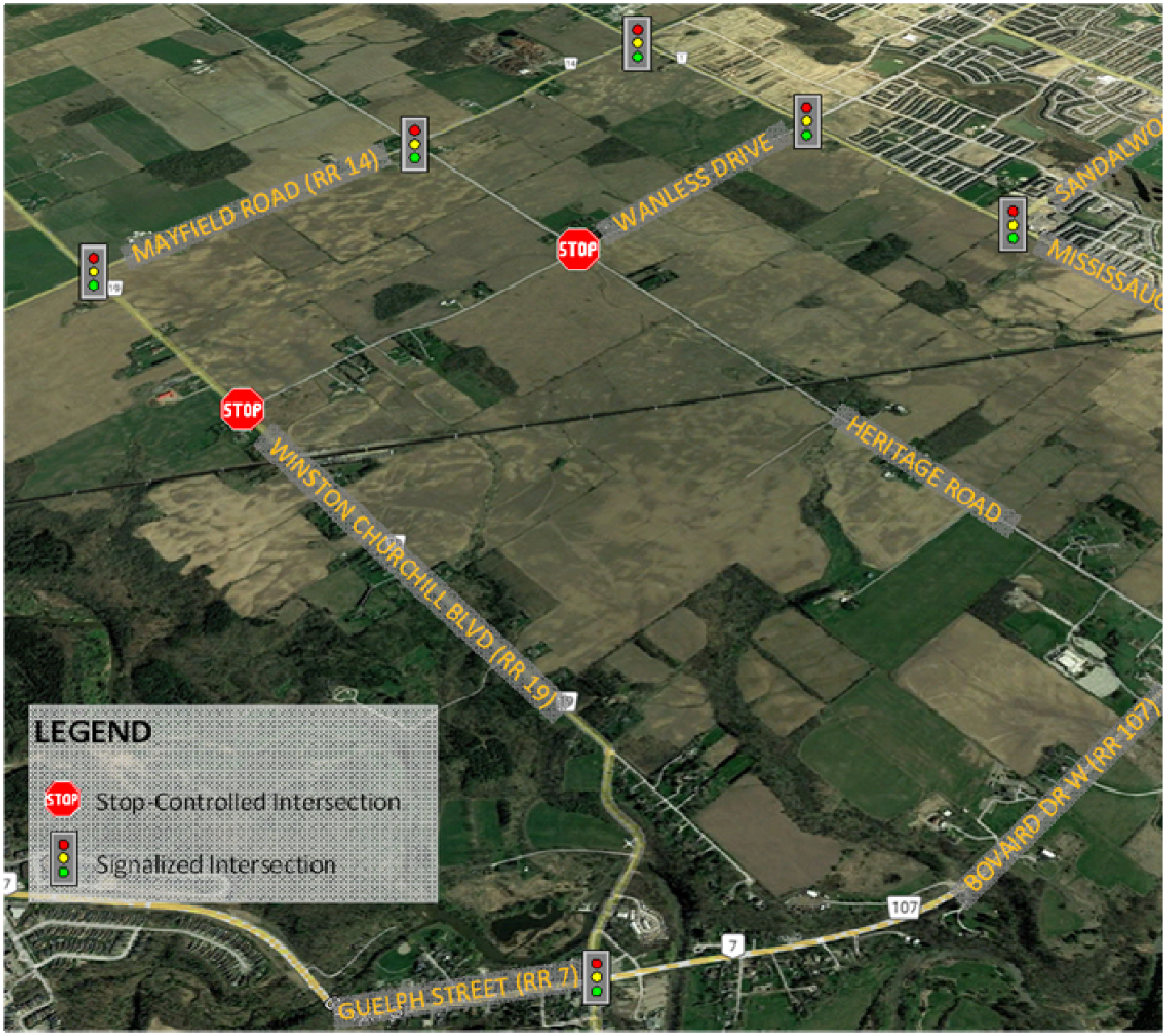
Hi Manvir – not sure if this changes what you are able to provide or not – upon review, there is a correction to the traffic control shown at two intersections on Mayfield Road. A corrected version of the map is below. Please let me know if you need any additional information.



Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Fellows, Kari
Sent: Wednesday, December 1, 2021 8:00 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Thanks Manvir.

Our goal is to evaluate existing conditions as soon as possible.

Do you have a typical turnaround time for signal timing and turning movement count data requests?

Wishing you a good evening too!

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com



From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: Wednesday, December 1, 2021 7:40 PM
To: Fellows, Kari <kari.fellows@woodplc.com>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Hi Kari,

This is helpful, thank you.

Based on the information provided, I'll advise my internal colleagues that the study area is bounded by Mayfield Rd to the north, Bovaird Dr to the south, Winston Churchill Blvd to the west, and Mississauga Rd to the east.

Please let me know what kind of timelines you are working with and I'll check in with the teams accordingly.

Have a good night,
Manvir

From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: December 1, 2021 5:25 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia,

Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Hi Manvir – here is a map showing the study intersections where we need counts, and where applicable, signal timings.



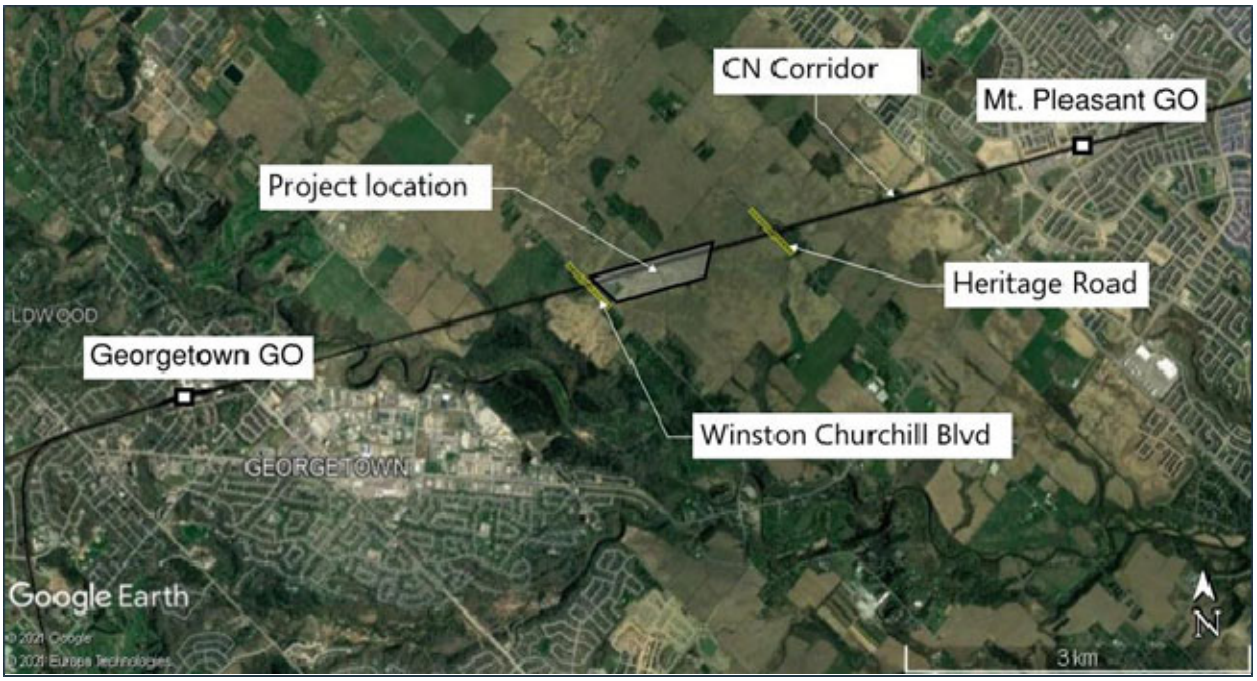
Kari Fellows, P.Eng., PTOE, RSP$_1$

Sr. Transportation Engineer | Project Manager
Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com

From: Fellows, Kari
Sent: Tuesday, November 30, 2021 12:14 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hi Manvir – We will put together a graphic of the study are intersections and send to you later today. We are looking for information on development within or immediately adjacent to the study area roads and intersections, unless there is something significant that is anticipated and a bit further away.

In the meantime, the location of the site is shown in the little black trapezoid below and the list of intersections is highlighted in green, further below.



www.woodplc.com

From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: Tuesday, November 30, 2021 10:46 AM
To: Fellows, Kari <kari.fellows@woodplc.com>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia,

Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

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Good morning Kari,

Further to the below, to assist with this inquiry, are you able to provide a map of the study area? Just so that we have context on the boundaries for the area you are seeking the highlighted information for.

Thank you,
Manvir

From: Tatla, Manvir
Sent: November 29, 2021 11:11 PM
To: Fellows, Kari <kari.fellows@woodplc.com>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: RE: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

Hello Kari,

Thank you for your email.

I will pass along your request internally to the corresponding teams and follow up as soon as I hear back. Please let me know what kind of timelines you are working with and I'll check in with the teams accordingly.

Have a good evening,
Manvir

Manvir Tatla
Project Manager, Sustainable Transportation

Public Works
Region of Peel
905.460.7633



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From: Fellows, Kari <kari.fellows@woodplc.com>
Sent: November 29, 2021 5:36 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>
Cc: Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Dali, Anas <anas.dali@woodplc.com>
Subject: Traffic and Transportation Impact Assessment - Metrolinx Heritage Layover

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Hello Manvir –

Wood has been retained for a TPAP assessment of the Metrolinx Heritage Layover site, and I will be leading a Traffic and Transportation Impact Assessment for the facility. Your name was provided as the person at Peel Region who could provide available traffic data.

The proposed site will be just east of Georgetown, south of the CN Rail Line and east of Winston Churchill Boulevard. The site itself will generate relatively few trips as the primary purpose of the site is for overnight train storage. Some employees will begin and end their shifts on the trains at this location, and no more than 24 parking spaces are anticipated at the site.

We will be undertaking a comprehensive review of current and forecast traffic volumes and operating conditions in the area, and are seeking any available peak period **turning movement counts** and the **signal timings** (where applicable) for the following intersections:

- Guelph Street (Regional Road 7) & Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Winston Churchill Boulevard (Regional Road 19) & Wanless Road – (Stop Control)
- Side Road 17 / Mayfield Road (Regional Road 14) @ Winston Churchill Boulevard (Regional Road 19) – (Traffic Signal)
- Mayfield Road (Regional Road 14) & Heritage Road – (Stop Control)
- Mayfield Road (Regional Road 14) & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Wanless Road & Mississauga Road (Regional Road 1) – (Traffic Signal)
- Mississauga Road (Regional Road 1) & Sandalwood Parkway West) – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Heritage Road – (Traffic Signal)
- Bovaird Drive West (Regional Road 107) & Mississauga Road (Regional Road 1) – (Traffic Signal)

We are also reviewing the following intersection which are not regional roads but for which you may have data. We will make a similar request to the City of Brampton for any data they may have.

- Wanless Road & Heritage Road

If **recent ATR** data is available **along these routes**, we would be information in that information also, to help with estimation of any locations where recent data is not available.

To assist with evaluating future conditions, we are also requesting **available information about** the following topics for the study area:

- **Approved/anticipated land development** (for the next 5-10 years)
- **Road network improvements** (in the next 5-10 years)

If some of these inquiries should be redirected to others, can you suggest who else I might contact?

Please let me know if you need clarification or would like to discuss.

Thanks, Kari

Kari Fellows, P.Eng., PTOE, RSP$_1$
Sr. Transportation Engineer | Project Manager

Southwest Ontario
C. 519.476.8507
kari.fellows@woodplc.com
www.woodplc.com



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---

From: Brian Poole
Sent: Friday, December 17, 2021 2:42 PM
To: Stacey Kenny; Flora Devarajah; Benjamin Kwok; Jackie Czajka; Jeff Yee; Talha Asif; Meaghan Mendonca; Julie Rorison; Mandeep Jassal; Tehreem Ashraf; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; anand.balram@brampton.ca; andria.oliveira@brampton.ca; henrik.zbogar@brampton.ca; kumar.ranjan@brampton.ca; richa.dave@peelregion.ca; christine.wilson@cvc.ca; manvir.tatla@peelregion.ca; rizwan.haq@cvc.ca; maureenv@haltonhills.ca; mricci@haltonhills.ca
Cc: Clara Chan; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TAC Meeting Minutes - December 13, 2021
Attachments: 2021.12.13 Heritage Layover TAC Meeting Rev 1_clean.docx

Hi All,
Please see attached the meeting minutes from the TAC meeting on Monday December 13th, 2021.
If there are any additional comments or suggested changes, let us know within a week and we'll finalize the minutes.
Thank you,
-Brian

Brian J. Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 647.334.9949

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Town of Halton Hills

From: Clara Chan
Sent: Friday, December 10, 2021 9:01 AM
To: Loretta Allen
Cc: Brian Poole; Dara Corrigan
Subject: RE: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

Perfect, Thanks!
Maureen had shot me an email, so I'll be including her on the updated meeting invite 😊

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Loretta Allen <Loretta.Allen@metrolinx.com>
Sent: December-09-21 5:08 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

Update! Maureen and the other Town staff have a council meeting from 1 p.m. She asked that you send her the invite; she will join if she can.

Thanks!

LORETTA ALLEN (She/Her)

From: Loretta Allen
Sent: December-09-21 17:04
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

Not a problem, Clara. I sent Maureen a note asking her to nudge the relevant people at the Town. I'm off tomorrow, but will let you know if I hear back.

Thanks!

LORETTA ALLEN (She/Her)

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December-09-21 16:45
To: Loretta Allen <Loretta.Allen@metrolinx.com>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

Hi Loretta,

I haven't heard anything back from the Town yet. I was going to try and sync with one of them tomorrow. To that end, given your pre-established relations with Maureen, would you like to touch base her with on your end?

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: December-08-21 1:13 PM
To: rstribbell@haltonhills.ca; mricci@haltonhills.ca; idrewnitski@haltonhills.ca; maureenv@haltonhills.ca
Cc: Loretta Allen <Loretta.Allen@metrolinx.com>; Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Julie Rorison <Julie.Rorison@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>
Subject: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

Good afternoon Robert, Melissa, Ivan and Maureen,

I hope things are well.

My name is Clara Chan, and I am an Environmental Project Manager with Metrolinx's Environmental Programs and Assessment Group. My team and I are working are working with our consultants (Wood – cc'ed) to prepare the Transit Project Assessment Process (TPAP) for Heritage Layover. The project is located within the boundaries of City of Brampton, between Winston Churchill Boulevard and Heritage Road (see attached .kmz file) but is in close proximity to Halton Hills border. As such, our team would like to engage the Town as well -- my colleagues at Metrolinx had previously worked with you for Kitchener Corridor Expansion, so I've identified you as potential contacts.

A summary of the design is as follows. I've included a sketch of the proposed design in the email as well, for reference:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.

- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
- The facility will also have ancillary buildings (e.g. staff, sanitary, electrical, storage).
- Connections to the existing CN Rail corridor will be completed outside of the proposed works by CN.
- The project will include consideration of future electrification on the rail corridor.

We are holding a technical advisory committee meeting with the City of Brampton, Region of Peel, and Credit Valley Conservation Authority this upcoming **Monday, December 13 from 13:00 to 14:00**. If you or your team has the capacity, I would like to extend the invitation to you as well. My apologies for the late invitation!

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Maureen Van Ravens <MaureenV@haltonhills.ca>
Sent: Thursday, December 9, 2021 5:09 PM
To: Clara Chan; Robert Stribbell; Melissa Ricci; Ivan Drewnitski
Cc: Loretta Allen; Meaghan Mendonca; Julie Rorison; Benjamin Kwok; Jackie Czajka; Brian Poole; Simon Strauss; Dara Corrigan; Felker, Bob; Mcandrew, Louise; Jeff Yee; Andrew Pagetta; Talha Asif
Subject: RE: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

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HI Clara

Please send me the meeting invite and link. I will try to participate in the meeting.

Thanks

Maureen Van Ravens C.E.T.
Director of Transportation
Transportation & Public Works
Town of Halton Hills
(905) 873-2600 ext. 2314
maureenv@haltonhills.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: December-08-21 1:13 PM
To: Robert Stribbell <rstribbell@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Maureen Van Ravens <MaureenV@haltonhills.ca>
Cc: Loretta Allen <Loretta.Allen@metrolinx.com>; Meaghan Mendonca <Meaghan.Mendonca@metrolinx.com>; Julie Rorison <Julie.Rorison@metrolinx.com>; Benjamin Kwok <Benjamin.Kwok@metrolinx.com>; Jackie Czajka <Jackie.Czajka@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>
Subject: Metrolinx Heritage Layover Team Introductions and Invitation to TAC Meeting (Monday, December 13 - 13:00 - 14:00)

[EXTERNAL EMAIL]

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Brampton, between Winston Churchill Boulevard and Heritage Road (see attached .kmz file) but is in close proximity to Halton Hills border. As such, our team would like to engage the Town as well -- my colleagues at Metrolinx had previously worked with you for Kitchener Corridor Expansion, so I've identified you as potential contacts.

A summary of the design is as follows. I've included a sketch of the proposed design in the email as well, for reference:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.
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Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Brian Poole
Sent: Friday, December 17, 2021 2:42 PM
To: Stacey Kenny; Flora Devarajah; Benjamin Kwok; Jackie Czajka; Jeff Yee; Talha Asif; Meaghan Mendonca; Julie Rorison; Mandeep Jassal; Tehreem Ashraf; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; anand.balram@brampton.ca; andria.oliveira@brampton.ca; henrik.zbogar@brampton.ca; kumar.ranjan@brampton.ca; richa.dave@peelregion.ca; christine.wilson@cvc.ca; manvir.tatla@peelregion.ca; rizwan.haq@cvc.ca; maureenv@haltonhills.ca; mricci@haltonhills.ca
Cc: Clara Chan; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TAC Meeting Minutes - December 13, 2021
Attachments: 2021.12.13 Heritage Layover TAC Meeting Rev 1_clean.docx

Hi All,
Please see attached the meeting minutes from the TAC meeting on Monday December 13th, 2021.
If there are any additional comments or suggested changes, let us know within a week and we'll finalize the minutes.
Thank you,
-Brian

Brian J. Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 647.334.9949

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Credit Valley Conservation

From: Brian Poole
Sent: Friday, December 17, 2021 2:42 PM
To: Stacey Kenny; Flora Devarajah; Benjamin Kwok; Jackie Czajka; Jeff Yee; Talha Asif; Meaghan Mendonca; Julie Rorison; Mandeep Jassal; Tehreem Ashraf; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; anand.balram@brampton.ca; andria.oliveira@brampton.ca; henrik.zbogar@brampton.ca; kumar.ranjan@brampton.ca; richa.dave@peelregion.ca; christine.wilson@cvc.ca; manvir.tatla@peelregion.ca; rizwan.haq@cvc.ca; maureenv@haltonhills.ca; mricci@haltonhills.ca
Cc: Clara Chan; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TAC Meeting Minutes - December 13, 2021
Attachments: 2021.12.13 Heritage Layover TAC Meeting Rev 1_clean.docx

Hi All,
Please see attached the meeting minutes from the TAC meeting on Monday December 13th, 2021.
If there are any additional comments or suggested changes, let us know within a week and we'll finalize the minutes.
Thank you,
-Brian

Brian J. Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 647.334.9949

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Canadian National Railway

From: Clara Chan
Sent: Wednesday, December 8, 2021 3:55 PM
To: France.moreau@cn.ca
Cc: Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: Heritage Layover Environmental Team Introductions

Hi France,

I hope you had a good weekend!

I just wanted to follow up on this email. Let me know if you would like to have a call for additional context.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: December-03-21 1:52 PM
To: France.moreau@cn.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Felker, Bob <bob.felker@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: Heritage Layover Environmental Team Introductions

Good afternoon France,

I hope all is well! I am a Project Manager for Metrolinx within the Environmental Programs and Assessment Team. My colleagues and I are working with our Consultant (Wood) to prepare the Transit Project Assessment Process (TPAP) for Heritage Layover. David Howett from CN had identified that you were potentially the point of contact for CN with regards to this project.

The proposed Site is located along the adjacent to the CN rail corridor, within the Halton Sub (mi. 20.15 to 21.16) and between Winston Churchill Blvd and Heritage Road. I've also included an aerial photo with the approximate Layover extent as well.

A summary of the design is as follows:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.

- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
- The facility will also have ancillary buildings (e.g. staff, sanitary, electrical, storage).
- Connections to the existing CN Rail corridor will be completed outside of the proposed works

Wood will be completing a number of technical studies to support the TPAP. To that end, I've copied them (Bob Felker and Louise Mcandrew) for reference.

A couple questions that came up from their initial reviews which I hope you are able to assist on include:

1) Wood requires timing information about the gates at the 3 rail-road crossings (Winston Churchill, Heritage, Mississauga) to estimate queue lengths
    - Length of time for gate to descend -
    - Length of time gate is down for -
    - Length of time for gate to go back up -

Any feedback that you can share would be greatly appreciated.

Let me know if you want to connect, and I can arrange to have a call or meeting with you.

Thanks and have a great weekend,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: France Moreau
To: Clara Chan
Cc: Dara Corrigan; Brian Poole; Simon Strauss; Felker, Bob; Mrochkovskaia, Nadya; Mcandrew, Louise; John Hasterlo; Kristina Boka; Robert Versteegen; David Howett
Subject: RE: Heritage Layover Environmental Team Introductions
Date: Wednesday, December 22, 2021 1:37:07 PM

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Hi Clara,
I have sent a note to my colleagues in engineering and will get back to you early in the new year.
Thank you,
France

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Tuesday, December 14, 2021 8:47 AM
To: France Moreau <France.Moreau@cn.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Subject: RE: Heritage Layover Environmental Team Introductions

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Hi France,

If possible, we would like to get the following information for our Consultant. I've copied them in the conversation as well. Would you be able to kindly redirect the query to your colleagues in your absence?

1. Wood requires timing information about the gates at the 3 rail-road crossings (Winston Churchill, Heritage, Mississauga) to estimate queue lengths
   - Length of time for gate to descend -
   - Length of time gate is down for -
   - Length of time for gate to go back up -

We can most definitely set up some time in the new year for a meeting. Thank you in advance!

Kind regards,
Clara

***Vacation Alert*: I will be out of office between December 20 to January 4.**

Clara Chan
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Safety Never Stops.

From: France Moreau <France.Moreau@cn.ca>
Sent: December-13-21 5:43 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Layover Environmental Team Introductions

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Hello Clara,

I'm sorry its taken so long to get back to you as I've been out of the office on site visits over the last few weeks. I am leaving on vacation tomorrow and back on December 22. Is this something that can wait until early next year? I think a call would be good, can you schedule something during the week of January 10th?

Thanks!
France

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Wednesday, December 08, 2021 3:55 PM
To: France Moreau <France.Moreau@cn.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>

Subject: RE: Heritage Layover Environmental Team Introductions

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Hi France,

I hope you had a good weekend!

I just wanted to follow up on this email. Let me know if you would like to have a call for additional context.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: December-03-21 1:52 PM
To: France.moreau@cn.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Jeff Yee <Jeff.Yee@metrolinx.com>; Andrew Pagetta <Andrew.Pagetta@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Felker, Bob <bob.felker@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: Heritage Layover Environmental Team Introductions

Good afternoon France,

I hope all is well! I am a Project Manager for Metrolinx within the Environmental Programs and Assessment Team. My colleagues and I are working with our Consultant (Wood) to prepare the Transit Project Assessment Process (TPAP) for Heritage Layover. David Howett from CN had identified that you were potentially the point of contact for CN with regards to this project.

The proposed Site is located along the adjacent to the CN rail corridor, within the Halton Sub (mi. 20.15 to 21.16) and between Winston Churchill Blvd and Heritage Road. I've also included an aerial photo with the approximate Layover extent as well.

A summary of the design is as follows:

- The work is to facilitate the delivery of the GO Expansion project, providing two-way all-day service along the Kitchener corridor.
- The Layover will have four tracks to accommodate a 12-car consist with two locomotives, or two 6-car consists with one locomotive.
- The facility will also have ancillary buildings (e.g. staff, sanitary, electrical, storage).
- Connections to the existing CN Rail corridor will be completed outside of the proposed works

Wood will be completing a number of technical studies to support the TPAP. To that end, I've copied them (Bob Felker and Louise Mcandrew) for reference.

A couple questions that came up from their initial reviews which I hope you are able to assist on include:

1. Wood requires timing information about the gates at the 3 rail-road crossings (Winston Churchill, Heritage, Mississauga) to estimate queue lengths
    - Length of time for gate to descend -
    - Length of time gate is down for -
    - Length of time for gate to go back up -

Any feedback that you can share would be greatly appreciated.

Let me know if you want to connect, and I can arrange to have a call or meeting with you.

Thanks and have a great weekend,
Clara

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Appendix I-3a

Transit Project Assessment Process Correspondence Record:

Meetings – TAC and Stakeholder

TAC Meeting #2
April 1, 2022

Heritage Road Layover pre-PIC #2 Briefing

Welcome to the proposed Heritage Road Layover





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Agenda

1. Round Table Introductions
2. Land Acknowledgement/Safety Moment
3. Project Summary
4. Previous Feedback
5. TPAP Schedule
6. Environmental Studies

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Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

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Safety Moment – Vehicle/Deer Safety

While Driving

- Stay aware, awake, alert, and sober
- Be especially alert in spring and fall, but car-deer crashes occur all year-round
    - More common during dusk and dawn
- Heed deer crossing and speed limit signs
- Deer frequently travel in groups, if you see one deer crossing or standing alongside the road, there may be others nearby
- Flashing high-beam headlights or honking your horn will not deter deer



If a Crash is Unavoidable

- Don’t swerve! Stay in your lane
- Brake firmly and hold onto the steering wheel
- Bring vehicle to a controlled stop

After a Crash

- Pull off the road and turn on emergency flashers. Be cautious of other traffic
- Do not attempt to remove deer from roadway
- Report a crash to the nearest police agency and insurance company

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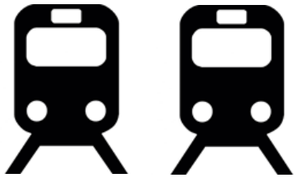
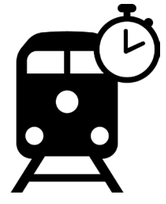
The right investment at the right time; GO Rail Expansion will enable:



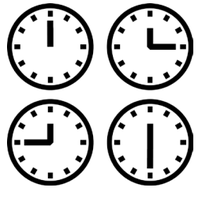
MORE TRIPS

6000 weekly trips
2x as many rush-hour options. **3x** as many off-peak options.



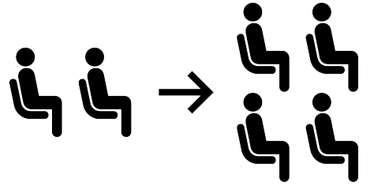
FASTER TRAVEL

Electric trains **accelerate and decelerate faster.**
Introduction of **additional express** services.



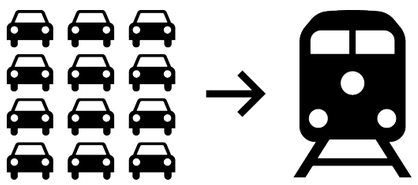
HIGH FREQUENCY

No need to check a schedule with service **every 15 minutes** or better, in both directions, all day



MORE CAPACITY

Doubling regional commuter capacity equivalent to **nine highways the size of the 401**



REDUCED CONGESTION

More trains = reduced congestion across the **region, taking close to 145,000 car trips per day, off the road.**



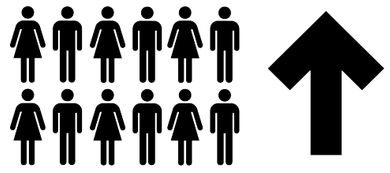
CREATE JOBS

An estimated **8,300 annual jobs** created for the first 12 years of delivery will be created over the lifecycle of the program.



SAVES TAXPAYERS MONEY

All operating costs covered with fare box revenue. **GO Rail revenues will exceed 110%** of operating costs over the next 60 years.



INCREASED RIDERSHIP

More options and faster trains will increase peak and off-peak service. **By 2055, annual ridership will exceed 200 million.**

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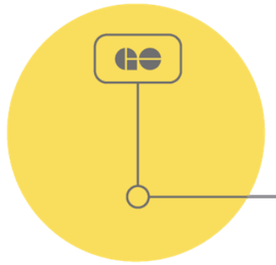
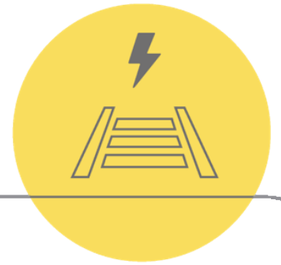
GO Expansion

42 upgraded stations



205 kilometres of new track

687 kilometres of electrified track



6 new maintenance and storage facilities

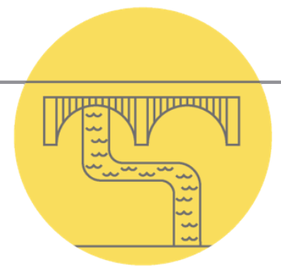


Trains running up to **29% faster** with **60%** lower operating costs per kilometre



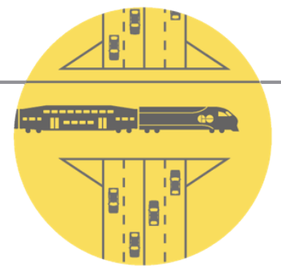
14 bridges upgrades

11 pedestrian and river grade separations

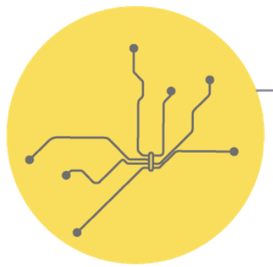


2 rail/rail grade separations

11 road/rail grade separations



Two-way, all-day service across **5** GO Rail lines



with over **6,000** services per week

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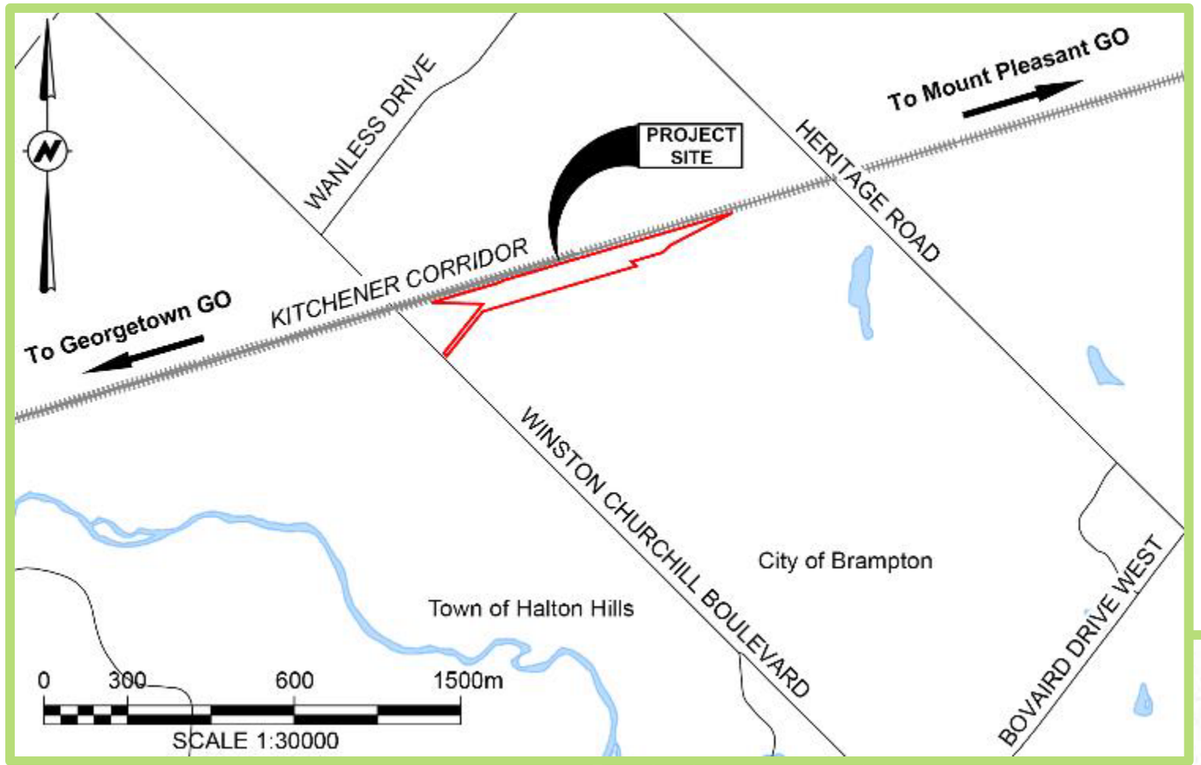
Heritage Road Layover – Project Overview



Location of Project Site on the Kitchener Corridor (above) and regionally throughout the Greater Toronto and Hamilton Area (right).

- The layover will be strategically located on the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station, between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.
- A train layover is a support facility that provides:
    - Overnight and potential midday storage for trains
    - Access to trains for crews to perform inspection and light maintenance activities when trains not in service



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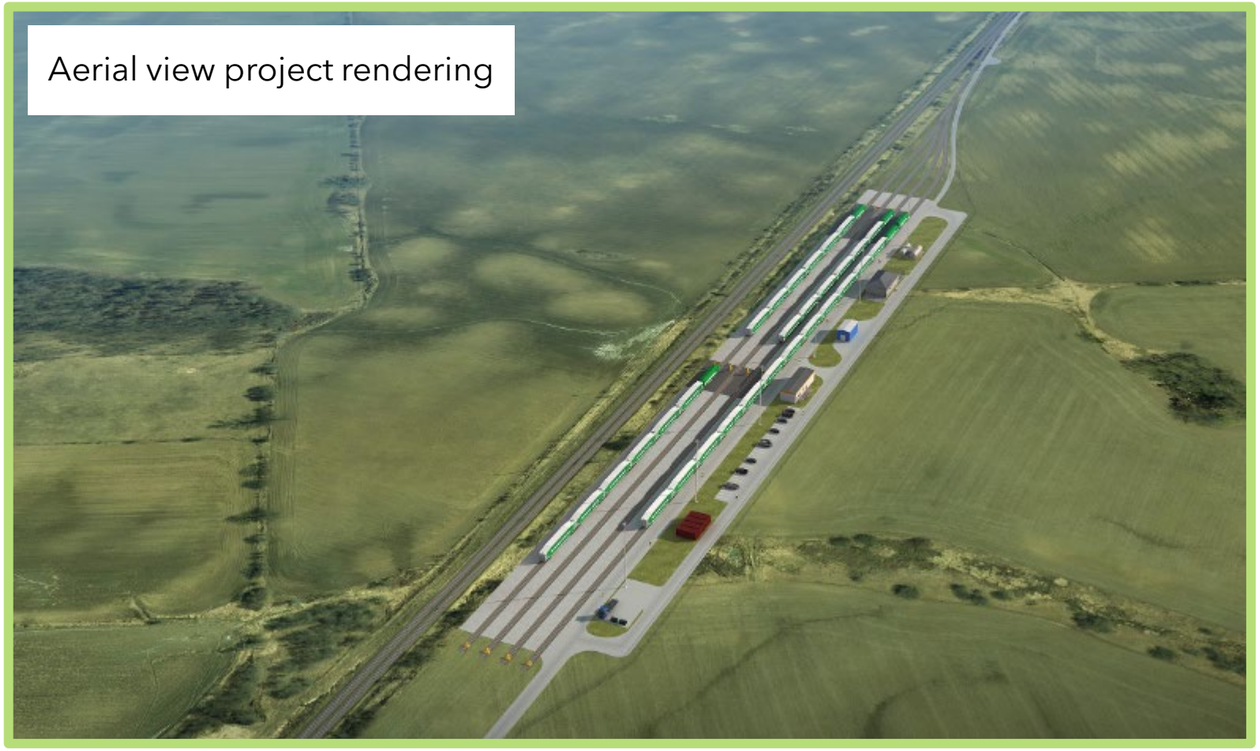
Heritage Road Layover - Renderings





- Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan (see Socio-Economic section for details).
- Various upgrades to the existing road and highway network are planned in concert with the planned growth.

Design Elements

- Four tracks in total, with each track being able to accommodate up to:
    - One train with two locomotives and 12 coaches; OR
    - Two trains with one locomotive and 6 coaches
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track at eastern portion of site



Aerial view of Project Site and surrounding landscapes

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Transit Project Assessment Process (TPAP) Schedule

Pre-TPAP Phase
(Sept 2021 – March 2022)

Prepared background studies and impact assessments

Prepared preliminary and early detail designs

Engaged with Indigenous Nations

Consulted with Stakeholders and the Public

Documented findings from background studies and prepared draft Environmental Project Report (EPR) which included:

- Description of transit project
- Assessment and evaluation of impacts and proposed mitigation measures

Virtual Public Information Centre #1 – January 12 to January 26, 2022

TPAP Phase – Up to 120 Days
(March – Summer 2022)

Document updated findings in Final Draft EPR

Engage with Indigenous Nations

Consult with Stakeholders and the Public

WE ARE HERE

Notice of Commencement – March 24, 2022

Virtual Public Information Centre #2 – April 6 to April 20, 2022

Notice of Completion & EPR – Summer 2022

Post-TPAP Phase
(Summer – Fall 2022)

30-Day Public Review of EPR – Summer 2022

Objections / No Objections Submission

35-Day Minister's Review / Decision – Fall 2022

Minister Gives Notice

1. Proceed
2. Proceed with Conditions
3. Must Conduct Additional Work

Statement of Completion to MECP

Proceed with procurement and construction.

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Feedback & FAQs from Public Information Centre #1

Between January 12 and January 26, 2022, Public Information Centre #1 (PIC) was virtually hosted. The following questions and concerns were raised:

- Mitigation of any effects of noise and vibration on surrounding areas.
- Train idling time at the facility.
- Mitigation of any effects on air quality in the surrounding area, including receptors utilized for monitoring.
- Disturbance of the McNichol Cemetery during construction and/or operations.
- Engagement with community, including City of Brampton, Town of Halton Hills, Credit Valley Conservation, and property owners.
- Integration of the Project with the aesthetics of the surrounding area and cohesion of the DRAFT Heritage Heights Secondary Plan during the Detailed Design phases of the project.
- Number of trains supported at the facility (4 trains with 2 locomotives and 12 cars or 8 trains with 1 locomotive and 6 cars) to account for current and future operations and optimize the Kitchener GO Expansion.
- Activities at the layover, including information regarding storage and light maintenance such as daily visual inspections for defects or damage, cleaning, sanitary flushing, and refueling of trains.

All questions and responses from PIC#1 are available on Metrolinx Engage: https://www.metrolinxengage.com/en/content/heritage-road-layover-ask-question

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Transit Project Assessment Process (TPAP) Studies

A number of technical studies were completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies are:

- Air Quality
- Archaeology
- Natural Environment*
- Noise & Vibration*
- Cultural Heritage
- Tree Inventory Plan*
- Traffic & Transportation
- Socio-Economic and Land Use Characteristics

The following pages present the study baselines along with key mitigation and monitoring measures that will be implemented for the project. Further details can be found in the technical reports as they become available.

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

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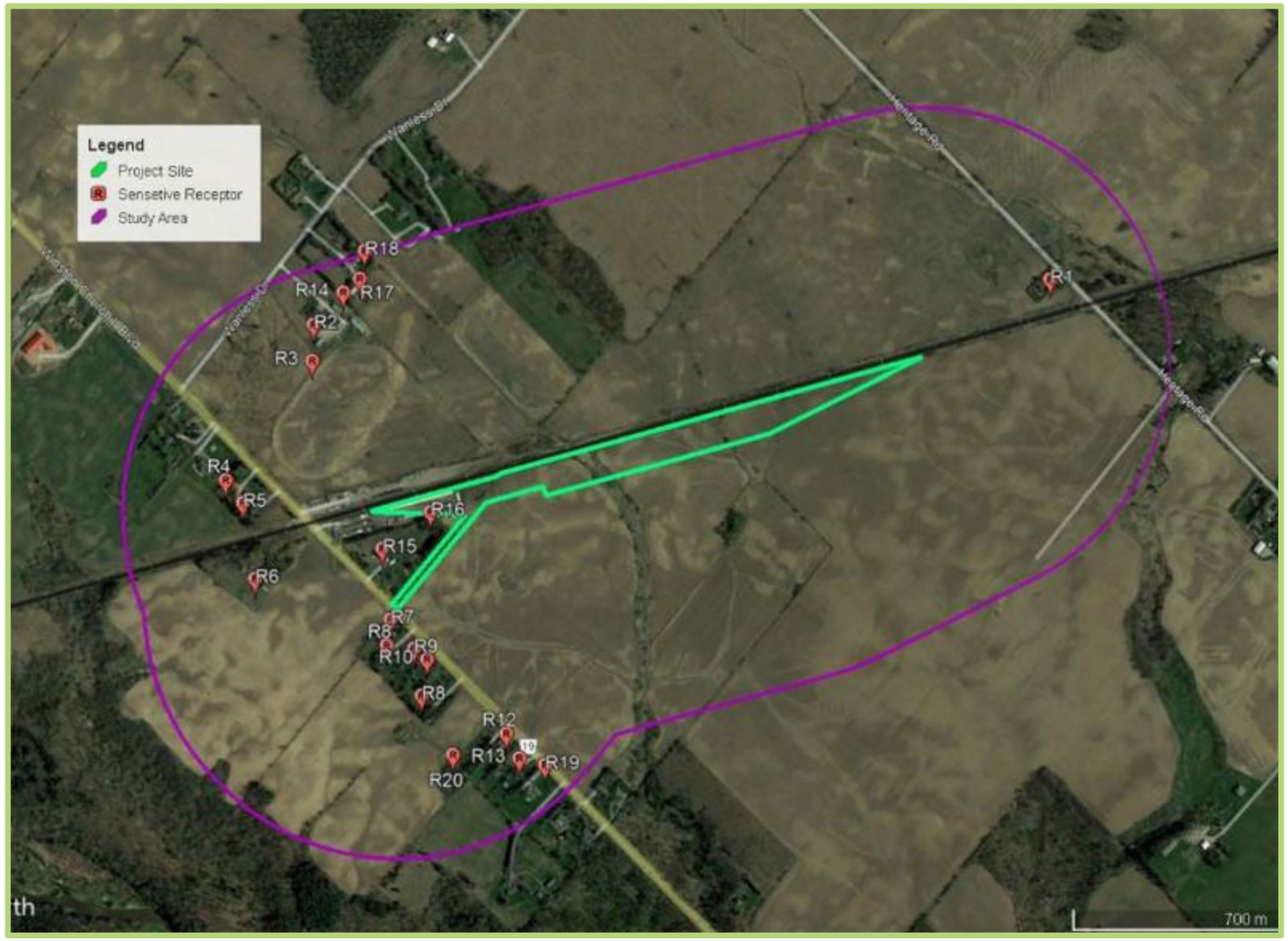
Air Quality

Study Highlights



Sensitive receptors within Study Area of the Project

- Determines the air quality impacts generated as part of construction and operation of the Project and develops mitigation strategies for any issues
- Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area, which were residences
- Considered contaminants include:
  - Particulate matter
  - Criteria air contaminants (nitrogen dioxide, carbon monoxide, sulphur dioxide)
  - Volatile Organic Compounds (VOCs)
  - Odorous contaminants
- Sources of air pollution in the area include:
  - Traffic on local arterials and railroads
  - Residential, institutional, and commercial heating
  - Transboundary sources
- Air quality monitoring stations in similar surrounding land uses and close to the Project Site established baseline air concentrations

Air Quality

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction related air pollution may pose risks to human health and wellbeing	• Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan (AQMP). • Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. • Dust prevention and control methodologies not limited to: ○ Proper maintenance of equipment and vehicles ○ Minimizing size of active areas on storage piles ○ Usage of non-chemical dust suppressant to reduce dust emissions from temporary unpaved roads or parking lots	• Develop and implement Weekly Air Quality Monitoring Plans that document how air quality monitoring has been conducted and compliance assessed to effectively prevent unacceptable rates of air emissions in accordance with the following guidelines. • Monitor placement should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks (MECP) Operations Manual for Air Quality Monitoring in Ontario (2018).
Operations related exhaust emissions of diesel powered trains contribute to local and regional air pollution.	• A detailed Operations AQMP will be developed and implemented to limit the generation and dispersion of airborne particulate matter, nitrogen oxides and other air contaminants associated with the project operations. • Unnecessary train / engine / propulsion system idling will be minimized through technical and operational measures.	• On-site inspections will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • Annually, test train propulsion and auxiliary power units, which produces exhaust emissions and ensure that they remain in compliance with applicable emission standards. • Develop an Air Sampling and Monitoring Plan and submit an annual report summarizing all sampling and monitoring results accumulated over the preceding year.

Noise and Vibration

Study Highlights



Location of four sensitive receptors for baseline condition monitoring

- Reviews construction and stationary sources of sound that will be produced from the Project
- Study Area extends 500 m from Project Site
- Construction phase was modelled based on construction activities and assumed equipment that will likely be utilized for the Project
- Operations phase was monitored on stationary noise and vibration sources for the layover-built scenario
- Baseline conditions at four identified representative sensitive receptors have been measured for a total of one month
- Major sources of existing noise include rail traffic from CN freight, VIA Rail, GO trains, and road traffic
- During construction, noise increases are anticipated to be temporary in nature and considered short-term nuisance to nearby residents

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Noise and Vibration

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
The predicted sound indicate that it is feasible to operate most construction equipment within MECP limits. Vibration levels from the construction equipment are not expected to affect the receptors in the Study Area.	The following are recommended to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas.	• Construction activities will be monitored by a qualified Environmental Inspector.

Traffic and Transportation

Study Highlights

- Reviews traffic in the surrounding community and during construction and operations of the Project
- Construction activities anticipated to commence in 2023 and finish in winter 2025
- Road traffic effects during construction are expected to be minimal given the predominantly rural location of the Project Site and the forecast background traffic levels. They may include:
    - Queues at the level crossing on Winston Churchill Boulevard may stretch back to access road entrance
    - Occasional temporary (e.g. less than 15 min) lane closures during construction and utilization of access road
- No current or planned transit services operating on Winston Churchill Boulevard or Heritage Road
- During operation, traffic levels in and out of the Layover are anticipated to be minimal



Level train crossing at Winston Churchill Boulevard.

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Traffic and Transportation

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction may result in the need for temporary road or lane closures changing access to nearby land uses	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Access to nearby land uses will be maintained to the extent possible. Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur. • Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period. • Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjust as necessary during the construction period.

Stage 1 Archaeological Assessment

Study Highlights

The Stage 1 Archaeological Assessment report summarized existing archaeological information and recommended a Stage 3 Archeological Assessment to be completed on a portion of the Project Site by licensed professional archaeologists in spring or summer 2022.

- Engagement with Indigenous Nations required during Stage 3 Archaeological Assessment



Location of previous archaeological studies within the Study Area for the Heritage Road Layover

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Stage 1 Archaeological Assessment

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Completion of Stage 3 Archaeological Assessment • If archaeological materials are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot will be protected from impact an assessment is completed by a professionally licensed archaeologist. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments (ie. Stage 2, 3, 4 as required) will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. • If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted. • All Archaeological Assessment findings will be shared with Indigenous Nations, as per Metrolinx procedures.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Cultural Heritage

Study Highlights



Location of cultural heritage resources with proximity to the Project Site

- Three (3) cultural heritage resources identified:
  - CHR1: Cultural heritage landscape (McNichol Cemetery)
  - CHR2: Built heritage landscape (private residence)
  - CHR3: Built heritage landscape (private residence)
- City of Brampton is currently in the process of heritage designation for the McNichol Cemetery
- Completed a preliminary impact assessment for any identified and proposed heritage properties within the Study Area and surrounding streets

Cultural Heritage

Mitigation Measures

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No adverse impacts anticipated.	• Proposed work should be planned in a manner that avoids the cemetery and should be clearly demarked on project drawings
CHR2 (Private property)	Isolation from its surrounding environment, context, or a significant relationship.	• Proposed work should be planned to maximize the buffer between the access road/layover facility and the residential property. The property and should be clearly demarked on project drawings as a "potential heritage property" • Post-construction landscaping should be planned to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.



CHR1: Rail crossing near McNichol Cemetery



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

Socio-Economic and Land Use Characteristics

Study Highlights

A desktop review of existing socio-economic and land use conditions and an assessment to mitigate and monitor measures for construction and operations of Project.

- The Local Study Area (LSA) included the Project Site and surrounding 300 m.
- The broader Regional Study Area (RSA) encompassed Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills.

The following components were evaluated within the report:

- Property
- All land uses and adjacent lands
- Aesthetics / visual characteristic
- Light pollution
- Utilities
- Transportation / traffic

City of Brampton's DRAFT Heritage Heights Secondary Plan

- The LSA falls within the DRAFT Heritage Heights Secondary Plan area which, in the vicinity of the proposed layover facility, consists of low to medium density residential units. It is identified as a high potential mineral aggregate resource area. The figure to the right shows the potential future land use for the area under this draft plan.

* Exact location of streets in adjacent figure is conceptual and subject to refinement through future Precinct Planning for Heritage Heights





DRAFT Heritage Heights Secondary Plan Land Use Structure

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wood.

Socio-Economic and Land Use Characteristics

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
All land uses and adjacent lands	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • A Communications Protocol and a Complaints Protocol will be developed during construction	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received
Aesthetics / visual characteristics	Visual effects from construction / operations areas / activities	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	Light trespass, glare and light pollution effects	• Develop a plan to reduce the effects of light pollution with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents and/or businesses. • The lights would be designed to minimize off-site light pollution during operations.	• Number and resolution of complaints received.

Natural Environment

Study Highlights



Aquatic habitats and watercourses within the Study Area and surrounding areas

- The purpose of the study was to identify existing conditions for wildlife and landscape features within the project study area and assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures.
- Based on a desktop review of policies and previous studies relating to the aquatic and land environments.
- Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 and results will be distributed in summer 2022.

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Natural Environment

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• Vegetation removal shall be kept to a minimum and limited to within the construction area.	

Tree Inventory

Study Overview and Example Mitigation and Monitoring Measures

A Tree Inventory Report with recommendations for specific tree removal and tree injury will be completed in spring 2022 after field studies are carried out by an I.S.A Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable.

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Tree / Vegetation removal, injury and protection	• If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adherence to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals.

Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Project. The Notice of Commencement has been issued on March 24, 2022.

The Public Information Centre #2 will go live on Metrolinx Engage on April 6, 2022.

The comment period for Public Information Centre #2 is until April 20, 2022.

Peel Region
Phone: 416-202-7500
Email: peel@metrolinx.com

Halton Region
Phone: 416-938-9930
Email: haltonregion@metrolinx.com

Upcoming Dates

Summer/Fall 2022:

- 30 Day Public and Stakeholder Review of Environmental Project Report (EPR)
- 35 Day Minister's Review and Decision with Notice to Proceed or Revise
- Statement of Completion





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wood.

Heritage Road Layover
TAC Meeting Minutes

Meeting title:	TAC Meeting – Heritage Road Layover
Date:	April 1, 2022
Time:	9:30 – 11:00 EDST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
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Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement** **Safety Moment** • Don't Veer for Deer		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO
	• Bramalea GO to Mount Pleasant GO planned for 15 minute peak service and 30 minute off-peak and counterpeak service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  ○ Network Wide GO Expansion
	  ○ Kitchener GO Expansion		

3	**Overview of Project**
	• Kitchener Corridor consists of 3 sections
	  ○ Union Station to Bramalea GO Station owned by Metrolinx
	  ○ Halton Subdivision from Bramalea GO to Georgetown GO owned by CN
	  ○ Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor
	• Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance
	• Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan
	• Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train
	• Site set-up flexibility to alternatively accommodate up to eight 1 locomotive and 6 coaches per train
	• Access road entrance from Winston Churchill Blvd.
	• Connection to Kitchener Corridor mainline track at eastern portion of site		

4	**TPAP Schedule** • The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings • A virtual Public Information Centre (PIC#2) is scheduled to commence April 6, 2022		

	○ PIC will remain open until April 20, 2022, for interested parties to review materials and comment. • Notice of Commencement issued on March 24, 2022. • An Environmental Project Report has been prepared to: ○ Define Project Scope ○ Baseline Environmental Studies ○ Conceptual Engineering Design ○ Impact Assessment / Mitigation ○ Document engagement and consultation ○ Future Commitments for additional studies, permitting, and monitoring		
5	**Previous Engagement Sessions** • Public Information Centre (PIC #1) was held virtually from January 12 to January 26, 2022 • Questions and concerns raised from participants included: ○ Mitigation of effects of noise and vibration ○ Train idling at facility ○ Project effects on air quality ○ Any disturbance to McNichol Cemetery ○ Engagement with community ○ Integration of Project design with area aesthetics ○ Types of maintenance activities at the layover		
6	**TPAP Studies** • The Baseline Studies include: ○ Air Quality ○ Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area ○ Consideration of air pollution and contaminants in the area ○ Mitigation and monitoring measures related to construction and operations to limit the amount of air pollution created by the Project ○ Noise & Vibration ○ Study Area extends 500 m from Project Site ○ Baseline conditions identified at four Representative Sensitive Receptors (RSRs) measures for a total of one month ○ Noise increases are anticipated to be temporary during construction ○ Traffic & Transportation ○ Road traffic effects during construction are expected to be minimal due to the predominantly rural nature of the Project Site ○ During operation, traffic levels in and out of the Layover are anticipated to be minimal ○ Archaeology ○ Recommendation of a Stage 3 Archaeological Assessment (AA) to be carried out on portion of the Project Site in spring or summer 2022 ○ Engagement with Indigenous National required during Stage 3 AA as per Metrolinx procedures		

	○ Cultural Heritage ○ Three Cultural Heritage Resources (CHRs) identified within 50 m of the Project Site ○ Private property (CHR2) adjacent to Project Site may be isolated from its surrounding environment, context, or a significant relationship and mitigation measures will be put into place to reduce these effects ○ No adverse impacts anticipated for any of the properties ○ Socio-Economic and Land Use Characteristics ○ Draft Heritage Heights Secondary Plan shows future low to medium density residential units in the vicinity of the proposed Layover ○ Effects, such as nuisance from construction activities, will be mitigated and monitored ○ Natural Environment ○ Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 ○ Mitigation and monitoring measures should be put into place to reduce disturbance for migratory birds, wildlife, SAR, watercourses, fish and fish habitats, and vegetation ○ Tree Inventory Plan ○ Recommendations for specific tree removal and tree injury will be completed in spring 2022 ○ Compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020)		
7	**Questions** 1. Question (City of Brampton) – Currently, the Kitchener Line is using train consists with 10 cars. Is this layover being planned with future expansion in mind to allow for train consist of 12 cars? • Answer (Metrolinx) – This train layover is being built to accommodate train consist with 12 cars to support planned service increases and passenger capacity needs. The train layover in Georgetown has limited storage capacity and can only accommodate train consists with 10 cars. 2. Question (City of Brampton) – There was mention of fuelling as some of the activities on site. Will fuel be stored on site? • Answer (Metrolinx) – No, fuel will not be stored on site. Fuelling will be completed through direct to locomotive transfer (Trucks will be arriving at the facility for direct refuelling to trains).		

	3. Question (Town of Halton Hills) – Will this new layover replace the storage and maintenance activities currently at the Georgetown facility? • Answer (Metrolinx) – The intent of this facility is to replace the Georgetown facility and maintenance activities. All train storage will be moved from Georgetown to Heritage Layover and Georgetown will function as a regular station. Georgetown storage facility is at the end of its useful life. 4. Question (Metrolinx) – An Elected Official at an earlier meeting flagged potential flooding issues on sites located slightly north of the Kitchener Corridor. Has CVC noticed any issues on the site itself or surrounding the site in regards to flooding issues? • Answer (CVC) – Most of the flooding is localized to a property close to Wanless Drive and Winston Churchill Boulevard and has been an ongoing historical issue in the area. At the moment, do not have any further details or information about the flooding itself. Discussions about this issue are ongoing in relation to Heritage Heights. 5. Questions (Town of Halton Hills) – a) The information presented does not indicate the planned subdivision on the west side of Winston Churchill Blvd, just south of the railway tracks. Can this subdivision be included as part of the TPAP studies moving forward? • Answer (Technical Advisor – Wood) – References to Churchill Estates can be included into the technical documents. b) Were there any notification boards or signage put up on Winston Churchill Blvd to indicate information about the planned layover? • Answer (Technical Advisor – Wood) - A copy of the Notice of Commencement was provided to the construction office for the subdivision. The developer has not been contacted directly. c) Can the Notice of Commencement be forwarded to Halton Hills to circulate to the developer? • Answer (Metrolinx) – Yes, the Notice of Commencement will be forwarded to the Town of Halton Hills.		

	6. Question (Town of Halton Hills) – Have there been discussions regarding a potential underpass at Winston Churchill? • Answer (Metrolinx) - CN is the owner of the rail corridor and grade separation proposals need to be raised with CN. Metrolinx will be involved once a project has been initiated by CN.. 7. Question (City of Brampton) – Does the Noise and Vibration study only consider construction, or does it factor in ongoing operations? • Answer (Technical Advisor – Wood) – The Noise and Vibration Report looks at both construction and operations, however it is specific to the layover itself and the trains arriving and leaving the facility. Also, the design that is being developed is electrification ready, however electrification is not part of the current plan. 8. Question (City of Brampton) – Since the Noise and Vibration Report focuses on the facility itself, is there a suggested buffer where development should not occur around the facility? E.g. 100 or 200 m? • Answer (Technical Advisor – Wood) – Based on the assessment about operations of the layover, the noise did not exceed the 5-decibel threshold, therefore, no mitigation measures are not required. Depending on the type of development that would occur around the facility, the future developer would go through the process of understand whether any noise barriers are required for their planned community. • Answer (Metrolinx) – When a site plan application through the municipality occurs, the Third Party Projects Review team at Metrolinx would be able to provide more specific advice on development in the vicinity of the layover, including setback distances. 9. Comment (City of Brampton) – In regard to noise from the facility, with the Heritage Heights Secondary Plan, there will be future development of hundreds of houses in the surrounding area and this will not remain rural, agricultural land. Next week, the Heritage Heights Secondary Plan is being taken to council for approval. 10. Question (City of Brampton) – The map indicates that the layover would sever a key piece of the road network within the Heritage Heights Secondary Plan. Is there any way this could be modified? It should be emphasized this is a		

	significant roadway that provides connection for the entire community. • Answer (Metrolinx) – The layover is limited to development on the south side of the Kitchener Corridor due to the connection to Mount Pleasant GO. It also provides for a future western connection to Winston Churchill Boulevard which limits the ability to shift towards Winston Churchill Blvd. Metrolinx is acquiring properties to proceed with the current footprint of the layover. A grade separation for the new roadway is a possibility but it would require discussion with both Metrolinx and CN. 11. Question (City of Brampton) – Why does this new layover need to be created – would it be possible for the existing facility in Georgetown to be modified to accommodate future GO Expansion? Would it be possible to reduce the new layover to 10 car consists? • Answer (Metrolinx) – The current layover in Georgetown is at its end of life and undersized for future plans along the Kitchener Corridor. Property outside of the Georgetown facility to expand its services is not readily available for acquisition. 12 car capacity is needed to provide sufficient capacity to serve projected ridership at Mount Pleasant, Brampton and Bramalea GO stations. Note that prior to the pandemic many trips on the Kitchener corridor were already at or exceeded full capacity. 12. Comment (City of Brampton) – The Heritage Heights team at City of Brampton has been trying to communicate with CN regarding this layover. Further discussion is required regarding transportation in the area. Also note that the team has not connected with CN regarding this issue but an underpass of the rail line for the new roadway would be preferable. 13. Question (City of Brampton) – Due to disruptions during construction, would it be possible to coincide the planned third track expansion with the Heritage Road Layover? • Answer (Metrolinx) – Since the Project is happening separately, the Heritage Road construction will occur first and then the third track construction will follow at a later date. Construction schedules and communication will be coordinated as the start of the project construction approaches.		

	14. Question (CVC) – Land use planning for the Heritage Heights Subwatershed Study has identified SWM pond locations that do not seem to match the planned layout of the Heritage Road Layover. This obstruction may create challenges in drainage for the area. Was information regarding SWM utilized during the design process for the layover? • Answer (Metrolinx) – The Stormwater Management Report still requires completion following field studies. Information regarding current flooding near the Project (shared by an Elected Official) is new information and may be considered during the report preparation. • Answer (Technical Advisor – Wood) – Information from the Heritage Heights Subwatershed Study has been provided to Wood and is being considered for this facility. The drainage design for the layover considers the regional and hundred-year storms and future climate change considerations, however, there is a constraint given the limited capacity of the two existing culverts under the CN ROW. Modifications are being considered to the existing watercourses downstream of the existing CN culverts, within the Project site to direct drainage through the facility. The sizing of the new west and central culverts on the Project site is based on the existing capacity of the two CN culverts. A third, eastern culvert, is sized to accommodate drainage from the existing trackside ditch. Direct onsite drainage will be handled by a minor system of subdrains and infiltration ponds for evaporation, with overflow discharged downstream. 15. Comment (CVC) - The design does not seem to recognize the hazards and impacts coming through the surrounding area. This infrastructure will impact the SWM in the area significantly. Further discussions are required for SWM considerations of the area. 16. Comment (City of Brampton) – City of Brampton would prefer to be included in the conversations regarding SWM in the area. 17. Comment (Town of Halton Hills): In the Town of Halton Hills, there are documented noise issues with train noise in general. New residents to the area may not anticipate the noise that will be generated and the Town would need to		

	navigate through noise complaints. Halton Hills would support a grade separation at Winston Churchill Boulevard. 18. Comment (Town of Halton Hills) – Winston Churchill Boulevard has truck restrictions on it and the intersection in Norval is not able to accommodate truck traffic adequately. If truck traffic is required in the area, it should avoid the intersection and utilize Mayfield Road instead, turning south on Winston Churchill Boulevard. • Answer (Metrolinx) – This will be considered during construction and operations. 19. Question (CVC) – The layover is proposed to cross an important north to south Natural Heritage Corridor. How is this being addressed in the design of the layover? Any changes to the Natural Heritage features should be completed in consultation with CVC and City of Brampton. • Answer (Technical Advisor – Wood) – This is a restraint that is recognized in the project and further work is occurring. 20. Comment (City of Brampton) – Request for Metrolinx to follow up with City of Brampton about impacts to the road network, Natural Heritage and SWM within and around the Project Site. 21. Question (City of Brampton) – Does the layover provide protection for western movement/connection to the rail line? • Answer (Metrolinx) – The layover does protect for a future western connection but this is outside of the current project scope. 22. Question (City of Brampton) – Will any mitigation be implemented regarding train idling and in particular, engine noise for example a shell or covering or provision of one in the future? • Answer (Metrolinx) – Upon arrival at the layover facility, the trains idle briefly but are then connected to wayside power to minimize noise impact.		
8	**ACTION ITEMS** 1) Mx to forward Notice of Commencement to Town of Halton Hills – Complete (circulated April 6, 2022) 2) Mx to connect further with CVC and City of Brampton regarding identified issues	Mx Mx	Completed TBD

Adjourn 11:00 ESDT

CoB and Mx Meeting
April 12, 2022

City of Brampton & Metrolinx Meeting

Heritage Road Layover

April 12, 2022

AGENDA

1. Land Acknowledgement / Safety Moment	Metrolinx
2. Georgetown Layover Limitations	Metrolinx
3. Overview of Heritage Heights Secondary Plan	City of Brampton
4. Proposed Roadway Discussion	All

LAND ACKNOWLEDGEMENT

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

SAFETY MOMENT – OUTDOOR FIRE SAFETY

Outdoor Fire Pits

- Never pour fuel/fire starters over a flame
- Make sure that the flame is out when finished
- Keep a safe distance from people and flammable objects
- Should be on the ground or a level surface
- Use proper kindling/wood to avoid the fire spreading outside of the appropriate area
- Only use a fire pit outdoors, and keep well-ventilated
- Make sure children are supervised around the fire pit



Barbeque Safety

- If unused over the winter months, check for any blocked burners, or any damaged or leaking fittings/hoses and clean accordingly
- Ensure it's in a well-ventilated area away from combustible materials like windows and doors
- Keep liquid or gas fuels tightly capped when not in use and kept away from flames, or anything that can create a spark

Georgetown Layover Limitations

Overview of Heritage Heights Secondary Plan

Proposed Roadway Discussion

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Heritage Road Layover
City of Brampton & Metrolinx Discussion

Meeting title:	City of Brampton and Metrolinx Discussion – Re: Heritage Road Layover
Date:	April 12th, 2022
Time:	2:30 – 3:30 EST
Location:	Microsoft Teams

Participants		
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Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement** **Safety Moment** • Outdoor Fire Pits and Barbeque Safety		

2	**Georgetown Layover Limitations**
	• Question from the TAC meeting on April 1st regarding why Mx cannot continue to use this station as a layover.
	• Metrolinx provided background as to the rationale behind the Heritage Road Layover facility.
	  o Georgetown station was built with the intent to be a terminal station. Now the station serves as a line station with trains passing though from both directions within the corridor.
	  o Metrolinx is shifting to separate layovers, which are focused on maintenance activities, from stations, which are more "customer facing" and intended for public access.
	  ▪ An example is the separation of the layover and station facilities at Lincolnville.
	  ▪ Additionally, Metrolinx provided similar advice to the City of Brampton regarding the proposed Heritage Heights station and whether it can be integrated with the Heritage Road layover.
	  o Georgetown layover is currently undersized.
	  ▪ Currently we have three tracks at Georgetown that can accommodate 10 car trains.
	  ▪ In the future, based on service pattern models, Mx anticipates the need for four 12 car trains to meet passenger capacity requirements and provide the 15-minute peak direction service and 30-minute off-peak and counterpeak service from Mt. Pleasant to Union.
	• The intention for the new facility (Heritage Road Layover) is to make sure the service frequency and passenger capacity provided within the Kitchener corridor is the right size for the current and future Brampton market.
	• Technical challenges for expanding the Georgetown layover includes;
	  o Buying lands to the east to make the tracks longer.
	  o The need to further expand station lands to provide additional tracks needed to store additional train sets at Georgetown.
	  o Intent to upgrade the Georgetown station to an island platform with two main tracks with a pedestrian tunnel. If layover tracks are included that
		N/A	

	would create a lengthy pedestrian tunnel to access the station, creating an unfavourable customer experience. • Considering these items Metrolinx reached the conclusion that upgrading Georgetown station is not a viable option.		
3	**Overview of Heritage Heights Secondary Plan** • City of Brampton presented the Heritage Heights Secondary plan (HHSP) on Wednesday April 6th and unanimously approved by City of Brampton Council. • HHSP calls for 125,000 people and 43,000 jobs. • Construction Start target is 2024-2025 timeframe. • The HHSP is novel for the City of Brampton, designed with mixed higher density uses and a road network of small blocks to encourage a walking community and reduce long distance driving.		
4	**Discussion of Proposed Roadway** • City of Brampton presented map of the Heritage Heights Secondary plan. • Highlighted the concern of the City of Brampton planning group is the highlighted North/South Road crossing the Heritage Road Layover (Yellow polygon, Figure 1). o This road is the only planned North/South connection between the Heritage Road and Winston Churchill Blvd. o Flagged the importance to preserve a North/South crossing to not overload vehicular traffic on Winston Churchill Blvd and Heritage Road. • Mx question- Can the roadway be shifted further East? City of Brampton outlined the following constraints: o Impacting the McNichol cemetery, located east of the Heritage Road Layover facility. o Proximity of the proposed Heritage Heights Station which, located south-east corner of Heritage Road and the rail corridor (Red polygon Figure 1 and Figure 2). o Heritage Road is a level crossing, and if the North/South roadway moved further east, CN may have stipulations regarding the two level crossings being in proximity. May present complications if a Grade separation were to be developed. o Moving the roadway East presents issues with how it would link to the roadway network. The valley crossing location of the North/South roadway has a fixed location due to topography (Orange polygon, Figure 1). If the North/South roadway were to move further East, it must connect in this location to the network. • Mx question- For the planned railway crossings, has there been discussion with CN?		

	○ City of Brampton stated they have reached out to CN several times throughout the project but no successful directly contact through CN. ○ Able to contact WSP who was in development review on behalf of CN. WSP expressed general support and committed to formal comments for the HHSP. No formal comments have been received by the time of this meeting. The City of Brampton is interpreting the lack of response as general support for the project. • Mx question- Did the conversations with CN and WSP detail the types of crossing? ○ City of Brampton expressed these crossing would not be grade separated. • Mx question- Request to confirm the location of the proposed Heritage Heights Station. ○ City of Brampton confirmed the location of the to be in the South-east quadrant of Heritage Road and the rail corridor (Red polygon, Figure 1). • City of Brampton proposing the potential to curve the North/South Road to the east of the green block (see draft purple line, Figure 1). ○ City of Brampton requested detailed design drawings of the Heritage Road Layover facility to explore the feasibility of curving the roadway. ○ Requesting Mx to determine how far West they can move the layover facility in a revised drawing. City of Brampton will investigate the feasibility of shifting the North/South roadway east and determine the implications on the larger HHSP with their consultant. ○ City of Brampton will share the HHSP CAD files. • City of Brampton question- Is it feasible to move the Heritage Road Layover facility west? Mx presented the latest detailed design of the Heritage Road layover and stated the following constraints: ○ The property to the west is owned by CN and would need to be acquired by Mx. ○ Technical limitation with the proximity of the switch location to Winston Churchill Blvd. ○ Metrolinx noted the McNichol cemetery is small located east of the facility. ○ Mx to inform City of Brampton how far west the Heritage Road Layover facility can be pushed. ○ If Mx cannot clear the proposed North/South roadway, alternative design solutions will need to be explored. Mx will invite CN to join the discussion on alternative design solutions. • Mx question- Is there an anticipated date to initiate the EA process for this road network?	Mx City of Brampton / Mx	

	○ City of Brampton stated they cannot provide a date at this time. • Mx and City of Brampton agree the need to involve CN in these conversations to discuss the safety of an additional level crossing, since the Kitchener Corridor will have increased service. ○ Mx stated the design of the Heritage Road layover will not preclude a grade separation in this location. • Mx is aiming for a design solution within the TPAP timeline.		
8	**ACTION ITEMS** 1. Metrolinx and City of Brampton to exchange CAD files to perform the respective overlays. a. Metrolinx to provide figures of the layover facility b. City of Brampton to provide CAD drawings of the current proposed location of the North/South roadway 2. Metrolinx to explore the feasibility of moving the Heritage Road layover facility west a. Metrolinx will provide any feasible engineering solutions in 2-3 weeks 3. City of Brampton to explore options for swinging the North/South roadway slightly to the east to cross the tracks off of the proposed Heritage Road Layover. 4. Metrolinx to set up another meeting in early May with City of Brampton to present and discuss design solutions. 5. CN will be brought into the design problem-solving discussions. a. Metrolinx Sponsors office will lead the coordination with CN 6. Metrolinx and City of Brampton to keep each other informed if contact is made with CN regarding the Heritage Road Layover and/or Heritage Heights Secondary Plan.	Mx/ City of Brampton Mx City of Brampton Mx Mx Mx/ City of Brampton	City of Brampton CAD shared files (April 13) Mx and City to reconvene with results of review at next meeting Week of May 2

Adjourn 3:25 EST

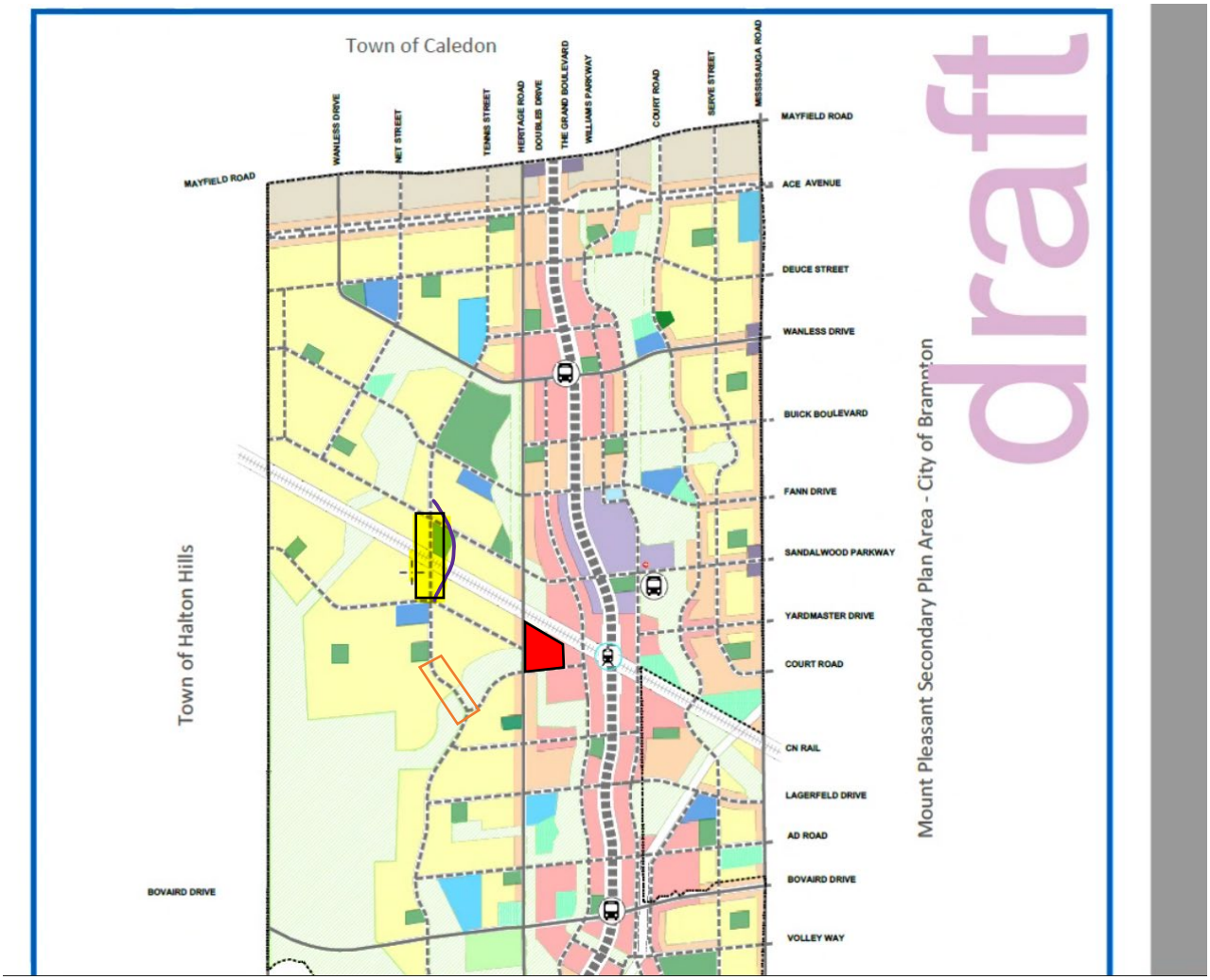

FIGURE 1 - Snapshot of HHSP

CVC and CoB meeting
June 28, 2022

June 28, 2022

Heritage Road Layover





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Metrolinx Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

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Safety Moment – Giant Hogweed

How can I identify Giant hogweed?
Giant hogweed, has large white flower clusters and a thick, hollow stem covered in hairs filled with sap. The weed can grow up to 5.5 metres tall.
Before the plant flowers, it produces a rosette of leaves up to one metre high.
Although distinctly larger, the invasive species looks similar to Giant cow parsnip, Queen-Anne's Lace, Valerian and Lovage.
The invasive species can be found across southern and central Ontario.

What happens if you come in contact with Giant hogweed?
Giant hogweed has a clear watery sap that can cause severe inflammation of the skin, or dermatitis, and can result in severe burns if the sap on your skin is exposed to sunlight.
Symptoms usually show up within 48 hours and can cause painful blisters. The province says purplish scars may form that can "last for many years."
There have been reports that eye contact with the sap may cause temporary or permanent blindness, however the ministry warns these reports have not been proven by existing research.

What should I do if I find Giant hogweed?
The province asks anyone who finds Giant hogweed to contact the Invading Species Awareness Program hotline at 1-800-563-7711 or report the sighting online. Take pictures of the plant but do not collect parts of it.
Do not burn or compost the plant, the province adds.
Ontario encourages residents to contact professional exterminators to remove Giant hogweed.





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Agenda

Introductions	*5 min*
Project Overview	*5 min*
Design Synopsis	*10 min*
TPAP Studies	*10 min*
Heritage Road Layover SWM Study	*10 min*
Heritage Heights Subwatershed Study	*10 min*
Heritage Heights Secondary Plan	*5 min*
Permitting and Approvals	*5 min*
Discussion Period	*30 min*

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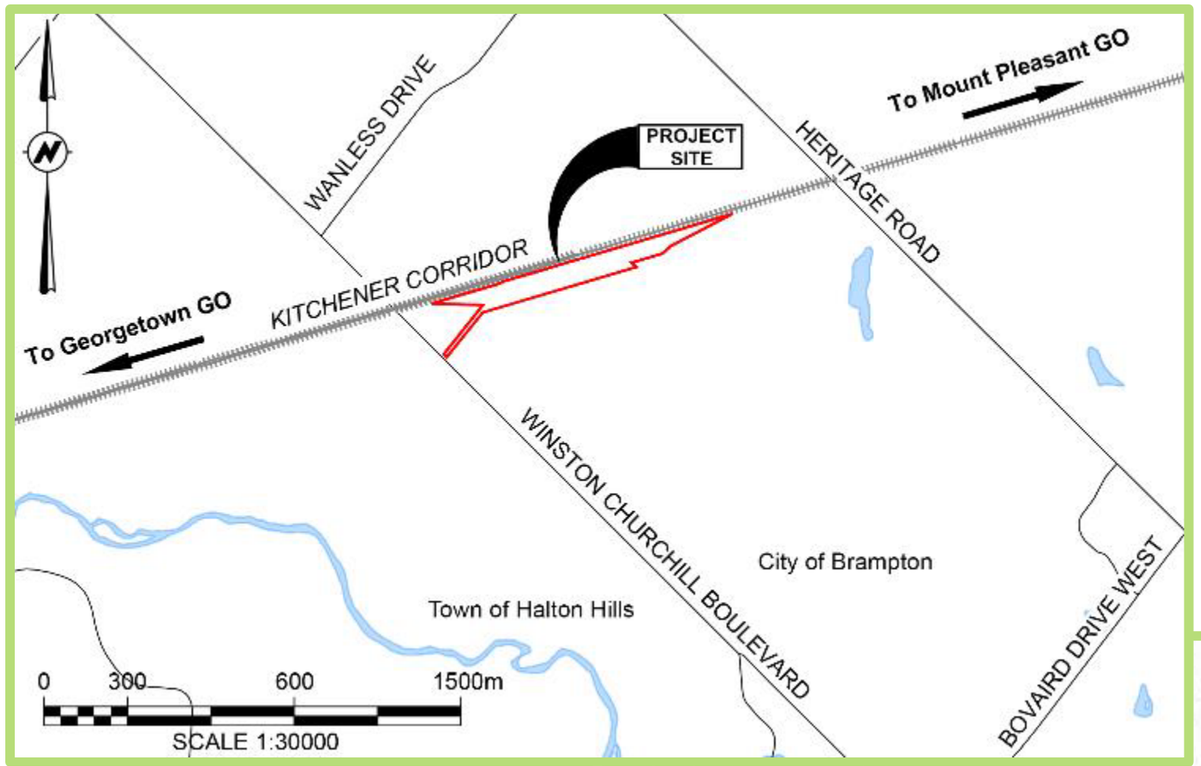
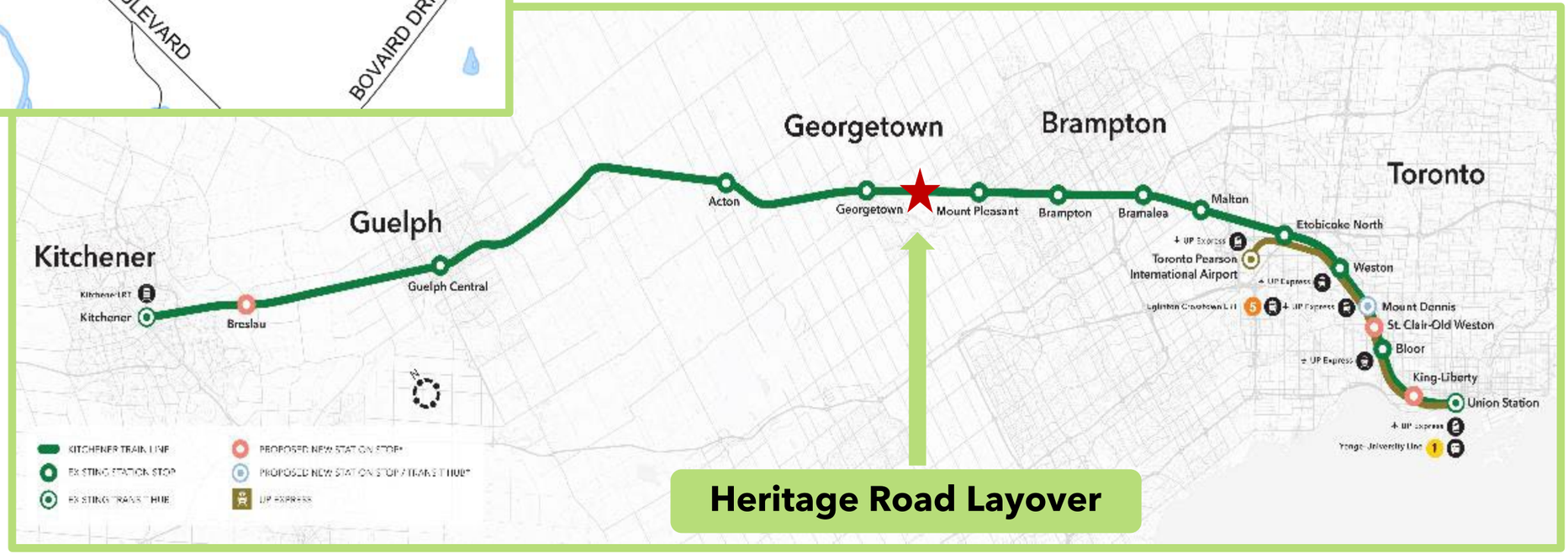
Introductions

- Metrolinx
- Wood
- City of Brampton
- Credit Valley Conservation

Heritage Road Layover – Project Overview



- Located within the Halton Subdivision of the Kitchener Corridor
- Between Mount Pleasant GO Station and Georgetown GO Station
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel
- Surrounding areas are planned for development as identified in the Heritage Heights Secondary Plan (approved by City of Brampton Council on April 6, 2022)
- Project totals approximately 5 hectares (50 000 m2)



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Transit Project Assessment Process (TPAP) Schedule

Pre-TPAP Phase
(Sept 2021 – March 2022)

Prepared background studies and impact assessments

Prepared preliminary and early detail designs

Engaged with Indigenous Nations

Consulted with Stakeholders and the Public

Documented findings from background studies and prepared draft Environmental Project Report (EPR) which included:

- Description of transit project
- Assessment and evaluation of impacts and proposed mitigation measures

Virtual Public Information Centre #1 – January 12 to January 26, 2022

TPAP Phase (120 Days)
(March – July 2022)

Notice of Commencement – March 24, 2022

Virtual Public Information Centre #2 – April 6 to April 20, 2022

WE ARE HERE

Field investigations, 90% EPR, and 60% Detailed Design for Project

Notice of Completion & EPR – July 22, 2022

Post-TPAP Phase
(Summer – Fall 2022)

30-Day Public Review of EPR – July 22 – August 20, 2022

Objections / No Objections Submission

35-Day Minister's Review / Decision – August 21 – September 24, 2022

Minister Gives Notice

1. Proceed
2. Proceed with Conditions
3. Must Conduct Additional Work

Statement of Completion to Ministry of Environment, Conservation and Parks

Proceed with procurement and construction (2023 to 2025)

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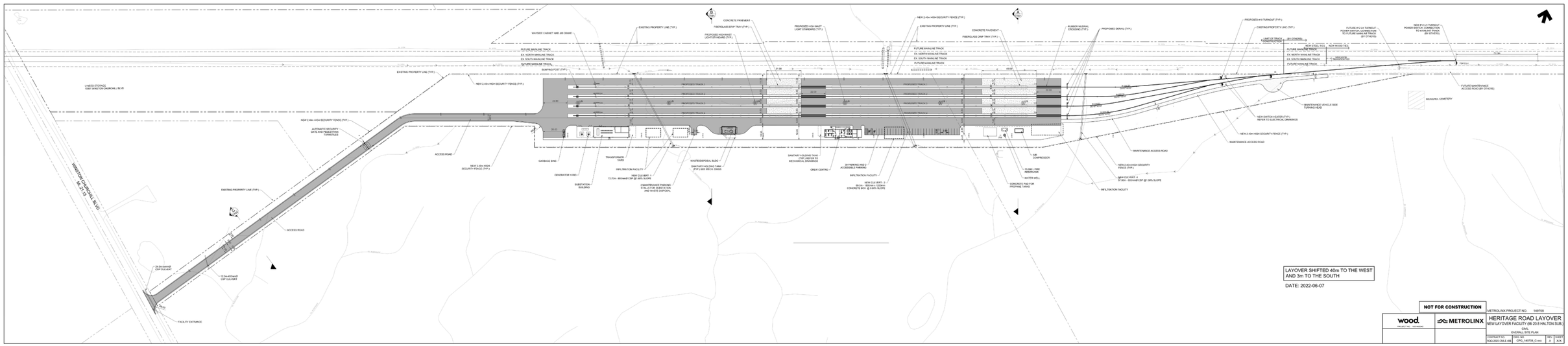
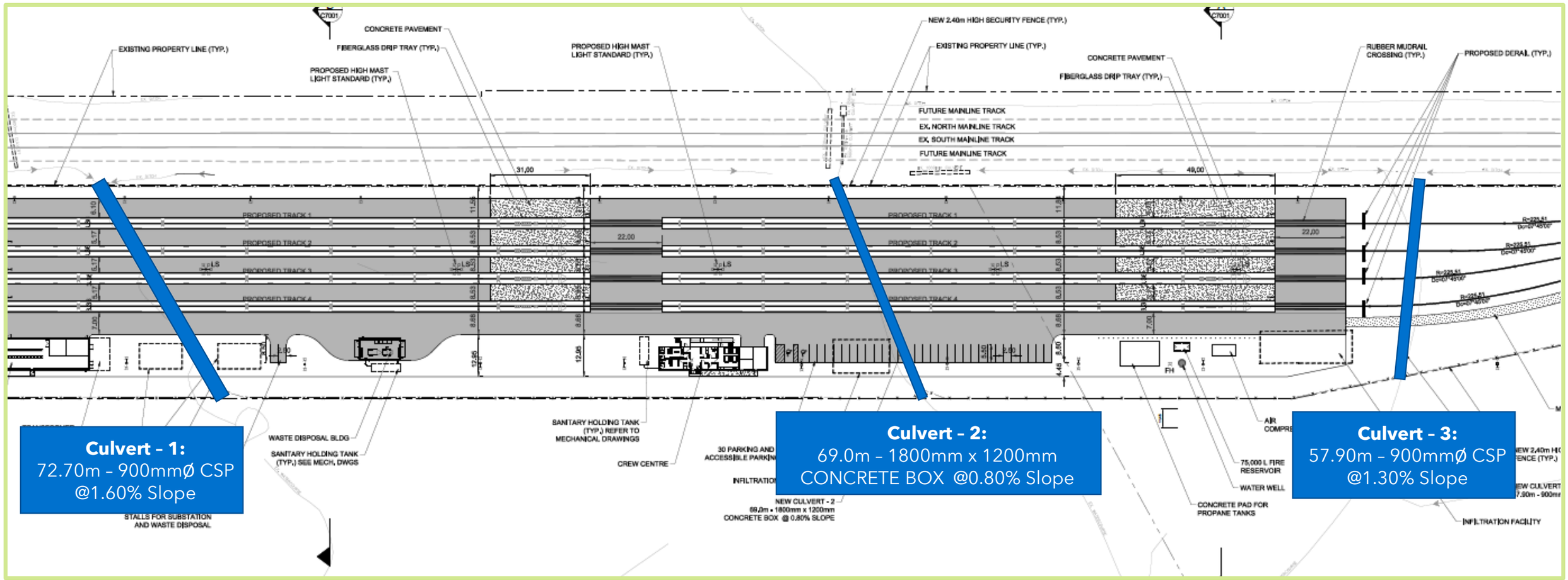
Detailed Design



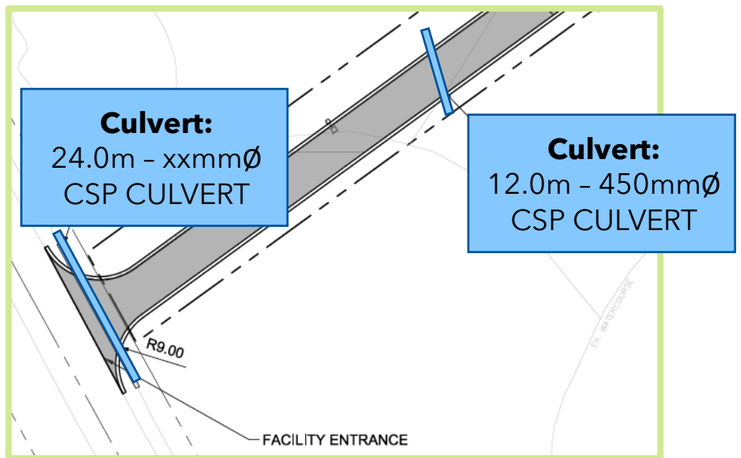
Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train or 8 trains with 1 locomotive and 6 cars)
- Access road entrance from Winston Churchill Blvd with a 275 m long access road
- Connection to Kitchener Corridor (CN) mainline track
- Shifted design 40 m west to accommodate Heritage Heights Secondary Plan

Detailed Design – Culverts



- 3 culverts in the Project Site (above) connecting current watercourses from the existing ditch south of the CN corridor
- 2 culverts on access road (right)



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Heritage Road Layover Field Work and Reports

Field work relevant to SWM is scheduled to be completed on the Project Site in Summer 2022:

Study	Field Dates
Topographical Survey	May 24 – May 30, 2022 (5 days) - Completed
Confirmation Ecological Land Classification and Plant List Collection	June 9 – 10, 2022 (2 days) – Completed (on-site only)
Significant Wildlife Habitat and Species of Risk (SAR) Habitat Assessment	
Tree Inventory	
Fish & Fish Habitat Assessment	July 4, 2022 (1 day)
Geotechnical Study and Groundwater Monitoring	July 11 – July 29, 2022 (3 weeks)
Phase II ESA	July 11 – July 15, 2022 (4 to 5 days)

Reports in preparation:

Natural Environment – Desktop findings included in EPR, an update to the report to include field findings when completed will be provided as a memo

Tree Inventory Plan – To be Completed

Stormwater Management - To be Completed

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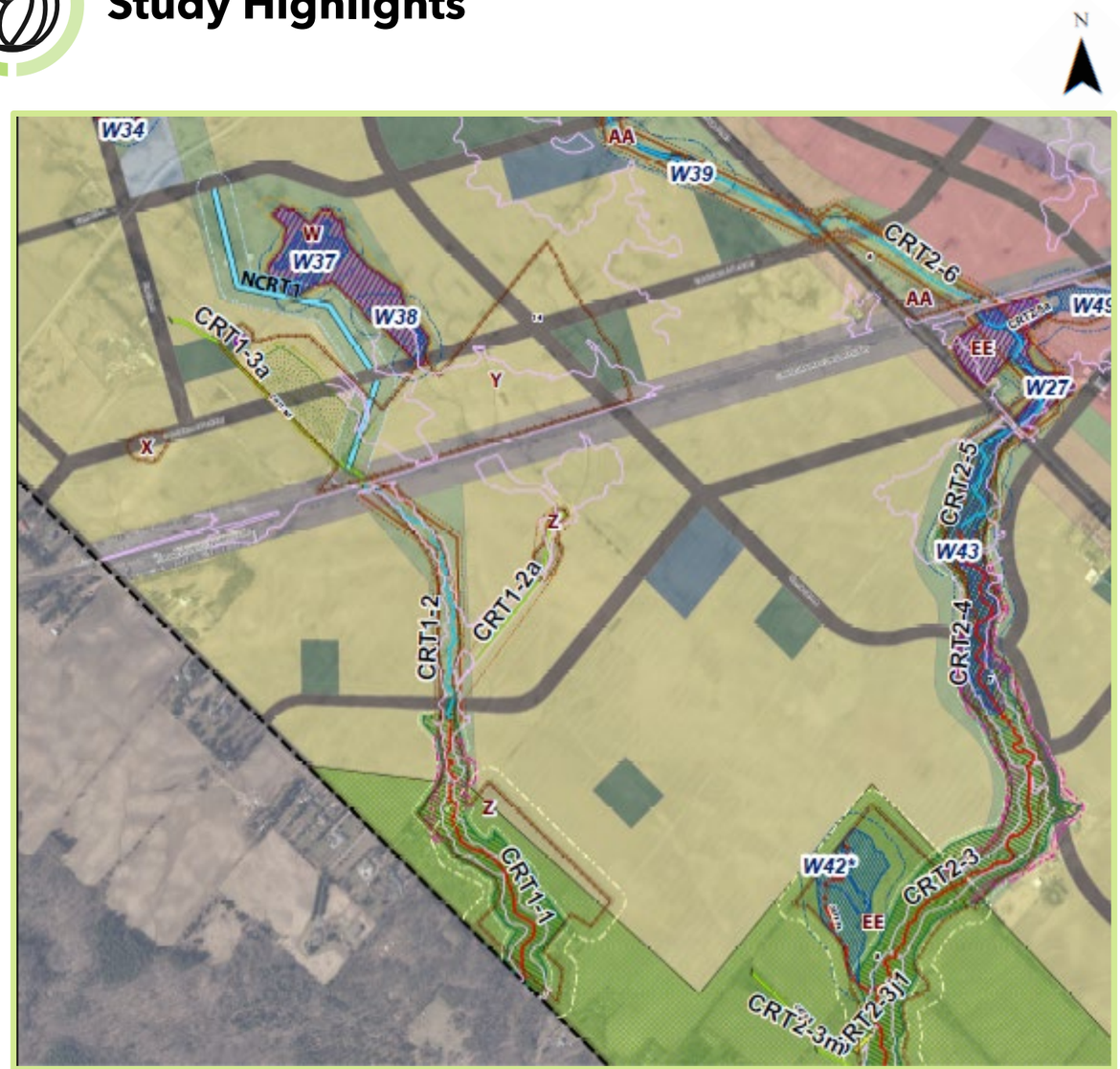
Natural Environment

Study Highlights



Aquatic habitats and watercourses within the Study Area and surrounding areas
Source: HHSWS Phase 2 Appendix F Figure 3.10.2g: NSIU EE (i) Land Use Evaluation Plan

- The purpose of the study was to identify existing conditions for wildlife and landscape features within the project study area and assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures.
- Based on a desktop review of policies and previous studies relating to the aquatic and land environments.
- Field studies are occurring on the following dates and results will be distributed in July and August 2022:
    - June 9 – 10:
        - Confirmation Ecological Land Classification and Plant List Collection
        - Tree Inventory
          Significant Wildlife Habitat and Species of Risk (SAR) Habitat Assessment
    - July 4: Fish and Fish Habitat Assessment

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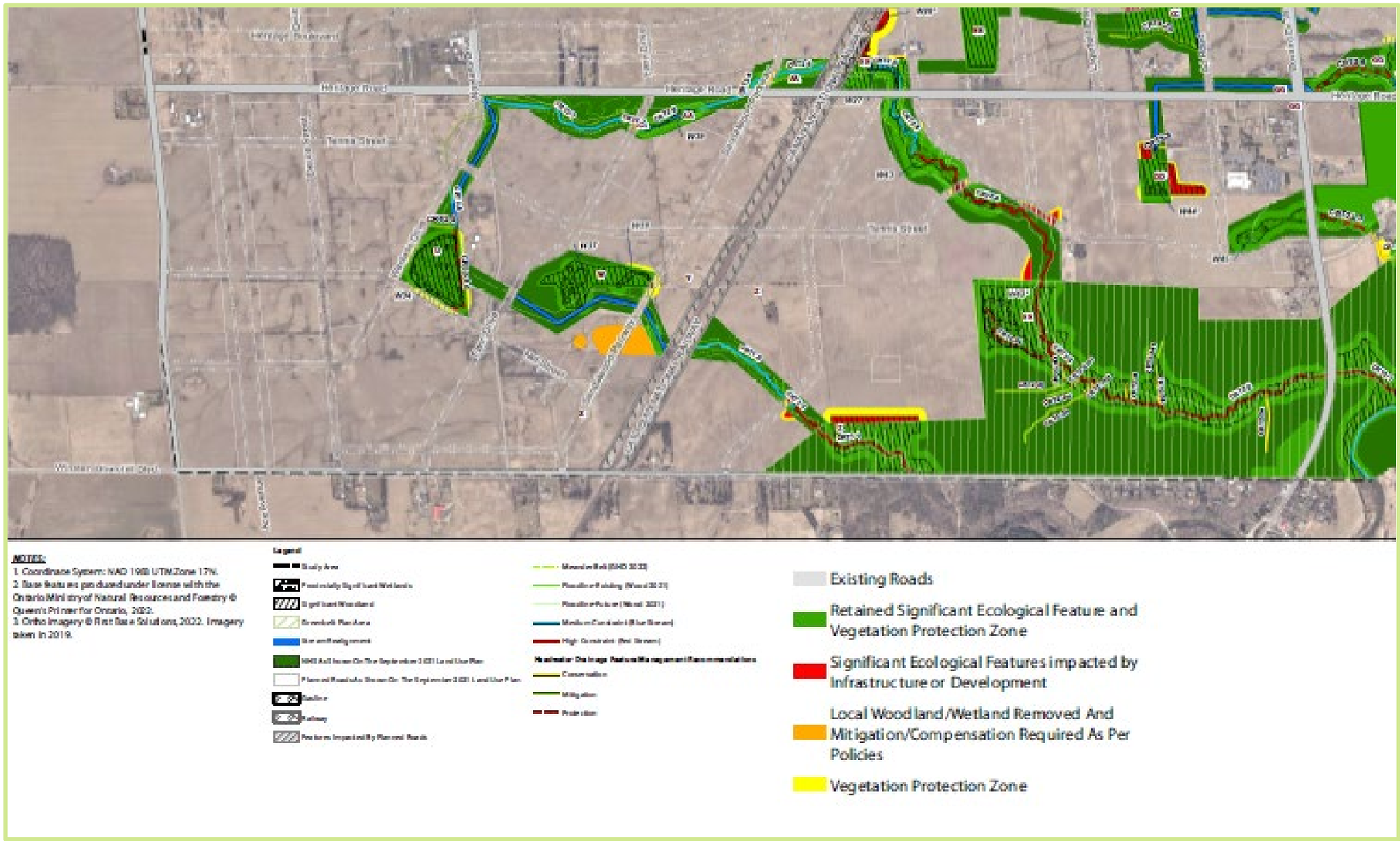
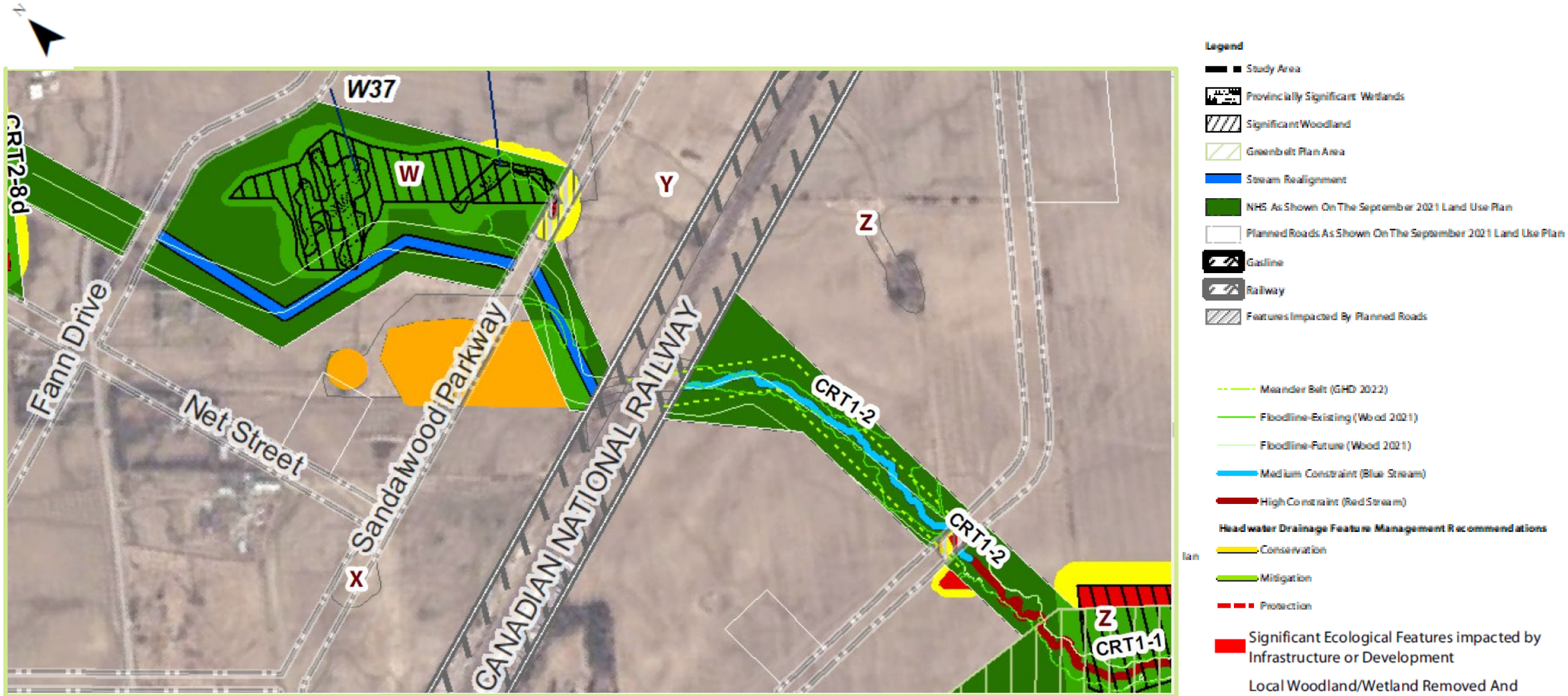
Natural Environment



Natural Heritage Zones surrounding Project Site

Source: HHSWS Phase 2 Appendix F, Summary of Potential Impacts to Existing Natural Features

Natural Environment



Natural Heritage Zones within Project Site

Source: HHSWS Phase 2 Appendix F, Summary of Potential Impacts to Existing Natural Features

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Natural Environment

Terrestrial Studies – June 9 and 10, 2022

- Ecological Land Classification (ELC) and Plant List Collection of species previously identified
- List of vascular plants observed during the field investigations collected
- Significant Wildlife Habitat (SWH) and Species at Risk (SAR) Habitat were assessed.
  - **No SAR or SWH observed within the Project Site and CN Corridor**
- Wildlife exclusion fencing will be installed during construction of Project



Tree Inventory

Field Investigations Overview

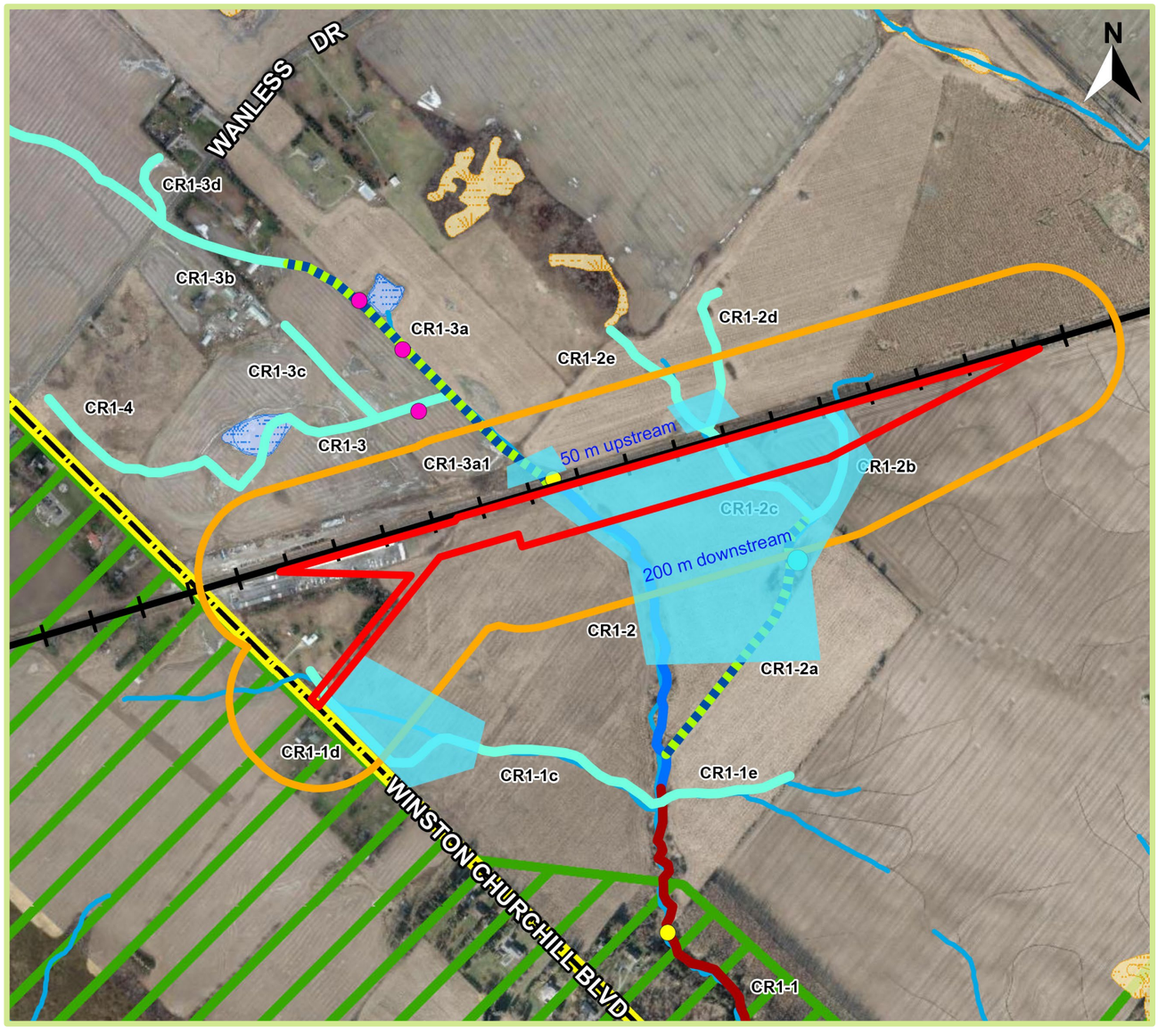
- Conducted on June 9 and 10, 2022
- Tree species, size (all trees ≥10 cm DBH), condition, arborist recommendation, ownership (shared/boundary), and location were recorded within the Study Area
    - Total of 136 trees recorded
- Where applicable, trees were affixed with a pre-numbered aluminum tag for ease of documentation and follow-up works.
- All trees included as part of this assessment were inspected visually from the ground
- The Tree Inventory report will document the methods and results of the field investigations as well as identify impacts on trees within the Project Study Area



Natural Environment

Aquatic Study – July 4, 2022

- Fish and Fish Habitat Assessment to be completed on the three watercourses within the area
- Area of investigation will be 50 m upstream and 200 m downstream where Permission to Enter (PTE) allows
  - Currently no access granted to evaluate downstream components of CR1-2,-2b, -2c, nor upstream and downstream of CR1-1d
- Single pass electrofishing survey on data deficient watercourses to provide an updated fish species list and abundance as community records are older than ten years
- Existing habitat conditions will be documented and mapped



LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Approximate Aquatic Field Work Location

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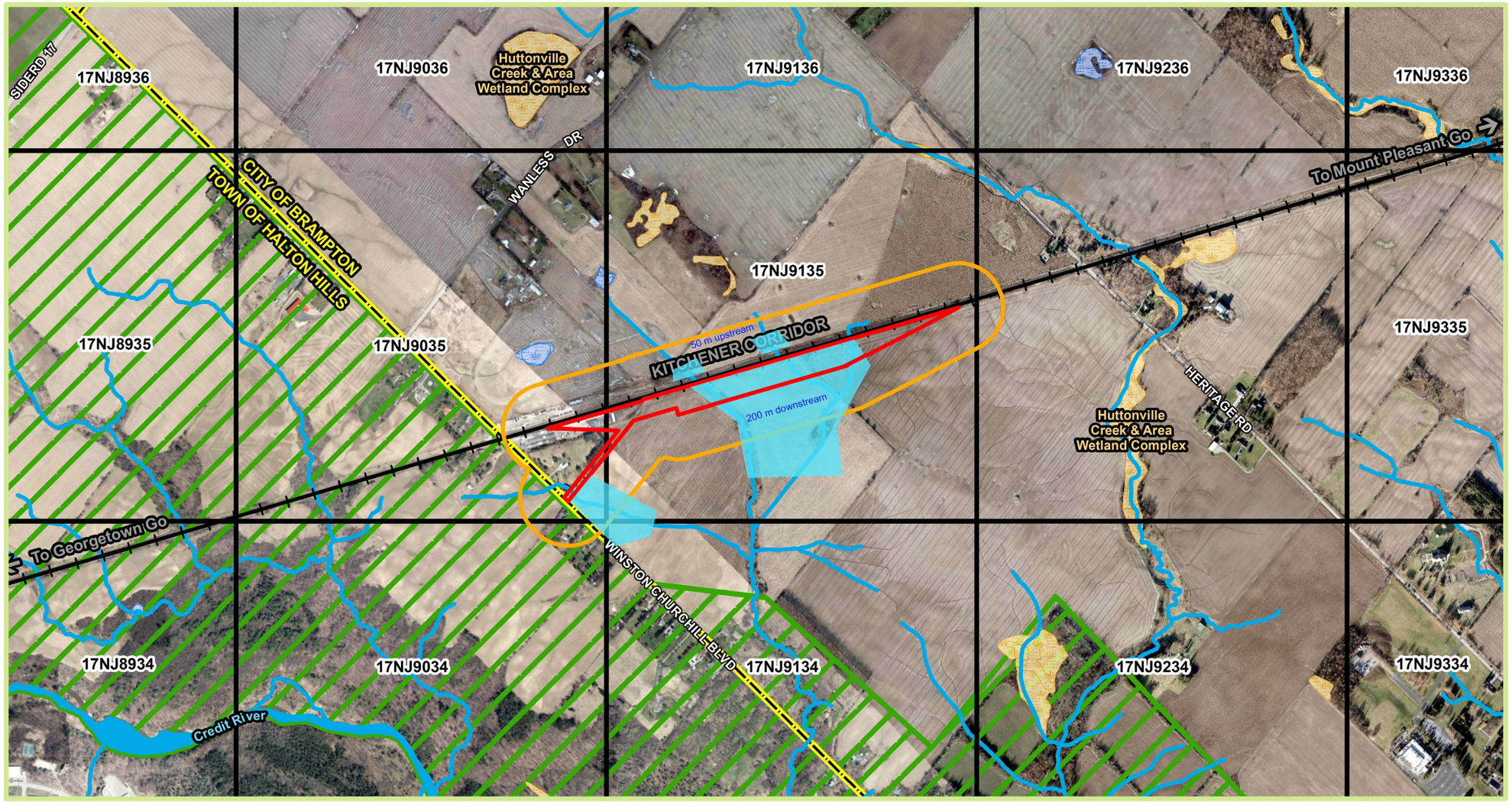
Natural Environment

Aquatic Study – Regional Context



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LEGEND

- Project Site
- Study Area (Project Site, 120 m buffer)
- NHIC Squares (labelled with ID)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Approximate Aquatic Field Work Location

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Heritage Road Layover SWM Study

Study Overview

- Assess site grading and drainage requirements with proposed site development
- Survey existing SWM conditions on Project Site
- Carry out additional SWM analysis for CN corridor from Project to existing track connection
- Provide information regarding run-off and flow rates, preliminary and detailed storm design
- Calculate surcharges to existing storm system, catchment delineation, stormwater model development and drainage path analysis
- Channel realignment and enclosure of watercourses on Project Site will be demonstrated through hydraulic modelling and analysis
- Propose methods for controlling quality of run-off discharge and mitigation measures outlined in SWM policies, including from City of Brampton and Credit Valley Conservation
- Mitigation plan to address flooding, watercourse erosion, SWM quality, water balance, and Source Water Protection Policies

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Heritage Road Layover SWM Study

Modelling Assumptions and Limitations

- Utilizing information from the existing 2017 subwatershed study as base
- Dual drainage concept (major and minor storm systems)
- Hydrological analysis based on required storm events for 2 year to 100 year and regional storm for post to pre-development Catchment analysis will be based on the Heritage Heights Subwatershed Study Phase 1 (2021) carried out by Wood
- Major system to be designed to attenuate excess flows exceeding the capacity of the minor system up to 100 year 24-hour design storm prior to discharge
- Minor system is designed using the 2-year storm event in the combination of onsite stormwater management (SWM) facilities with quantity controls
- On site SWM facility design to be accordance with Ministry of the Environment, Conservation and Parks (MECP) guidelines
- Water quality treatment (Oil Grit Separator and Infiltration facilities) to be provided in order to meet Enhanced Level of Protection (Min. 80% Total Suspended Solid removal) in storm water runoff as required by Credit Valley Conservation (CVC) and MECP
- The project site is located within Low Volume Groundwater Recharge Areas (LGRA). The criterion for a LGRA by CVC requires a minimum post development recharge of the first 3mm for any precipitation event.
- The minimum erosion control requirement for all watercourses within CVC's jurisdiction is retention of the first 5mm of every rainfall event.

Heritage Road Layover SWM Study

Mitigation Measures

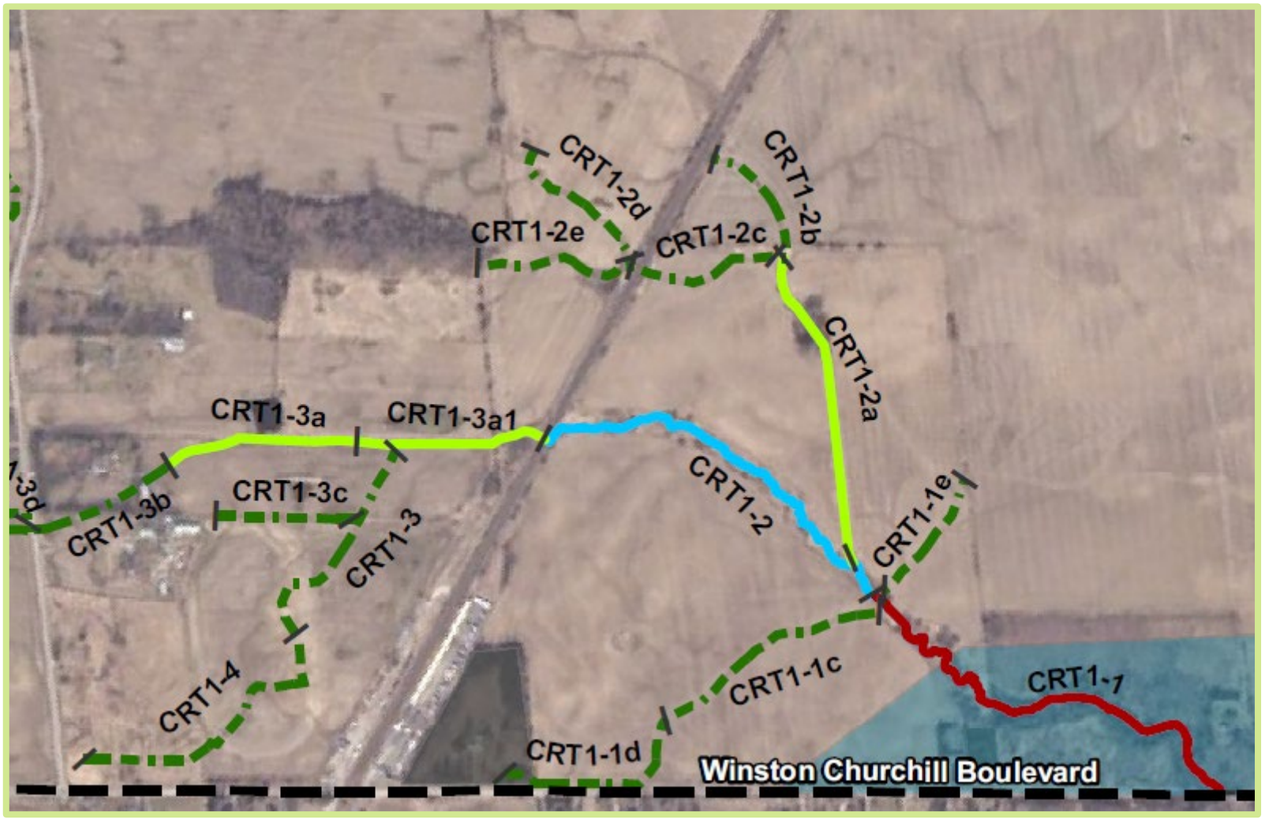
- Erosion and Sediment Control Plan in accordance with:
  - MECP Stormwater Management Planning and Design Manual (2003)
  - TRCA Erosion and Sediment Control Guideline for Urban Construction (2019)
- Quality and quantity control strategy development
- Spill Prevention and Response Plan in accordance with EPR commitments
- Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models
- Requirement that Source Water Protection Polices such as a Salt Management Plan be developed by Constructor

Heritage Road Layover SWM Study

Monitoring Measures

- Grab samples conducted for pre-construction, during construction, and post-construction, during non-precipitation and precipitation events
    - Turbidity levels within discharges from sites to be monitored visually, as well as upstream and downstream of site at watercourse crossings or adjacent watercourses, and within receiving storm sewers
- Post-construction monitoring of wetland areas may be required
- Monitoring of any potential oil spills and containment will be conducted as per provincial requirements
- Functionality of stormwater quantity controls including peak flows and water levels for storm events within the design range
- Infiltration targets measured by flow monitoring on infiltrative Low Impact Development (LID) Best Management Practices (BMPs)
- Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS) removal

Heritage Heights Subwatershed Study



Legend

- Study Area
- Mount Pleasant Heights Lands
- Greenbelt Plan Area
- Land Access Unavailable
- Reach Break
- HDF Under Study

Headwater Drainage Feature Management Recommendations

- Conservation 3,523 m
- Mitigation 7,613 m
- Protection 3,292 m
- No Management Required 16,152 m

Medium and High Constraint Stream Designation

- High (Red Stream)
- Medium (Blue Stream)

- Watercourses within Project Site:
  - CRT1-2b
  - CRT1-2c
  - CRT1-2
  - CRT1-1d (Access Road)
- CRT1-3a1 in close proximity on north side of CN Corridor and CRT1-2a in close proximity south of Project Site
- No Redside Dace habitat within Project Site or connecting watercourses

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Heritage Heights Secondary Plan

Schedule 52 - 7 Land Use Structure



LEGEND

- Secondary Plan Area
- Existing Street Network
- Proposed Grand Boulevard
- Proposed Street Network
- Existing Rail Line
- Fire Station
- (ES) Elementary School
- (SS) Secondary School
- (SWM) Stormwater Management Facilities
- (NP) Future Neighbourhood Parks
- Greenbelt Area-Protected Countryside
  Note:Any lands within the Provincial Greenbelt Area are not part of the Urban Area and are subject to the policies of the Greenbelt Plan
- Natural Heritage System
- Community Parks
- Mixed Use Area 'A' - Major Institutional
- Mixed Use Area 'B' - The Grand Boulevard
- Mixed Use Area 'C' - Edges
- Mixed Use Transitional
- Neighbourhoods
- Light Industrial

City of Brampton's Heritage Heights Secondary Plan – approved by council April 6, 2022

- Project falls within the Heritage Heights Secondary Plan Heritage Heights South Precinct
- Natural Heritage System component shown in the central portion of the layover Project Site
- SWM facilities situated north of the CN Corridor
- Street crosses the CN Corridor at the eastern limit of the proposed layover

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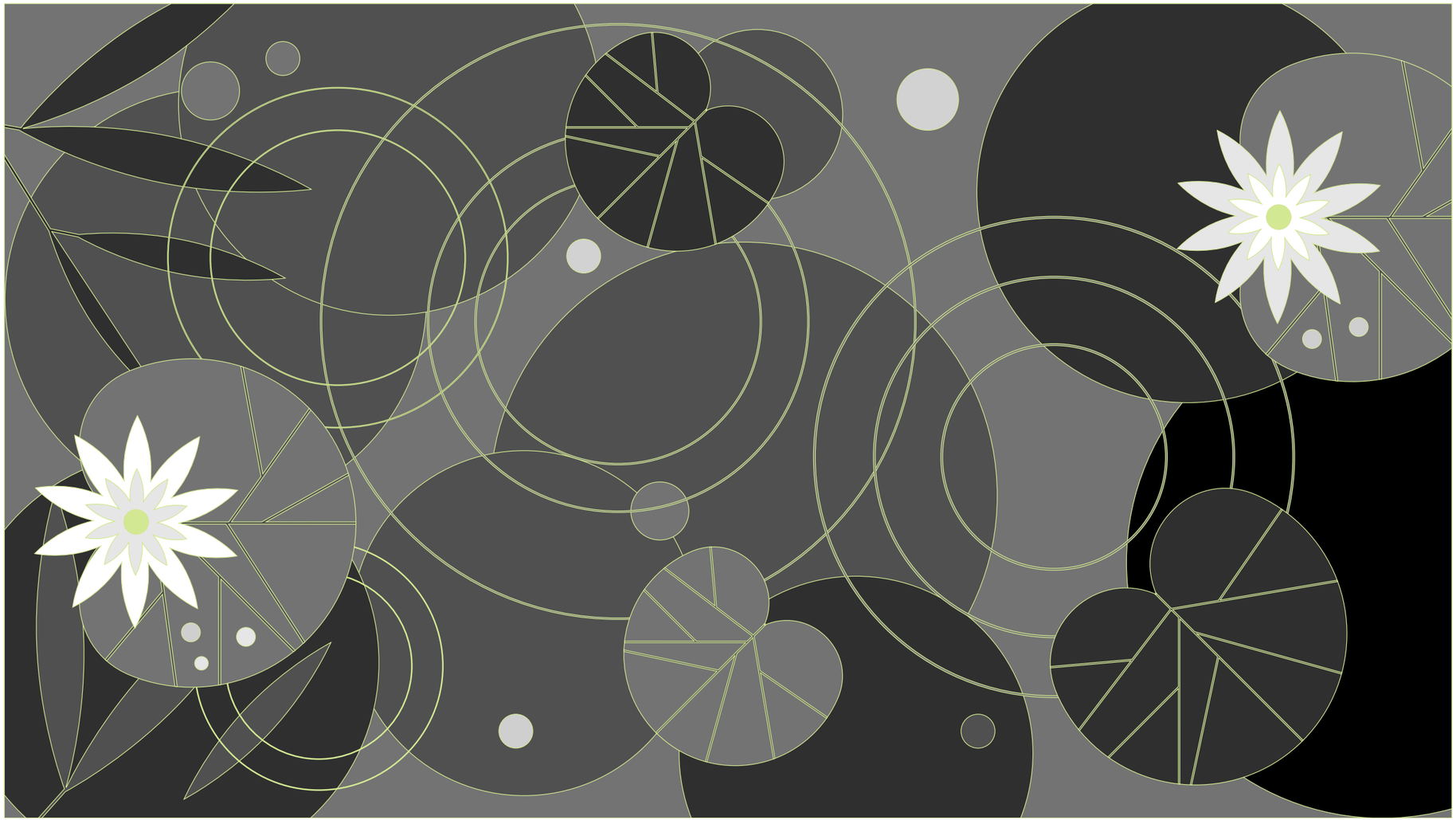
Permits & Approvals - Discussion

- Currently there is no municipal water, wastewater, or stormwater infrastructure in place to service the project.
- The Heritage Heights Secondary Plan will guide future urban development in the westerly portion of the municipality, including the Project Site. As plans are advanced for future municipal water, sanitary, and storm servicing these will be reviewed during detailed design.
- Metrolinx will engage with Credit Valley Conservation to incorporate their requirements as a best practice, where practical, and may obtain associated permits and approvals or engage in a Voluntary Project Review where applicable.
- Communication and engagement with Credit Valley Conservation will continue as design and construction planning progress to address matters related to their mandate.

Permits, Licences and Approvals	Regulatory Authority	Legislation & Regulation
Municipal		
Tree Preservation By-law, for any properties that are not Metrolinx owned, where applicable.	Municipality	City of Brampton By-law 317-2012
Road Occupancy Permit	Regional Municipality	Region of Peel
Credit Valley Conservation		
Voluntary Project Review	Conservation Authority	Ontario Regulation 155/06

Discussion and Questions



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Heritage Road Layover
Stormwater Management Meeting Minutes

Meeting title:	Heritage Road Layover - Stormwater Management Discussion with Metrolinx, Wood, City of Brampton, and Credit Valley Conservation Authority
Date:	June 28, 2022
Time:	13:00 – 14:30 EDST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
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Kumar Ranjan	City of Brampton	Kumar.Ranjan@brampton.ca

Item	Details	Action By	Delivery Date
1	**Land Acknowledgement** **Safety Moment** • Giant Hogweed – Invasive Species and Symptoms **Round Table Introductions**		
2	**Project Overview** • Heritage Road Layover (HRL) strategically located midway between the Georgetown and Mount Pleasant GO Stations to support service expansion on GO Kitchener Corridor • Project Site is situated south of the CN Halton Subdivision portion of the GO Kitchener Corridor between Winston Churchill Boulevard and Heritage Road in the City of Brampton • Train layover allows for storage for trains during periods of lower service frequency, and train servicing and light maintenance • Surrounding areas are planned for development as identified in the Heritage Heights Secondary Plan (approved by City of Brampton Council on April 6, 2022) • Project totals approximately 5 hectares (50 000 m2)		
3	**TPAP Schedule** • Currently at 90% EPR and 60% Detailed Design for Project • Notice of Completion is July 22, 2022, with 30-Day Public Review of the EPR until August 20, 2022		
4	**Detailed Design** • Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train • Site set-up flexibility to alternatively accommodate up to eight 1 locomotive and 6 coaches per train • Access road entrance from Winston Churchill Blvd. • Connection to Kitchener Corridor mainline track at eastern portion of site • Design shifted 40 m west to accommodate Heritage Heights Secondary Plan • 3 culverts in the Project Site connecting current watercourses from the existing ditch south of the CN corridor and 2 culverts on the access road		
5	**Field Investigations** • Topographical Survey was completed from May 24 to May 30 • Not all areas of the Project Site are accessible due to lack of PTE from several adjacent properties • Natural Environment: ○ Confirmational Ecological Land Classification and Plant List Collections, Significant Wildlife Habitat and Species at Risk (SAR) Habitat Assessment, and Tree Inventory were completed on June 9 and 10, 2022		

	▪ No SAR or SWH observed within the Project Site and CN Corridor ▪ Wildlife exclusion fencing will be installed during construction of Project ▪ Total of 136 trees recorded within Project Site ▪ Metrolinx will adhere to the Vegetation Guideline (2020) at minimum, while working with the City, CVC, Rights holders, and other Stakeholders o Fish and Fish Habitat Assessment scheduled for July 4, 2022 ▪ Area of investigation will be 50 m upstream and 200 m downstream where Permission to Enter (PTE) allows ▪ Currently no access granted to evaluate downstream components of CR1-2,-2b, -2c, nor upstream and downstream of CR1-1d ▪ Single pass electrofishing to provide an updated fish species list • Geotechnical Study and Groundwater Monitoring and Phase II ESA fieldwork and reporting are to be completed in July/August 2022		
6	**Heritage Road Layover SWM Study** • Survey existing SWM conditions on Project Site and carry out additional SWM analysis for CN corridor from Project to existing track connection • Channel realignment and enclosure of watercourses on Project Site will be demonstrated through hydraulic modelling and analysis • Propose methods for controlling quality of run-off discharge and mitigation measures outlined in SWM policies, including from City of Brampton and Credit Valley Conservation • Utilizing information from the existing 2017 subwatershed study as base • On site SWM facility design to be accordance with Ministry of the Environment, Conservation and Parks (MECP) guidelines • Mitigation plans: o Erosion and Sediment Control Plan to be developed in accordance to MECP Stormwater Management Planning and Design Manual (2003) and TRCA Erosion and Sediment Control Guideline for Urban Construction (2019) o Spill Prevention and Response Plan to be development in accordance with EPR commitments o Requirement that Source Water Protection Polices such as a Salt Management Plan to be developed by Constructor • Monitoring measures include sampling during different phases of construction, reviewing functionality of stormwater quantity controls during peak flows and water levels for		

	storm events, and Low Impact Development Best Management Practices		

7	**Heritage Road Layover Subwatershed Study**
	• Evaluation of the watercourses throughout the entire Heritage Heights area
	• Watercourses within and near Project Site:
	  o CRT1-2b (right portion of site)
	  o CRT1-2c (right portion of site)
	  o CRT1-2 (left portion of site)
	  o CRT1-1d (across the proposed Access Road)
	  o CRT1-3a1 (close proximity on north side of CN Corridor)
	  o CRT1-2a (close proximity on south of Project Site)
	• No Redside Dace habitat within Project Site or connecting watercourses		

8	**Heritage Heights Secondary Plan** • Approved by council on April 6, 2022 • Project Site is within the Heritage Heights Secondary Plan, Heritage Heights South Precinct, with Natural Heritage System shown in central portion of the Project Site • SWM facilities situated north of the CN Corridor and a proposed street (Tennis Street) crosses the CN Corridor at the eastern limit of the proposed layover		

9	**Permits & Approvals**
	• Currently there is no municipal water, wastewater, or stormwater infrastructure in place to service the project
	• Permits:
	  o Tree Preservation By-law, for any properties that are not Metrolinx owned, where applicable as per City of Brampton By-law 317-2012
	  o Road Occupancy Permit for the Region of Peel
	  o Voluntary Project Review by Credit Valley Conservation as per Ontario Regulation 155/06		

10	**Questions and Discussion**
	• Comment (City of Brampton) – No major concerns with vegetation compensation as presented however the Environmental group will be better positioned to comment. Please share the presentation and information with the Environmental group.
	  o Action – Share the final presentation deck with all meeting invitees
	• Comment (Metrolinx) With the Notice of Completion scheduled for July 22, 2022, Metrolinx would like comments by mid-July in order to capture them in the TPAP documentation. Discussions will continue on beyond the TPAP period.
	  o Action – provide comments by mid-July
		MX
		
		CoB
			June 26, 2022
			
			Mid-July

	• Question (CVC) – Are the natural environmental studies still planned for the project necessary given the existing information in the Heritage Heights Subwatershed plan? Also, will these studies have any potential to change/effect the design. CVC prefers an avoidance first principle for fish habitat.
	  ○ Answer (Wood) – The fieldwork for the subwatershed study was extensive however it is dated. The aquatic fieldwork scheduled for July 4th will review the footprint specifically and determine habitat values. We recognize that moving the watercourse into a culvert is a net loss of ecological value and fish habitat. A Request for Review (RFR) will be submitted to DFO following the aquatic fieldwork and the Letter of Advice will be incorporated into mitigation and monitoring requirements.
	• Question (CVC) – Since the subwatershed study (also completed by Wood) does not include the HRL project there should be a focus on any flooding or erosion hazard that will be added. Note that land-use both up and downstream will be impacted by the Regional storm, not just 100 year. Will the proposed HRL structure be impacted by the planned upstream SWM ponds.
	  ○ Answer (Metrolinx) – Metrolinx doesn't have the ability to upgrade the existing culverts under the CN right of way. This is the limitation for HRL, not upstream.
	  ○ Answer (Wood) – The drainage requirements and culvert sizing for the Project Site are tied to the constraint .posed by the CN culverts
	• Question (CVC) – When you lengthen the culvert it causes more friction which can have upstream impacts. Is one of the Wood teams (Heritage Heights or HRL) reviewing this?
	  ○ Answer (Wood) – The culverts under the CN corridor are not being extended, there is a gap between them and those under the HRL. The software that is being used for the design calculates issues such as friction.
	• Question (CVC) – The area where the HRL is placed has been identified as compensation for the impacts of the development upstream. The City of Brampton would need to update their work to incorporate it.
	  ○ Answer (Metrolinx) – Although Wood is working on both projects they are being completed by different teams. Metrolinx is focused on HRL and its direct impacts. The City may need to address items related to HHSP. As part of the wider natural heritage system Metrolinx can discuss offsetting outside of the project footprint boundaries.
	  ○ Answer (City of Brampton) – Brampton is not in a position to expand the subwatershed study at this time.		

	○ Answer (Metrolinx) – Metrolinx can work with the City to address CVC upstream concerns but the HRL project is specifically focused on downstream impacts. ○ Answer (City of Brampton) – More discussion will be necessary to determine who is responsible to review additional impacts • Question (City of Brampton) – Which documents have been shared? ○ Answer (Metrolinx) – So far the draft NER and EPR documents have been circulated. SWM Report is in development as pending field studies are required. SWM will not be available as part of the TPAP. • Question (Wood) – Confirmation of contacts for CVC and CoB relating to any SWM or design issues. ○ For City of Brampton direct questions through Frank Mazzotta until an Environmental Engineering group key contact is identified. ○ For CVC direct questions through Jakub Kilis. ○ Wood can initiate contact directly but keep Metrolinx copied on all correspondence. • Question (Wood) – Can internal data resources be shared within Wood relating to the HHSP or does data need to be requested from the city? ○ Answer (City of Brampton) – Wood can share any existing internal resources with the HRL project. • Comment (City of Brampton) – As previously discussed the road crossing (Tennis St.) can be accomplished while working directly with CN. Natural heritage system issues will be directed to CVC and the Environmental Engineering group at City of Brampton. ○ Metrolinx – Conversations will continue beyond the TPAP to continue addressing any concerns and communication will be maintained throughout the project.		

Adjourn 14:30 ESDT

Appendix I-3b

Transit Project Assessment Process Correspondence Record:

Meetings – Elected Officials

MP Khera's Office
March 28, 2022

Heritage Road Layover pre-PIC #2 Briefing

Welcome to the proposed Heritage Road Layover





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Agenda

1. Round Table Introductions
2. Land Acknowledgement/Safety Moment
3. Project Summary
4. Previous Feedback
5. TPAP Schedule
6. Environmental Studies

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Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

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Safety Moment – Vehicle/Deer Safety

While Driving

- Stay aware, awake, alert, and sober
- Be especially alert in spring and fall, but car-deer crashes occur all year-round
    - More common during dusk and dawn
- Heed deer crossing and speed limit signs
- Deer frequently travel in groups, if you see one deer crossing or standing alongside the road, there may be others nearby
- Flashing high-beam headlights or honking your horn will not deter deer



If a Crash is Unavoidable

- Don’t swerve! Stay in your lane
- Brake firmly and hold onto the steering wheel
- Bring vehicle to a controlled stop

After a Crash

- Pull off the road and turn on emergency flashers. Be cautious of other traffic
- Do not attempt to remove deer from roadway
- Report a crash to the nearest police agency and insurance company

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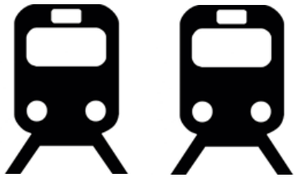
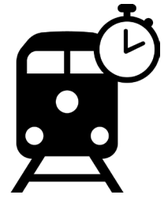
The right investment at the right time; GO Rail Expansion will enable:



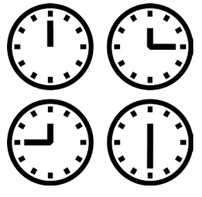
MORE TRIPS

6000 weekly trips
2x as many rush-hour options. **3x** as many off-peak options.



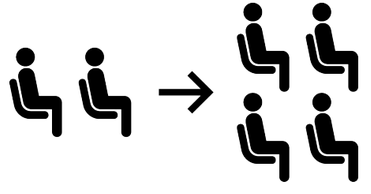
FASTER TRAVEL

Electric trains **accelerate and decelerate faster.**
Introduction of **additional express** services.



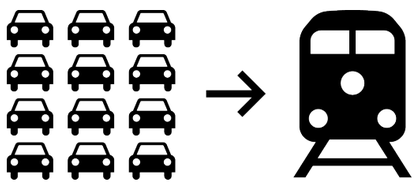
HIGH FREQUENCY

No need to check a schedule with service **every 15 minutes** or better, in both directions, all day



MORE CAPACITY

Doubling regional commuter capacity equivalent to **nine highways the size of the 401**



REDUCED CONGESTION

More trains = reduced congestion across the **region, taking close to 145,000 car trips per day, off the road.**



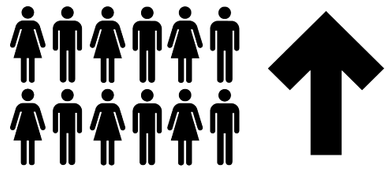
CREATE JOBS

An estimated **8,300 annual jobs** created for the first 12 years of delivery will be created over the lifecycle of the program.



SAVES TAXPAYERS MONEY

All operating costs covered with fare box revenue. **GO Rail revenues will exceed 110%** of operating costs over the next 60 years.



INCREASED RIDERSHIP

More options and faster trains will increase peak and off-peak service. **By 2055, annual ridership will exceed 200 million.**

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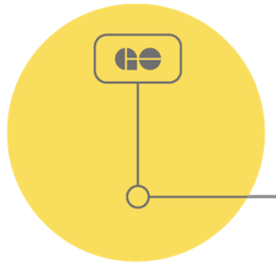
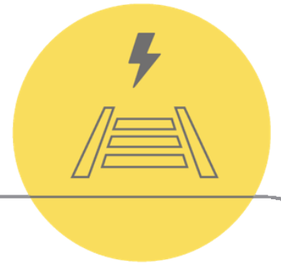
GO Expansion

42 upgraded stations



205 kilometres of new track

687 kilometres of electrified track



6 new maintenance and storage facilities

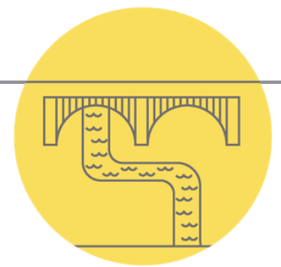


Trains running up to **29% faster** with **60%** lower operating costs per kilometre



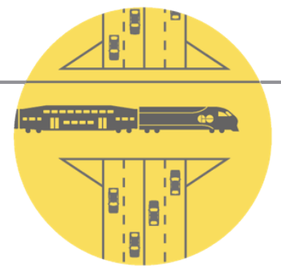
14 bridges upgrades

11 pedestrian and river grade separations

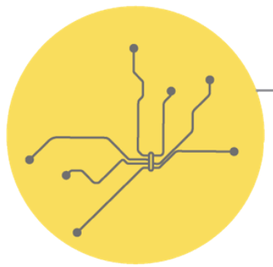


2 rail/rail grade separations

11 road/rail grade separations



Two-way, all-day service across **5** GO Rail lines



with over **6,000** services per week

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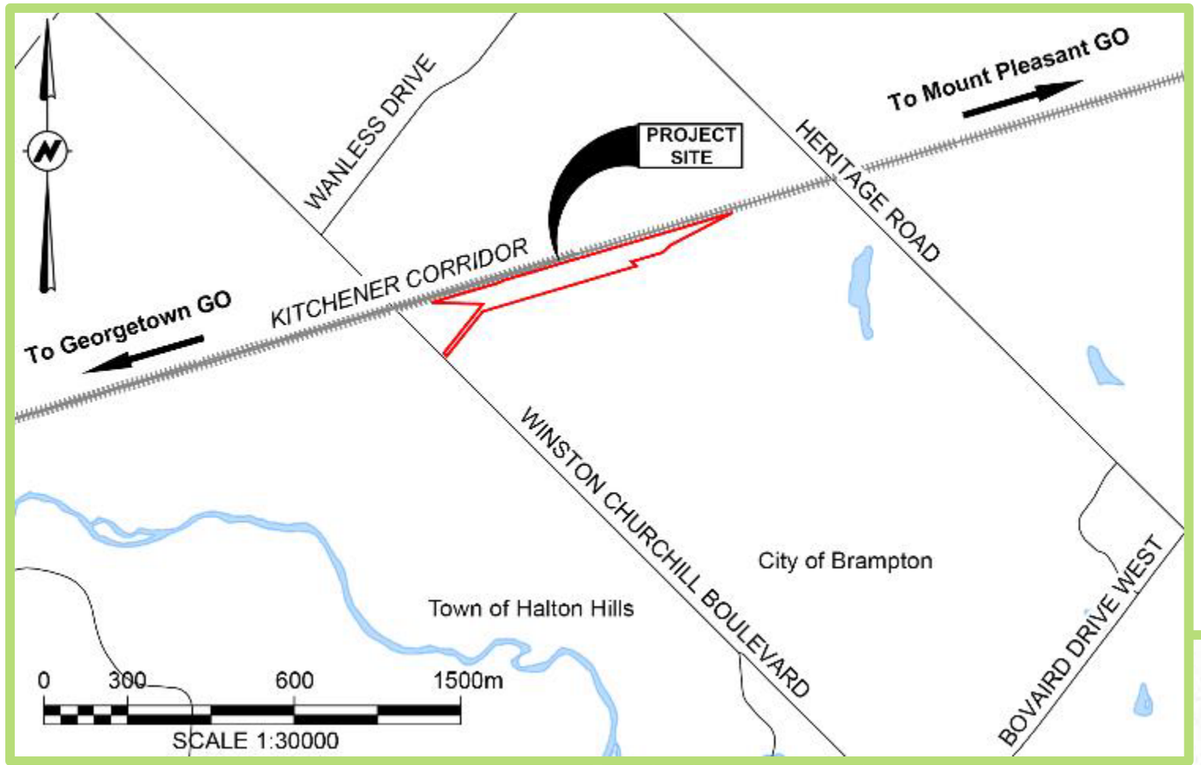
Heritage Road Layover – Project Overview



Location of Project Site on the Kitchener Corridor (above) and regionally throughout the Greater Toronto and Hamilton Area (right).

- The layover will be strategically located on the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station, between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.
- A train layover is a support facility that provides:
    - Overnight and potential midday storage for trains
    - Access to trains for crews to perform inspection and light maintenance activities when trains not in service



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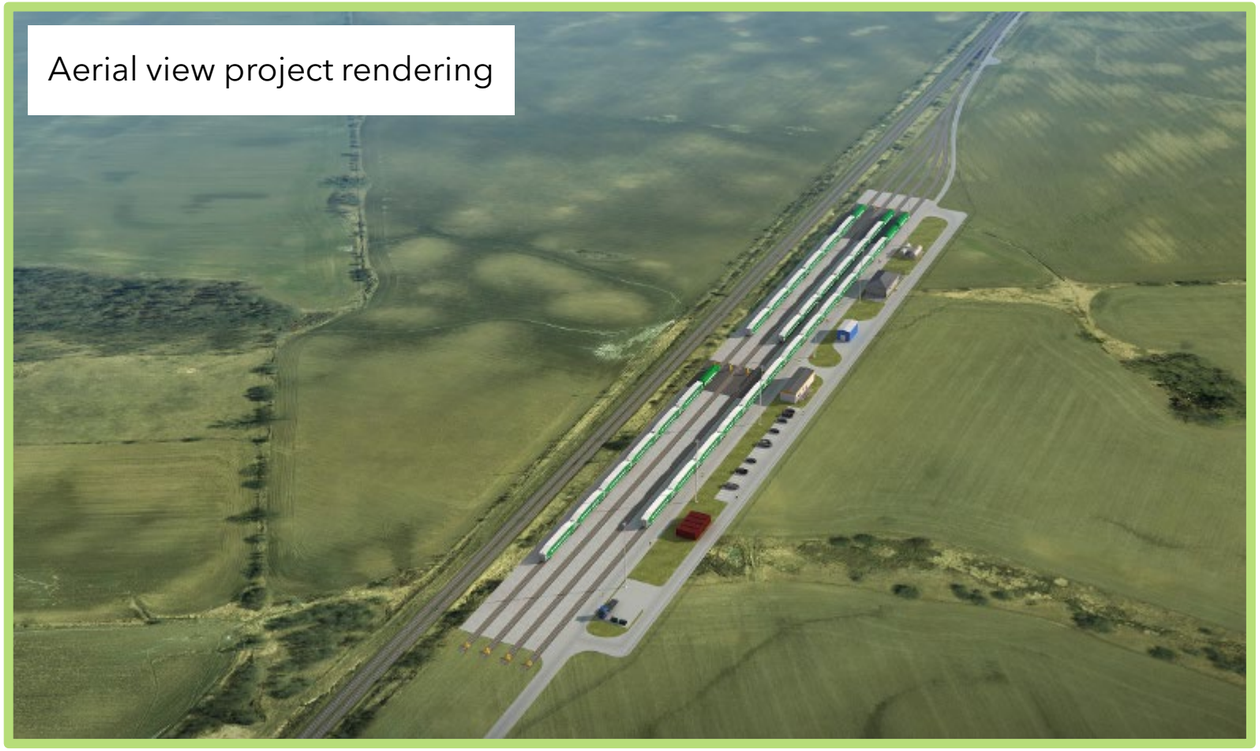
Heritage Road Layover - Renderings





- Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan (see Socio-Economic section for details).
- Various upgrades to the existing road and highway network are planned in concert with the planned growth.

Design Elements

- Four tracks in total, with each track being able to accommodate up to:
    - One train with two locomotives and 12 coaches; OR
    - Two trains with one locomotive and 6 coaches
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track at eastern portion of site



Aerial view of Project Site and surrounding landscapes

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Transit Project Assessment Process (TPAP) Schedule

Pre-TPAP Phase
(Sept 2021 – March 2022)

Prepared background studies and impact assessments

Prepared preliminary and early detail designs

Engaged with Indigenous Nations

Consulted with Stakeholders and the Public

Documented findings from background studies and prepared draft Environmental Project Report (EPR) which included:

- Description of transit project
- Assessment and evaluation of impacts and proposed mitigation measures

Virtual Public Information Centre #1 – January 12 to January 26, 2022

TPAP Phase – Up to 120 Days
(March – Summer 2022)

Document updated findings in Final Draft EPR

Engage with Indigenous Nations

Consult with Stakeholders and the Public

WE ARE HERE

Notice of Commencement – March 24, 2022

Virtual Public Information Centre #2 – April 6 to April 20, 2022

Notice of Completion & EPR – Summer 2022

Post-TPAP Phase
(Summer – Fall 2022)

30-Day Public Review of EPR – Summer 2022

Objections / No Objections Submission

35-Day Minister's Review / Decision – Fall 2022

Minister Gives Notice

1. Proceed
2. Proceed with Conditions
3. Must Conduct Additional Work

Statement of Completion to MECP

Proceed with procurement and construction.

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Feedback & FAQs from Public Information Centre #1

Between January 12 and January 26, 2022, Public Information Centre #1 (PIC) was virtually hosted. The following questions and concerns were raised:

- Mitigation of any effects of noise and vibration on surrounding areas.
- Train idling time at the facility.
- Mitigation of any effects on air quality in the surrounding area, including receptors utilized for monitoring.
- Disturbance of the McNichol Cemetery during construction and/or operations.
- Engagement with community, including City of Brampton, Town of Halton Hills, Credit Valley Conservation, and property owners.
- Integration of the Project with the aesthetics of the surrounding area and cohesion of the DRAFT Heritage Heights Secondary Plan during the Detailed Design phases of the project.
- Number of trains supported at the facility (4 trains with 2 locomotives and 12 cars or 8 trains with 1 locomotive and 6 cars) to account for current and future operations and optimize the Kitchener GO Expansion.
- Activities at the layover, including information regarding storage and light maintenance such as daily visual inspections for defects or damage, cleaning, sanitary flushing, and refueling of trains.

All questions and responses from PIC#1 are available on Metrolinx Engage: https://www.metrolinxengage.com/en/content/heritage-road-layover-ask-question

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Transit Project Assessment Process (TPAP) Studies

A number of technical studies were completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies are:

- Air Quality
- Archaeology
- Natural Environment*
- Noise & Vibration*
- Cultural Heritage
- Tree Inventory Plan*
- Traffic & Transportation
- Socio-Economic and Land Use Characteristics

The following pages present the study baselines along with key mitigation and monitoring measures that will be implemented for the project. Further details can be found in the technical reports as they become available.

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

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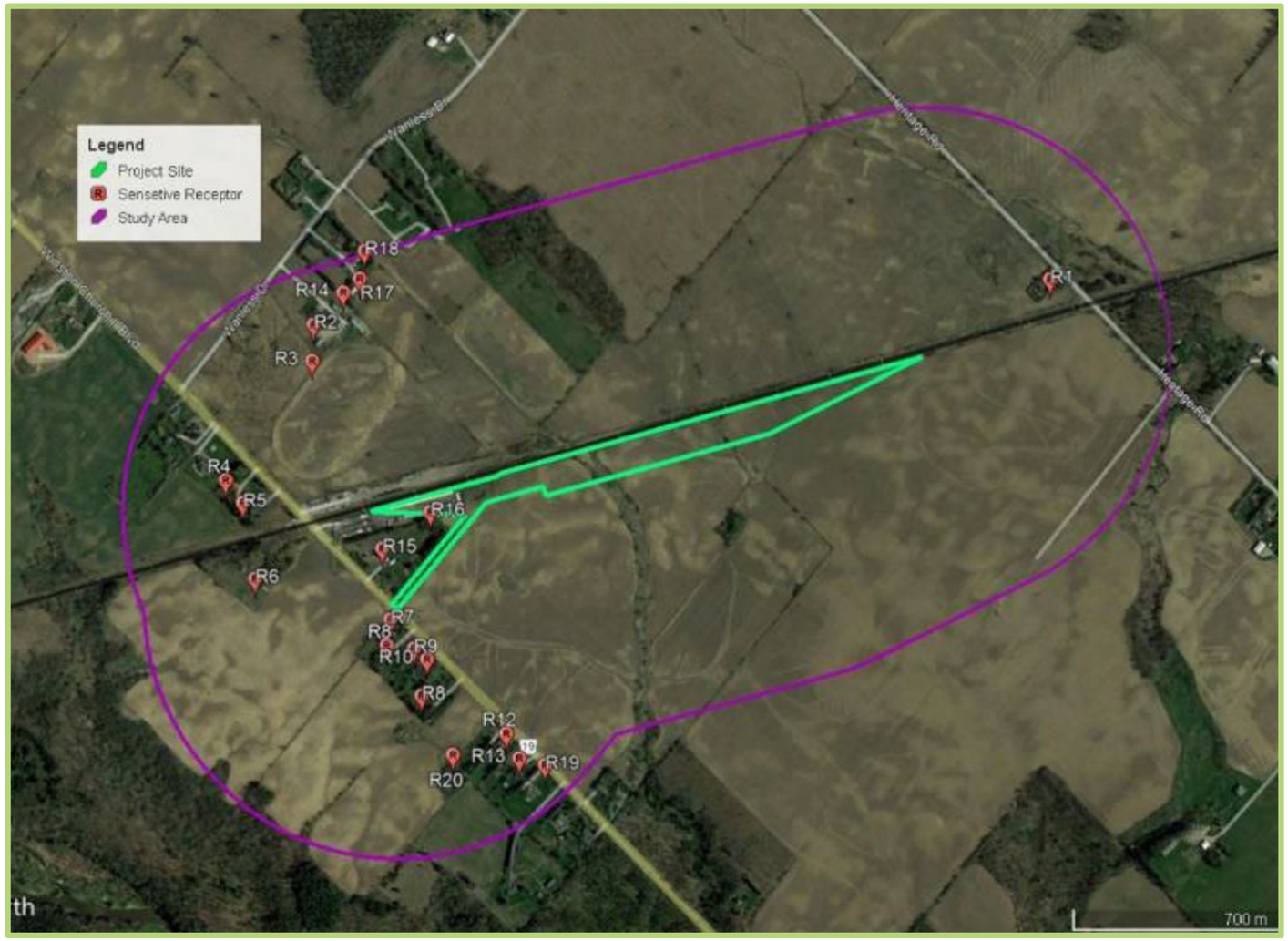
Air Quality

Study Highlights



Sensitive receptors within Study Area of the Project

- Determines the air quality impacts generated as part of construction and operation of the Project and develops mitigation strategies for any issues
- Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area, which were residences
- Considered contaminants include:
  - Particulate matter
  - Criteria air contaminants (nitrogen dioxide, carbon monoxide, sulphur dioxide)
  - Volatile Organic Compounds (VOCs)
  - Odorous contaminants
- Sources of air pollution in the area include:
  - Traffic on local arterials and railroads
  - Residential, institutional, and commercial heating
  - Transboundary sources
- Air quality monitoring stations in similar surrounding land uses and close to the Project Site established baseline air concentrations

Air Quality

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction related air pollution may pose risks to human health and wellbeing	• Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan (AQMP). • Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. • Dust prevention and control methodologies not limited to: ○ Proper maintenance of equipment and vehicles ○ Minimizing size of active areas on storage piles ○ Usage of non-chemical dust suppressant to reduce dust emissions from temporary unpaved roads or parking lots	• Develop and implement Weekly Air Quality Monitoring Plans that document how air quality monitoring has been conducted and compliance assessed to effectively prevent unacceptable rates of air emissions in accordance with the following guidelines. • Monitor placement should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks (MECP) Operations Manual for Air Quality Monitoring in Ontario (2018).
Operations related exhaust emissions of diesel powered trains contribute to local and regional air pollution.	• A detailed Operations AQMP will be developed and implemented to limit the generation and dispersion of airborne particulate matter, nitrogen oxides and other air contaminants associated with the project operations. • Unnecessary train / engine / propulsion system idling will be minimized through technical and operational measures.	• On-site inspections will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • Annually, test train propulsion and auxiliary power units, which produces exhaust emissions and ensure that they remain in compliance with applicable emission standards. • Develop an Air Sampling and Monitoring Plan and submit an annual report summarizing all sampling and monitoring results accumulated over the preceding year.

Noise and Vibration

Study Highlights



Location of four sensitive receptors for baseline condition monitoring

- Reviews construction and stationary sources of sound that will be produced from the Project
- Study Area extends 500 m from Project Site
- Construction phase was modelled based on construction activities and assumed equipment that will likely be utilized for the Project
- Operations phase was monitored on stationary noise and vibration sources for the layover-built scenario
- Baseline conditions at four identified representative sensitive receptors have been measured for a total of one month
- Major sources of existing noise include rail traffic from CN freight, VIA Rail, GO trains, and road traffic
- During construction, noise increases are anticipated to be temporary in nature and considered short-term nuisance to nearby residents

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Noise and Vibration

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
The predicted sound indicate that it is feasible to operate most construction equipment within MECP limits. Vibration levels from the construction equipment are not expected to affect the receptors in the Study Area.	The following are recommended to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas.	• Construction activities will be monitored by a qualified Environmental Inspector.

Traffic and Transportation

Study Highlights

- Reviews traffic in the surrounding community and during construction and operations of the Project
- Construction activities anticipated to commence in 2023 and finish in winter 2025
- Road traffic effects during construction are expected to be minimal given the predominantly rural location of the Project Site and the forecast background traffic levels. They may include:
    - Queues at the level crossing on Winston Churchill Boulevard may stretch back to access road entrance
    - Occasional temporary (e.g. less than 15 min) lane closures during construction and utilization of access road
- No current or planned transit services operating on Winston Churchill Boulevard or Heritage Road
- During operation, traffic levels in and out of the Layover are anticipated to be minimal



Level train crossing at Winston Churchill Boulevard.

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Traffic and Transportation

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction may result in the need for temporary road or lane closures changing access to nearby land uses	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Access to nearby land uses will be maintained to the extent possible. Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur. • Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period. • Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjust as necessary during the construction period.

Stage 1 Archaeological Assessment

Study Highlights

The Stage 1 Archaeological Assessment report summarized existing archaeological information and recommended a Stage 3 Archeological Assessment to be completed on a portion of the Project Site by licensed professional archaeologists in spring or summer 2022.

- Engagement with Indigenous Nations required during Stage 3 Archaeological Assessment



Location of previous archaeological studies within the Study Area for the Heritage Road Layover

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Stage 1 Archaeological Assessment

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Completion of Stage 3 Archaeological Assessment • If archaeological materials are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot will be protected from impact an assessment is completed by a professionally licensed archaeologist. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments (ie. Stage 2, 3, 4 as required) will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. • If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted. • All Archaeological Assessment findings will be shared with Indigenous Nations, as per Metrolinx procedures.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Cultural Heritage

Study Highlights



Location of cultural heritage resources with proximity to the Project Site

- Three (3) cultural heritage resources identified:
  - CHR1: Cultural heritage landscape (McNichol Cemetery)
  - CHR2: Built heritage landscape (private residence)
  - CHR3: Built heritage landscape (private residence)
- City of Brampton is currently in the process of heritage designation for the McNichol Cemetery
- Completed a preliminary impact assessment for any identified and proposed heritage properties within the Study Area and surrounding streets

Cultural Heritage

Mitigation Measures

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No adverse impacts anticipated.	• Proposed work should be planned in a manner that avoids the cemetery and should be clearly demarked on project drawings
CHR2 (Private property)	Isolation from its surrounding environment, context, or a significant relationship.	• Proposed work should be planned to maximize the buffer between the access road/layover facility and the residential property. The property and should be clearly demarked on project drawings as a "potential heritage property" • Post-construction landscaping should be planned to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.



CHR1: Rail crossing near McNichol Cemetery



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

Socio-Economic and Land Use Characteristics

Study Highlights

A desktop review of existing socio-economic and land use conditions and an assessment to mitigate and monitor measures for construction and operations of Project.

- The Local Study Area (LSA) included the Project Site and surrounding 300 m.
- The broader Regional Study Area (RSA) encompassed Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills.

The following components were evaluated within the report:

- Property
- All land uses and adjacent lands
- Aesthetics / visual characteristic
- Light pollution
- Utilities
- Transportation / traffic

City of Brampton's DRAFT Heritage Heights Secondary Plan

- The LSA falls within the DRAFT Heritage Heights Secondary Plan area which, in the vicinity of the proposed layover facility, consists of low to medium density residential units. It is identified as a high potential mineral aggregate resource area. The figure to the right shows the potential future land use for the area under this draft plan.

* Exact location of streets in adjacent figure is conceptual and subject to refinement through future Precinct Planning for Heritage Heights





DRAFT Heritage Heights Secondary Plan Land Use Structure

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Socio-Economic and Land Use Characteristics

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
All land uses and adjacent lands	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • A Communications Protocol and a Complaints Protocol will be developed during construction	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received
Aesthetics / visual characteristics	Visual effects from construction / operations areas / activities	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	Light trespass, glare and light pollution effects	• Develop a plan to reduce the effects of light pollution with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents and/or businesses. • The lights would be designed to minimize off-site light pollution during operations.	• Number and resolution of complaints received.

Natural Environment

Study Highlights



Aquatic habitats and watercourses within the Study Area and surrounding areas

- The purpose of the study was to identify existing conditions for wildlife and landscape features within the project study area and assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures.
- Based on a desktop review of policies and previous studies relating to the aquatic and land environments.
- Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 and results will be distributed in summer 2022.

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Natural Environment

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• Vegetation removal shall be kept to a minimum and limited to within the construction area.	

Tree Inventory

Study Overview and Example Mitigation and Monitoring Measures

A Tree Inventory Report with recommendations for specific tree removal and tree injury will be completed in spring 2022 after field studies are carried out by an I.S.A Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable.

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Tree / Vegetation removal, injury and protection	• If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adherence to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals.

Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Project. The Notice of Commencement has been issued on March 24, 2022.

The Public Information Centre #2 will go live on Metrolinx Engage on April 6, 2022.

The comment period for Public Information Centre #2 is until April 20, 2022.

Peel Region
Phone: 416-202-7500
Email: peel@metrolinx.com

Halton Region
Phone: 416-938-9930
Email: haltonregion@metrolinx.com

Upcoming Dates

Summer/Fall 2022:

- 30 Day Public and Stakeholder Review of Environmental Project Report (EPR)
- 35 Day Minister's Review and Decision with Notice to Proceed or Revise
- Statement of Completion





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Heritage Road Layover
EO Briefing Meeting Minutes

Meeting title:	EO Briefing – Heritage Road Layover
Date:	March 28, 2022
Time:	10:00 – 11:00 EDST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Brian Poole	Metrolinx	brian.poole@metrolinx.com
Dara Corrigan	Metrolinx	dara.corrigan@metrolinx.com
Jackie Czajka	Metrolinx	jackie.czajka@metrolinx.com
Stephanie Cardenas	Metrolinx	stephanie.cardenas@metrolinx.com
Bob Felker	Wood	bob.felker@woodplc.com
Louise McAndrew	Wood	louise.mcandrew@woodplc.com
Nadya Mrochkovskaia	Wood	nadya.mrochkovskaia@woodplc.com
Patrick Vaughan	Office of MP Honourable Kamal Khera	
Sydney Waxman	Ministry of Transportation	

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement** **Safety Moment** • Don't Veer for Deer		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO
	• Bramalea GO to Kitchener GO planned for 30 min service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  ○ Network Wide GO Expansion
	  ○ Kitchener GO Expansion		

3	**Overview of Project**
	• Kitchener Corridor consists of 3 sections
	  ○ Union Station to Mount Pleasant GO Station owned by Metrolinx
	  ○ Halton Subdivision from Mount Pleasant GO to Georgetown GO owned by CN
	  ○ Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor
	• Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance
	• Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan
	• Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train
	• Site set-up flexibility to alternatively accommodate up to eight 1 locomotive and 6 coaches per train
	• Access road entrance from Winston Churchill Blvd.
	• Connection to Kitchener Corridor mainline track at eastern portion of site		

4	**TPAP Schedule**
	• The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings
	• A virtual Public Information Centre (PIC#2) is scheduled to commence April 6, 2022
	  o PIC will remain open until April 20, 2022, for interested parties to review materials and comment.
	• Notice of Commencement issued on March 24, 2022.
	• An Environmental Project Report has been prepared to:
	  o Define Project Scope
	  o Baseline Environmental Studies
	  o Conceptual Engineering Design
	  o Impact Assessment / Mitigation
	  o Document engagement and consultation
	  o Future Commitments for additional studies, permitting, and monitoring		

5	**Previous Engagement Sessions**
	• Public Information Centre (PIC #1) was held virtually from January 12 to January 26, 2022
	• Questions and concerns raised from participants included:
	  o Mitigation of effects of noise and vibration
	  o Train idling at facility
	  o Project effects on air quality
	  o Any disturbance to McNichol Cemetery
	  o Engagement with community
	  o Integration of Project design with area aesthetics
	  o Types of maintenance activities at the layover		

6	**TPAP Studies**
	• The Baseline Studies include:
	  o Air Quality
	  o Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area
	  o Consideration of air pollution and contaminants in the area
	  o Mitigation and monitoring measures related to construction and operations to limit the amount of air pollution created by the Project
	  o Noise & Vibration
	  o Study Area extends 500 m from Project Site
	  o Baseline conditions identified at four Representative Sensitive Receptors (RSRs) measures for a total of one month		

	○ Noise increases are anticipated to be temporary during construction ○ Traffic & Transportation ○ Road traffic effects during construction are expected to be minimal due to the predominantly rural nature of the Project Site ○ During operation, traffic levels in and out of the Layover are anticipated to be minimal ○ Archaeology ○ Recommendation of a Stage 3 Archaeological Assessment (AA) to be carried out on portion of the Project Site in spring or summer 2022 ○ Engagement with Indigenous National required during Stage 3 AA as per Metrolinx procedures ○ Cultural Heritage ○ Three Cultural Heritage Resources (CHRs) identified within 50 m of the Project Site ○ Private property (CHR2) adjacent to Project Site may be isolated from its surrounding environment, context, or a significant relationship and mitigation measures will be put into place to reduce these effects ○ No adverse impacts anticipated for any of the properties ○ Socio-Economic and Land Use Characteristics ○ Draft Heritage Heights Secondary Plan shows future low to medium density residential units in the vicinity of the proposed Layover ○ Effects, such as nuisance from construction activities, will be mitigated and monitored ○ Natural Environment ○ Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 ○ Mitigation and monitoring measures should be put into place to reduce disturbance for migratory birds, wildlife, SAR, watercourses, fish and fish habitats, and vegetation ○ Tree Inventory Plan ○ Recommendations for specific tree removal and tree injury will be completed in spring 2022 ○ Compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020)		

7	**Questions** 1. Question (MP Khera's Office) – You specified that European artifacts were found during the archeological assessment. As there is upcoming consultation with Indigenous leaders – were there any indigenous artifacts found in the study area? o Answer (Wood – Technical Advisor) - When we do the stage three archaeological assessment, we will include Indigenous leaders from the Nations who have expressed an interest in the site. All documentation, including the stage one archaeological assessment that we have done and the subsequent work we will do, will all be shared with the Indigenous Nations. There were additional technical studies that were completed outside of the Heritage Road Layover, not part of the scope of this project, that were not captured in this presentation. There was one Indigenous artifact identified, but it was located outside the project area. It was confirmed that there were no Indigenous artifacts found within the Heritage Road Layover footprint, within the confines of the project area during the stage two study. 2. Comment (MP Khera's Office) – The Mount Pleasant Station area is a priority for our office, as it is in our riding. The Minister, in the upcoming budget, has requested more funding for public transit as it is essential to our community and everything Brampton related.		
8	**ACTION ITEMS** Send Patrick Vaughan the presentation deck so he can share with Minister Kamal Khera.	Mx	

Adjourn 10:56 am

City of Brampton Councilor
March 29, 2022

Heritage Road Layover pre-PIC #2 Briefing

Welcome to the proposed Heritage Road Layover





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Agenda

1. Round Table Introductions
2. Land Acknowledgement/Safety Moment
3. Project Summary
4. Previous Feedback
5. TPAP Schedule
6. Environmental Studies

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Land Acknowledgement

Let us take a moment to acknowledge that we are on the traditional territory of Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Wendat peoples.

We are all Treaty people. Many of us have come here as settlers and immigrants…in this generation or generations past.

Metrolinx declares its commitment to building meaningful relationships with Indigenous Peoples.

We acknowledge the historic and continued impacts of colonialization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on lands covered by 20 Treaties, and that we have a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration.

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Safety Moment – Vehicle/Deer Safety

While Driving

- Stay aware, awake, alert, and sober
- Be especially alert in spring and fall, but car-deer crashes occur all year-round
    - More common during dusk and dawn
- Heed deer crossing and speed limit signs
- Deer frequently travel in groups, if you see one deer crossing or standing alongside the road, there may be others nearby
- Flashing high-beam headlights or honking your horn will not deter deer



If a Crash is Unavoidable

- Don’t swerve! Stay in your lane
- Brake firmly and hold onto the steering wheel
- Bring vehicle to a controlled stop

After a Crash

- Pull off the road and turn on emergency flashers. Be cautious of other traffic
- Do not attempt to remove deer from roadway
- Report a crash to the nearest police agency and insurance company

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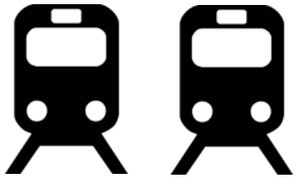
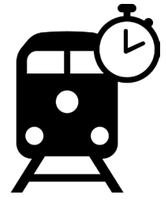
The right investment at the right time; GO Rail Expansion will enable:



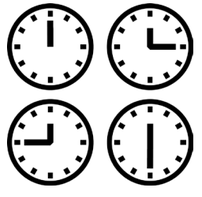
MORE TRIPS

6000 weekly trips
2x as many rush-hour options. **3x** as many off-peak options.



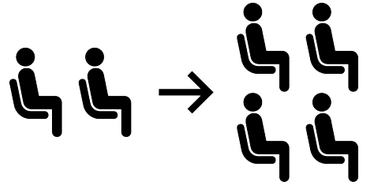
FASTER TRAVEL

Electric trains **accelerate and decelerate faster.**
Introduction of **additional express** services.



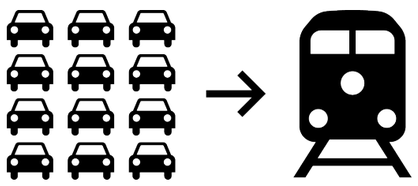
HIGH FREQUENCY

No need to check a schedule with service **every 15 minutes** or better, in both directions, all day



MORE CAPACITY

Doubling regional commuter capacity equivalent to **nine highways the size of the 401**



REDUCED CONGESTION

More trains = reduced congestion across the **region, taking close to 145,000 car trips per day, off the road.**



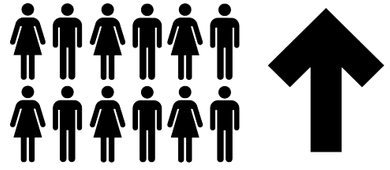
CREATE JOBS

An estimated **8,300 annual jobs** created for the first 12 years of delivery will be created over the lifecycle of the program.



SAVES TAXPAYERS MONEY

All operating costs covered with fare box revenue. **GO Rail revenues will exceed 110%** of operating costs over the next 60 years.



INCREASED RIDERSHIP

More options and faster trains will increase peak and off-peak service. **By 2055, annual ridership will exceed 200 million.**

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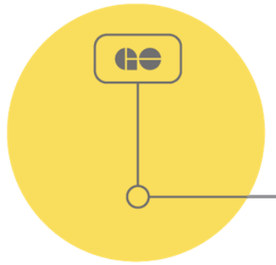
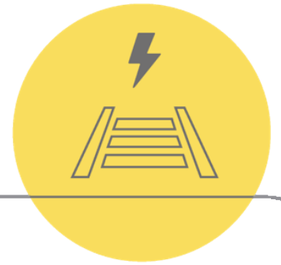
GO Expansion

42 upgraded stations



205 kilometres of new track

687 kilometres of electrified track



6 new maintenance and storage facilities

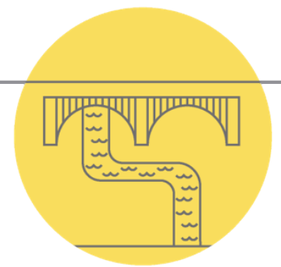


Trains running up to **29% faster** with **60%** lower operating costs per kilometre



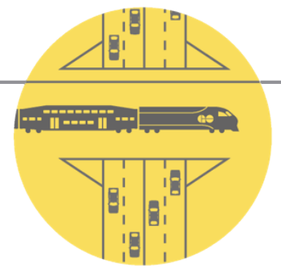
14 bridges upgrades

11 pedestrian and river grade separations

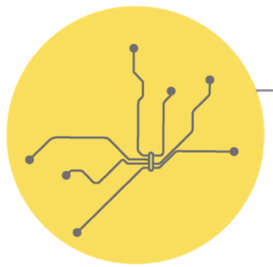


2 rail/rail grade separations

11 road/rail grade separations



Two-way, all-day service across **5** GO Rail lines



with over **6,000** services per week

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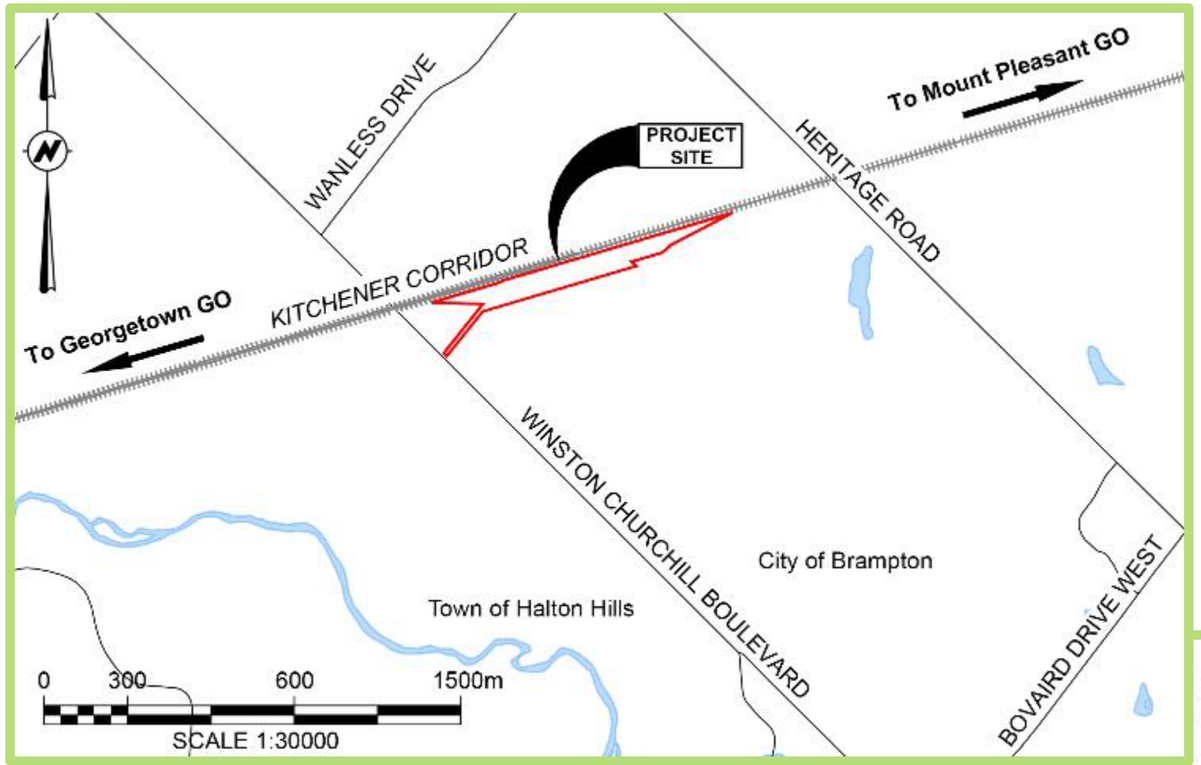
Heritage Road Layover – Project Overview



Location of Project Site on the Kitchener Corridor (above) and regionally throughout the Greater Toronto and Hamilton Area (right).

- The layover will be strategically located on the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station, between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.
- A train layover is a support facility that provides:
    - Overnight and potential midday storage for trains
    - Access to trains for crews to perform inspection and light maintenance activities when trains not in service



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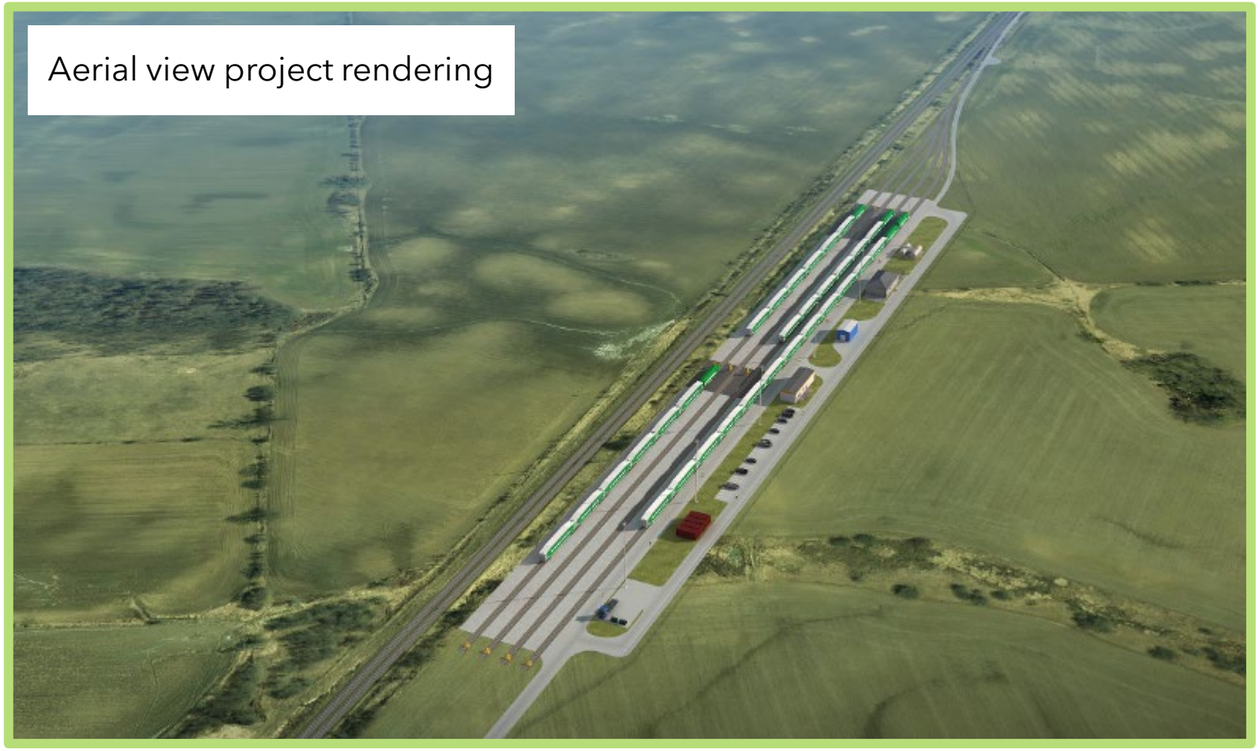
Heritage Road Layover - Renderings





- Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan (see Socio-Economic section for details).
- Various upgrades to the existing road and highway network are planned in concert with the planned growth.

Design Elements

- Four tracks in total, with each track being able to accommodate up to:
    - One train with two locomotives and 12 coaches; OR
    - Two trains with one locomotive and 6 coaches
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track at eastern portion of site



Aerial view of Project Site and surrounding landscapes

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Transit Project Assessment Process (TPAP) Schedule

Pre-TPAP Phase
(Sept 2021 – March 2022)

Prepared background studies and impact assessments

Prepared preliminary and early detail designs

Engaged with Indigenous Nations

Consulted with Stakeholders and the Public

Documented findings from background studies and prepared draft Environmental Project Report (EPR) which included:

- Description of transit project
- Assessment and evaluation of impacts and proposed mitigation measures

Virtual Public Information Centre #1 – January 12 to January 26, 2022

TPAP Phase – Up to 120 Days
(March – Summer 2022)

Document updated findings in Final Draft EPR

Engage with Indigenous Nations

Consult with Stakeholders and the Public

WE ARE HERE

Notice of Commencement – March 24, 2022

Virtual Public Information Centre #2 – April 6 to April 20, 2022

Notice of Completion & EPR – Summer 2022

Post-TPAP Phase
(Summer – Fall 2022)

30-Day Public Review of EPR – Summer 2022

Objections / No Objections Submission

35-Day Minister's Review / Decision – Fall 2022

Minister Gives Notice

1. Proceed
2. Proceed with Conditions
3. Must Conduct Additional Work

Statement of Completion to MECP

Proceed with procurement and construction.

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Feedback & FAQs from Public Information Centre #1

Between January 12 and January 26, 2022, Public Information Centre #1 (PIC) was virtually hosted. The following questions and concerns were raised:

- Mitigation of any effects of noise and vibration on surrounding areas.
- Train idling time at the facility.
- Mitigation of any effects on air quality in the surrounding area, including receptors utilized for monitoring.
- Disturbance of the McNichol Cemetery during construction and/or operations.
- Engagement with community, including City of Brampton, Town of Halton Hills, Credit Valley Conservation, and property owners.
- Integration of the Project with the aesthetics of the surrounding area and cohesion of the DRAFT Heritage Heights Secondary Plan during the Detailed Design phases of the project.
- Number of trains supported at the facility (4 trains with 2 locomotives and 12 cars or 8 trains with 1 locomotive and 6 cars) to account for current and future operations and optimize the Kitchener GO Expansion.
- Activities at the layover, including information regarding storage and light maintenance such as daily visual inspections for defects or damage, cleaning, sanitary flushing, and refueling of trains.

All questions and responses from PIC#1 are available on Metrolinx Engage: https://www.metrolinxengage.com/en/content/heritage-road-layover-ask-question

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Transit Project Assessment Process (TPAP) Studies

A number of technical studies were completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies are:

- Air Quality
- Archaeology
- Natural Environment*
- Noise & Vibration*
- Cultural Heritage
- Tree Inventory Plan*
- Traffic & Transportation
- Socio-Economic and Land Use Characteristics

The following pages present the study baselines along with key mitigation and monitoring measures that will be implemented for the project. Further details can be found in the technical reports as they become available.

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

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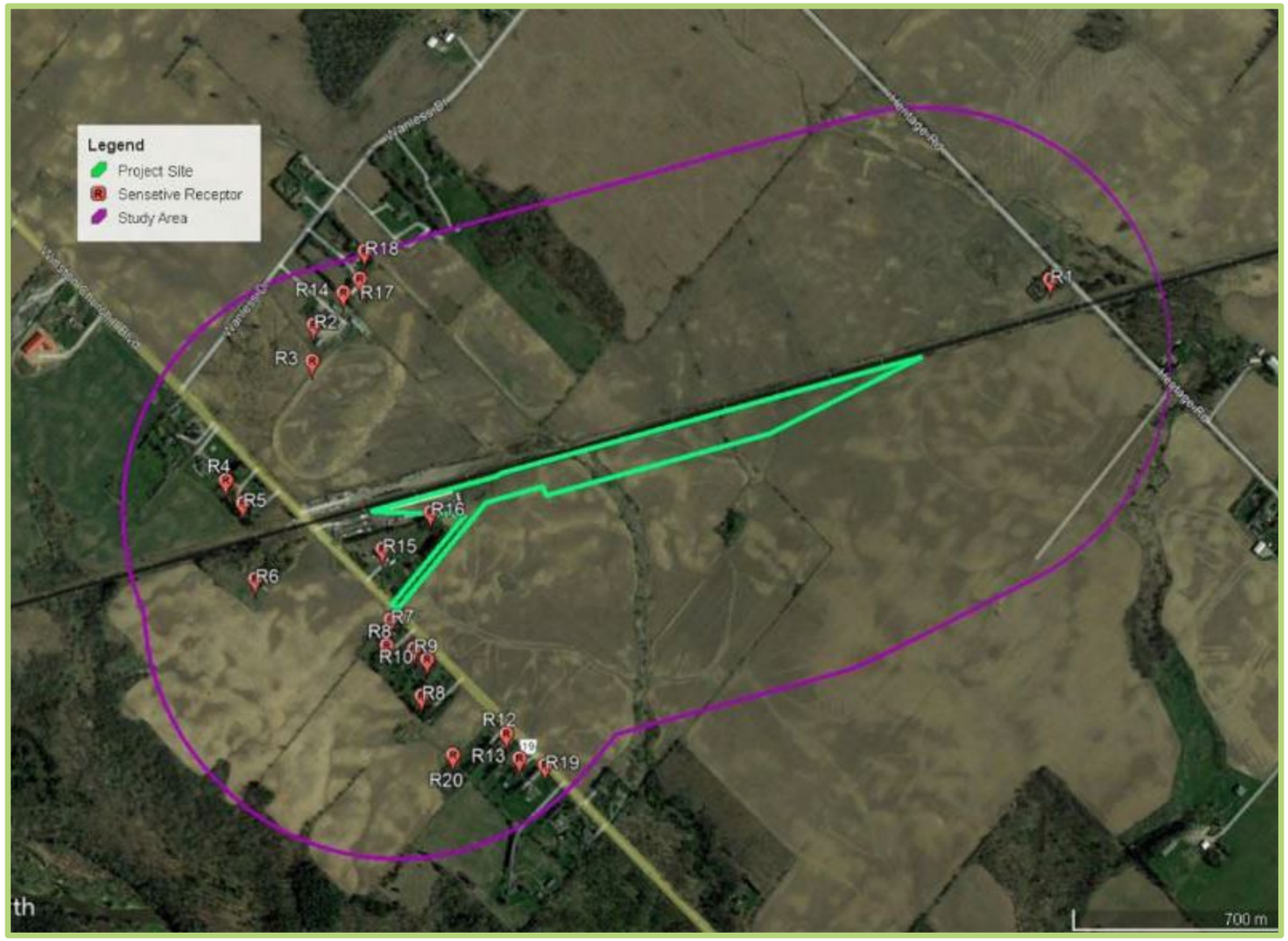
Air Quality

Study Highlights



Sensitive receptors within Study Area of the Project

- Determines the air quality impacts generated as part of construction and operation of the Project and develops mitigation strategies for any issues
- Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area, which were residences
- Considered contaminants include:
  - Particulate matter
  - Criteria air contaminants (nitrogen dioxide, carbon monoxide, sulphur dioxide)
  - Volatile Organic Compounds (VOCs)
  - Odorous contaminants
- Sources of air pollution in the area include:
  - Traffic on local arterials and railroads
  - Residential, institutional, and commercial heating
  - Transboundary sources
- Air quality monitoring stations in similar surrounding land uses and close to the Project Site established baseline air concentrations

Air Quality

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction related air pollution may pose risks to human health and wellbeing	• Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan (AQMP). • Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. • Dust prevention and control methodologies not limited to: ○ Proper maintenance of equipment and vehicles ○ Minimizing size of active areas on storage piles ○ Usage of non-chemical dust suppressant to reduce dust emissions from temporary unpaved roads or parking lots	• Develop and implement Weekly Air Quality Monitoring Plans that document how air quality monitoring has been conducted and compliance assessed to effectively prevent unacceptable rates of air emissions in accordance with the following guidelines. • Monitor placement should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks (MECP) Operations Manual for Air Quality Monitoring in Ontario (2018).
Operations related exhaust emissions of diesel powered trains contribute to local and regional air pollution.	• A detailed Operations AQMP will be developed and implemented to limit the generation and dispersion of airborne particulate matter, nitrogen oxides and other air contaminants associated with the project operations. • Unnecessary train / engine / propulsion system idling will be minimized through technical and operational measures.	• On-site inspections will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • Annually, test train propulsion and auxiliary power units, which produces exhaust emissions and ensure that they remain in compliance with applicable emission standards. • Develop an Air Sampling and Monitoring Plan and submit an annual report summarizing all sampling and monitoring results accumulated over the preceding year.

Noise and Vibration

Study Highlights



Location of four sensitive receptors for baseline condition monitoring

- Reviews construction and stationary sources of sound that will be produced from the Project
- Study Area extends 500 m from Project Site
- Construction phase was modelled based on construction activities and assumed equipment that will likely be utilized for the Project
- Operations phase was monitored on stationary noise and vibration sources for the layover-built scenario
- Baseline conditions at four identified representative sensitive receptors have been measured for a total of one month
- Major sources of existing noise include rail traffic from CN freight, VIA Rail, GO trains, and road traffic
- During construction, noise increases are anticipated to be temporary in nature and considered short-term nuisance to nearby residents

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Noise and Vibration

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
The predicted sound indicate that it is feasible to operate most construction equipment within MECP limits. Vibration levels from the construction equipment are not expected to affect the receptors in the Study Area.	The following are recommended to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas.	• Construction activities will be monitored by a qualified Environmental Inspector.

Traffic and Transportation

Study Highlights

- Reviews traffic in the surrounding community and during construction and operations of the Project
- Construction activities anticipated to commence in 2023 and finish in winter 2025
- Road traffic effects during construction are expected to be minimal given the predominantly rural location of the Project Site and the forecast background traffic levels. They may include:
    - Queues at the level crossing on Winston Churchill Boulevard may stretch back to access road entrance
    - Occasional temporary (e.g. less than 15 min) lane closures during construction and utilization of access road
- No current or planned transit services operating on Winston Churchill Boulevard or Heritage Road
- During operation, traffic levels in and out of the Layover are anticipated to be minimal



Level train crossing at Winston Churchill Boulevard.

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Traffic and Transportation

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction may result in the need for temporary road or lane closures changing access to nearby land uses	• Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible. • Access to nearby land uses will be maintained to the extent possible. Potentially affected residents, tenants and business owners will be notified of initial construction schedules, as well as modifications to these schedules as they occur. • Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs.	• Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjust as necessary during the construction period. • Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjust as necessary during the construction period.

Stage 1 Archaeological Assessment

Study Highlights

The Stage 1 Archaeological Assessment report summarized existing archaeological information and recommended a Stage 3 Archeological Assessment to be completed on a portion of the Project Site by licensed professional archaeologists in spring or summer 2022.

- Engagement with Indigenous Nations required during Stage 3 Archaeological Assessment



Location of previous archaeological studies within the Study Area for the Heritage Road Layover

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Stage 1 Archaeological Assessment

Example Mitigation and Monitoring Measures

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Completion of Stage 3 Archaeological Assessment • If archaeological materials are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot will be protected from impact an assessment is completed by a professionally licensed archaeologist. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments (ie. Stage 2, 3, 4 as required) will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. • If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted. • All Archaeological Assessment findings will be shared with Indigenous Nations, as per Metrolinx procedures.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Cultural Heritage

Study Highlights



Location of cultural heritage resources with proximity to the Project Site

- Three (3) cultural heritage resources identified:
  - CHR1: Cultural heritage landscape (McNichol Cemetery)
  - CHR2: Built heritage landscape (private residence)
  - CHR3: Built heritage landscape (private residence)
- City of Brampton is currently in the process of heritage designation for the McNichol Cemetery
- Completed a preliminary impact assessment for any identified and proposed heritage properties within the Study Area and surrounding streets

Cultural Heritage

Mitigation Measures

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No adverse impacts anticipated.	• Proposed work should be planned in a manner that avoids the cemetery and should be clearly demarked on project drawings
CHR2 (Private property)	Isolation from its surrounding environment, context, or a significant relationship.	• Proposed work should be planned to maximize the buffer between the access road/layover facility and the residential property. The property and should be clearly demarked on project drawings as a "potential heritage property" • Post-construction landscaping should be planned to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.



CHR1: Rail crossing near McNichol Cemetery



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

Socio-Economic and Land Use Characteristics

Study Highlights

A desktop review of existing socio-economic and land use conditions and an assessment to mitigate and monitor measures for construction and operations of Project.

- The Local Study Area (LSA) included the Project Site and surrounding 300 m.
- The broader Regional Study Area (RSA) encompassed Ward 6 in the City of Brampton and Ward 2 in the Town of Halton Hills.

The following components were evaluated within the report:

- Property
- All land uses and adjacent lands
- Aesthetics / visual characteristic
- Light pollution
- Utilities
- Transportation / traffic

City of Brampton's DRAFT Heritage Heights Secondary Plan

- The LSA falls within the DRAFT Heritage Heights Secondary Plan area which, in the vicinity of the proposed layover facility, consists of low to medium density residential units. It is identified as a high potential mineral aggregate resource area. The figure to the right shows the potential future land use for the area under this draft plan.

* Exact location of streets in adjacent figure is conceptual and subject to refinement through future Precinct Planning for Heritage Heights





DRAFT Heritage Heights Secondary Plan Land Use Structure

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Socio-Economic and Land Use Characteristics

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
All land uses and adjacent lands	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • A Communications Protocol and a Complaints Protocol will be developed during construction	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received
Aesthetics / visual characteristics	Visual effects from construction / operations areas / activities	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	Light trespass, glare and light pollution effects	• Develop a plan to reduce the effects of light pollution with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents and/or businesses. • The lights would be designed to minimize off-site light pollution during operations.	• Number and resolution of complaints received.

Natural Environment

Study Highlights



Aquatic habitats and watercourses within the Study Area and surrounding areas

- The purpose of the study was to identify existing conditions for wildlife and landscape features within the project study area and assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures.
- Based on a desktop review of policies and previous studies relating to the aquatic and land environments.
- Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 and results will be distributed in summer 2022.

Natural Environment

Example Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• Vegetation removal shall be kept to a minimum and limited to within the construction area.	

Tree Inventory

Study Overview and Example Mitigation and Monitoring Measures

A Tree Inventory Report with recommendations for specific tree removal and tree injury will be completed in spring 2022 after field studies are carried out by an I.S.A Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable.

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Tree / Vegetation removal, injury and protection	• If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adherence to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals.

Next Steps – We Want to Hear from You!

We appreciate the time you have taken to learn more about the proposed Project. The Notice of Commencement has been issued on March 24, 2022.

The Public Information Centre #2 will go live on Metrolinx Engage on April 6, 2022.

The comment period for Public Information Centre #2 is until April 20, 2022.

Peel Region
Phone: 416-202-7500
Email: peel@metrolinx.com

Halton Region
Phone: 416-938-9930
Email: haltonregion@metrolinx.com

Upcoming Dates

Summer/Fall 2022:

- 30 Day Public and Stakeholder Review of Environmental Project Report (EPR)
- 35 Day Minister's Review and Decision with Notice to Proceed or Revise
- Statement of Completion





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Heritage Road Layover
EO Briefing Meeting Minutes

Meeting title:	EO Briefing – Heritage Road Layover
Date:	March 29, 2022
Time:	15:30 – 16:30 EDST
Location:	Microsoft Teams

Participants		
Name	**Company**	**Email**
Simon Strauss	Metrolinx	simon.strauss@metrolinx.com
Clara Chan	Metrolinx	clara.chan@metrolinx.com
Brian Poole	Metrolinx	brian.poole@metrolinx.com
Dara Corrigan	Metrolinx	dara.corrigan@metrolinx.com
Jackie Czajka	Metrolinx	jackie.czajka@metrolinx.com
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Michael Palleschi	Office of Regional Councillor Michael Palleschi	michael.palleschi@brampton.ca
Julie Lozinski	Office of Regional Councillor Michael Palleschi	julie.lozinski@brampton.ca
Anjan Sohi	Office of Regional Councillor Michael Palleschi	anjan.sohi@brampton.ca
Maureen Van Ravens	Town of Halton Hills	MaureenV@haltonhills.ca

Item	Details	Action By	Delivery Date
1	**Round Table Introductions** **Land Acknowledgement** **Safety Moment** • Don't Veer for Deer		

2	**Overview of GO Expansion**
	• Two-way all-day service with electrification of core sections of the Barrie, Lakeshore, Stouffville, and Kitchener lines
	• Kitchener Corridor will have 15 min service and electrification from Union Station to Bramalea GO
	• Bramalea GO to Kitchener GO planned for 30 min service without electrification due to CN ownership of the Halton Subdivision
	• Business cases published online
	  ○ Network Wide GO Expansion
	  ○ Kitchener GO Expansion		

3	**Overview of Project**
	• Kitchener Corridor consists of 3 sections
	  ○ Union Station to Mount Pleasant GO Station owned by Metrolinx
	  ○ Halton Subdivision from Mount Pleasant GO to Georgetown GO owned by CN
	  ○ Guelph Subdivision from Georgetown GO to Kitchener GO Station owned by Metrolinx
	• Heritage Road Layover strategically located midway between the Georgetown and Mount Pleasant GO Stations to service expansion on GO Kitchener Corridor
	• Train layover allows for storage for trains during periods of lower passenger capacity and train servicing and light maintenance
	• Surrounding areas are planned for development as identified in the Draft Heritage Heights Secondary Plan
	• Four layover tracks for storage of four GO Trains with two locomotives and 12 coaches per train
	• Site set-up flexibility to alternatively accommodate up to eight 1 locomotive and 6 coaches per train
	• Access road entrance from Winston Churchill Blvd.
	• Connection to Kitchener Corridor mainline track at eastern portion of site		

4	**TPAP Schedule** • The Heritage Road Layover project is following the TPAP process under Ontario Regulation (O.Reg.) 231/08, Transit Projects and Metrolinx Undertakings • A virtual Public Information Centre (PIC#2) is scheduled to commence April 6, 2022		

	○ PIC will remain open until April 20, 2022, for interested parties to review materials and comment. • Notice of Commencement issued on March 24, 2022. • An Environmental Project Report has been prepared to: ○ Define Project Scope ○ Baseline Environmental Studies ○ Conceptual Engineering Design ○ Impact Assessment / Mitigation ○ Document engagement and consultation ○ Future Commitments for additional studies, permitting, and monitoring		
5	**Previous Engagement Sessions** • Public Information Centre (PIC #1) was held virtually from January 12 to January 26, 2022 • Questions and concerns raised from participants included: ○ Mitigation of effects of noise and vibration ○ Train idling at facility ○ Project effects on air quality ○ Any disturbance to McNichol Cemetery ○ Engagement with community ○ Integration of Project design with area aesthetics ○ Types of maintenance activities at the layover		
6	**TPAP Studies** • The Baseline Studies include: ○ Air Quality ○ Study Area extends 500 m from Project Site and focuses on sensitive receptors within the area ○ Consideration of air pollution and contaminants in the area ○ Mitigation and monitoring measures related to construction and operations to limit the amount of air pollution created by the Project ○ Noise & Vibration ○ Study Area extends 500 m from Project Site ○ Baseline conditions identified at four Representative Sensitive Receptors (RSRs) measures for a total of one month ○ Noise increases are anticipated to be temporary during construction ○ Traffic & Transportation ○ Road traffic effects during construction are expected to be minimal due to the predominantly rural nature of the Project Site ○ During operation, traffic levels in and out of the Layover are anticipated to be minimal ○ Archaeology ○ Recommendation of a Stage 3 Archaeological Assessment (AA) to be carried out on portion of the Project Site in spring or summer 2022 ○ Engagement with Indigenous National required during Stage 3 AA as per Metrolinx procedures		

	○ Cultural Heritage ○ Three Cultural Heritage Resources (CHRs) identified within 50 m of the Project Site ○ Private property (CHR2) adjacent to Project Site may be isolated from its surrounding environment, context, or a significant relationship and mitigation measures will be put into place to reduce these effects ○ No adverse impacts anticipated for any of the properties ○ Socio-Economic and Land Use Characteristics ○ Draft Heritage Heights Secondary Plan shows future low to medium density residential units in the vicinity of the proposed Layover ○ Effects, such as nuisance from construction activities, will be mitigated and monitored ○ Natural Environment ○ Field studies for Species at Risk (SAR), vegetation, wildlife, and aquatic habitats will commence in spring 2022 ○ Mitigation and monitoring measures should be put into place to reduce disturbance for migratory birds, wildlife, SAR, watercourses, fish and fish habitats, and vegetation ○ Tree Inventory Plan ○ Recommendations for specific tree removal and tree injury will be completed in spring 2022 ○ Compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020)		
7	Questions 1. Question (Councillor Palleschi) – What is the speed of the trains coming into the layover? Will the layover cause additional slowdowns at the Winston Churchill Blvd. and Heritage Road crossings? Surrounding community members are concerned about the noise of the CN trains throughout the area. ○ Answer (Wood – Technical Advisor) – 88 km/hr to 122 km/h is the speed of trains travelling through the area. Gate time across Winston Churchill Boulevard is short for GO trains. Freight trains can have longer delays of a few minutes. Trains at the layover would start ahead of morning rush hour and return following afternoon rush hour so the layover won't impact peak AM/PM travel times. 2. Question (Councillor Palleschi) – Will any work take place at night during operation of the facility?		

	○ Answer (Metrolinx) – Yes light maintenance operations could occur at night but there should be no intrusive noise. Heavy train maintenance would take place at other facilities. 3. Question/Comment (Councillor Palleschi) – There are several watercourses through the site that experience more flooding every year, especially this year. There is a pond north of the site which has been previously addressed with CVC in regard to flooding. Also do the watercourses have the potential for Redside Dace? ○ Answer (Wood – Technical Advisor) – No Redside Dace have been identified through desktop research but fieldwork and discussions with CVC will confirm. A SWM study is underway to get a better understanding of water flow around the site. 4. Question (Councillor Palleschi) - Will directional lighting be LED? ○ Answer (Wood – Technical Advisor) – That is the intent, but detailed design is not finalized yet. The site should also meet Metrolinx sustainability and climate change objectives, which LED lights are part of. 5. Comment (Councillor Palleschi) – Some known Butternut are located south of the Project Site but none in the specific area. 6. Question (Councillor Palleschi) – Based on the Heritage Heights Secondary Plan low density residential is planned around the layover, however would Metrolinx prefer industrial lands instead? ○ Answer (Metrolinx) - Metrolinx to provide response after internal discussion. 7. Question (Councillor Palleschi) – Were farmers and individuals in the area informed about the upcoming PIC session? Was there direct mail sent to these individuals? ○ Answer (Wood – Technical Advisor) – The Notice of Commencement and information about the Project was hand-delivered to the residents that are within a minimum of 100 m of the site, including along Winston Churchill Boulevard, Wanless Drive, and Heritage Road. 8. Question (Councillor Palleschi) – Was the landowner group informed? ○ Answer (Wood – Technical Advisor) - Property owners whose properties would be acquired for the Site were informed but unaware of the Heritage Heights Landowners Groups. They will be added to the contact list once contact information is received.		

	9. Question (Councillor Palleschi) - Can this layover be turned into a complete stop? Will this provide Mount Pleasant and beyond a faster pathway to 15 minutes two-way all day GO? o Answer (Metrolinx) - For the layover itself, no planned intention to converting this to a station. In the future, there may be discussions outside of current project about new station location. Right now, the plan is to have 30 minute all-day service to Mount Pleasant GO Station. 15 minute two-way all-day service may be difficult to achieve as CN owns the ROW in the area and negotiations need to be completed with CN to enable an increase for service.		
8	**ACTION ITEMS** 1) Send Office of Regional Councillor Palleschi the slide deck. 2) Office of Regional Councillor Palleschi to share contact information for Heritage Heights Landowners Group so Metrolinx/Wood can provide Notice of Commencement and information regarding the Project.	Mx Councillor Palleschi	

Adjourn 16:29 ESDT

Appendix I-3c

Transit Project Assessment Process Correspondence Record:

Technical and Community Stakeholders

Department of Fisheries and Oceans

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:43 AM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: DFO - FW: Heritage Road Layover TPAP - Draft EPR Transmittal

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

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From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-06-22 8:28 AM
To: jason.white@ontario.ca
Subject: Heritage Road Layover TPAP - Draft EPR Transmittal

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

clara.chan@metrolinx.com sent you a secure message

Access message

Dear Mr. White, Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. Me..

Attachments expire on Apr 11, 2022

1 spreadsheet
Heritage Road Layover Draft EPR - GRT.xlsx

2 PDFs
2022-04-05_GRT Circulation Cover Letter.pdf, Heritage Road Layover - NoC - English - QME-WPC-160.pdf

This message requires that you sign in to access the message and any file attachments.

You have received attachment link(s) within this e-mail message sent via Enterprise Attachment Transfer Service. To retrieve the attachment(s), please click on the link(s).If you have any difficulty accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:31 AM
To: FisheriesProtection@dfo-mpo.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Draft EPR Submittal
Attachments: Heritage Road Layover - NoC - English - QME-WPC-160.pdf; 2022-04-05_GRT Circulation Cover Letter.pdf; Heritage Road Layover Draft EPR - GRT.xlsx

Dear Sir/Madam,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Clara Chan
Sent: Thursday, April 14, 2022 3:26 PM
To: FisheriesProtection@dfo-mpo.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover TPAP - Draft EPR Submittal

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If you have any questions on this regard, please let us know.

Kind regards,
Clara

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T: 416-202-7931 C: 647-262-8958
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Sent: Monday, May 9, 2022 9:02 AM
To: Clara Chan
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Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Some people who received this message don't often get email from fisheriesprotection@dfo-mpo.gc.ca. Learn why this is important

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EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

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Yours sincerely,

Kyle Mataya
Biologist | Biologiste
Fisheries and Oceans Canada| Pêches et Océans Canada
Ontario and Prairie Region| Région de l'Ontario et des Prairies
Fish and Fish Habitat Protection Program| Programme de protection du poisson et de son habitat

---

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Sent: Tuesday, June 14, 2022 11:46 AM
To: FPP.CA / PPP.CA (DFO/MPO)
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Good afternoon Kyle,

Sorry for the delay in responding. Thank you for the information provided below. We have scheduled the aquatic fieldwork for July 4th 2022, and will submit a Request to Review once the information has been collected.

Kind regards,
Clara

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Environment and Climate Change Canada

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:29 AM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Draft EPR Transmittal
Attachments: Heritage Road Layover - NoC - English - QME-WPC-160.pdf; 2022-04-05_GRT Circulation Cover Letter.pdf; Heritage Road Layover Draft EPR - GRT.xlsx

Dear Mr. Plant,

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Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Clara Chan
Sent: Thursday, April 14, 2022 3:25 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover TPAP - Draft EPR Transmittal - Correction

Good afternoon Mr. Plant,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

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Kind regards,
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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April-06-22 8:29 AM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Draft EPR Transmittal

Dear Mr. Plant,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

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ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
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METROLINX

From: Clara Chan
Sent: Thursday, May 5, 2022 5:36 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Good day Mr. Plant,

Further to requesting your comments of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.

Also, this is a gentle reminder, if you haven't provided a response for the remaining EPR, we ask that you provide your feedback by **May 8, 2022.**

Let us know if you have any questions.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

Clara Chan
Project Manager, Environmental Programs & Assessment
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Safety Never Stops.

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E: Clara.Chan@metrolinx.com

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Ministry of Environment, Conservation and Parks

From: Clara Chan
Sent: Tuesday, April 5, 2022 6:12 PM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: Transmittal to MECP - EPR

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-05-22 6:00 PM
To: solange.desautels@ontario.ca; cindy.batista@ontario.ca
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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clara.chan@metrolinx.com sent you a secure message

Access message

Hi Cindy, As discussed, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton to support GO ..

Attachments expire on Apr 10, 2022

4 PDFs

Appendix B_2022-04-01_Noise and Vibration_Draft Report_HRL.pdf, Appendix A_2022-04-01_Air Quality_Draft Report_HRL.pdf, Heritage Road Layover Draft EPR.pdf, Heritage Road Layover - NoC - English - QME-WPC-160.pdf

This message requires that you sign in to access the message and any file attachments.

You have received attachment link(s) within this e-mail message sent via Enterprise Attachment Transfer Service. To retrieve the attachment(s), please click on the link(s).If you have any difficulty accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: Friday, April 8, 2022 1:30 PM
To: Clara Chan
Cc: Hughes, Jordan (MECP); Batista, Cindy (MECP); Desautels, Solange (MECP)
Subject: FW: Notice of Commencement - Heritage Road Layover
Attachments: Heritage Road Layover - NoC - English - QME-WPC-160.pdf

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Hello Clara.

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Can you kindly confirm what Metrolinx's target dates are for this project? Is Metrolinx looking to take the full 120-days or is looking to post the Notice of Completion sooner then July 22nd?

Please work with Jordan directly and copy me on correspondence moving forward.

Thanks,

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: March 24, 2022 10:25 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Sorry for the inconvenience.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: Monday, April 11, 2022 4:10 PM
To: Clara Chan
Cc: Batista, Cindy (MECP); Desautels, Solange (MECP); Shah, Shachi (MECP)
Subject: RE: Notice of Commencement - Heritage Road Layover
Attachments: Acknowledgement_Letter_Notice of Commencement_04_11_22.pdf

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Hello Clara,

Please see the attached acknowledgment letter for the Heritage Road Layover Notice of Commencement.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: Clara Chan <Clara.Chan@metrolinx.com>
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To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
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Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

April 11, 2022

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx
Email: Clara.Chan@metrolinx.com

Dear Clara Chan:

Re: Acknowledgement – Go Expansion: Heritage Road Layover Transit Project Assessment Process Notice of Commencement

Thank you for your email dated March 24, 2022, notifying the Ministry of the Environment, Conservation and Parks (ministry) of the Notice of Commencement for the Metrolinx Go Expansion: Heritage Road Layover Transit Project Assessment Process. The ministry understands that this Notice of Commencement was formally published on March 24, 2022, thereby starting the 120-day Transit Project Assessment Process under the Transit Projects and Metrolinx Undertaking regulation (Transit Regulation) (O. Reg 231/08). It is understood that Metrolinx is currently consulting on a draft Environmental Project Report that has been prepared for the project.

Should you have any further questions related to Ontario Regulation 231/08 -Transit Projects and Metrolinx Undertakings and its requirements, please contact Jordan Hughes, Project Officer at 437-770-6953 or by e-mail at Jordan.hughes@ontario.ca.

Sincerely,

Jordan Hughes
Project Officer
Environmental Assessment Branch

C: Solange Desautels, Supervisor, Project Coordination, MECP
Cindy Batista, Special Project Officer, MECP

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: Monday, April 11, 2022 1:03 PM
To: Clara Chan; Batista, Cindy (MECP)
Subject: RE: Notice of Commencement - Heritage Road Layover

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Hi Clara,

I have received the EPR and technical studies!

Thank you for providing the update,

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
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Cc: Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
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Good morning Cindy,

Thanks for the information. Jordan, nice to meet you!

We are still hoping to have the Notice of Completion completed in advance of July 22 (e.g. complete it within a 90-day period; June 22). However, if we have received significant interest during the regulated time period, we will consider extending to the full 120 days.

We will keep the Jordan and the MECP team apprised if there is any anticipated changes to the timeline.

To that end, has Jordan been forwarded a copy of the EPR and technical studies, or should I circulate a copy to him through EATS?

Thank you,
Clara

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To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: FW: Notice of Commencement - Heritage Road Layover

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Sent: Monday, April 11, 2022 1:53 PM
To: Clara Chan
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Hi Clara,

One thing I did not receive is the comment/response table that Metrolinx prefers to use.

Could you provide this to me?

Thanks!

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Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Notice of Commencement - Heritage Road Layover

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Good morning Cindy,

Thanks for the information. Jordan, nice to meet you!

We are still hoping to have the Notice of Completion completed in advance of July 22 (e.g. complete it within a 90-day period; June 22). However, if we have received significant interest during the regulated time period, we will consider extending to the full 120 days.

We will keep the Jordan and the MECP team apprised if there is any anticipated changes to the timeline.

To that end, has Jordan been forwarded a copy of the EPR and technical studies, or should I circulate a copy to him through EATS?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: April-08-22 1:30 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: FW: Notice of Commencement - Heritage Road Layover

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Please work with Jordan directly and copy me on correspondence moving forward.

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Sent: March 24, 2022 10:25 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Sorry for the inconvenience.

Thank you,
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From: Clara Chan
Sent: Thursday, April 14, 2022 3:25 PM
To: Hughes, Jordan (MECP)
Cc: Batista, Cindy (MECP); Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Notice of Commencement - Heritage Road Layover - Correction

Hi Jordan,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

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Subject: RE: Notice of Commencement - Heritage Road Layover

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Hi Clara,

I have received the EPR and technical studies!

Thank you for providing the update,

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 | ✉: *jordan.hughes@ontario.ca*

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Cc: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
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Clara

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From: Clara Chan
Sent: Monday, April 18, 2022 8:51 AM
To: Hughes, Jordan (MECP)
Cc: Batista, Cindy (MECP); Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

Good morning Jordan,

Hope you had a good long weekend! This revisions would have been incorporated in the draft Noise and Vibration Report that was included in the Draft EPR. As such, we were looking to close those off in combination with the technical review. Let me know if there is any concerns with this approach.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: April-14-22 11:37 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

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Hi Clara,

Last month Cindy sent you comments with regards to noise and vibration prior to Metrolinx posting the Notice of Commencement.

I was wondering if you will be preparing a response to these separately, or combing the responses with other comments that might arise during the current technical review. I have attached the comments that were sent to you March 2 from MECP's noise reviewer.

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5

☎: 437-770-6953 | ✉: *jordan.hughes@ontario.ca*

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From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: March 2, 2022 12:31 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

Hello Clara:

Please find attached ministry's comments on the noise and vibration for Metrolinx's review and response.

Thanks,

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: March 2, 2022 9:14 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

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Good morning Cindy!

Can you please confirm if we're on track to received feedback of the memo by end of this week?

Thank you,
Clara

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METROLINX

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: February-08-22 11:17 AM

To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Heritage Road Layover Noise and Vibration Assumptions Review

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Hello Clara.

The ministry's noise reviewer will need 4 weeks to complete the review of the memo. You can expect ministry comments the week of February 28.

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: February 4, 2022 10:17 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover Noise and Vibration Assumptions Review

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Good morning Cindy,

Our Consultant is planning to complete field activities to support the noise and vibration monitoring for Heritage Road Layover to support our TPAP studies in the upcoming weeks. Would you be able to facilitate an expedited review of the assumptions that Wood has made for their studies? We are on a hurried timeline to ensure that this can be included in our 75% EPR in advance of the PIC scheduled for April 6, and we would appreciate any and all assistance on this review.

Thank you,
Clara

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From: Clara Chan
Sent: Thursday, May 5, 2022 5:38 PM
To: Hughes, Jordan (MECP)
Cc: Batista, Cindy (MECP); Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Good afternoon Jordan,

Further to requesting your comments of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.

Also, this is a gentle reminder, if you haven't provided a response for the remaining EPR, we ask that you provide your feedback by **May 8, 2022.**
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

Vacation Alert*: *I will be out of office between May 13 and May 31, 2022.

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Hi Clara,

I have received the EPR and technical studies!

Thank you for providing the update,

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
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☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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Sent: Friday, May 13, 2022 12:28 PM
To: Hughes, Jordan (MECP)
Cc: Batista, Cindy (MECP); Brian Poole; Simon Strauss; Dara Corrigan
Subject: RE: Notice of Commencement - Heritage Road Layover

Hi Jordan,

Sorry for the delay! Yes, that won't be a problem. Would you be able to provide context to which reports that require more time? Would it be noise and vibration, air quality, etc? I'd just like to give our Technical Advisor a heads up as to which reports they should be expecting further feedback.

To that end, I'd like to also advise that we will be moving towards a 120-day full TPAP period instead of the initially anticipated 90-day period. We will be anticipating to issue our Notice of Completion on July 22, 2022.

Please let us know if there are any concerns in this regard.

I will be on vacation starting on Monday and will be returning Wednesday, June 1. Please send your team's responses to the EPR and technical studies, or any questions that arise, to Brian Poole and Simon Strauss (cc'ed in this email) in my absence.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 16 and May 31, 2022.**

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From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: May-12-22 12:26 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Notice of Commencement - Heritage Road Layover

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Hi Clara,

Just wanted to provide you an update. A few of the technical reviewers have requested more time and that they would submit their comments by Monday. Let me know if you have any issues with this. I will send them your way as soon as I can.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Notice of Commencement - Heritage Road Layover

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Apologies Jordan!

Please see attached.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: April-11-22 1:53 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: FW: Notice of Commencement - Heritage Road Layover

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Hi Clara,

One thing I did not receive is the comment/response table that Metrolinx prefers to use.

Could you provide this to me?

Thanks!

From: Hughes, Jordan (MECP)
Sent: April-11-22 1:03 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: RE: Notice of Commencement - Heritage Road Layover

Hi Clara,

I have received the EPR and technical studies!

Thank you for providing the update,

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April-11-22 9:21 AM
To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Notice of Commencement - Heritage Road Layover

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Good morning Cindy,

Thanks for the information. Jordan, nice to meet you!

We are still hoping to have the Notice of Completion completed in advance of July 22 (e.g. complete it within a 90-day period; June 22). However, if we have received significant interest during the regulated time period, we will consider extending to the full 120 days.

We will keep the Jordan and the MECP team apprised if there is any anticipated changes to the timeline.

To that end, has Jordan been forwarded a copy of the EPR and technical studies, or should I circulate a copy to him through EATS?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Sent: April-08-22 1:30 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: FW: Notice of Commencement - Heritage Road Layover

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Hello Clara.

I wanted to let you know that my colleague – Jordan will be the lead Project Officer at the ministry for reviewing the EPR and coordinating technical reviews with ministry experts. With a posting date of March 24th, 2022 of the Notice of Commencement, our records indicated that July 22, 2022 is the target EPR completion date.

Can you kindly confirm what Metrolinx's target dates are for this project? Is Metrolinx looking to take the full 120-days or is looking to post the Notice of Completion sooner then July 22nd?

Please work with Jordan directly and copy me on correspondence moving forward.

Thanks,

Cindy

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: March 24, 2022 10:25 AM
To: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Notice of Commencement - Heritage Road Layover

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Good morning Cindy,

Please find attached the Notice of Commencement for review. The advertisement was released today.
I apologize that this was not circulated to you earlier; we had thought that it was already circulated.

With respect to the draft EPR with associated noise and vibration and air quality reports, our consultant is still making some adjustments to the documents. We aim to have these available to you for next week, in advance of publication on the Engage page on April 6.

Sorry for the inconvenience.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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This e-mail is intended only for the person or entity to which it is addressed. If you received this in error, please contact the sender and delete all copies of the e-mail together with any attachments.

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: Thursday, July 14, 2022 2:45 PM
To: Clara Chan
Cc: Batista, Cindy (MECP); Desautels, Solange (MECP); Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover Next Steps Meeting

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Hi Clara,

July 26th works for Cindy, Solange and I.
1-2pm or 3-4pm works for us.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-14-22 2:00 PM
To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover Next Steps Meeting

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Good afternoon Jordan,

As per our telephone conversations, Metrolinx is looking to proceed with a pause with a Notice of Issue to be circulated shortly (and in advance of the previously anticipated date of the Notice of Completion).

In light of that, we'd like to schedule a meeting with the MECP to discuss our next steps.

Would your team be available at either of the following times?

- Tuesday, July 26: 2-3 pm; or
- Tuesday, July 26: 3-4 pm (preferred)

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Thursday, July 14, 2022 2:00 PM
To: 'Hughes, Jordan (MECP)'
Cc: Batista, Cindy (MECP); Desautels, Solange (MECP); Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover Next Steps Meeting

Good afternoon Jordan,

As per our telephone conversations, Metrolinx is looking to proceed with a pause with a Notice of Issue to be circulated shortly (and in advance of the previously anticipated date of the Notice of Completion).

In light of that, we'd like to schedule a meeting with the MECP to discuss our next steps.

Would your team be available at either of the following times?

- Tuesday, July 26: 2-3 pm; or
- Tuesday, July 26: 3-4 pm (preferred)

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Brian Poole
Sent: Friday, May 27, 2022 10:40 AM
To: Dara Corrigan
Subject: FW: Heritage Road Layover - MECP Technical Review Comments
Attachments: HeritageLayover_EASS Memo_05_27_2022.pdf; Heritage Road Layover Draft EPR - GRT.xlsx; MECP_AQcomments_HeritageRoad_Layover_May2022.pdf; Metrolinx Heritage Layover - CSPB Comments.pdf; MKHL_Comment Review Sheet_NVIA MECP 2022-05 _Noise.xlsx

More comments back from MECP!
I'll send these over to Wood.

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: May 27, 2022 10:03 AM
To: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Cc: Clara Chan <Clara.Chan@metrolinx.com>
Subject: FW: Heritage Road Layover - MECP Technical Review Comments

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Sorry Simon and Brian, I forgot Clara was on vacation and to copy you.
Please see the attached comments regarding the Hertiage Road Layover Facilitiy.

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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From: Hughes, Jordan (MECP)
Sent: May-27-22 9:59 AM
To: Clara Chan <Clara.Chan@metrolinx.com>

Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>
Subject: Heritage Road Layover - MECP Technical Review Comments

Hi Clara,

Please see the attached memo and excel table with regards to technical review comments for the Heritage Road Layover TPAP.
I have also provided the original comments from source protection and air quality reviewers, as well as the comment response table from the noise reviewer (satisfied with Metrolinx's responses). Please note more comments from the surface water section will come at a later date.

Kind regards,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 | ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

Heritage Layover Project TPAP and Detailed Layover Facility Design

2 = Discuss, clarification required
3 = Not applicable because .....
P = Pending incorporation in design
C = Closed, implementation complete

Document Rev:	**Document Name:**	**Air Quality Draft Report**	**Revised By:** **Reviewed By:**
	Contract Name:	**Heritage Layover Project TPAP and Detailed Layover Facility Design**	**Date: June 2, 2022**

Item No.	Part, Chapter, Sec, Subsec, page, DWG#	Review Comment	Response & Details	Action 1 / 2 / 3* (Authors)	Status O / P / C** (Reviewer)
1	Section 5.1: Baseline Conditions	Table 5-2 refers to PM2.5 and NO2 90th percentile concentrations from Burlington, which is not included in Table 5-1 "MECP/NAPS Monitoring Stations". A different station was also noted for CO, benzene and 1,3-butadiene when compared to Table 5-1. Please revise accordingly	Noted. The text will be revised to match Table 5-1.	1	
2	Section 11.2: Operational Phase	Additional mitigation measures, including plantings and vegetation near impacted sensitive receptors to minimize off-site particulate impacts should be explored for the operation phase of the project..	Noted. Additional mitigation measures will be evaluated as needed.	1	

* ACTIONS: 1 = Will comply
2 = Discuss, clarification required
3 = Not applicable because . . . .
** STATUS: O = Open, P = Pending, C = Closed

METROLINX

PROJECT NAME:	Heritage Road Layover TPAP
Title:	Heritage Road Layover TPAP Draft

Item No.	Discipline	Reviewer Name	Drawing No./ Document No. Specification Section/ Page No.	Review Comment (Metrolinx, Third Party Reviewers)	Response
1	Management Biologist - Species at Risk	Aurora McAllister	Natural Environment Report, Section 5.4.1.1, Page 34	Some species of species at risk (SAR) bats are known to use anthropogenic structures such as buildings, houses and barns. If there are any structures or buildings on the subject lands that may be suitable for use by bats, surveys should be undertaken in accordance with the Ministry's protocols. A combination of exit surveys and acoustic surveys are recommended to confirm presence / absence of SAR bats. If a building or structure is confirmed as being used by SAR bats, authorization under the Endangered Species Act, 2007 (ESA) may be required in order to remove or alter he structure.	
2	Management Biologist - Species at Risk	Aurora McAllister	Natural Environment Report, Section 5.4.1.1, Page 34	The Ministry agrees that should Butternut or Barn Swallow be found on the site, activities that would impact these species or their habitats may be eligible for conditional exemptions in Ontario Regulation 830/21. Additionally, should field surveys confirm the presence of Eastern Meadowlark or Bobolink, the project may may be eligible for conditional exemp ions in relation to these species in Ontario Regulation 830/21.	
3	Management Biologist - Species at Risk	Aurora McAllister	Natural Environment Report, Section 5.4.1.1, Page 34	With respect to SAR bats, given the scale of the project relative to the local landscape, it is likely that direct impacts can be avoided by timing the tree removals to occur outside of the roost period / active season for SAR bats. Given the possible presence of Eastern Small-footed Myotis, the recommended window to remove trees is December 1 to March 14.	

From: Clara Chan
Sent: Monday, July 11, 2022 9:36 AM
To: Hughes, Jordan (MECP)
Cc: Batista, Cindy (MECP); Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses - City of Brampton
Attachments: 2022-07-06 - Heritage Road Layover - City of Brampton (CHR).xlsx

Good morning Jordan,

Please find attached Metrolinx's responses to the City's comments for CHR and Arch.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: July-11-22 9:33 AM
To: 'Lakeman, Brian' <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted]. Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3

T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: May-08-22 3:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

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From: Clara Chan
Sent: Wednesday, July 13, 2022 8:05 PM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca; Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover - Response to MECP Comments
Attachments: 2022-07-12 - Heritage Road Layover - Stakeholder CHR_NER Comments.xlsx; 2022-07-12 - Heritage Road Layover - MECP (Complete).xlsx

Good evening Jordan,

Further to the correspondence below, please find attached responses to MECP's comments relating to the Heritage Road Layover TPAP. As per comment 114 identified in the MECP comment file, I've also attached a separate excel spreadsheet outlining the natural and cultural heritage features that were circulated by other agencies; this includes the Ministry of Northern Development and Mines and Natural Resources and Forestry, the Ministry of Heritage, Tourism, Culture and Sport Industries, Credit Valley Conservation Authority and City of Brampton.

Due to the size constraints, a copy of the revised Natural Environment Report was circulated through EATs . For the time being, we are still updating the EPR given the most recent updates to the project with respect to Consultation. If you are comfortable, we can send you what we have at present, and send you further iterations as additional updates arise.

Please let us know if our responses to the MECP's comments can be considered addressed. A copy of these responses will be included in our EPR.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: July-13-22 7:59 PM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca
Subject: Heritage Road Layover - Response to MECP Comments

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clara.chan@metrolinx.com sent you a secure message

Access message

Good evening Jordan, Please find attached responses to MECP's comments relating to the Heritage Road Layover TPAP. As per comment 114 identi..

Attachments expire on Jul 18, 2022

2 spreadsheets

2022-07-12 - Heritage Road Layover - Stakeholder CHR NER Comments.xlsx, 2022-07-12 - Heritage Road Layover - MECP (Complete).xlsx

1 PDF

IM21405045_Heritage Layover_NER_R4.pdf

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PROJECT NAME	Heritage Road Layover TPAP
Title	Heritage Road Layover TPAP Draft

Item No.	Discipline	Reviewer Name	Drawing No./ Document No. Specification Section/ Page No.	Review Comment (Metrolinx, Third Party Reviewers)
1	MECP Environmental Assessment Branch	Jordan Hughes	Indigenous Consultation, EPR, Section 6 3.4	The EPR would benefit with providing more detail with regards to the correspondence with Indigenous communities including a brief summary of comments made by communities and frequency of outreach with each Indigenous community via phone calls, letters mailed and meetings as well as the results of the meetings held. Along with a brief summary of comments, Metrolinx's responses should be summarized and included as well. Copies of correspondence, meetings, call logs etc. should be included in the consultation record.
2	MECP Environmental Assessment Branch	Jordan Hughes	Indigenous Consultation, EPR, Section 6 3.4	The Indigenous Consultation section does not disclose whether the Stage 1 Archeological Assessment was shared to Indigenous communities and if any comments were provided.
3	MECP Technical Support Air Quality	Marinha Antunes	AQA Report Table 5-2 and 5-1	Table 5-2 refers to PM2.5 and NO2 90th percentile concentrations from Burlington, which is not included in Table 5-1 “MECP/NAPS Monitoring Stations”. A different station was also noted for CO, benzene and 1,3-butadiene when compared to Table 5-1. Please revise accordingly.
4	MECP Technical Support Air Quality	Marinha Antunes	AQA Report	Additional mitigation measures, including plantings and vegetation near impacted sensitive receptors to minimize off-site particulate impacts should be explored for the operation phase of the project.
5	MECP Conservation and Source Protection Branch	Vesna Alimpic		The study area is partially located in a highly vulnerable area (HVA) with vulnerability score 6 and significant groundwater recharge area (SGRA) with scores 6 and 2. While the normal operation phase of the project may not pose a significant threat to sources of drinking water, activities could pose a risk during the construction phase of the project. This means activities can be identified as low or moderate threats to drinking water and source protection plan policies may apply. Particular attention should be paid if the relocation of any fuel oil pipelines is necessary during construction.
6	MECP Conservation and Source Protection Branch	Vesna Alimpic	ESR Section 4 Impact Assessment and Preferred Design & Table 4-13-1	The EPR has not discussed the protection of drinking water sources. The EPR should identify that the project would be occurring within the Credit Valley Protection Area and that the CTC Source Protection Plan applies. The EPR should also identify whether any policies apply to activities related to the construction, operation, or maintenance of the project. The EPR should note whether the proponent has discussed the project with the CTC Source Protection Authority.
7	MECP Conservation and Source Protection Branch	Vesna Alimpic		There are 2 policies in the CTC Source Protection Plan that the proponent should be aware of and consider before project development, as applicable: -SAL-10 (future activities) - Where the application of road salt would be a moderate or low drinking water threat, the planning approval authority is encouraged to require a salt management plan; -SAL-12 (future and existing activities) - Where the application of road salt on unassumed roads and private parking lots with greater than 200 square metres the municipality is encouraged to: require implementation of a salt management plan and require the use of trained individuals in the application of road salt.
8	MECP Conservation and Source Protection Branch	Vesna Alimpic	ESR Section 4 Impact Assessment and Preferred Design & Table 4-13-1	The EPR proposes spill prevention and response measures for fuel handling and storage, dewatering management plans, as well as mitigation of possible impacts to natural environment. These measures may also mitigate risks to sources of drinking water and should be discussed in the EPR. Where an activity poses a risk to drinking water, Metrolinx must document and discuss how the project adheres to, or has regard to, any applicable policies in the CTC source protection plan. The policies should be listed and include any mitigation measures that may be proposed. While the EPR identifies possible fuel and chemical activities that may occur during construction, it is missing reference to any corresponding source protection plan policies.

9	MECP Conservation and Source Protection Branch	Vesna Alimpic		Metrolinx should contact the Project Manager for drinking water source protection at the CTC Source Protection Authority. The source protection authority can provide proponents with assistance in determining whether an activity associated with the construction or operation of the project may be considered to be a drinking water threat as per the Clean Water Act, 2006 and will be able to help determine whether there are policies in the source protection plan that may apply.

Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-845

May 27, 2022

MEMORANDUM

TO: Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx

FROM: Jordan Hughes, Project Officer
Environmental Assessment Services Section

RE: Draft Environmental Project Report for the Heritage Road Layover Project
Kitchener GO Rail Corridor near Heritage Road and Winston Churchill Blvd, City of Brampton, Region of Peel

---

The ministry has completed its review of Metrolinx's draft Environmental Project Report (EPR) for the Heritage Road Layover Project (the project), submitted to the ministry on April 5, 2022.

The review was carried out to determine whether the draft EPR meets the expectations set forth in the ministry's Guide: Ontario's Transit Project Assessment Process (Transit Guide) and the requirements set forth in Transit Projects and Metrolinx Undertakings (Transit Regulation) (O.Reg.231/08).

The ministry has prepared the following comments for consideration by Metrolinx when finalizing the EPR for submission to the ministry.

Furthermore, attached to this letter is a table summarizing comments provided by the ministry's technical reviewers as well as the original comments on air quality and source water protection. Please note that comments regarding groundwater and surface water will come at a later date.

General Comments

There are sections within the EPR that are incomplete, with information still to come. Specifically, Sections 6.4, 6.5, 6.6. 6.7, and 6.8 related to transit project assessment process (TPAP) consultation and review periods. It is understood that these sections are missing information following the required TPAP for public consultation and Minister's review. The above noted sections need to be updated once the process is complete.

Noise

Comments provided to Metrolinx with regards to noise and vibration were provided on February 11, 2022. The Ministry is satisfied with Metrolinx's responses and revisions to the comments.

Air Quality

Table 5-2 in the Air Quality Impact Assessment Report refers to PM2.5 and NO2 90th percentile concentrations from Burlington, which is not included in Table 5-1 "*MECP/NAPS Monitoring Stations*". A different station was also noted for CO, benzene and 1,3-butadiene when compared to Table 5-1. Please revise accordingly.

Additional mitigation measures, including plantings and vegetation near impacted sensitive receptors to minimize off-site particulate impacts should be explored for the operation phase of the project.

Source Water Protection

The study area is partially located in a highly vulnerable area (HVA) with vulnerability score 6 and significant groundwater recharge area (SGRA) with scores 6 and 2. While the normal operation phase of the project may not pose a significant threat to sources of drinking water, activities could pose a risk during the construction phase of the project. This means activities can be identified as low or moderate threats to drinking water and source protection plan policies may apply. Particular attention should be paid if the relocation of any fuel oil pipelines is necessary during construction.

The EPR has not discussed the protection of drinking water sources. The EPR should identify that the project would be occurring within the Credit Valley Protection Area and that the CTC Source Protection Plan applies. The EPR should also identify whether any policies apply to activities related to the construction, operation, or maintenance of the project. The EPR should note whether the proponent has discussed the project with the CTC Source Protection Authority.

There are 2 policies in the CTC Source Protection Plan that the proponent should be aware of and consider before project development, as applicable:

- SAL-10 (future activities) - Where the application of road salt would be a moderate or low drinking water threat, the planning approval authority is encouraged to require a salt management plan;
- SAL-12 (future and existing activities) - Where the application of road salt on unassumed roads and private parking lots with greater than 200 square meters the municipality is encouraged to: require implementation of a salt management plan and require the use of trained individuals in the application of road salt.

The EPR proposes spill prevention and response measures for fuel handling and storage, dewatering management plans, as well as mitigation of possible impacts to natural environment. These measures may also mitigate risks to sources of drinking water and should be discussed in the EPR. Where an activity poses a risk to drinking water, Metrolinx must document and discuss how the project adheres to, or has regard to, any applicable policies in the CTC source protection plan. The policies should be listed and include any mitigation measures that may be proposed. While the EPR identifies possible fuel and chemical activities that may occur during construction, it is missing reference to any corresponding source protection plan policies.

Metrolinx should contact the Project Manager for drinking water source protection at the CTC Source Protection Authority. The source protection authority can provide proponents with assistance in determining whether an activity associated with the construction or operation of the project may be considered to be a drinking water threat as per the *Clean Water Act*, 2006 and will be able to help determine whether there are policies in the source protection plan that may apply.

Consultation

The Indigenous Consultation section of the EPR, specifically section 6.3.4 would benefit with providing more detail with regards to the correspondence with Indigenous communities including a brief summary of comments made by communities and frequency of outreach with each Indigenous community via phone calls, letters mailed and meetings as well as the results of the meetings held. Along with a brief summary of comments., Metrolinx's responses should be summarized and included as well. Copies of correspondence, meetings, call logs etc. should be included in the consultation record.

Section 6.3.4 does not disclose whether the Stage 1 Archeological Assessment was shared to Indigenous communities and if any comments were provided. It should be noted that the ministry is responsible for commenting on the Indigenous consultation process and efforts that have been undertaken by Metrolinx.

It is the responsibility of Metrolinx to design and implement an appropriate consultation program for consultations regarding a project. As noted above, sections have been left blank in the draft EPR regarding consultation and review during the formal TPAP.

Please ensure that these placeholders are updated, the consultation program meets the expectations set out in the Transit Regulation and Transit Guide, and the consultation record is provided to the ministry for review. The ministry would like to see an updated consultation record prior to posting the Notice of Completion.

Next Steps

Thank you for the opportunity to comment on the draft EPR for the Heritage Road Layover project. The above and attached reflect the ministry's comments that should be addressed prior to submitting a final EPR to the ministry, by way of a comment response table. This table must include how all ministry comments will be addressed and the location of these revisions in the final EPR.

Please note that the ministry's comments (EA-related and technical), along with any comments received by other government agencies, Indigenous communities and the public should be considered by Metrolinx as it prepares the final EPR for submission.

Please provide to the ministry as soon as possible, any agency comments with respect to natural and cultural heritage features. In this regard, the ministry would like to see comments from the local Conservation Authority (CTC Source Protection Region), the Ministry of Northern Development and Mines and Natural Resources and Forestry and the Ministry of Heritage, Tourism, Culture and Sport Industries. As well as any relevant responses to these agencies and as well as their final comments.

Please also advise if there have been any significant comments from any Indigenous communities on the draft EPR.

We look forward to continuing to work with you on addressing our comments identified in the draft EPR. If you have any questions, please feel free to contact me at 437-770-6953 or by email at jordan.hughes@ontario.ca.

Sincerely,



Jordan Hughes

Attachments

c: Solange Desautels, Supervisor, Environmental Assessment Branch
Cindy Batista, Special Project Officer, Environmental Assessment Branch

Ministry of the Environment

Central Region
Technical Support Section

5775 Yonge Street, 8th Floor
North York, Ontario M2M 4J1

Tel.: (416) 326-6700
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Ministère de l'Environnment

Région du Centre
Section d'appui technique

5775, rue Yonge, 8ième étage
North York, Ontario M2M 4J1

Tél. : (416) 326-6700
Téléc. : (416) 325-6347

Ontario

May 17, 2022

TO: **Jordan Hughes**

FROM: **Marinha Antunes**

Subject: **Technical Support Air Quality Comments**

Heritage Road Layover TPAP
Air Quality Baseline Conditions and Impact Assessment Report
March 2022

The following memorandum summarizes the comments on the Air Quality Baseline Conditions and Impact Assessment (AQA) Report for the Heritage Road Layover Transit Environmental Assessment prepared by Wood Environment & Infrastructure Solutions and dated March 22, 2022.

A quantitative air quality impact assessment was conducted to assess the local air quality impacts from the proposed undertaking during construction and the operations' phase. Based on our review, the air quality impact assessment followed ministry's guidance documentation in estimating emissions and dispersion modelling calculations. The following are our comments and recommendations for the proponent's consideration:

1. Table 5-2 refers to $PM_{2.5}$ and NO_2 90th percentile concentrations from Burlington, which is not included in Table 5-1 "*MECP/NAPS Monitoring Stations*". A different station was also noted for CO, benzene and 1,3-butadiene when compared to Table 5-1. Please revise accordingly.

2. Additional mitigation measures, including plantings and vegetation near impacted sensitive receptors to minimize off-site particulate impacts should be explored for the operation phase of the project.

Thank you for the opportunity to comment. Should there be any questions or clarification required please have the consultants contact me directly.



Marinha Antunes
Air Quality Analyst
Central Region, Tech Support, APEP
5775 Yonge Street
Toronto, ON M2M 4J1

Cc: Stephen Belanger, Technical Support APEP Supervisor (A), MECP
Paul Martin, Technical Support Manager (A), MECP

Ministry of the Environment, Conservation and Parks

Conservation and Source Protection Branch

14th Floor
40 St. Clair Ave. West
Toronto ON M4V 1M2

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction de la protection de la nature et des sources

14e étage
40, avenue St. Clair Ouest
Toronto (Ontario) M4V 1M2

Ontario

19 May 2022

MEMORANDUM

To: Jordan Hughes, Project Officer
Environmental Assessment Branch

From: Vesna Alimpic, Program Analyst
Conservation and Source Protection Branch

Re: CSPB Comments – Metrolinx Heritage Road Layover Draft Environmental Project Report

In response to your request for review of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, Conservation and Source Protection Branch (CSPB) offers the following comments.

The Heritage Road Layover study area is located in the Credit Valley Source Protection Area and is therefore subject to the approved Credit Valley-Toronto and Region-Central Lake Ontario (CTC) Source Protection Plan.

The study area is partially located in a highly vulnerable area (HVA) with vulnerability score 6 and significant groundwater recharge area (SGRA) with scores 6 and 2. While the normal operation phase of the project may not pose a significant threat to sources of drinking water, activities could pose a risk during the construction phase of the project. This means activities can be identified as low or moderate threats to drinking water and source protection plan policies may apply. Particular attention should be paid if the relocation of any fuel oil pipelines is necessary during construction.

In the Draft EPR for the Heritage Road Layover, the proponent has not discussed the protection of drinking water sources. The EPR should identify that the project would be occurring within the Credit Valley Protection Area and that the CTC Source Protection Plan applies. The EPR should also identify whether any policies apply to activities related to the construction, operation, or maintenance of the project. The EPR should note whether the proponent has discussed the project with the CTC Source Protection Authority.

There are 2 policies in the **CTC Source Protection Plan** that the proponent should be aware of and consider before project development, as applicable.

- SAL-10 (future activities) - Where the application of road salt would be a moderate or low drinking water threat, the planning approval authority is encouraged to require a salt management plan,
- SAL-12 (future and existing activities) - Where the application of road salt on unassumed roads and private parking lots with greater than 200 square metres the municipality is encouraged to: require implementation of a salt management plan and require the use of trained individuals in the application of road salt.

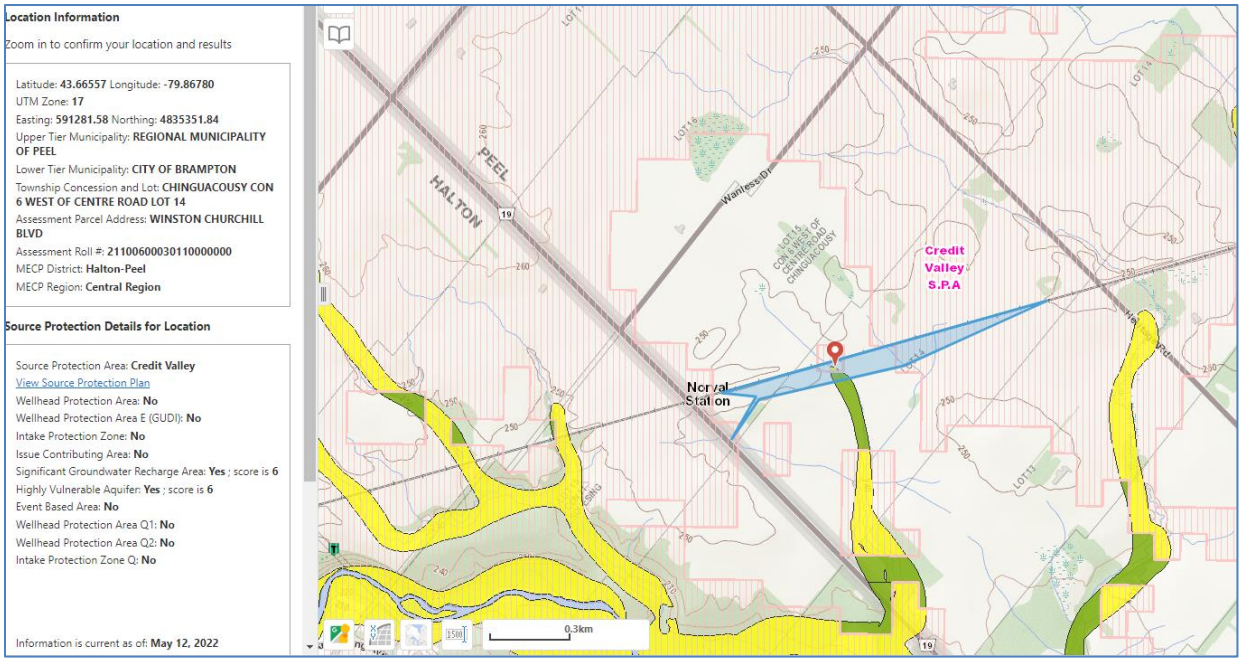
CSPB notes that the draft EPR proposes spill prevention and response measures for fuel handling and storage, dewatering management plans, as well as mitigation of possible impacts to natural environment. These measures may also mitigate risks to sources of drinking water and should be discussed in the EPR. Where an activity poses a risk to drinking water, the proponent must document and discuss how the project adheres to, or has regard to, any applicable policies in the CTC source protection plan. The policies should be listed and include any mitigation measures that may be proposed. While the EPR identifies possible fuel and chemical activities that may occur during construction, it is missing reference to any corresponding source protection plan policies.

If they have not done so already, the proponent should contact the Project Manager for drinking water source protection at the CTC Source Protection Authority. The source protection authority can provide proponents with assistance in determining whether an activity associated with the construction or operation of the project may be considered to be a drinking water threat as per the *Clean Water Act*, 2006 and will be able to help determine whether there are policies in the source protection plan that may apply. Even if the project activities in a vulnerable area are deemed to not to be significant threats to drinking water, there may be other low and moderate threat policies that apply, therefore consultation with the local source protection authority is important.

Thank you for considering the Conservation and Source Protection Branch's comments on the draft EPR for Heritage Road Layover. If you have any questions or concerns about the above information, please do not hesitate to contact myself or Jennifer Moulton, Manager, Conservation and Source Protection Branch.

Vesna Alimpic
Program Analyst, Conservation and Source Protection Branch
705-491-2781
sourceprotectionscreening@ontario.ca

cc: Jennifer Moulton, Manager, Approvals Unit, CSPB



Map 1 Map showing the location of the proposed project (shown as blue polygon) within Credit Valley Source Protection Area and highly vulnerable area (shown as pink hatching) and significant groundwater recharge area (shown in green and yellow).

Project Name	**Metrolinx Heritage Layover**
Project Number	**TPB195112**
Client	**Metrolinx**
Project Manager	**Clara Chan**
Document Reviewed	**Memo Noise & Vibration Assumptions & Modelling Approach**
Date Received	**2022-02-07 Rev 2**
Last Updated	

No.	Comment Date	Commenter	Comment / Question	Page #	Category	Wood Response	follow-up	Wood response	Action by	Status
1	2/11/2022	Kevin A Smith	The Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (Metrolinx 2020), should be the latest version which is dated May 2021	Section 4.0	Methodology	References have been modified to the latest Metrolinx Environmental Guide from 2021. This reference has also been used in the Noise & Vibration Impact Assessment Report.	OK			
2	2/11/2022	Kevin A Smith	Table 4.1, Construction Noise and Vibration Criteria, 3 [d] row of the table is incorrect for vibration criteria. Metric should be RMS, reference should be MOEE/GO Protocol. See table 19 of *Metrolinx Environmental Guide for Noise and Vibration Impact Assessment* (Metrolinx May 2021)	Section 4.1	Clarity	All reference to MOEE/MTO Protocol has been modified to MOEE/GO Protocol. Metric modified to RMS. This reference has also been used in the Noise & Vibration Impact Assessment Report.	OK			
3	2/11/2022	Kevin A Smith	"The impact rating identified in the MOEE/MTO protocol is summarized in Table 4.2.". Table 4.2 should not refer to MOEE/MTO protocol but should refer to MOEE/GO Protocol. This is also stated in the Table 1 Guidance Documents, of Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (Metrolinx May 2021). This table has a footnote that says Guidelines for layover sites are discussed briefly in NPC-300 and the GO Protocol. Guidance should be drawn from NPC-300 over the GO Protocol.	Section 4.2	Clarity	Modified to MOEE/GO Protocol. Footnote erased from document to ensure no confusion. This has also been addressed in the Noise & Vibration Impact Assessment Report.	OK			
4	2/11/2022	Kevin A Smith	Vibration impact during operational phase should refer to vibration metric of mm/s RMS as per Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (Metrolinx May 2021)	Section 4.2	Clarity	Modified to mm/s RMS as per protocol. This metric also been used in the Noise & Vibration Impact Assessment Report.	OK			
5	2/11/2022	Kevin A Smith	Table 6.2 What is the vibration rms level floor of the geophone transducer and vibration instrumentation? Why are you proposing to measure PPV for operational vibration baseline conditions? As per The Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (Metrolinx May 2021), section 7.1.4, the vibration instrumentation shall comply with applicable ISO and ANSI standards and be capable of accurately assessing vibration in the 0.05 to 0.20 mm/s RMS range at frequencies of 4 to 200 Hz.	Section 6.1	Clarity	Information modified to RMS velocity and applied in the Noise and Vibration Draft Report.	OK			
6	2/11/2022	Kevin A Smith	"Metrolinx 2020, Metrolinx Environmental Guide for Noise and Vibration Impact Assessment", should be the Metrolinx May 2021, edition	Section 8.0	Clarity	Modified to Metrolinx 2021 reference. This reference has also been used in the Noise & Vibration Impact Assessment Report.	OK			

From: Dara Corrigan
Sent: Wednesday, August 3, 2022 10:39 AM
To: Dara Corrigan
Subject: FW: Heritage Road Layover - Response to MECP Comments

---

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: July-28-22 2:50 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Heritage Road Layover - Response to MECP Comments

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Hi Clara,

Would it be possible to have the most recent version of the EPR? I have a reviewer that would like to see the edits in the revised draft.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-13-22 8:05 PM
To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover - Response to MECP Comments

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Good evening Jordan,

Further to the correspondence below, please find attached responses to MECP's comments relating to the Heritage Road Layover TPAP. As per comment 114 identified in the MECP comment file, I've also attached a separate excel spreadsheet outlining the natural and cultural heritage features that were circulated by other agencies; this includes the Ministry of Northern Development and Mines and Natural Resources and Forestry, the Ministry of Heritage, Tourism, Culture and Sport Industries, Credit Valley Conservation Authority and City of Brampton.

Due to the size constraints, a copy of the revised Natural Environment Report was circulated through EATs . For the time being, we are still updating the EPR given the most recent updates to the project with respect to Consultation. If you are comfortable, we can send you what we have at present, and send you further iterations as additional updates arise.

Please let us know if our responses to the MECP's comments can be considered addressed. A copy of these responses will be included in our EPR.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: July-13-22 7:59 PM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca
Subject: Heritage Road Layover - Response to MECP Comments

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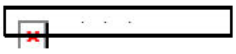
clara.chan@metrolinx.com sent you a secure message

Access message

Good evening Jordan, Please find attached responses to MECP's comments relating to the Heritage Road Layover TPAP. As per comment 114 identi..



Attachments expire on Jul 18, 2022

2 spreadsheets

2022-07-12 - Heritage Road Layover - Stakeholder CHR_NER Comments.xlsx, 2022-07-12 - Heritage Road Layover - MECP (Complete).xlsx

1 PDF

IM21405045_Heritage Layover_NER_R4.pdf

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From: Brian Poole
Sent: Friday, July 29, 2022 10:13 AM
To: Clara Chan; Dara Corrigan
Subject: FW: Heritage Road Layover TPAP - Updated Environmental Project Report (EPR) - July 29, 2022

Follow Up Flag: Follow up
Flag Status: Flagged

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: July 29, 2022 10:07 AM
To: jordan.hughes@ontario.ca
Subject: Heritage Road Layover TPAP - Updated Environmental Project Report (EPR) - July 29, 2022

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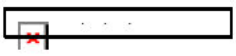
brian.poole@metrolinx.com sent you a secure message

Access message

Hi Jordan, As per your request on July 28th, I've attached the latest version of the Heritage Road Layover TPAP EPR for your review. There a..



Attachments expire on Aug 03, 2022

1 PDF
2022-07-28_IM21405045_Heritage Layover_DRAFT EPR_Update_Clean.pdf

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From: Dara Corrigan
Sent: Wednesday, August 17, 2022 12:50 PM
To: Dara Corrigan
Subject: FW: HRL - MECP Comment Response Table
Attachments: 2022-07-12 - Heritage Road Layover_MECP_Commment_Response.xlsx

---

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: August-15-22 3:43 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>
Subject: MECP Comment-Response Table

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Hi Clara,

Please see the attached comment response table with regards to the MECP GRT comments.
As previously discussed, the SAR Branch has not yet reviewed the responses, and I will provide that when it is available.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

PROJECT NAME	Heritage Road Layover
Submittal Date	12-Jul-22

* Actions	** Line Item Status
1 = Will comply 2 = Discuss, clarification required 3 = Not applicable because	O = Open, not resolved P = Pending incorporation in design C = Closed, implementation complete

Item No.	Reviewer Name	Organization	Report	Drawing No./ Document No. Specification Section/ Page No.	Review Comment	Response and Details (Submitter)	* Action 1 / 2 / 3 (Submitter)	** Line Item Status O / P / C (Reviewer)
100	Vesna Alimpic, Jordan Hughes	MECP Conservation and Source Protection Branch	EPR		The study area is partially located in a highly vulnerable area (HVA) with vulnerability score 6 and significant groundwater recharge area (SGRA) with scores 6 and 2. While the normal operation phase of the project may not pose a significant threat to sources of drinking water, activities could pose a risk during the construction phase of the project. This means activities can be identified as low or moderate threats to drinking water and source protection plan policies may apply. Particular attention should be paid if the relocation of any fuel oil pipelines is necessary during construction.	Noted.	1	No additional comments at this time
101	Vesna Alimpic, Jordan Hughes	MECP Conservation and Source Protection Branch	EPR		The EPR has not discussed the protection of drinking water sources. The EPR should identify that the project would be occurring within the Credit Valley Protection Area and that the CTC Source Protection Plan applies. The EPR should also identify whether any policies apply to activities related to the construction, operation, or maintenance of the project. The EPR should note whether the proponent has discussed the project with the CTC Source Protection Authority.	Added to Section 3.10 of the EPR: *The Project Site is situated within Credit Valley Protection Area and therefore, the CTC Source Protection Plan may be applicable. The Project Manager at the CTC Source Protection Authority will be contacted to identify policies in source protection that may apply to the Heritage Road Layover Project. This will be done as part of the development of Detailed Design.* EPR (Section 6.4.5) also modified to discuss drinking water sources. Language also updated in Section 4 2.1 in the NER.	1	Comment addressed. No additional comments at this time
102	Vesna Alimpic, Jordan Hughes	MECP Conservation and Source Protection Branch	EPR		There are 2 policies in the CTC Source Protection Plan that the proponent should be aware of and consider before project development, as applicable: -SAL-10 (future activities) - Where the application of road salt would be a moderate or low drinking water threat, the planning approval authority is encouraged to require a salt management plan; -SAL-12 (future and existing activities) - Where the application of road salt on unassumed roads and private parking lots with greater than 200 square metres the municipality is encouraged to: require implementation of a salt management plan and require the use of trained individuals in the application of road salt.	Noted. A salt management plan is included within the EPR (Section 4.4.2, Section 7.3). Salt management plan also included in Section 5.2.2 and Table 8 in the NER..	1	Comment addressed. No additional comments at this time
103	Vesna Alimpic, Jordan Hughes	MECP Conservation and Source Protection Branch	EPR	ESR Section 4 Impact Assessment and Preferred Design & Table 4-13-1	The EPR proposes spill prevention and response measures for fuel handling and storage, dewatering management plans, as well as mitigation of possible impacts to natural environment. These measures may also mitigate risks to sources of drinking water and should be discussed in the EPR. Where an activity poses a risk to drinking water, Metrolinx must document and discuss how the project adheres to, or has regard to, any applicable policies in the CTC source protection plan. The policies should be listed and include any mitigation measures that may be proposed. While the EPR identifies possible fuel and chemical activities that may occur during construction, it is missing reference to any corresponding source protection plan policies.	The following text has been added to Section 4.11 of the EPR: *Development at the Site must consider these sensitive areas and their associated policies, particularly with regards to maintaining pre-development groundwater recharge function under the post-development condition. A water balance will be completed as part of a separate report, which will assist in assessing this groundwater recharge issue.* Commitment for salt management plan added in the EPR and NER per comment 102, above). Information regarding spill commitments already present in table 8. Source protection language added per comment 101, above.	1	Comment addressed. No additional comments at this time
104	Vesna Alimpic	MECP Conservation and Source Protection Branch	EPR		Metrolinx should contact the Project Manager for drinking water source protection at the CTC Source Protection Authority. The source protection authority can provide proponents with assistance in determining whether an activity associated with the construction or operation of the project may be considered to be a drinking water threat as per the Clean Water Act, 2006 and will be able to help determine whether there are policies in the source protection plan that may apply.	Added to Section 3.10 in the EPR: *The Project Manager at the CTC Source Protection Authority will be contacted to identify policies in source protection that may apply to the Heritage Road Layover Project. Thi will be done as part of the development of Detailed Design.* Language also added to section 4 2.1 of the NER	1	Comment addressed. No additional comments at this time
105	Jordan Hughes	MECP	EPR	General	The ministry has completed its review of Metrolinx's draft Environmental Project Report (EPR) for the Heritage Road Layover Project (the project), submitted to the ministry on April 5, 2022. The review was carried out to determine whether the draft EPR meets the expectations set forth in the ministry's Guide: Ontario's Transit Project Assessment Process (Transit Guide) and the requirements set forth in Transit Projects and Metrolinx Undertakings (Transit Regulation) (O.Reg.231/08). The ministry has prepared the following comments for consideration by Metrolinx when finalizing the EPR for submission to the ministry. Furthermore, attached to this letter is a table summarizing comments provided by the ministry's technical reviewers as well as the original comments on air quality and source water protection. Please note that comments regarding groundwater and surface water will come at a later date.	Noted.	1	No additional comments at this time
106	Jordan Hughes	MECP	EPR	General	There are sections within the EPR that are incomplete, with information still to come. Specifically, Sections 6.4, 6.5, 6 6. 6.7, and 6.8 related to transit project assessment process (TPAP) consultation and review periods. It is understood that these sections are missing information following the required TPAP for public consultation and Minister's review. The above noted sections need to be updated once the process is complete.	Once the TPAP process is complete, Section 6.4, 6.5, 6.6, 6.7, and 6 8 will be updated.	1	Ongoing, sections 6 51, 6.6, 6.8, and 6 9 to be updated.
107	Jordan Hughes	MECP	EPR	Noise	Comments provided to Metrolinx with regards to noise and vibration were provided on February 11, 2022. The Ministry is satisfied with Metrolinx's responses and revisions to the comments.	Noted.	1	No additional comments at this time
108	Jordan Hughes, Marintha Antunes	MECP	EPR	Air Quality	Table 5-2 in the Air Quality Impact Assessment Report refers to PM2.5 and NO2 90th percentile concentrations from Burlington, which is not included in Table 5-1 "MECP/NAPS Monitoring Stations". A different station was also noted for CO, benzene and 1,3-butadiene when compared to Table 5-1. Please revise accordingly.	Noted. The text will be revised to match Table 5-1.	1	Comment addressed. No additional comments at this time
109	Jordan Hughes, Marintha Antunes	MECP	EPR	Air Quality	Additional mitigation measures, including plantings and vegetation near impacted sensitive receptors to minimize off-site particulate impacts should be explored for the operation phase of the project.	Noted. Information regarding additional mitigation measures are listed in Table 5 3-2 under Vegetation Compensation and Revegetation heading.	1	Comment addressed. No additional comments at this time
110	Jordan Hughes	MECP	EPR	Consultation	The Indigenous Consultation section of the EPR, specifically section 6.3.4 would benefit with providing more detail with regards to the correspondence with Indigenous communities including a brief summary of comments made by communities and frequency of outreach with each Indigenous community via phone calls, letters mailed and meetings as well as the results of the meetings held. Along with a brief summary of comments., Metrolinx's responses should be summarized and included as well. Copies of correspondence, meetings, call logs etc. should be included in the consultation record.	Noted. The EPR will be updated to provide information about correspondence and consultation with Indigenous Nations.	1	Ongoing, subject to updates following futher consultation with communities during the Notice of Issue period.

111	Jordan Hughes	MECP	EPR	Consultation	Section 6.3.4 does not disclose whether the Stage 1 Archeological Assessment was shared to Indigenous communities and if any comments were provided. It should be noted that the ministry is responsible for commenting on the Indigenous consultation process and efforts that have been undertaken by Metrolinx.	Noted. The Stage 1 Archaeological Assessment was shared to Indigenous communities identified by Metrolinx. The Stage 1 AA has been updated to include information of the process. Section 6.3.4 of the EPR will be updated as well to document the Indigenous consultation process and efforts.	1	Comment addressed. No additional comments at this time
112	Jordan Hughes	MECP	EPR	Consultation	It is the responsibility of Metrolinx to design and implement an appropriate consultation program for consultations regarding a project. As noted above, sections have been left blank in the draft EPR regarding consultation and review during the formal TPAP.	Noted. The EPR will be updated to provide a more comprehensive Record of Consultation.	1	No additional comments at this time. Noted section on item #106 to be updated.
113	Jordan Hughes	MECP	EPR	Consultation	Please ensure that these placeholders are updated, the consultation program meets the expectations set out in the Transit Regulation and Transit Guide, and the consultation record is provided to the ministry for review. The ministry would like to see an updated consultation record prior to posting the Notice of Completion.	Noted.	1	Ongoing, updated consultation record to be provided following the Notice of Issue/Resumption.
114	Jordan Hughes	MECP	EPR	Next Steps	Thank you for the opportunity to comment on the draft EPR for the Heritage Road Layover project. The above and attached reflect the ministry's comments that should be addressed prior to submitting a final EPR to the ministry, by way of a comment response table. This table must include how all ministry comments will be addressed and the location of these revisions in the final EPR. Please note that the ministry's comments (EA-related and technical), along with any comments received by other government agencies, Indigenous communities and the public should be considered by Metrolinx as it prepares the final EPR for submission. Please provide to the ministry as soon as possible, any agency comments with respect to natural and cultural heritage features. In this regard, the ministry would like to see comments from the local Conservation Authority (CTC Source Protection Region), the Ministry of Northern Development and Mines and Natural Resources and Forestry and the Ministry of Heritage, Tourism, Culture and Sport Industries. As well as any relevant responses to these agencies and as well as their final comments. Please also advise if there have been any significant comments from any Indigenous communities on the draft EPR. We look forward to continuing to work with you on addressing our comments identified in the draft EPR. If you have any questions, please feel free to contact me at 437-770-6953 or by email at jordan.hughes@ontario.ca.	Noted. Metrolinx will circulate responses from other agencies with natrual and cultural heritage features as they become available.	1	Received comment responses from MTCS. Comment addressed. No addiotnal comments at this time.
115	MECP - SAR Branch	EPR / NER	Natural Environment Report, Section 5.4.1.1, Page 34	Some species of species at risk (SAR) bats are known to use anthropogenic structures such as buildings, houses and barns. If there are any structures or buildings on the subject lands that may be suitable for use by bats, surveys should be undertaken in accordance with the Ministry's protocols. A combination of exit surveys and acoustic surveys are recommended to confirm presence / absence of SAR bats. If a building or structure is confirmed as being used by SAR bats, authorization under the Endangered Species Act, 2007 (ESA) may be required in order to remove or alter the structure.	Noted. Currently no anthropogenic structures are planned for removal and/or alteration. However, if the design changes and structures will be removed/altered, surveys will follow appropriate protocols and timing windows. The commitments table in section 8 has been updated to reflect this commitment.	Noted. Currently no anthropogenic structures are planned for removal and/or alteration. However, if the design changes and structures will be removed/altered, surveys will follow appropriate protocols and timing windows. The commitments table in section 8 has been updated to reflect this commitment.	1	
116	MECP - SAR Branch	EPR / NER	Natural Environment Report, Section 5.4.1.1, Page 34	The Ministry agrees that should Butternut or Barn Swallow be found on the site, activities that would impact these species or their habitats may be eligible for conditional exemptions in Ontario Regulation 830/21. Additionally, should field surveys confirm the presence of Eastern Meadowlark or Bobolink, the project may may be eligible for conditional exemptions in relation to these species in Ontario Regulation 830/21.	Noted	Noted	1	
117	MECP - SAR Branch	EPR / NER	Natural Environment Report, Section 5.4.1.1, Page 34	With respect to SAR bats, given the scale of the project relative to the local landscape, it is likely that direct impacts can be avoided by timing the tree removals to occur outside of the roost period / active season for SAR bats. Given the possible presence of Eastern Small-footed Myotis, the recommended window to remove trees is December 1 to March 14.	Added to the commitments table. Timing window noted in section 6.1.2.	Added to the commitments table. Timing window noted in section 6.1 2.	1	

Ministry of Municipal Affairs and Housing

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:41 AM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: FW: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Re:Metrolinx Heritage Road Layover - Draft EPR Transmittal

Emails to MMAH (forgot the Notice in the first email)

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-06-22 8:22 AM
To: heather.watt@ontario.ca
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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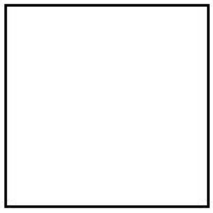

clara.chan@metrolinx.com sent you a secure message

Access message

Dear Ms. Watt, Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. Met..

☐ Attachments expire on Apr 11, 2022

☐ 1 spreadsheet
Heritage Road Layover Draft EPR - GRT.xlsx

☐ 1 PDF
2022-04-05_GRT Circulation Cover Letter.pdf

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From: Clara Chan
Sent: Monday, April 11, 2022 4:00 PM
To: Watt, Heather (MMAH)
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: 2022-04-05_GRT Circulation Cover Letter.pdf; Heritage Road Layover Draft EPR - GRT.xlsx

Hi Heather,

Please find attached the circulation letter and comment file. Below is a map overlay identifying the proposed location of Heritage Road Layover.

Let me know if this is sufficient; otherwise I can resend the information through EATS.

Thank you,
Clara



Clara Chan
Project Manager, Environmental Programs & Assessment
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E: Clara.Chan@metrolinx.com

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METROLINX

From: Watt, Heather (MMAH) <Heather.Watt@ontario.ca>
Sent: April-11-22 3:41 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

You don't often get email from heather.watt@ontario.ca. Learn why this is important

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From: Clara Chan
Sent: Thursday, April 14, 2022 3:25 PM
To: Watt, Heather (MMAH)
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

Good afternoon Heather,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: April-11-22 4:00 PM
To: Watt, Heather (MMAH) <Heather.Watt@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Clara



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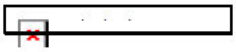

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From: Clara Chan
Sent: Thursday, May 5, 2022 5:45 PM
To: Watt, Heather (MMAH)
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Good afternoon Heather,

Further to requesting your comments of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.

Also, this is a gentle reminder, if you haven't provided a response for the remaining EPR, we ask that you provide your feedback by **May 8, 2022.**
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

Safety Never Stops.

From: Clara Chan
Sent: April-14-22 3:25 PM
To: Watt, Heather (MMAH) <Heather.Watt@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Ministry of Natural Resources and Forestry

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:42 AM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: MNDMNRF Transmittal
Attachments: Re:Heritage Road Layover TPAP - Draft EPR

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-06-22 8:26 AM
To: chris.hislop@ontario.ca
Subject: Heritage Road Layover TPAP - Draft EPR

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clara.chan@metrolinx.com sent you a secure message

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Dear Mr. Hislop, Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. M..

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1 spreadsheet
Heritage Road Layover Draft EPR - GRT.xlsx

1 PDF
2022-04-05_GRT Circulation Cover Letter.pdf

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From: info-attachmail@ontario.ca
Sent: Wednesday, April 6, 2022 8:26 AM
To: chris.hislop@ontario.ca
Subject: Heritage Road Layover TPAP - Draft EPR

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Heritage Road Layover - NoC - English - QME-WPC-160.pdf

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From: Clara Chan
Sent: Thursday, April 14, 2022 3:25 PM
To: chris.hislop@ontario.ca
Cc: Clara Chan; Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover TPAP - Draft EPR - Correction

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If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Thursday, May 5, 2022 5:49 PM
To: Brown, Sadie (NDMNRF)
Cc: McCloskey, Amanda (NDMNRF); Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Sadie,

Thanks for your feedback for the EPR. We will review your comments and provide a response where applicable.

We just wanted to advise that we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

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https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

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METROLINX

Safety Never Stops.

From: Brown, Sadie (NDMNRF) <Sadie.Brown@ontario.ca>
Sent: April-22-22 3:03 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft EPR - Correction

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Good afternoon, we hope you are doing well.

Please see the attached comments regarding the Heritage Road Layover TPAP - Draft EPR.

Thank you,

Sadie Brown
A/District Planner
Land Use Planning and Strategic Issues Section | Southern Region
Ministry of Northern Development, Mines, Natural Resources and Forestry
sadie.brown@ontario.ca | 705-761-3374
Preferred pronouns are she/her

Ontario

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 14, 2022 3:25 PM
To: Hislop, Chris (NDMNRF) <Chris.Hislop@ontario.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Draft EPR - Correction

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From: Clara Chan
Sent: Wednesday, June 1, 2022 3:29 PM
To: Brian Poole
Cc: Dara Corrigan
Subject: FW: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Brian,

Can you please file MNDMNRF's response?

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: June-01-22 12:09 PM
To: Capelle, Pauline (NDMNRF) <Pauline.Capelle@ontario.ca>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Pauline,

Thank you for letting us know. We will forward you with any relevant details to the project moving forward.

Kind regards,
Clara

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METROLINX

From: Capelle, Pauline (NDMNRF) <Pauline.Capelle@ontario.ca>
Sent: May-26-22 1:46 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Good Afternoon Clara,

Thank you for sending the additional report. NDMNRF has no further comments at this time, however, I wanted to let you know that Sadie has moved on to another position. Moving forward, I will be your NDMNRF contact for this project.

All the best,
Pauline

Pauline Capelle (she/her), Regional Planner
Land Use Planning and Strategic Issues Section | Southern Region
Ministry of Northern Development, Mines, Natural Resources and Forestry
Pauline.Capelle@Ontario.ca | 705-761-5633



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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 5, 2022 5:49 PM
To: Brown, Sadie (MMAH) <Sadie.Brown@ontario.ca>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Let us know if you have any questions.

Thank you,
Clara

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From: Clara Chan
Sent: Monday, July 4, 2022 9:23 AM
To: 'Capelle, Pauline (NDMNRF)'
Cc: 'McCloskey, Amanda (NDMNRF)'; Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report
Attachments: 2022-07-04 - Heritage Road Layover - MNDMNRF.xlsx

Good morning Pauline,

Please find attached our responses to MNDMNRF's feedback to the review of the Heritage Road Layover EPR.

A copy of these responses will be included in our EPR. Please let us know if these comments can be considered addressed.

Kind regards,
Clara

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Cc: Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Draft EPR - Correction

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Good afternoon Mr. Hislop,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

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Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-06-22 8:34 AM
To: chris.hislop@ontario.ca
Subject: Re:Heritage Road Layover TPAP - Draft EPR

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Attachments expire on Apr 11, 2022



1 PDF
Heritage Road Layover - NoC - English - QME-WPC-160.pdf

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PROJECT NAME:	Heritage Road Layover
Submittal Date:	4-Jul-22

* Actions:	** Line Item Status:
1 = Will comply	O = Open, not resolved
2 = Discuss, clarification required	P = Pending incorporation in design
3 = Not applicable because…	C = Closed, implementation complete

Item No.	Reviewer Name	Organization	Report	Drawing No./ Document No. Specification Section/ Page No.	Review Comment	Response and Details (Submitter)	* Action 1 / 2 / 3 (Submitter)	** Line Item Status O / P / C (Reviewer)
1	Sadie Brown - District Planner	MNDMNRF	EPR	Natural Environment	NDMNRF's natural heritage and natural resources GIS data layers can be obtained through the Ministry's Land Information Ontario (LIO) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSIs, woodlands, etc.) using the Natural Heritage Make a Map tool. We recommend you use the above-noted sources of information during the review of your project proposal.	Noted.	1	
2	Sadie Brown - District Planner	MNDMNRF	EPR	Natural Hazards	A series of natural hazard technical guides developed by NDMNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the Technical Guide River and Stream Systems: Flooding Hazard Limit (2002). We recommend you consider these technical guides as you assess specific improvement projects that can be undertaken by the City to reduce the risk of flooding.	Natural hazard technical guides will be considered as part of the Stormwater Management Report.	1	
3	Sadie Brown - District Planner	MNDMNRF	EPR	Petroleum Wells & Oil, Gas and Salt Resource Act	There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best-known data on any wells recorded by NDMNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the library website in order to better understand the well information available. Any oil and gas wells in your project area are regulated by the Oil, Gas and Salt Resource Act, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.	This information will be identified in the geotechnical report.	1	
4	Sadie Brown - District Planner	MNDMNRF	EPR	Natural Environment	Should the project require: - the relocation of fish outside of the work area a Licence to Collect Fish for Scientific purposes under the Fish and Wildlife Conservation Act will be required. - the relocation of wildlife outside the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the Fish and Wildlife Conservation Act will also be required.	A Licence to Collect Fish for Scientific purposes under the Fish and Wildlife Conservation Act has been obtained to permit Aquatic Survey field investigations. Commitment added to EPR Table ES-1 and Table 4.13 1	1	
5	Sadie Brown - District Planner	MNDMNRF	EPR	Natural Environment	Some projects may be subject to the provisions of the Public Lands Act or Lakes and Rivers Improvement Act. Please review the information on NDMNRF's web pages provided below regarding when an approval is required or not. Please note many of the authorizations issued under the Lakes and Rivers Improvement Act are administered by the local Conservation Authority. • For more information about the Public Lands Act: https://www.ontario.ca/page/crown-land-work-permits • For more information about the Lakes and Rivers Improvement Act: https://www.ontario.ca/document/lakes-and-rivers-improvement-act-administrative-guide	Noted. The Project is not situated on any public lands.	1	
6	Sadie Brown - District Planner	MNDMNRF	EPR	General	After reviewing the information provided, if you have not identified any of NDMNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of NDMNRF's interests stated above and may require permit(s), please contact scp.aurora@ontario.ca.	Noted.	1	

Ministry of Northern Development, Mines, Natural Resources and Forestry

Ministère du Développement du Nord, des Mines, des Richesses naturelles et des Forêts

Ontario

April 22, 2022

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx
10 Bay Street,
Toronto, ON, M5J 2W3
Clara.Chan@metrolinx.com

Subject: Heritage Road Layover TPAP – Draft EPR

Dear Clara,

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) received the Notice of Commencement for the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project on April 6, 2022. Thank for you for circulating this to our office, please note we have not completed a screening of natural heritage or other resource values for the project at this time. This response, however, does provide information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation and engaging with the Ministry for advice as needed.

Please also note it is the proponent's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

Natural Heritage

NDMNRF's natural heritage and natural resources GIS data layers can be obtained through the Ministry's Land Information Ontario (LIO) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSIs, woodlands, etc.) using the Natural Heritage Make a Map tool.

We recommend you use the above-noted sources of information during the review of your project proposal.

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A series of natural hazard technical guides developed by NDMNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend you consider these technical guides as you assess specific improvement projects that can be undertaken by the City to reduce the risk of flooding.

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There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best-known data on any wells recorded by NDMNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the library website in order to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Gas and Salt Resource Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.

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Should the project require:

- the relocation of fish outside of the work area a Licence to Collect Fish for Scientific purposes under the Fish and Wildlife Conservation Act will be required.
- the relocation of wildlife outside the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the Fish and Wildlife Conservation Act will also be required.

Public Lands Act & Lakes and Rivers Improvement Act

Some projects may be subject to the provisions of the *Public Lands Act* or *Lakes and Rivers Improvement Act*. Please review the information on NDMNRF's web pages provided below regarding when an approval is required or not. Please note many of the authorizations issued under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*: https://www.ontario.ca/page/crown-land-work-permits
- For more information about the *Lakes and Rivers Improvement Act*: https://www.ontario.ca/document/lakes-and-rivers-improvement-act-administrative-guide

After reviewing the information provided, if you have not identified any of NDMNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of NDMNRF's interests stated above and may require permit(s), please contact scp.aurora@ontario.ca.

If you have any questions or concerns, please feel free to contact me.

Sincerely,

Sadie Brown
District Planner
Ministry of Northern Development, Mines, Natural Resources and Forestry
E-mail: sadie.brown@ontario.ca

From: Clara Chan
Sent: Wednesday, June 1, 2022 12:09 PM
To: Capelle, Pauline (NDMNRF)
Cc: McCloskey, Amanda (NDMNRF); Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Pauline,

Thank you for letting us know. We will forward you with any relevant details to the project moving forward.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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E: Clara.Chan@metrolinx.com

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Sent: May-26-22 1:46 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Good Afternoon Clara,

Thank you for sending the additional report. NDMNRF has no further comments at this time, however, I wanted to let you know that Sadie has moved on to another position. Moving forward, I will be your NDMNRF contact for this project.

All the best,
Pauline

Pauline Capelle (she/her), Regional Planner
Land Use Planning and Strategic Issues Section | Southern Region
Ministry of Northern Development, Mines, Natural Resources and Forestry
Pauline.Capelle@Ontario.ca | 705-761-5633



As part of providing accessible customer service, please let me know if you have any accommodation needs or require communication supports or alternate formats.

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 5, 2022 5:49 PM
To: Brown, Sadie (MMAH) <Sadie.Brown@ontario.ca>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Hi Sadie,

Thanks for your feedback for the EPR. We will review your comments and provide a response where applicable.

We just wanted to advise that we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
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Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

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Subject: RE: Heritage Road Layover TPAP - Draft EPR - Correction

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Good afternoon, we hope you are doing well.

Please see the attached comments regarding the Heritage Road Layover TPAP - Draft EPR.

Thank you,

Sadie Brown
A/District Planner
Land Use Planning and Strategic Issues Section | Southern Region
Ministry of Northern Development, Mines, Natural Resources and Forestry
sadie.brown@ontario.ca | 705-761-3374
Preferred pronouns are she/her

Ontario

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From: Clara Chan <Clara.Chan@metrolinx.com>
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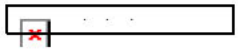

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From: Clara Chan
Sent: Monday, July 4, 2022 9:23 AM
To: Capelle, Pauline (NDMNRF)
Cc: McCloskey, Amanda (NDMNRF); Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report
Attachments: 2022-07-04 - Heritage Road Layover - MNDMNRF.xlsx

Good morning Pauline,

Please find attached our responses to MNDMNRF's feedback to the review of the Heritage Road Layover EPR.

A copy of these responses will be included in our EPR. Please let us know if these comments can be considered addressed.

Kind regards,
Clara

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Project Manager, Environmental Programs & Assessment
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sadie.brown@ontario.ca | 705-761-3374
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Access message

Good morning Mr. Hislop, Apologies -- Notice of Commencement also attached. Thank you, Clara On Wed, Apr 06, 2022 at 08:25 AM clara.chan@met..





Attachments expire on Apr 11, 2022



1 PDF
Heritage Road Layover - NoC - English - QME-WPC-160.pdf

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Ministry of Tourism, Culture and Sport

From: Clara Chan
Sent: Tuesday, April 5, 2022 6:13 PM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: Transmittal to MHSTCI - EPR

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-05-22 6:10 PM
To: karla.barboza@ontario.ca; james.hamilton@ontario.ca; rosi.zirger@ontario.ca; laura.e.hatcher@ontario.ca
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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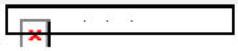
Access message

Dear Karla, Laura, Jim and Rosi, As previously discussed, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within t..



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From: info-attachmail@ontario.ca
Sent: Thursday, April 7, 2022 8:58 AM
To: Clara Chan; Brian Poole; Dara Corrigan
Subject: Download notification: laura.e.hatcher@ontario.ca downloaded 2 files

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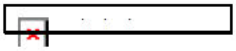



Downloaded on Apr 7, 2022 12:57:46 (GMT)



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From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: Thursday, April 7, 2022 9:04 AM
To: Clara Chan
Subject: RE: Heritage Road Layover - Draft EPR

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Hi Clara,

Not a problem. I don't think Dan will be involved in this file.

Thanks,
Laura

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 7, 2022 9:02 AM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: Heritage Road Layover - Draft EPR

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning Laura,

I hope all is well! I realized I didn't send over the draft EPR to Dan Minkin. Should I forward this request over to him as well?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Thursday, April 7, 2022 10:04 AM
To: Dara Corrigan; Brian Poole; Simon Strauss
Subject: FW: Metrolinx Heritage Road Layover - Draft EPR Transmittal

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: April-07-22 10:04 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hi Clara,

Thank you for sending the draft EPR to our attention. I will provide comments by the requested date of May 8.

Laura

From: Info-Attachmail (MGCS) <Info-Attachmail@ontario.ca>
Sent: April 5, 2022 6:10 PM
To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Access message

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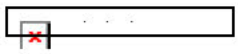

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From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: Monday, April 11, 2022 4:56 PM
To: Clara Chan
Subject: RE: Heritage Road Layover - Draft EPR

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Hi Clara,

It seems the material I downloaded does not include the comment template you mentioned. Now the EATS link has expired. I may have missed it. Would it be possible to send it to me?

Thank you,

Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Heritage, Sport, Tourism and Culture Industries
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 7, 2022 9:11 AM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: RE: Heritage Road Layover - Draft EPR

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Thanks for confirming, Laura!

Hope you have a good day!

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: April-07-22 9:04 AM
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Thanks,
Laura

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Sent: April 7, 2022 9:02 AM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: Heritage Road Layover - Draft EPR

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Good morning Laura,

I hope all is well! I realized I didn't send over the draft EPR to Dan Minkin. Should I forward this request over to him as well?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
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From: Clara Chan
Sent: Thursday, April 14, 2022 3:25 PM
To: 'Barboza, Karla (MHSTCI)'; Hamilton, James (MHSTCI); Zirger, Rosi (MHSTCI); 'Hatcher, Laura (MHSTCI)'
Cc: Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

Good afternoon Karla, James, Rosi and Laura,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
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Hi Clara,

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Laura

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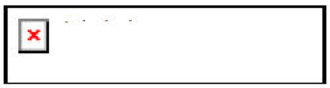

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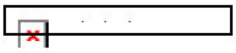



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If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
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E: Clara.Chan@metrolinx.com

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Sent: April-07-22 10:04 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hi Clara,

Thank you for sending the draft EPR to our attention. I will provide comments by the requested date of May 8.

Laura

From: Info-Attachmail (MGCS) <Info-Attachmail@ontario.ca>
Sent: April 5, 2022 6:10 PM
To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
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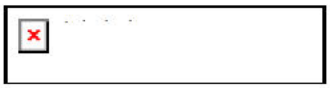

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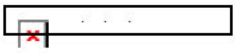



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From: Clara Chan
Sent: Friday, May 13, 2022 2:28 PM
To: Hatcher, Laura (MHSTCI)
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Hamilton, James (MHSTCI); Barboza, Karla (MHSTCI); Zirger, Rosi (MHSTCI); Desautels, Solange (MECP); Hughes, Jordan (MECP)
Subject: Heritage Road Layover TPAP - Stage 1 AA Query re: submittal to the Public Register

Good afternoon Laura,

Hope you're doing well.

With regards to the Stage 1 AA, we have not yet received feedback on the report from Indigenous Nations at this time, though we have been in regular communication with them, and will invite them to the Stage 3 field activities planned in late Jun/early July. Do you think there would be any concerns in that regard if we hold off on submitting the finalized Stage 1 AA to the registry until we get responses from Nations? We want to also be mindful of the project timelines.

I just wanted to also flag that we will be pursuing the full 120-day regulated TPAP period instead of the originally planned 90-day TPAP. The notice of completion therefore is planned for July 22, 2022.

Please let us know your thoughts. I'll be on vacation starting Monday, and returning June 1, so if you can include Brian Poole and Simon Strauss (cc'ed in this email) in your response, that would be greatly appreciated.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 16 and May 31, 2022.**

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

Safety Never Stops.

From: Clara Chan
Sent: May-10-22 3:51 PM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Laura,

Thanks for confirming!

We were waiting to hear back also from some other stakeholders and collectively address all the feedback at one time. We hope to provide you with a response to your initial comments in the upcoming weeks (e.g. late May). Hope that timing is sufficient.

Thank you for the additional information regarding recommended action with respect to the Stage 1 AA filing. We appreciate your insight!

Kind regards,
Clara

Vacation Alert: I will be out of office between May 16 and May 31, 2022.

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
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METROLINX

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Sent: May-10-22 10:00 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Hi Clara,

Thanks for the update on the CHER. My apologies, I had made a typo -- I was referring to the "Cultural Heritage Report: Existing Conditions and Preliminary Impacts Assessment". We had provided comments on the assessment at the beginning of April and I believe you were going to revise or respond to those comments.

Thanks also for the update on the Stage 1 Archaeological Assessment. The archaeological assessment does not need to be circulated to me, but once the final report is ready it will need to be formally submitted to the Ministry's Archaeology Program Unit by the licensed archaeologist for review. Considering the project is now in the TPAP period, I suggest that the archaeologist submits the report with an "expedited review" request when they submit the report. The Ministry's service offer for expedited review is 30 days. You will also want to build in some time in case the report needs to be revised following review by the Ministry.

If you have any questions, please let me know.

Thank you,

Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Heritage, Sport, Tourism and Culture Industries
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 9, 2022 3:55 PM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Good afternoon Laura,

Thanks for responding so quickly and confirming!

Would you please kindly confirm whether the Cultural Heritage Assessment that you're referring to is in regards to the Cultural Heritage Evaluation Report that was previously discussed in our meeting in December? If yes, then I can provide an update on that: following our meeting, our technical advisor reviewed the information in further detail and identified that the impacts of our project on the adjacent property would be indirect, as opposed to direct impacts, and therefore a CHER was no longer required.

We will be working on updating the Stage 1 AA shortly, as we are compiling all the input from municipal partners as well. To that end, we have yet to receive formalized feedback from Indigenous Nations, so when we circulate an updated report, it may not be inclusive of all Indigenous Nations feedback.

Let us know if you would like to have a quick call to discuss in more detail.

Kind regards,
Clara

***Vacation Alert*: I will be out of office between May 16 and May 31, 2022.**

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

Safety Never Stops.

From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: May-06-22 9:57 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
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Hi Clara,

Thank you for letting me know. I will not be commenting on the Draft Traffic Impact Assessment. I will review and comment on the forthcoming Cultural Heritage Assessment, and will review the Stage 1 archaeological assessment once it is finalized. Do you have a sense of when the archaeological assessment will be submitted to the ministry by the licensed archaeologist?

Sincerely,

Laura

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Sent: May 5, 2022 5:41 PM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Good afternoon Laura,

We've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

Clara Chan
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: Monday, May 16, 2022 1:39 PM
To: Clara Chan
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Hamilton, James (MHSTCI); Barboza, Karla (MHSTCI); Zirger, Rosi (MHSTCI); Desautels, Solange (MECP); Hughes, Jordan (MECP)
Subject: RE: Heritage Road Layover TPAP - Stage 1 AA Query re: submittal to the Public Register

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Hi Clara,

Thanks for your question and update on the project timelines.

MHSTCI's advice for TPAP projects is that, at minimum, a stage 1 Archaeological Assessment is completed during the pre-planning stage and incorporated into the EPR. Without a finalized Stage 1 AA, MHSTCI does not have sufficient information to comment on whether a project has addressed this matter of provincial importance. For this reason, I do not recommend holding off on the submitting the stage 1 until after the 120 day regulated TPAP period.

If you have not done so already, I suggest you speak to your archaeologist about project timing and see what they might be able to facilitate with the Indigenous communities. If there are still issues about timing, I believe you also have the option to take a "time out" in the TPAP in order to complete the archaeological assessment.

If you have any questions, please don't hesitate to reach out.

Thanks,
Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Heritage, Sport, Tourism and Culture Industries
Tel. 437-239-3404 New | email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 13, 2022 2:28 PM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: Heritage Road Layover TPAP - Stage 1 AA Query re: submittal to the Public Register

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Good afternoon Laura,

Hope you're doing well.

With regards to the Stage 1 AA, we have not yet received feedback on the report from Indigenous Nations at this time, though we have been in regular communication with them, and will invite them to the Stage 3 field activities planned in late Jun/early July. Do you think there would be any concerns in that regard if we hold off on submitting the finalized Stage 1 AA to the registry until we get responses from Nations? We want to also be mindful of the project timelines.

I just wanted to also flag that we will be pursuing the full 120-day regulated TPAP period instead of the originally planned 90-day TPAP. The notice of completion therefore is planned for July 22, 2022.

Please let us know your thoughts. I'll be on vacation starting Monday, and returning June 1, so if you can include Brian Poole and Simon Strauss (cc'ed in this email) in your response, that would be greatly appreciated.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 16 and May 31, 2022.**

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Safety Never Stops.

From: Clara Chan
Sent: May-10-22 3:51 PM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Laura,

Thanks for confirming!

We were waiting to hear back also from some other stakeholders and collectively address all the feedback at one time. We hope to provide you with a response to your initial comments in the upcoming weeks (e.g. late May). Hope that timing is sufficient.

Thank you for the additional information regarding recommended action with respect to the Stage 1 AA filing. We appreciate your insight!

Kind regards,
Clara

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Clara Chan
Project Manager, Environmental Programs & Assessment
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From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: May-10-22 10:00 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
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Hi Clara,

Thanks for the update on the CHER. My apologies, I had made a typo -- I was referring to the "Cultural Heritage Report: Existing Conditions and Preliminary Impacts Assessment". We had provided comments on the assessment at the beginning of April and I believe you were going to revise or respond to those comments.

Thanks also for the update on the Stage 1 Archaeological Assessment. The archaeological assessment does not need to be circulated to me, but once the final report is ready it will need to be formally submitted to the Ministry's Archaeology Program Unit by the licensed archaeologist for review. Considering the project is now in the TPAP period, I suggest that the archaeologist submits the report with an "expedited review" request when they submit the report. The Ministry's service offer for expedited review is 30 days. You will also want to build in some time in case the report needs to be revised following review by the Ministry.

If you have any questions, please let me know.

Thank you,

Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Heritage, Sport, Tourism and Culture Industries
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

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Sincerely,

Laura

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Sent: May 5, 2022 5:41 PM
To: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

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Good afternoon Laura,

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https://www.dropbox.com/sh/h2o5x6so0xyfgon/AABRRm1zsGE2VfqV2Ex1gSwwa?dl=0

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Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

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From: Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Sent: Tuesday, April 26, 2022 4:41 PM
To: Clara Chan
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Hamilton, James (MHSTCI); Barboza, Karla (MHSTCI); Zirger, Rosi (MHSTCI); Desautels, Solange (MECP); Batista, Cindy (MECP)
Subject: RE: For Review: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: 2022-04-26_HeritageLayover_MHSTCICommentLetter.pdf; 2022-04-26 _HeritageLayover_MHSTCICommentTable.pdf

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Hi Clara,

Please find attached to this email a letter and table from MHSTCI with comments on the draft EPR.

Sincerely,

Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Heritage, Sport, Tourism and Culture Industries
Tel. 437-239-3404 New | email: laura.e.hatcher@ontario.ca

From: Hatcher, Laura (MHSTCI)
Sent: April 7, 2022 10:04 AM
To: clara.chan@metrolinx.com; Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

Hi Clara,

Thank you for sending the draft EPR to our attention. I will provide comments by the requested date of May 8.

Laura

From: Info-Attachmail (MGCS) <Info-Attachmail@ontario.ca>
Sent: April 5, 2022 6:10 PM
To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>; Hamilton, James (MHSTCI) <James.Hamilton@ontario.ca>; Zirger, Rosi (MHSTCI) <Rosi.Zirger@ontario.ca>; Hatcher, Laura (MHSTCI) <Laura.E.Hatcher@ontario.ca>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

clara.chan@metrolinx.com sent you a secure message

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Dear Karla, Laura, Jim and Rosi, As previously discussed, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within t..

Attachments expire on Apr 10, 2022

2 PDFs

Heritage Road Layover - NoC - English - QME-WPC-160.pdf, Heritage Road Layover Draft EPR.pdf

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Ministry of Heritage, Sport, Tourism, and Cultural Industries

Programs and Services Branch
400 University Ave, 5th Flr
Toronto, ON M7A 2R9
Tel: 437.239.3404

Ministère des Industries du Patrimoine, du Sport, du Tourisme et de la Culture

Direction des programmes et des services
400, av. University, 5e étage
Toronto, ON M7A 2R9
Tél: 437.239.3404

Ontario

April 26, 2022 EMAIL ONLY

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx
10 Bay Street
Toronto, ON M5J 2W3
Clara.Chan@metrolinx.com

MTCS File # : 0004330
Proponent : Metrolinx
Project : Heritage Road Layover
Location : City of Brampton, Region of Peel

Dear Ms. Chan:

Thank you for sharing the draft Environmental Project Report (dated April 2022, and prepared by Wood) the above-referenced project with the Ministry of Heritage, Sport, Tourism and Cultural Industries (MHSTCI). The project is following the Transit Project Assessment Process (TPAP) as defined in Ontario Regulation 231/08 under the *Environmental Assessment Act*. O. Reg 231/08 identifies the MHSTCI interest in cultural heritage resources. Cultural heritage resources include:

- Archaeological resources, including land and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Project Summary
Metrolinx is proposing to implement two-way all-day service along the Kitchener Corridor from Union GO Station to Kitchener GO Station. Metrolinx is proposing to construct a new layover, Heritage Road Layover, between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional storage capacity to support the planned service expansion.

Comments
The cultural heritage sections of the draft EPR are clear and incorporate the findings of the cultural heritage technical reporting. Please find more detailed comments in the attached table.

We note that at this time, the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (prepared by Wood, dated February 2022) has not been finalized and MHSTCI has not yet reviewed a draft that addresses our comments on the document, which were provided to Metrolinx on March 18, 2022.

The Archaeological Assessment (PIF P327-0021-2021) report has not yet been submitted to the Ministry for review. We recommend that the archaeological assessment be submitted as soon as possible given that we are already in the 120-day period. This being the case, our comments that relate to the information in these documents are preliminary.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the TPAP process. If you have any questions, require clarification, or would like additional examples to assist with project reporting, please do not hesitate to contact me.

Sincerely,

Laura Hatcher

Heritage Planner
laura.e.hatcher@ontario.ca
Heritage Planning Unit

Copied to: Simon Strauss, Metrolinx
Brian Poole, Metrolinx
Dara Corrigan, Metrolinx
James Hamilton, Manager, Heritage Planning Unit, MHSTCI
Karla Barboza, Team Lead, Heritage Planning Unit, MHSTCI
Rosi Zirger, Heritage Advisor, Heritage Planning Unit, MHSTCI
Solange Desautels, Supervisor, Environmental Assessment Services Section, MECP
Cindy Batista, Special Project Officer, Environmental Assessment Services Section, MECP

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MHSTCI makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MHSTCI be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MHSTCI if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*.

If human remains are encountered, all activities must cease immediately and the local police and coroner must be contacted. In situations where human remains are associated with archaeological resources, MHSTCI should also be notified (at archaeology@ontario.ca) to ensure that the site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.

Heritage Road Layover TPAP Project [MHSTCI File 0004330]
MHSTCI Detailed Comments on draft Environmental Project Report, prepared by Wood and dated April 2022
April 26, 2022

Item No.	Reviewer Name	Part, Chapter, Sec, Subsec, page, DWG#	Review Comment
1	MHSTCI - Heritage Planning Unit	Executive Summary, Table ES-1 Impact Assessment (Potential Effects, Mitigation Measures and Monitoring), page xiii - and - Table 4.13-1 Impact Assessment, page 68	The Mitigation Measure(s) column should include the following specific recommendations for AjGx-267 from the archaeological assessment: The Stage 3 AA should be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy No construction activities shall take place within the Study Area prior to the MHSTCI Archaeology Program Unit confirming in writing that all archaeological licensing and technical review requirements have been satisfied. We note the archaeological assessment prepared for this project (P327-0021-2021) has not yet been formally submitted by the licensed archaeologist for review. The recommendations above will need to be confirmed once the report is finalized and accepted onto the Ontario Public Register of Archaeological Reports. There is a typo in the name of an archaeological site in the Potential Effect column. Please revise as follows: No impacts are anticipated to Site AjGx-~~267~~**268** (Heritage Layover H2), **which lies outside of the construction footprint.**
2	MHSTCI - Heritage Planning Unit	7.3 Commitments and Future Work Table 7.3-1: Summary of Commitments and Future Work	In the Archaeology row, we recommend being more specific about which areas require stage 3 archaeological assessment. The following wording is recommended: Stage 3 AA **for site AjGx-267** and where recommended, Stage 4 AA will be undertaken by a licensed archaeologist in spring 2022, prior to the completion of detail design, and submitted to MHSTCI for review.

From: Clara Chan
Sent: Wednesday, July 13, 2022 8:07 PM
To: Hatcher, Laura (MTCS); Barboza, Karla (MTCS); Hamilton, James (MTCS); Zirger, Rosi (MTCS)
Cc: Hughes, Jordan (MECP); Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover MHSTCI to CHR Technical Report

Hi Laura,

I hope you are having an enjoyable vacation! Apologies for the delay in responding back to you. That timing for your response works for us.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Sent: July-07-22 4:27 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>
Cc: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: RE: Heritage Road Layover MHSTCI to CHR Technical Report

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Hi Clara,

Thank you for sending the response table and the revised Cultural Heritage Report. I was able to download them. I will be on vacation next week, so I will aim to review this when I return and provide comments closer to the end of the month. Please let me know if this works for you.

Looking in our records I see that the stage 1 AA was recently submitted and is currently under review.

Sincerely,
Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division

Ministry of Tourism, Culture and Sport
Tel. 437-239-3404 New | email: laura.e.hatcher@ontario.ca

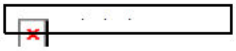
From: Info-Attachmail (MPBSD) <Info-Attachmail@ontario.ca>
Sent: July 7, 2022 11:08 AM
To: Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>; Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>
Cc: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Subject: Heritage Road Layover MHSTCI to CHR Technical Report



clara.chan@metrolinx.com sent you a secure message

Access message

Good morning Laura, Please find attached responses to MHSTCI's comments provided as part of the EPR and updated report for your review. Plea..



Attachments expire on Jul 12, 2022

1 PDF
IM21405045_Heritage Layover_CHR_REV5.pdf

1 spreadsheet
2022-07-07-Heritage Road Layover - GRT Comments (CHR).xlsx

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Ministry of Transportation

From: info-attachmail@ontario.ca
Sent: Wednesday, April 6, 2022 8:28 AM
To: jason.white@ontario.ca
Subject: Heritage Road Layover TPAP - Draft EPR Transmittal

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
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clara.chan@metrolinx.com sent you a secure message

Access message

Dear Mr. White, Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. Me..

Attachments expire on Apr 11, 2022

1 spreadsheet
Heritage Road Layover Draft EPR - GRT.xlsx

2 PDFs
2022-04-05 GRT Circulation Cover Letter.pdf, Heritage Road Layover - NoC - English - QME-WPC-160.pdf

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accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

From: Clara Chan
Sent: Thursday, April 14, 2022 3:24 PM
To: jason.white@ontario.ca
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Heritage Road Layover TPAP - Draft EPR Transmittal - Correction

Good afternoon Mr. White,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-06-22 8:28 AM
To: jason.white@ontario.ca
Subject: Heritage Road Layover TPAP - Draft EPR Transmittal

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clara.chan@metrolinx.com sent you a secure message

Access message

Dear Mr. White, Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. Me..

Attachments expire on Apr 11, 2022

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2 PDFs
2022-04-05 GRT Circulation Cover Letter.pdf, Heritage Road Layover - NoC - English - QME-WPC-160.pdf

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From: Clara Chan
Sent: Thursday, May 5, 2022 5:50 PM
To: jason.white@ontario.ca
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Good afternoon Mr. White,

Further to requesting your comments of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.

Also, this is a gentle reminder, if you haven't provided a response for the remaining EPR, we ask that you provide your feedback by **May 8, 2022.**
Please also let us know if you require formal circulation through EATs.

Let us know if you have any questions.

Thank you,
Clara

Vacation Alert*: *I will be out of office between May 13 and May 31, 2022.

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

Safety Never Stops.

From: Clara Chan
Sent: April-14-22 3:24 PM
To: jason.white@ontario.ca
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Draft EPR Transmittal - Correction

Good afternoon Mr. White,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: April-06-22 8:28 AM
To: jason.white@ontario.ca
Subject: Heritage Road Layover TPAP - Draft EPR Transmittal

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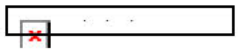
clara.chan@metrolinx.com sent you a secure message

Access message

Dear Mr. White, Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. Me..



Attachments expire on Apr 11, 2022

1 spreadsheet
Heritage Road Layover Draft EPR - GRT.xlsx

2 PDFs
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City of Brampton

From: Clara Chan
Sent: Thursday, April 7, 2022 9:49 AM
To: Zbogar, Henrik; Balram, Anand; David.Stowe@brampton.ca; Brian.Lakeman@brampton.ca; Ranjan, Kumar; Compton.Bobb@brampton.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover - Draft EPR Submittal
Attachments: Heritage Road Layover - NoC - English - QME-WPC-160.pdf; Heritage Road Layover - NoC - English - QME-WPC-160.pdf; Heritage Road Layover Draft EPR - GRT.xlsx

Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Clara Chan
Sent: Thursday, April 14, 2022 3:23 PM
To: 'Zbogar, Henrik'; 'Balram, Anand'; 'David.Stowe@brampton.ca'; 'Brian.Lakeman@brampton.ca'; 'Ranjan, Kumar'; 'Compton.Bobb@brampton.ca'; 'bob.bjerke@brampton.ca'; McNeill, Andrew; Rieger, Doug
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover - Draft EPR Submittal - Correction

Good afternoon Everyone,

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If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: April-07-22 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; David.Stowe@brampton.ca; Brian.Lakeman@brampton.ca; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Compton.Bobb@brampton.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover - Draft EPR Submittal

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i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
>
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

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Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Thursday, April 28, 2022 11:50 AM
To: Lakeman, Brian
Cc: Zbogar, Henrik; Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover EPR - Appendix H
Attachments: EPR App H_Heritage Layover_Traffic_Draft.pdf; EPR App H_Heritage Layover_Traffic_Draft Appendicies.pdf

Good afternoon Brian,

Further to this email, please find attached the draft copy of the traffic and transportation technical study. We are working to include a copy of the report on our Engage page.

If you can respond by May 28 (although earlier would be preferable 😊) for the traffic study, it'd be much appreciated. For the other studies and EPR, we still hope to hear back from you and your team by May 8.

Let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: April-22-22 10:53 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover EPR - Appendix H

Hi Brian,

The traffic and transportation plan has been a bit delayed. We apologize for the inconvenience. We hope to share this technical study with you early next week, and include it in our Mx Engage page as well.

Please let me know if you have any questions.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment

Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: April-21-22 4:39 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Subject: Heritage Road Layover EPR - Appendix H

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Clara,

Is Appendix H (Traffic and Transportation Existing Conditions and Impact Assessment) to the draft Heritage Road Layover EPR available? I see reference to this appendix in the draft EPR but it was not included in the files that I downloaded earlier this month.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

Please review the City of Brampton e-mail disclaimer statement at: http://www.brampton.ca/EN/Online-Services/Pages/Privacy-Statement.aspx

From: Clara Chan
Sent: Tuesday, April 12, 2022 5:00 PM
To: Lakeman, Brian
Cc: Zbogar, Henrik; Brian Poole; Dara Corrigan; Simon Strauss; Benjamin Kwok
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

Hi Brian,

Please see below for service information west of Mount Pleasant:

The future service levels for the remaining stations west of Mt Pleasant are anticipated to be 30-minute peak period, peak direction service and 60-minute counterpeak and two-way off-peak service

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: April-12-22 2:18 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Clara,

If I can trouble you with one more thing, I would appreciate you providing me the service information for the stations west of Mount Pleasant.

Thanks again.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/04/12 1:47 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

Clara,

Thank you for the clarification.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/12 1:44 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Sent: Tuesday, April 12, 2022 5:07 PM
To: Clara Chan
Cc: Zbogar, Henrik; Brian Poole; Dara Corrigan; Simon Strauss; Benjamin Kwok
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

Thank you once again. I appreciate your help on this matter.

Brian Lakeman, RPP, MCIP
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Hi Brian,

Please see below for service information west of Mount Pleasant:

The future service levels for the remaining stations west of Mt Pleasant are anticipated to be 30-minute peak period, peak direction service and 60-minute counterpeak and two-way off-peak service

Thank you,
Clara

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Clara,

If I can trouble you with one more thing, I would appreciate you providing me the service information for the stations west of Mount Pleasant.

Thanks again.

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Attachments: Heritage Road Layover Draft EPR - GRT (City of Brampton).xlsx; Metrolinx Heritage Road Layover Draft EPR - City of Brampton Heritage Comments.pdf

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
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i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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DATE:	May 6, 2022
TO:	Brian Lakeman, Transportation Policy Planner
CC:	Charlton Carscallen, Principal Planner/ Supervisor Heritage
FROM:	Harsh Padhya, Heritage Planner
SUBJECT:	**Heritage Road Layover - Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment**

Heritage have received and reviewed the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment for Heritage Road Layover prepared by Wood Environment & Infrastructure Solutions dated February 18, 2022.

The report describes the details for Heritage Road Layover Project, Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.

- Background research and field investigations identified three (3) heritage properties in the Study Area, including:-
    - One known cultural heritage landscape:
        - CHR 1 (McNichol Cemetery, 10510 Heritage Road, intention to designate under Part IV of the Ontario Heritage Act)
    - Two potential built heritage resources:
        - CHR 2 (10827 Winston Churchill Boulevard, previously identified)
        - CHR 3 (10746 Winston Churchill Boulevard, identified during field review)
- A preliminary impact assessment of the potential impacts resulting from the Project to the identified built heritage resources and cultural heritage landscapes determined that
    - No impacts to CHR 1 (McNichol Cemetery, 10510 Heritage Road) are anticipated from a cultural heritage perspective. However, the close proximity of the proposed work to this cemetery poses a risk for land disturbance. To mitigate this risk, the recommendations to conserve the cemetery contained in the Stage 1 Archaeological Assessment prepared for this project must be followed, including guidance on the installation of protective fencing and appropriate buffers.
    - Indirect impacts are anticipated to CHR 2 (10827 Winston Churchill Boulevard) due to the introduction of a new access road and construction of the layover facility, which may result in the isolation of the property from the surrounding rural context. post-construction landscaping is recommended to screen the proposed access road and Heritage Road Layover facility from the residential property. Options for vegetation screening will be explored during detailed design.
    - No impacts are anticipated to CHR 3 (10746 Winston Churchill Boulevard).

- Heritage staff concur with the report recommendations and have following comments:

- Construction activities and staging should be suitably planned and undertaken to avoid unintended negative impacts on CHR1 and CHR2.
- The heritage staff recommends the report recommendations to include requirement of Heritage Impact Assessment for CHR1 and CHR2.
- CHR2 - 10827 Winston Churchill Boulevard
  Heritage value of the house is not been established. The house is a example of a two storey timber-frame farmhouse with a medium pitched gable roof and a three bay facade. The form, massing and symmetry suggest the house to be a vernacular Georgian style house. An HIA would further identify heritage attributes associated to the property and possible impacts during the project.

- Please note that CHR 3 - 10746 Winston Churchill Boulevard identified in the report is outside the City of Brampton boundary and cannot be added to the list of potential Heritage Resource on Municipal Heritage Register. This does not mean that the heritage significance associated to the resources is limited in any way. The Consultant should contact and engage the Halton Region / concerned Municipality in order to convey potential impacts to the identified heritage resource at 10746 Winston Churchill Boulevard.

Archaeology

No demolition, construction, grading or other soil disturbances will occur within the Project Site prior to the MHSTCI confirming in writing that all Archaeological Licensing and technical review requirements have been satisfied.

Stage 1 Archaeological Assessment conducted by Woods in 2021 and Stage 3 Site Specific Archaeological Assessment prepared by Archeoworks in 2017 is mentioned throughout the report. However, the staff does not have a copy of these reports including Ministry Letters. Kindly provide us a copy for future reference.

The report recommends a Stage 3 Archaeological Assessment and where recommended, Stage 4 Archaeological Assessment to be undertaken by a licensed archaeologist, prior to the completion of detail design, and submitted to MHSTCI for review. Further Archaeological Assessment may identify the need for monitoring including fencing during construction and buffers. This needs to be addressed as part of future recommendations through Archaeological Assessment and Heritage Reports.

Condition - Metrolinx to confirm that any Archaeological Assessment reports submitted to MHSTCI for review have been entered into the Ontario Public Register of Archaeological Reports prior to commencing any ground disturbing activities.

Please let me know if you have any questions/concerns.

Kind regards,

Harsh Padhya
Heritage Planner, City Planning & Design
Planning, Building and Economic Development | City of Brampton
905-874-3825 | Harsh.Padhya@brampton.ca

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: Monday, May 30, 2022 9:38 AM
To: Clara Chan
Cc: Zbogar, Henrik; Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: [EXTERNAL]RE: Heritage Road Layover EPR - Appendix H
Attachments: Heritage Road Layover Draft EPR Appendix H - GRT (City of Brampton).xlsx

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Clara,

Here are comments from the City of Brampton on Appendix H of the Heritage Road Layover EPR.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/28 11:50 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]RE: Heritage Road Layover EPR - Appendix H

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Good afternoon Brian,

Further to this email, please find attached the draft copy of the traffic and transportation technical study. We are working to include a copy of the report on our Engage page.

If you can respond by May 28 (although earlier would be preferable 😊) for the traffic study, it'd be much appreciated. For the other studies and EPR, we still hope to hear back from you and your team by May 8.

Let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: April-22-22 10:53 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover EPR - Appendix H

Hi Brian,

The traffic and transportation plan has been a bit delayed. We apologize for the inconvenience. We hope to share this technical study with you early next week, and include it in our Mx Engage page as well.

Please let me know if you have any questions.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: April-21-22 4:39 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>
Subject: Heritage Road Layover EPR - Appendix H

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Clara,

Is Appendix H (Traffic and Transportation Existing Conditions and Impact Assessment) to the draft Heritage Road Layover EPR available? I see reference to this appendix in the draft EPR but it was not included in the files that I downloaded earlier this month.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480

Email: brian.lakeman@brampton.ca

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From: Felker, Bob <bob.felker@woodplc.com>
Sent: Wednesday, June 15, 2022 12:39 PM
To: Clara Chan; Brian Poole; Mrochkovskaia, Nadya; Mcandrew, Louise
Cc: Dara Corrigan; Shams, Aniqa
Subject: RE: IM21405045-MX Heritage Layover TPAP - Latest Population Growth Document for City of Brampton Ward 6

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Hi Clara, I have revised the line 12 (CoB Comment #6) comment response as follows:

What forecasts were used to derive the projections for population growth in Brampton's Ward 6? Recent preliminary forecasts prepared for the Region of Peel by Hemson Consulting Ltd. (September 2021) show a population of 163,957 persons by 2031 (a 114.8% increase compared to 2016). This is projected to grow to 227,747 persons by 2051 (a 198.3% increase compared to 2016). Employment in Ward 6 (14,499 jobs in 2016) is projected to grow to 30,077 by 2031 and to 63,630 by 2051.	Section 2.2.3 of the SELUC report, and Section 3.5.2 of the 90% EPR will be revised to state: *Recent preliminary forecasts prepared for the Region of Peel by Hemson Consulting Ltd. (September 2021) show a population for Ward 6 of 163,957 persons by 2031 (a 114.8% increase compared to 2016). This is projected to grow to 227,747 persons by 2051 (a 198.3% increase compared to 2016). Employment in Ward 6 (14,499 jobs in 2016) is projected to grow to 30,077 by 2031 and to 63,630 by 2051.*
The Council-adopted Secondary Plan for Heritage Heights states that the area is to be planned to accommodate approximately 124,000 people and 43,000 jobs. The September 2021 preliminary forecasts show 81,740 persons and 22,650 jobs in Heritage Heights in 2051.	A sentence has been added to SELUC Section 3.1.2.4 and EPR Section 1.3.2 that states: *Additionally, the Council-adopted Secondary Plan for Heritage Heights states that the area is to be planned to accommodate approximately 124,000 people and 43,000 jobs.*

These revisions will address the comment, using the communication from the City of Brampton (Brian Lakeman) as the source. A check will be made of population forecast numbers provided elsewhere in the two documents to identify any inconsistencies between the latest figures provided by CoB and those stated in the GRT versions of the documents.

Trust this makes sense.

Bob

Bob Felker
M: 226-751-3854

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Tuesday, June 14, 2022 4:13 PM
To: Felker, Bob <bob.felker@woodplc.com>; Brian Poole <Brian.Poole@metrolinx.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Shams, Aniqa <aniqa.shams@woodplc.com>
Subject: RE: IM21405045-MX Heritage Layover TPAP - Latest Population Growth Document for City of Brampton Ward 6

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Hi Bob,

For my understanding, would you also say that with the slight increase in population levels overall in the January 2021 versus September 2021 data, would it be a more conservative or less conservative approach?

Further, would you be able to provide an updated response to Line 12 of the CoB GRT response file?

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Felker, Bob <bob.felker@woodplc.com>
Sent: June-14-22 8:29 AM
To: Brian Poole <Brian.Poole@metrolinx.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Shams, Aniqa <aniqa.shams@woodplc.com>
Subject: IM21405045-MX Heritage Layover TPAP - Latest Population Growth Document for City of Brampton Ward 6

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Hi Brian, I spoke with Clara yesterday about the Ward 6 Population Forecast figures for the City of Brampton to present in the SELUC report and carry into the EPR. Upon review with our Discipline Specialist of the comments received from the City and the Region, and consideration of the various source materials, we recommend continuing to use the Hemson January 2021 Report data. As provided by Brian Lakeman from CoB, the variance

between the January 2021 data made public, and the September 2021 preliminary data is minor, and as such our preference is to use the publicly available data.

One other consideration is that we now have the Council-adopted Heritage Heights Secondary Plan to bolster the growth forecast in Ward 6, with refined geography directly related to the Heritage Road Layover Project Site.

Trust this clarifies matters.

Bob

Bob Felker
M: 226-751-3854

From: Brian Poole <Brian.Poole@metrolinx.com>
Sent: Friday, June 10, 2022 11:54 AM
To: Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Felker, Bob <bob.felker@woodplc.com>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: FW: [EXTERNAL]Latest Population Growth Document for City of Brampton Ward 6

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Hi Nadya,
Here's the response I received from the City of Brampton, below, regarding the preliminary population data. They don't have a report from Hemson yet, but will once the forecasted data is finalized.
I hope that helps.
Thanks,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: June 10, 2022 11:18 AM
To: McNeill, Andrew <Andrew.McNeill@brampton.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Balram, Anand <Anand.Balram@brampton.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: [EXTERNAL]Latest Population Growth Document for City of Brampton Ward 6

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Brian,

The forecasts in the Ward Boundaries and Population Projections report that you referenced are based on preliminary forecasts prepared for the Region of Peel by Hemson Consulting Ltd. in January 2021. Attached is an excerpt from those forecasts that shows population by small geographic units (SGUs) in Brampton's Ward 6. We do not have any documentation from Hemson for these preliminary forecasts – we expect to receive this when the forecasts are finalized.

We received a newer version of preliminary forecasts in September 2021. These were the source for the figures included in my comments on the draft EPR for the Heritage Road Layover. These figures are in the same ballpark as the January 2021 figures (see below). I can provide the September 2021 figures broken down by SGU if needed.

City of Brampton - Population Forecasts

Source: Preliminary forecasts prepared for the Region of Peel by Hemson Consulting Ltd.

	2016	2021	2026	2031	2036	2041	2046	2051
Scenario 2051 (January 2021)*	76,280	103,420	130,580	166,080	193,440	211,640	222,320	229,320
Scenario 2051 (September 2021)	76,340	104,590	130,220	163,960	191,110	208,700	220,370	227,750

* Data used in the City of Brampton's Ward Boundaries and Population Projections report (September 27, 2021)

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: McNeill, Andrew <Andrew.McNeill@brampton.ca>
Sent: 2022/06/10 9:53 AM
To: Brian Poole <Brian.Poole@metrolinx.com>; Balram, Anand <Anand.Balram@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: [EXTERNAL]Latest Population Growth Document for City of Brampton Ward 6

Hi Brian,
Apologies for the delayed response, yes, I believe Brian Lakeman has the information you are looking for. I am copying him on this email and he can follow-up directly with you on this.
Kind regards,
Andrew

From: Brian Poole <Brian.Poole@metrolinx.com>
Sent: 2022/06/08 1:58 PM
To: McNeill, Andrew <Andrew.McNeill@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Latest Population Growth Document for City of Brampton Ward 6

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Hi Anand and Andrew,

We've been looking for the latest document from Hemson Consulting Ltd. which provides the latest version of the projections for population growth within Brampton's Ward 6. Do you have a link to the document or could you provide us with a copy?
Currently our source being used for the population projections is the following: https://pub-brampton.escribemeetings.com/filestream.ashx?DocumentId=33396
Thank you,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444



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From: Clara Chan
Sent: Monday, July 11, 2022 9:33 AM
To: Lakeman, Brian; Simon Strauss; Brian Poole; Dara Corrigan
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses
Attachments: 2022-07-06 - Heritage Road Layover - City of Brampton (CHR).xlsx

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted]. Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: May-08-22 3:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
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Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
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E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Tuesday, July 12, 2022 6:24 PM
To: 'Lakeman, Brian'; frank.mazzotta@brampton.ca
Cc: 'Zbogar, Henrik'; 'Ranjan, Kumar'; 'Padhya, Harsh'; Dara Corrigan; Brian Poole; Simon Strauss
Subject: Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up
Attachments: 2022-07-06 - Heritage Road Layover - City of Brampton (Traffic_SELUC_Air).xlsx; 2022-07-06 - Heritage Road Layover - City of Brampton (All).xlsx; 2022-06-28 Heritage Road Layover CVC & City of Brampton Meeting Regarding SWM.pdf

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Sent: Friday, July 15, 2022 3:43 PM
To: Lakeman, Brian; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
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Sent: Wednesday, July 20, 2022 10:54 AM
To: Clara Chan; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up
Attachments: Metrolinx Heritage Road Layover EPR - COB EnvPl Comments.pdf

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To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
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Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

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Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

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Sent: May-08-22 3:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

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Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

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City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

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ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
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We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

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Regards,
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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: Thursday, July 21, 2022 3:01 PM
To: Clara Chan; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Here are comments from the City's Development Engineering team on the Heritage Road layover draft EPR.

Thank you Clara for providing your presentation and Environmental Project Report in support of the proposed Metrolinx Heritage Road Layover Facility.

Staff have reviewed the Draft Heritage Road Layover Noise and Vibration Impact Assessment Report dated March 2021 prepared by Wood Environmental & Infrastructure Solutions and have the following comments for your consideration:

With respect to Construction Noise:

1. Table 5-1 identified up to 14dBA exceedance of the allowable maximum levels for Receiver 1 (and less for other receiver), however the noise report did not recommend any actual noise mitigation that is capable of mitigating 14dBA. It is recommended that the report describe how this can be mitigated.
2. The noise report did not identify if impulsive noise will be present during the construction stage. You may wish to clarify with the consultant whether this has been considered in the report.

With respect to Layover Facility Noise:

3. It is recommended that the calculations supporting the "unmitigated sound level of 34dBA at Receiver 1" be reviewed as it is our evaluation that the sound level would likely result in high 80's dBA at the proximity of Receiver 1 from the proposed source. We recon that at least few kilometers of distance would be required to realize a drop to 34dBA unless there is noise mitigation proposed in between the source and Receiver 1.
4. Table 7-1 indicates a sound power level of 105dBA used for train idling; it is recommended that clarification be provided if that is for each train or a sum of sound level used for the entire facility.
5. Metrolinx (proponent) is advised that the parcels of land north and south of the layover facility are subject to two separate secondary plans approved by the City of Brampton. These approved secondary plans currently include residential sensitive land uses adjacent to the proposed Layover Facility. It may not be possible to mitigate noise levels from the Layover Facility to allowable limits for the proposed sensitive land uses in the secondary plans and it is recommended that the noise model should be updated with receivers that represent these future lots, and not just existing receptors. It would be helpful to evaluate the clearance requirements needed form the proposed Layover Facility to sensitive land uses so that the City of Brampton Planning Department can take that into consideration as the Secondary Plan moves forward to the Block Planning stage for the development of the proposed community.
6. It is recommended that the noise model also include the existing receiver west of Winston Churchill and south of the train tracks; it seems to have been excluded from the model.
7. Explain why sound level results were split into Eastbound and Westbound since they should be considered as an entire source before leaving the facility. Each receiver projected sound levels shall be the sum of both eastbound and westbound.
8. Identify what frequency dominates from the facility and if penalty had been applied.

9. The noise report did not identify any potential impulsive noise source associated with this facility.
10. The noise report did not identify if emergency equipment was included in the noise model.
11. The noise report should make reference to the D-series guideline.

These comments are being provided to you as recommendations from our Staff review for your consideration. We are happy to discuss with you any details that you may find helpful.
We request that any updates to the Noise and Vibration Report(s) be shared with City of Brampton so that the recommendations may be considered by the City's Planning and Engineering Departments with respect to potential impacts to any proposed adjacent land developments.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/21 10:10 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Clara,

Here is a comment from the City's Environmental Engineering team on the Heritage Road layover draft EPR.

The City would recommend that stormwater quantity control be identified in the EA to provide post to pre-development control up to the 100-year Design storm event. The development will be discharging directly to the natural valley and we would defer to the Credit Valley Conservation Authority for comments and approval for stormwater quantity control, erosion, water quality, and water balance requirements.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/20 11:02 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for forwarding the responses from the Environmental Planning team. We will review and reach out if we have any questions or concerns. Otherwise, we will circulate responses to you for review once they have been prepared.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July-20-22 10:54 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Clara,

Here are the comments from City Environmental Planning staff on the Heritage Road Layover draft EPR.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/18 3:13 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

I am informed by City Environmental Planning staff that they will have their comments finalized by Wednesday. I will pass them along to you when I receive them.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/15 3:43 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Hi Brian,

Thanks for your expedient reply. We will confirm and provide a response to item 5 next week.

Kind regards,
Clara

Clara Chan
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Sent: July-15-22 3:38 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Clara,

Thank you for sending the responses to City staffs' comments on the EPR for the Heritage Road layover. I am satisfied with the responses to the comments I submitted, with the (possible) exception of Item 5. Please clarify whether the updated population figure to be included in the 90% EPR and SELUC reports will be the population from the Census (656,480) or the figure factored to include the census undercoverage (an estimated 680,820). In order to align with the

forecasts for the years 2031 and 2051, it is my contention that the factored population figure for 2021 should be used (as all of the population figures would then reflect the census undercoverage, allowing for a more "apples to apples" comparison).

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Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/12 6:24 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Good evening City of Brampton Team,

Please find attached the remaining responses to the City's feedback on the EPR (traffic, socio-economic, and air quality (emissions). A complete copy of the responses are also included for ease.
Please let us know if our responses to the City's comments can be addressed. A copy of these responses will be included in our EPR.

Would you also kindly provide us an update to the circulation of the City's comments to stormwater management following our supplemental meeting with the City and CVC per the minutes attached?

Thank you,
Clara

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Regards,
Clara

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Project Manager, Environmental Programs & Assessment
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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: Thursday, July 21, 2022 2:18 PM
To: Brian Poole; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Simon Strauss; Clara Chan
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Brian,

I derived the 680,820 total population figure based on the 2021 census figure and the most recent undercoverage rate that I am aware of. I have asked the Region of Peel whether they have received updated forecasts from Hemson Consulting Ltd. that could provide a more "official" 2021 total population figure for Brampton – in my opinion the 2021 figure for Brampton in their most recent preliminary forecasts (September 2021), which preceded the release of data from the 2021 Census, was, given the figure released by Statistics Canada, too high and its use would be misleading.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Brian Poole <Brian.Poole@metrolinx.com>
Sent: 2022/07/21 11:38 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,
Regarding comment 5, the population figure will be updated to 680 820 as per the City of Brampton's recommendations. However, do you mind confirming the source for this number to add into the references? Would it be from the Hemson 2021 report or another document completed after the 2021 Census result publication?
Thanks,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 15, 2022 3:43 PM

To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for your expedient reply. We will confirm and provide a response to item 5 next week.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Please let us know if our responses to the City's comments can be addressed. A copy of these responses will be included in our EPR.

Would you also kindly provide us an update to the circulation of the City's comments to stormwater management following our supplemental meeting with the City and CVC per the minutes attached?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: July-11-22 9:33 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted]. Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

Thank you,
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Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
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City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan

<Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan

Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: Thursday, July 21, 2022 10:10 AM
To: Clara Chan; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Here is a comment from the City's Environmental Engineering team on the Heritage Road layover draft EPR.

The City would recommend that stormwater quantity control be identified in the EA to provide post to pre-development control up to the 100-year Design storm event. The development will be discharging directly to the natural valley and we would defer to the Credit Valley Conservation Authority for comments and approval for stormwater quantity control, erosion, water quality, and water balance requirements.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/20 11:02 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for forwarding the responses from the Environmental Planning team. We will review and reach out if we have any questions or concerns. Otherwise, we will circulate responses to you for review once they have been prepared.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July-20-22 10:54 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Clara,

Here are the comments from City Environmental Planning staff on the Heritage Road Layover draft EPR.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

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To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Clara,

I am informed by City Environmental Planning staff that they will have their comments finalized by Wednesday. I will pass them along to you when I receive them.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
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Sent: 2022/07/15 3:43 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
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ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
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We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan

Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Brian Poole
Sent: Friday, July 29, 2022 3:13 PM
To: Lakeman, Brian; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Simon Strauss; Clara Chan
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up
Attachments: 2022-07-27_HRL_CoB SELUC Comments_HRL.xlsx; IM21405045_Heritage Layover_SELUC_Rev 6_Clean.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Brian,
Just to follow up regarding your comment, I received the following response from Wood:

In response to Brian Lakeman's email below for the 2021 population census, we have added the undercoverage rate as part of the SELUC and EPR. The response added into the Comment Response Table is as follows:

"The undercoverage population for the City of Brampton has been added into the SELUC report in Sections 2.2.1 and 2.2.2. The methodology for the undercoverage population has been provided in Section 1.3.1 - Data Collection. The EPR has been changed as well to reflect the undercoverage population."

We've had Wood update the SELUC report, which I've also attached, along with the comment log and responses we edited into the report.
Let me know if you have any additional questions or concerns.

Thank you and have a nice long weekend,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July 21, 2022 2:18 PM
To: Brian Poole <Brian.Poole@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
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Brian,

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Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

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Hi Brian,

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Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/12 6:24 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: July-11-22 9:33 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted]. Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

Thank you,
Clara

Clara Chan
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: May-08-22 3:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

Some people who received this message don't often get email from brian.lakeman@brampton.ca. Learn why this is important

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
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City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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From: Brian Poole
Sent: Tuesday, August 2, 2022 12:42 PM
To: Lakeman, Brian; Balram, Anand
Cc: Dara Corrigan; Simon Strauss; Clara Chan
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up
Attachments: 3 Appendix D Figures.pdf; 1 Appendix G Figures.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Brian and Anand,
I hope you both had a nice long weekend.
I realize the HHSP and Subwatershed studies are not yet publicly available, I wanted to reach out to see if we have your permission could circulate the figures (attached) from those studies for context with the indigenous nations.
Thank you,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
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Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: July-11-22 9:33 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted]. Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

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Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

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Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents

iii. The draft EPR can be accessed via the following link [redacted]
>

iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Balram, Anand <Anand.Balram@brampton.ca>
Sent: Wednesday, August 3, 2022 11:35 AM
To: Brian Poole; Lakeman, Brian
Cc: Dara Corrigan; Simon Strauss; Clara Chan
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Flag Status: Flagged

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Good morning Brian,

I have no issue with sharing this content with Indigenous groups.

Kind regards,

Anand Balram MCIP, RPP, BES, MEDI
Principal Planner/Supervisor, Official Plan & Growth Management (A)
Planning, Building & Growth Management
City of Brampton | 2 Wellington Street W | Brampton ON L6Y 4R2
t. 905.874.2945| e. anand.balram@brampton.ca

BRAMPTON Flower City

From: Brian Poole <Brian.Poole@metrolinx.com>
Sent: 2022/08/02 12:42 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian and Anand,
I hope you both had a nice long weekend.
I realize the HHSP and Subwatershed studies are not yet publicly available, I wanted to reach out to see if we have your permission could circulate the figures (attached) from those studies for context with the indigenous nations.
Thank you,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July 21, 2022 2:18 PM
To: Brian Poole <Brian.Poole@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
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Brian,

I derived the 680,820 total population figure based on the 2021 census figure and the most recent undercoverage rate that I am aware of. I have asked the Region of Peel whether they have received updated forecasts from Hemson Consulting Ltd. that could provide a more "official" 2021 total population figure for Brampton – in my opinion the 2021 figure for Brampton in their most recent preliminary forecasts (September 2021), which preceded the release of data from the 2021 Census, was, given the figure released by Statistics Canada, too high and its use would be misleading.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Brian Poole <Brian.Poole@metrolinx.com>
Sent: 2022/07/21 11:38 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,
Regarding comment 5, the population figure will be updated to 680 820 as per the City of Brampton's recommendations. However, do you mind confirming the source for this number to add into the references? Would it be from the Hemson 2021 report or another document completed after the 2021 Census result publication?
Thanks,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 15, 2022 3:43 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for your expedient reply. We will confirm and provide a response to item 5 next week.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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Clara,

Thank you for sending the responses to City staffs' comments on the EPR for the Heritage Road layover. I am satisfied with the responses to the comments I submitted, with the (possible) exception of Item 5. Please clarify whether the updated population figure to be included in the 90% EPR and SELUC reports will be the population from the Census (656,480) or the figure factored to include the census undercoverage (an estimated 680,820). In order to align with the forecasts for the years 2031 and 2051, it is my contention that the factored population figure for 2021 should be used (as all of the population figures would then reflect the census undercoverage, allowing for a more "apples to apples" comparison).

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department

Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/12 6:24 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Good evening City of Brampton Team,

Please find attached the remaining responses to the City's feedback on the EPR (traffic, socio-economic, and air quality (emissions). A complete copy of the responses are also included for ease.
Please let us know if our responses to the City's comments can be addressed. A copy of these responses will be included in our EPR.

Would you also kindly provide us an update to the circulation of the City's comments to stormwater management following our supplemental meeting with the City and CVC per the minutes attached?

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Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan

<Dara.Corrigan@metrolinx.com>
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Clara

Clara Chan

Project Manager, Environmental Programs & Assessment
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From: Clara Chan
Sent: Thursday, August 4, 2022 5:15 PM
To: Lakeman, Brian
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
Subject: Re: Heritage Road Layover TPAP - CHR Additional Comments Follow-up
Attachments: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

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Good afternoon Brian,

Thank you for the City's recommendations on the cultural heritage properties. As previously mentioned in telephone conversation with Harsh and included in our CHR responses in the attached email, the properties are outside the Project extent, and will not be acquired by Metrolinx. A heritage impact assessment is usually prepared by Metrolinx when an activity is proposed for a provincial heritage property that may affect its cultural heritage value or interest and/or a heritage attribute(s). As the impacts are indirect and Metrolinx will not be acquiring or controlling the property at McNichol Cemetery or 10827 Winston Churchill Blvd and it is not a Metrolinx heritage property, a HIA does not need to be prepared.

Specifically for CHR1 (McNichol Cemetery), a Stage 3 was previously undertaken by Archeoworks for a Developer, which was shared with the City for reference. Fencing has been erected by the current property owner, and a buffer limit was established to ensure protection of the cemetery.
The 10827 Winston Churchill Boulevard (CHR2) property located adjacent to the Project site, is anticipated to have potential **indirect** impacts due to the construction of an adjacent laneway to the layover (in close proximity to the southern extent of 10827 Winston Churchill Boulevard). As Metrolinx will not be utilizing or acquiring the property, and won't be directly impacting the building or the property footprint, Metrolinx will not be pursuing a heritage evaluation for this property in relation to the Project. Instead, Metrolinx proposes to not encroach on the property by maximizing the buffer between the roadway and the layover facility. Staging areas will aim to avoid being in close proximity to 10827 Winston Churchill Boulevard, and vegetation screening will also be explored during detailed design to enhance separation of the roadway from the property.

I hope this clarifies. Otherwise, happy to set up a meeting discuss further next week; I will be in the field tomorrow.

Cheers,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

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Sent: August-04-22 9:16 AM

To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Here, for your consideration, are follow-up comments from City of Brampton Heritage Planning staff.

Thank you Clara for sharing your comments on Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment in support of the proposed Metrolinx Heritage Road Layover Facility.

Heritage Staff have reviewed the Cultural Heritage Report (CHR) dated February 2022 prepared by Wood Environmental & Infrastructure Solutions and have the following comments for your consideration:

1. The report identifies two properties immediately adjacent to the proposed development i.e. CHR 1(McNichol Cemetery, 10510 Heritage Road) and CHR 2 (10827 Winston Churchill Blvd). Usually the City requests at minimum a scoped HIA to identify impacts (direct or indirect) and have recommendation to mitigate those impacts both at construction and post construction stages.
2. CHR 1 is already identified as significant heritage resource - with designation under process. Policy 4.10.1.11 of Brampton Official Plan requires a Heritage Impact Assessment for any proposed alteration, construction or development involving or adjacent to a heritage resource.
3. CHR 2 is a potential heritage resource which requires further evaluation to determine specific cultural heritage value or interest under Ont. Reg. 9/ 06. It is recommended that a scoped HIA be conducted for possible impacts and mitigation measures from proposed construction.

These comments are being provided to you as recommendations for your consideration. We are happy to discuss with you any details that you may find helpful. We request that any updates to the Archaeological Assessment Stage(s) be shared with City of Brampton so that the recommendations may be considered by the City's Heritage Planning Team with respect to potential impacts to any proposed adjacent land developments.

Let me know if you have any concerns.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/21 3:01 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>

Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

Here are comments from the City's Development Engineering team on the Heritage Road layover draft EPR.

Thank you Clara for providing your presentation and Environmental Project Report in support of the proposed Metrolinx Heritage Road Layover Facility.

Staff have reviewed the Draft Heritage Road Layover Noise and Vibration Impact Assessment Report dated March 2021 prepared by Wood Environmental & Infrastructure Solutions and have the following comments for your consideration:

With respect to Construction Noise:

1. Table 5-1 identified up to 14dBA exceedance of the allowable maximum levels for Receiver 1 (and less for other receiver), however the noise report did not recommend any actual noise mitigation that is capable of mitigating 14dBA. It is recommended that the report describe how this can be mitigated.
2. The noise report did not identify if impulsive noise will be present during the construction stage. You may wish to clarify with the consultant whether this has been considered in the report.

With respect to Layover Facility Noise:

3. It is recommended that the calculations supporting the "unmitigated sound level of 34dBA at Receiver 1" be reviewed as it is our evaluation that the sound level would likely result in high 80's dBA at the proximity of Receiver 1 from the proposed source. We recon that at least few kilometers of distance would be required to realize a drop to 34dBA unless there is noise mitigation proposed in between the source and Receiver 1.
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5. Metrolinx (proponent) is advised that the parcels of land north and south of the layover facility are subject to two separate secondary plans approved by the City of Brampton. These approved secondary plans currently include residential sensitive land uses adjacent to the proposed Layover Facility. It may not be possible to mitigate noise levels from the Layover Facility to allowable limits for the proposed sensitive land uses in the secondary plans and it is recommended that the noise model should be updated with receivers that represent these future lots, and not just existing receptors. It would be helpful to evaluate the clearance requirements needed form the proposed Layover Facility to sensitive land uses so that the City of Brampton Planning Department can take that into consideration as the Secondary Plan moves forward to the Block Planning stage for the development of the proposed community.
6. It is recommended that the noise model also include the existing receiver west of Winston Churchill and south of the train tracks; it seems to have been excluded from the model.
7. Explain why sound level results were split into Eastbound and Westbound since they should be considered as an entire source before leaving the facility. Each receiver projected sound levels shall be the sum of both eastbound and westbound.
8. Identify what frequency dominates from the facility and if penalty had been applied.
9. The noise report did not identify any potential impulsive noise source associated with this facility.
10. The noise report did not identify if emergency equipment was included in the noise model.
11. The noise report should make reference to the D-series guideline.

These comments are being provided to you as recommendations from our Staff review for your consideration. We are happy to discuss with you any details that you may find helpful.
We request that any updates to the Noise and Vibration Report(s) be shared with City of Brampton so that the recommendations may be considered by the City's Planning and Engineering Departments with respect to potential impacts to any proposed adjacent land developments.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/21 10:10 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

Here is a comment from the City's Environmental Engineering team on the Heritage Road layover draft EPR.

The City would recommend that stormwater quantity control be identified in the EA to provide post to pre-development control up to the 100-year Design storm event. The development will be discharging directly to the natural valley and we would defer to the Credit Valley Conservation Authority for comments and approval for stormwater quantity control, erosion, water quality, and water balance requirements.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/20 11:02 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for forwarding the responses from the Environmental Planning team. We will review and reach out if we have any questions or concerns. Otherwise, we will circulate responses to you for review once they have been prepared.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958

E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July-20-22 10:54 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Here are the comments from City Environmental Planning staff on the Heritage Road Layover draft EPR.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/18 3:13 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

I am informed by City Environmental Planning staff that they will have their comments finalized by Wednesday. I will pass them along to you when I receive them.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/15 3:43 PM

To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for your expedient reply. We will confirm and provide a response to item 5 next week.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July-15-22 3:38 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Thank you for sending the responses to City staffs' comments on the EPR for the Heritage Road layover. I am satisfied with the responses to the comments I submitted, with the (possible) exception of Item 5. Please clarify whether the updated population figure to be included in the 90% EPR and SELUC reports will be the population from the Census (656,480) or the figure factored to include the census undercoverage (an estimated 680,820). In order to align with the forecasts for the years 2031 and 2051, it is my contention that the factored population figure for 2021 should be used (as all of the population figures would then reflect the census undercoverage, allowing for a more "apples to apples" comparison).

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/12 6:24 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Good evening City of Brampton Team,

Please find attached the remaining responses to the City's feedback on the EPR (traffic, socio-economic, and air quality (emissions). A complete copy of the responses are also included for ease.
Please let us know if our responses to the City's comments can be addressed. A copy of these responses will be included in our EPR.

Would you also kindly provide us an update to the circulation of the City's comments to stormwater management following our supplemental meeting with the City and CVC per the minutes attached?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: July-11-22 9:33 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted]. Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: May-08-22 3:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

Some people who received this message don't often get email from brian.lakeman@brampton.ca. Learn why this is important

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan

<Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

Caution: This email originated from outside the organization. Do not click links or open attachments that you do not trust or are not expecting.

Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan

Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: Thursday, August 4, 2022 9:16 AM
To: Clara Chan
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

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Let me know if you have any concerns.

Brian Lakeman, RPP, MCIP
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City of Brampton | Planning, Building and Economic Development Department
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Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

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With respect to Construction Noise:

1. Table 5-1 identified up to 14dBA exceedance of the allowable maximum levels for Receiver 1 (and less for other receiver), however the noise report did not recommend any actual noise mitigation that is capable of mitigating 14dBA. It is recommended that the report describe how this can be mitigated.
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With respect to Layover Facility Noise:

3. It is recommended that the calculations supporting the "unmitigated sound level of 34dBA at Receiver 1" be reviewed as it is our evaluation that the sound level would likely result in high 80's dBA at the proximity of Receiver 1 from the proposed source. We recon that at least few kilometers of distance would be required to realize a drop to 34dBA unless there is noise mitigation proposed in between the source and Receiver 1.
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6. It is recommended that the noise model also include the existing receiver west of Winston Churchill and south of the train tracks; it seems to have been excluded from the model.
7. Explain why sound level results were split into Eastbound and Westbound since they should be considered as an entire source before leaving the facility. Each receiver projected sound levels shall be the sum of both eastbound and westbound.
8. Identify what frequency dominates from the facility and if penalty had been applied.
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11. The noise report should make reference to the D-series guideline.

These comments are being provided to you as recommendations from our Staff review for your consideration. We are happy to discuss with you any details that you may find helpful.

We request that any updates to the Noise and Vibration Report(s) be shared with City of Brampton so that the recommendations may be considered by the City's Planning and Engineering Departments with respect to potential impacts to any proposed adjacent land developments.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/21 10:10 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

Here is a comment from the City's Environmental Engineering team on the Heritage Road layover draft EPR.

The City would recommend that stormwater quantity control be identified in the EA to provide post to pre-development control up to the 100-year Design storm event. The development will be discharging directly to the natural valley and we would defer to the Credit Valley Conservation Authority for comments and approval for stormwater quantity control, erosion, water quality, and water balance requirements.

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Email: brian.lakeman@brampton.ca

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Sent: 2022/07/20 11:02 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
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Hi Brian,

Thanks for forwarding the responses from the Environmental Planning team. We will review and reach out if we have any questions or concerns. Otherwise, we will circulate responses to you for review once they have been prepared.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Sent: July-11-22 9:33 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
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To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

Some people who received this message don't often get email from brian.lakeman@brampton.ca. Learn why this is important

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar

<Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Brian Poole
Sent: Wednesday, August 10, 2022 4:55 PM
To: Lakeman, Brian
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Simon Strauss; Clara Chan; Mazzotta, Frank
Subject: Heritage Road Layover TPAP - EPR Comments & Responses
Attachments: 2022-08-10_IM21405045_Heritage Layover_DRAFT EPR_Update_Clean_CityofBrampton.pdf; 2022-08-10 - Heritage Road Layover - Wood - City of Brampton EPR Comment Responses.xlsx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Brian,
I wanted to thank you and the City of Brampton again, for the comments on the Heritage Road Layover EPR. I've attached a copy of the excel file with the City's comments and our responses, along with the updated copy of the EPR. We are finalizing our responses regarding the Noise & Vibration comments provided by the City of Brampton and will issue them to you as soon as they're available.
Let us know if you have any additional questions.
Thank you,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444

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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July 20, 2022 10:54 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
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To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM
To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link

iv. Supporting Draft EPR Appendices can be accessed via the following link

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Dara Corrigan
Sent: Wednesday, August 10, 2022 11:26 AM
To: Dara Corrigan
Subject: FW: Metrolinx Heritage Road Layover - Summary of Environmental Issues
Attachments: Metrolinx Heritage Road Layover - Summary of Environmental Issues.pdf

Importance: High

From: Balram, Anand <Anand.Balram@brampton.ca>
Sent: August-10-22 9:47 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: McNeill, Andrew <Andrew.McNeill@brampton.ca>; Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Dorothy DiBerto <Dorothy.DiBerto@cvc.ca>; Hoy, Michael <Michael.Hoy@brampton.ca>
Subject: Metrolinx Heritage Road Layover - Summary of Environmental Issues

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Good morning Clara,

I hope all is well with you. Since we last met, we had our consultant look more closely at the larger environmental implications of the proposed facility to the Heritage Heights Natural Heritage System and have prepared the attached memo. I have included staff from the CVC and the City's Environmental Planning group on this email as well to be included in future meetings going forward.

City Staff are interested in better understanding how Metrolinx plans to mitigate the outlined issues through the development of the facility, and look forward to a future meeting to discuss. Should you have any questions on the above, please do not hesitate to reach out.

Kind regards,

Anand Balram MCIP, RPP, BES, MEDI
Principal Planner/Supervisor, Official Plan & Growth Management (A)
Planning, Building & Growth Management
City of Brampton | 2 Wellington Street W | Brampton ON L6Y 4R2
t. 905.874.2945| e. **anand.balram@brampton.ca**

BRAMPTON Flower City

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To: **Clara Chan, Project Manager, Environmental Programs & Assessment**

From: **Anand Balram, Principal Planner/Supervisor, Official Plan & Growth Management**

Cc: **Andrew McNeill, Director, City Planning and Design**
Henrik Zbogar, Senior Manager, Transportation Planning

Date: **August 10, 2022**

RE: **Summary of Environmental Issues – Metrolinx Heritage Road Layover**

Thank you for allowing City of Brampton Staff to participate in the ongoing Environmental Assessment related to the Heritage Road Layover. As you know the City of Brampton has undergone significant work through the Heritage Heights Secondary Plan, to evaluate the environmental features and propose a future Natural Heritage System.

Below is a summary of the City of Brampton's issues related to Metrolinx proposed Heritage Road Layover on the Halton Subdivision of the Kitchener Corridor between the Mount Pleasant GO Station and the Georgetown GO Station (between Heritage Road (Mile 20.14 and Winston Churchill Blvd (Mile 21.15):

1. The Heritage Heights Subwatershed Study (SWS) (ref. "Heritage Heights Subwatershed Study Phase 1: Subwatershed Characterization and Integration report", June 8, 2021 and "Heritage Heights Community Subwatershed Study Phase 2: Subwatershed Impact Assessment", March 25, 2022) has identified the Tributary (CRT1-2) to be a "Blue" stream which requires that it remain open, however this designation allows it to be realigned subject to maintaining the ecological and functional integrity of the fluvial system– the current plan for the Layover is understood to require a long enclosure (> 70m) of this watercourse hence there will be a need for restoration or enhancement to offset the loss of open habitat related to this feature.
2. Headwater Drainage Feature (HDF) CRT1-2a (ref. Figure 3.10.2g) is located on the southern boundary of the layover area. The HDF has been classified in the SWS as a Mitigation HDF; this designation does not require its form to be maintained, but the function of the HDF is expected to be provided in post-development conditions. Based on a preliminary review of the layover plan there are potential opportunities for replacing the HDF function with drainage features along the southern limit of the layover area.
3. The Significant Woodlot 'Z' at the northern limit of the CRT1-2A HDF and at the southern limit of the layover area , was incorporated into the CRT1-2 NHS corridor as part of the SWS mapping, and needs to be assessed as part of the NHS south of the layover.

4. The Heritage Heights SWS has identified a locally significant wetland (ref. Figure T2; ELC units 167-1, 167-9, and 167-4) in the footprint of the proposed Layover which will require compensation in accordance with City Policies.
5. It is understood that the stormwater management plan for the Layover is not yet in place, however due to Regulatory flooding upstream of the railway (ref. Drawing Hydra-3), it will be required to increase the hydraulic capacity of the crossing to reduce the existing extensive flood impacts in this area and not constrain proposed development upstream of this location. Further, a servicing and grading analysis conducted as part of the most recent land use impact assessment, also identified the need to reduce existing upstream flood elevations in order that development proceed without the need for importation of excess fill volumes. Based on a preliminary hydraulic assessment, it is hence requested that Metrolinx consider the construction of a minimum 6m span by 1.7 m rise (net rise above creek invert) culvert to provide conveyance of Regional Storm (Hurricane Hazel) 8.71 m^3/peak flow. Based on the preliminary assessment, the culvert would be approximately 95m in length to convey runoff through the existing rail corridor, with the two (2) proposed additional tracks and the proposed layover area. The conceptual culvert alignment has considered the existing upstream culvert face and existing creek location downstream of the layover. The Regional Storm would be contained to the proposed channel upstream of the rail corridor with a depth of approximately 1 m and freeboard to the top of rail of approximately 1.4m.
6. Alternatively, the location and alignment of the proposed culvert may be adjusted moderately to the west (up to 30 m +/-), commencing north of the rail corridor to south of the layover, based on further assessment of the layover configuration, servicing and grading; further discussions with the City and Landowners would be required to refine the alignment of the NHS corridors.
7. It is understood that the Ecological Team supporting the Layover Design was just granted access to the area in the last month +/-. Given the current unusually dry period, it is considered that the findings may be skewed which may under-value some of the local ecological resources. As such, the City of Brampton can provide the most current and comprehensive data (aquatic and terrestrial) for this area collected through the SWS since 2012, to further support the characterization of local features.

City Staff are interested in better understanding how Metrolinx plans to mitigate the issues above through the development of the facility, and look forward to a future meeting to discuss. Should you have any questions on the above, please do not hesitate to reach out.

Regards,

Anand Balram

From: Clara Chan
Sent: Thursday, August 11, 2022 10:25 AM
To: Padhya, Harsh; Lakeman, Brian
Cc: Zbogar, Henrik; Ranjan, Kumar; Dara Corrigan; Brian Poole; Simon Strauss
Subject: RE: [EXTERNAL]Re: Heritage Road Layover TPAP - CHR Additional Comments Follow-up

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Harsh,

Understood. We will keep the City apprised of any heritage concerns, should they arise.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Padhya, Harsh <Harsh.Padhya@brampton.ca>
Sent: August-11-22 10:17 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Re: Heritage Road Layover TPAP - CHR Additional Comments Follow-up

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Good morning Clara!

Thank you for sharing your thoughts. We acknowledge the fact that these properties are not acquired by Metrolinx and will not be impacted directly by the proposed project.

Please let us know in case there are any heritage concerns while moving forward.

Kind regards,

Harsh Padhya
Heritage Planner
City Planning & Design
City of Brampton

(905) 874 – 3825

The City of Brampton is updating the current Official Plan to guide land use and development to 2051, this new Official Plan will be called the *Brampton Plan*. If you would like to receive information regarding the Official Plan review please email us at opreview@brampton.ca.

Pronouns: He / him / his

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/08/04 5:15 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: [EXTERNAL]Re: Heritage Road Layover TPAP - CHR Additional Comments Follow-up

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Good afternoon Brian,

Thank you for the City's recommendations on the cultural heritage properties. As previously mentioned in telephone conversation with Harsh and included in our CHR responses in the attached email, the properties are outside the Project extent, and will not be acquired by Metrolinx. A heritage impact assessment is usually prepared by Metrolinx when an activity is proposed for a provincial heritage property that may affect its cultural heritage value or interest and/or a heritage attribute(s). As the impacts are indirect and Metrolinx will not be acquiring or controlling the property at McNichol Cemetery or 10827 Winston Churchill Blvd and it is not a Metrolinx heritage property, a HIA does not need to be prepared.

Specifically for CHR1 (McNichol Cemetery), a Stage 3 was previously undertaken by Archeoworks for a Developer, which was shared with the City for reference. Fencing has been erected by the current property owner, and a buffer limit was established to ensure protection of the cemetery.
The 10827 Winston Churchill Boulevard (CHR2) property located adjacent to the Project site, is anticipated to have potential **indirect** impacts due to the construction of an adjacent laneway to the layover (in close proximity to the southern extent of 10827 Winston Churchill Boulevard). As Metrolinx will not be utilizing or acquiring the property, and won't be directly impacting the building or the property footprint, Metrolinx will not be pursuing a heritage evaluation for this property in relation to the Project. Instead, Metrolinx proposes to not encroach on the property by maximizing the buffer between the roadway and the layover facility. Staging areas will aim to avoid being in close proximity to 10827 Winston Churchill Boulevard, and vegetation screening will also be explored during detailed design to enhance separation of the roadway from the property.

I hope this clarifies. Otherwise, happy to set up a meeting discuss further next week; I will be in the field tomorrow.

Cheers,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: August-04-22 9:16 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Here, for your consideration, are follow-up comments from City of Brampton Heritage Planning staff.

Thank you Clara for sharing your comments on Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment in support of the proposed Metrolinx Heritage Road Layover Facility.

Heritage Staff have reviewed the Cultural Heritage Report (CHR) dated February 2022 prepared by Wood Environmental & Infrastructure Solutions and have the following comments for your consideration:

1. The report identifies two properties immediately adjacent to the proposed development i.e. CHR 1(McNichol Cemetery, 10510 Heritage Road) and CHR 2 (10827 Winston Churchill Blvd). Usually the City requests at minimum a scoped HIA to identify impacts (direct or indirect) and have recommendation to mitigate those impacts both at construction and post construction stages.
2. CHR 1 is already identified as significant heritage resource - with designation under process. Policy 4.10.1.11 of Brampton Official Plan requires a Heritage Impact Assessment for any proposed alteration, construction or development involving or adjacent to a heritage resource.
3. CHR 2 is a potential heritage resource which requires further evaluation to determine specific cultural heritage value or interest under Ont. Reg. 9/ 06. It is recommended that a scoped HIA be conducted for possible impacts and mitigation measures from proposed construction.

These comments are being provided to you as recommendations for your consideration. We are happy to discuss with you any details that you may find helpful. We request that any updates to the Archaeological Assessment Stage(s) be shared with City of Brampton so that the recommendations may be considered by the City's Heritage Planning Team with respect to potential impacts to any proposed adjacent land developments.

Let me know if you have any concerns.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/21 3:01 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

Here are comments from the City's Development Engineering team on the Heritage Road layover draft EPR.

Thank you Clara for providing your presentation and Environmental Project Report in support of the proposed Metrolinx Heritage Road Layover Facility.

Staff have reviewed the Draft Heritage Road Layover Noise and Vibration Impact Assessment Report dated March 2021 prepared by Wood Environmental & Infrastructure Solutions and have the following comments for your consideration:

With respect to Construction Noise:

1. Table 5-1 identified up to 14dBA exceedance of the allowable maximum levels for Receiver 1 (and less for other receiver), however the noise report did not recommend any actual noise mitigation that is capable of mitigating 14dBA. It is recommended that the report describe how this can be mitigated.
2. The noise report did not identify if impulsive noise will be present during the construction stage. You may wish to clarify with the consultant whether this has been considered in the report.

With respect to Layover Facility Noise:

3. It is recommended that the calculations supporting the "unmitigated sound level of 34dBA at Receiver 1" be reviewed as it is our evaluation that the sound level would likely result in high 80's dBA at the proximity of Receiver 1 from the proposed source. We recon that at least few kilometers of distance would be required to realize a drop to 34dBA unless there is noise mitigation proposed in between the source and Receiver 1.
4. Table 7-1 indicates a sound power level of 105dBA used for train idling; it is recommended that clarification be provided if that is for each train or a sum of sound level used for the entire facility.
5. Metrolinx (proponent) is advised that the parcels of land north and south of the layover facility are subject to two separate secondary plans approved by the City of Brampton. These approved secondary plans currently include residential sensitive land uses adjacent to the proposed Layover Facility. It may not be possible to mitigate noise levels from the Layover Facility to allowable limits for the proposed sensitive land uses in the secondary plans and it is recommended that the noise model should be updated with receivers that represent these future lots, and not just existing receptors. It would be helpful to evaluate the clearance requirements needed form the proposed Layover Facility to sensitive land uses so that the City of Brampton Planning Department can take that into consideration as the Secondary Plan moves forward to the Block Planning stage for the development of the proposed community.
6. It is recommended that the noise model also include the existing receiver west of Winston Churchill and south of the train tracks; it seems to have been excluded from the model.
7. Explain why sound level results were split into Eastbound and Westbound since they should be considered as an entire source before leaving the facility. Each receiver projected sound levels shall be the sum of both eastbound and westbound.
8. Identify what frequency dominates from the facility and if penalty had been applied.
9. The noise report did not identify any potential impulsive noise source associated with this facility.
10. The noise report did not identify if emergency equipment was included in the noise model.
11. The noise report should make reference to the D-series guideline.

These comments are being provided to you as recommendations from our Staff review for your consideration. We are happy to discuss with you any details that you may find helpful.
We request that any updates to the Noise and Vibration Report(s) be shared with City of Brampton so that the recommendations may be considered by the City's Planning and Engineering Departments with respect to potential impacts to any proposed adjacent land developments.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/21 10:10 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

Here is a comment from the City's Environmental Engineering team on the Heritage Road layover draft EPR.

The City would recommend that stormwater quantity control be identified in the EA to provide post to pre-development control up to the 100-year Design storm event. The development will be discharging directly to the natural valley and we would defer to the Credit Valley Conservation Authority for comments and approval for stormwater quantity control, erosion, water quality, and water balance requirements.

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/20 11:02 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for forwarding the responses from the Environmental Planning team. We will review and reach out if we have any questions or concerns. Otherwise, we will circulate responses to you for review once they have been prepared.

Kind regards,

Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July-20-22 10:54 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Here are the comments from City Environmental Planning staff on the Heritage Road Layover draft EPR.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Lakeman, Brian
Sent: 2022/07/18 3:13 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Clara,

I am informed by City Environmental Planning staff that they will have their comments finalized by Wednesday. I will pass them along to you when I receive them.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department

Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/15 3:43 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

Hi Brian,

Thanks for your expedient reply. We will confirm and provide a response to item 5 next week.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: July-15-22 3:38 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Clara,

Thank you for sending the responses to City staffs' comments on the EPR for the Heritage Road layover. I am satisfied with the responses to the comments I submitted, with the (possible) exception of Item 5. Please clarify whether the updated population figure to be included in the 90% EPR and SELUC reports will be the population from the Census (656,480) or the figure factored to include the census undercoverage (an estimated 680,820). In order to align with the forecasts for the years 2031 and 2051, it is my contention that the factored population figure for 2021 should be used (as all of the population figures would then reflect the census undercoverage, allowing for a more "apples to apples" comparison).

Brian Lakeman, **RPP, MCIP**
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/07/12 6:24 PM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Mazzotta, Frank <Frank.Mazzotta@brampton.ca>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover TPAP - SELUC, Traffic, Air Quality, EPR, and Additional Comments Follow-up

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Good evening City of Brampton Team,

Please find attached the remaining responses to the City's feedback on the EPR (traffic, socio-economic, and air quality (emissions). A complete copy of the responses are also included for ease.
Please let us know if our responses to the City's comments can be addressed. A copy of these responses will be included in our EPR.

Would you also kindly provide us an update to the circulation of the City's comments to stormwater management following our supplemental meeting with the City and CVC per the minutes attached?

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: July-11-22 9:33 AM
To: Lakeman, Brian <Brian.Lakeman@brampton.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: Heritage Road Layover TPAP - CHR and Archeology Comment Responses

Good morning City of Brampton Team,

Please find attached our responses to the City of Brampton's feedback on the EPR as they relate to the CHR and Archeology. I will be sending a follow-up response with the provision of traffic and socio-economic feedback as these have direct changes to the EPR. Please let us know if CHR and Archeology comments can be considered addressed. A copy of these responses will be included in our EPR.

Per Harsh's comment #19 regarding the Stage 3 Site-specific Archaeological Assessment prepared by Archeoworks in 2017, please find the document saved in the link [redacted] Note that this document was prepared for the Site's property owner; Metrolinx did not retain the Consultant to complete the Stage 3 works at McNichol Cemetery.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Lakeman, Brian <Brian.Lakeman@brampton.ca>
Sent: May-08-22 3:33 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Cc: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Padhya, Harsh <Harsh.Padhya@brampton.ca>
Subject: RE: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Clara,

Thank you for the opportunity to review the Draft EPR for the Heritage Road Layover Project. Here are consolidated comments from City of Brampton staff (Transportation Planning, Transit, and Heritage Planning). Also attached is a memo from Heritage Planning that provides context for their comments.

Comments on Appendix H (Traffic Impact Assessment) will be sent under separate cover.

Brian Lakeman, RPP, MCIP
Transportation Policy Planner
City of Brampton | Planning, Building and Economic Development Department
Tel: 905.874.3480
Email: brian.lakeman@brampton.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: 2022/04/07 9:49 AM

To: Zbogar, Henrik <Henrik.Zbogar@brampton.ca>; Balram, Anand <Anand.Balram@brampton.ca>; Stowe, David <David.Stowe@brampton.ca>; Lakeman, Brian <Brian.Lakeman@brampton.ca>; Ranjan, Kumar <Kumar.Ranjan@brampton.ca>; Bobb, Compton <Compton.Bobb@brampton.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [EXTERNAL]Heritage Road Layover - Draft EPR Submittal

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Good morning Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Region of Peel

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:00 AM
To: Tatla, Manvir; Kwast, Tamara
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Heritage Road Layover Draft EPR - GRT.xlsx; 2022-04-05_GRT Circulation Cover Letter.pdf

Good day Manvir and Tamara,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.
Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: Friday, July 15, 2022 2:43 PM
To: Clara Chan
Cc: Dara Corrigan; Simon Strauss
Subject: RE: HRL - Response to EPR Comments

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Hi Clara,

Thank you for sending the comment response matrix, I have circulated it to the team for their review and additional response if necessary.

Please see below additional comments from our Health Department (Franca Ursitti) on the Air Quality Baseline Conditions and Impact Assessment report for the Heritage Road Layover.

- Page 27 – notes that the cumulative effects (project + background concentration of PM2.5, CO, 1-3Butatdiene, Formaldehyde, Acetaldehyde and acrolein within the study area are below the AAQC for all averaging times. This statement is not consistent with data present in table 10-1 where the PM2.5 cumulative concentrations are predicted to exceed the annual AAQC (109%).
- With respect to the three recommendations offered to minimize air quality impacts, we support the recommendation for the development and implementation of a comprehensive Air Quality and Dust Management Plan during the construction phase of the project particularly as they related to dust control and monitoring. Greater clarity is required with respect to the scope of the air monitoring program, where the monitors will be placed in relation to sensitive receptors and whether monitoring will continue in the operational phase. Notwithstanding the conservative assumptions being used in the air quality modelling, given the exceedances of the cumulative concentrations for both PM2.5 and PM10 it is appropriate to include PM2.5 in the air monitoring program.

If you could please revise the response matrix to include these comments and resend me the updated matrix and responses.

Thank you,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Mobile: (437)-241-9026

Region of Peel
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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 8, 2022 4:24 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: HRL - Response to EPR Comments

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Good afternoon Tamara,

Happy Friday! Please find attached our responses to the Region of Peel's feedback on the EPR, SELUC, and TIA. Please let us know if these comments can be considered addressed. A copy of these responses will be included in our EPR.

For reference, given that a significant amount of comments relate to traffic, we've attached the updated TIA for review. Due to the size of the appendix (13 mb), we've saved a copy of the report the TIA and separate appendix file in the dropbox link [redacted]. If you have any issues, please let us know.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: June-06-22 9:52 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Clara,

Grace Mulcahy and Rani Kol were part of the Regional staff review team for the Draft Traffic Impact Assessment Report.

Thank you,

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: June 6, 2022 9:48 AM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Tamara,

Thank you for your responses. We will review them and provide a response to you as we work through all the compiled stakeholder responses.

Would you please kindly confirm that Grace Mulcahy and Rani Kol were part of the Regional staff review team for the traffic impact assessment report? They had flagged that they had wished to see the traffic study as part of the original set of EPR comments from Peel Region.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: June-06-22 9:31 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Clara,

Thank you for including the Region of Peel as a stakeholder on the Heritage Road Layover project. I have attached for your review and response Regional staff comments on the Draft Traffic Impact Assessment Report, dated April 2022.

Please do not hesitate to contact me If you require more information or clarification.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor



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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 5, 2022 4:32 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Tamara,

Further to our call this afternoon, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment (Appendix H)** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
[https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 6, 2022 to the Project Team.

Let us know if you have any questions, and apologies for the confusion!

Kind regards,
Clara

Vacation Alert: I will be out of office between May 13 and May 31, 2022.

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

Safety Never Stops.

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: May-05-22 2:38 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

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Hi Clara,

I am in the process of compiling the Region of Peel staff comments on the above-noted Draft EPR for Metrolinx. The EPR indicates a completed TIS by April 2022- has that already been circulated or completed?

Thank you,

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 14, 2022 3:23 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

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Good afternoon Tamara,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: April-11-22 2:51 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Kwast, Tamara <tamara.kwast@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hi Clara,

Thank you – we've circulated for comments.

On a related note, please be advised that my colleague Tamara Kwast, copied, will be the lead contact from Peel moving forward, as I am in the process of moving on to another position at Peel.

It was a pleasure working with you!

Thanks,
Manvir

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 6, 2022 8:00 AM

To: Tatla, Manvir <manvir.tatla@peelregion.ca>; Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Good day Manvir and Tamara,

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iii. The draft EPR can be accessed via the following link [redacted]
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Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Stephanie Cardenas
Sent: Thursday, March 24, 2022 1:47 PM
To: Mandeep Jassal; Brian Poole
Cc: Jackie Czajka; Melissa Simpson; Dara Corrigan; Clara Chan
Subject: Heritage Road Layover TPAP NOC Emails to Peel Elected Officials
Attachments: FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600032; FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600033; FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600034; FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600035; FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600036; FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600037; FW: Heritage Road Layover TPAP Notice Of Commencement EML:027600031; Heritage Road Layover TPAP Notice Of Commencement

Hi Brian,

As requested, attached are the NOC emails that went to Peel Elected Officials.

@Mandeep Jassal can you share your sent emails with Brian as well.

Thank you!

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:00 AM
To: Tatla, Manvir; Kwast, Tamara
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Heritage Road Layover Draft EPR - GRT.xlsx; 2022-04-05_GRT Circulation Cover Letter.pdf

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From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: Monday, April 11, 2022 2:51 PM
To: Clara Chan
Cc: Kwast, Tamara
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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From: Clara Chan
Sent: Thursday, May 5, 2022 4:32 PM
To: Kwast, Tamara
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Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

Hi Tamara,

Further to our call this afternoon, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment (Appendix H)** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
[https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.

Let us know if you have any questions, and apologies for the confusion!

Kind regards,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

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Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hi Clara,

Thank you – we've circulated for comments.

On a related note, please be advised that my colleague Tamara Kwast, copied, will be the lead contact from Peel moving forward, as I am in the process of moving on to another position at Peel.

It was a pleasure working with you!

Thanks,
Manvir

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 6, 2022 8:00 AM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>; Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Good day Manvir and Tamara,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.
Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents

ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents

iii. The draft EPR can be accessed via the following link [redacted]

iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: Thursday, May 5, 2022 3:30 PM
To: Clara Chan
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Detaramani, Tina; Ahuja, Sidharth
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal - ROP Comments
Attachments: 220503 Metrolinx Heritage Road Layover - Draft EPR Comments.pdf

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Good afternoon Clara,

Thank you for including the Region of Peel as a stakeholder on the Heritage Road Layover project. I have attached for your review Regional staff comments on the Draft Environmental Project Report, dated April 2022.

Please do not hesitate to contact me If you require more information or clarification.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor

Region of Peel
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---

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 6, 2022 8:00 AM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>; Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Good day Manvir and Tamara,

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Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

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Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Region of Peel
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Public Works

To: Tamara Kwast, Principal Planner
From: Marsha Paley, Principal Planner

Date: April 25, 2022
Subject: Metrolinx, Heritage Road GO Layover, City of Brampton

CC: Mark Head, Manager
Tara Buonpensiero, Manager

Our File:

Planning and Development Services Division's Research and Analysis staff have reviewed the materials from the applicant on the proposed Metrolinx Go Layover and note we do not have any concerns.

In undertaking the analysis, we reviewed the draft Environmental Project Report by Wood dated April 2022 and the Core Areas of the Greenlands System mapping in the Region of Peel Official Plan. There are no identified Core Areas of the Greenlands System within the Study Area, however, there are valley and stream corridors that cross the proposed right-of-way for the layover facility. The City of Brampton is in the process of completing a subwatershed study for the Heritage Heights Secondary Plan that includes the Study Area. Regional staff recommends that Metrolinx work with the City of Brampton and Credit Valley Conservation staff to align planning for the layover facility and implement recommendations of the Heritage Heights' Subwatershed Study.

Should you have any questions, on these comments, please contact the undersigned at marsha.paley@peelregion.ca or 1-437-242-1270.

Thank you for your consideration of the comments.

Regards,

Marsha L. Paley

Marsha Paley, MCIP, RPP, CMO
Principal Planner

From: Clara Chan
Sent: Wednesday, June 1, 2022 9:51 AM
To: Brian Poole; Dara Corrigan
Subject: FW: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Request for Comments
Attachments: PSN_Heritage Road Layover.pdf

Still working through emails, but not sure if Tamara sent this over to you as well.

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: May-17-22 1:06 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: FW: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Request for Comments

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FYI – Late comments that came through today. There is no infrastructure in this area.

From: Canjar, Neha <neha.canjar@peelregion.ca>
Sent: May 17, 2022 12:58 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Request for Comments

Hello Tamara,

Sorry, for the delay.

Please see attached PSN records. PSN does not have any infrastructure in the area of the outlined in your email.

Thank You,

Neha Canjar
Public Sector Network (PSN) Advisor
Service Excellence and Innovation, IT Operations
C 416-300-3924
Neha.Canjar@peelregion.ca

REGION OF PEEL working with you

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: April 6, 2022 2:51 PM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>; Van Boxmeer, Kyle <kyle.vanboxmeer@peelregion.ca>; Jamroz, Damian <damian.jamroz@peelregion.ca>; Rook, Sally <sally.rook@peelregion.ca>; Gulyas, Ryan <ryan.gulyas@peelregion.ca>; Simms, Joy <joy.simms@peelregion.ca>; Fitzpatrick, Sandra <sandra.fitzpatrick@peelregion.ca>; Ponce Vanelli, Italia <italia.ponce@peelregion.ca>; Dodds, Darrin <darrin.dodds@peelregion.ca>; ZZG-PWI <pwi@peelregion.ca>; LeDrew, Lyle <lyle.ledrew@peelregion.ca>; Wedderburn, Duran <Duran.Wedderburn@peelregion.ca>; Zia, Solmaz <solmaz.zia@peelregion.ca>; Morrison, Chantel <chantel.morrison@peelregion.ca>; Aubin, Louise <louise.aubin@peelregion.ca>; Toy, William <william.toy@peelregion.ca>; Carrick, Sean <sean.carrick@peelregion.ca>; Ansari, Seema <seema.ansari@peelregion.ca>; Schembri, Jeremy <jeremy.schembri@peelregion.ca>; Patterson, Adaoma <adaoma.patterson@peelregion.ca>; Head, Mark <mark.head@peelregion.ca>; Powell, Sarah <sarah.powell@peelregion.ca>; Kuczynski, Roman <roman.kuczynski@peelregion.ca>; Saiyed, Sabbir <sabbir.saiyed@peelregion.ca>; Canjar, Neha <neha.canjar@peelregion.ca>; Paje, Wilson <wilson.paje@peelregion.ca>; Hamdani, Hashim <hashimali.hamdani@peelregion.ca>; Banuri, Syeda <syeda.banuri@peelregion.ca>; Ghai, Kiran <kiran.ghai@peelregion.ca>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Ahuja, Sidharth <sidharth.ahuja@peelregion.ca>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Request for Comments

Good afternoon,

Metrolinx has requested comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project. Metrolinx, an agency of the Province of Ontario, and is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

Metrolinx has noted that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter. Metrolinx has also noted that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April. Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

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The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. The draft EPR can be accessed via the following link [redacted]
iii. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

Please provide your comments on the above-noted materials (Draft EPR) by **May 2, 2022.**

Thank you,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor



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From: Clara Chan
Sent: Wednesday, June 1, 2022 12:19 PM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: FW: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Study - Request for Comments

Looks like there is additional input from Peel Region on the SELUC 😐. Traffic comments still to come.

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: May-27-22 3:21 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Study - Request for Comments

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Hi Clara,

Please see the following comments received form Policy Development on Appendix E- Heritage Road Layover Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report.

- 2.1.2.3 Region of Peel Official Plan (2018; 2021 Office Consolidation) –please advise Metrolinx to use our April ROPA and update the policy texts and sections accordingly.
  Link: https://www.peelregion.ca/officialplan/review/pdf/official-plan-review-consolidation-clean.pdf
- Table 2-5
  - Typo in the title – should be Population Growth in Brampton Ward 6, Halton Hills Ward 2 Halton Hills and Brampton, 2016-2031.
  - Brampton Population: the 2031 population regional forecast is 865,000
    - The most recent Regional forecasts can be found in the Land Needs Assessment, Appendix XIII-Land Budget Tables: https://www.peelregion.ca/officialplan/review/pdf/2022/appendix-xiii-land-budget-tables.pdf.
- Table 2-8 Employment Projection – I am sharing our Brampton employment forecasts in the table and data source

Table 2-8: Employment Projections from 2021 to 2041 in Brampton and Halton Hills

Location	Employment Projections				% Change
	2021	2026	2031	2041	
Brampton	280,000	300,000	314,000	-	12.1%
Halton Hills	27,800	34,500	42,000	53,000	90.6%

Source: (Hemson Consulting Ltd., 2011), (Watson & Associates Economists LTD, 2020)

Regional Forecast:

Mun	E2021	E2026	E2031	E2036	E2041	E2046	E2051
B	210,000	250,000	275,000	295,000	315,000	335,000	355,000

Figures are based on Hemson's Consulting allocation 2051 Reference Scenario (Sept,2021)
Figures rounded to the nearest 5,000

Formal comments on the Traffic Impact Statement are forthcoming.

Thank you,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor

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From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: May 9, 2022 6:55 PM
To: Ahuja, Sidharth <sidharth.ahuja@peelregion.ca>; Tatla, Manvir <manvir.tatla@peelregion.ca>; Van Boxmeer, Kyle <kyle.vanboxmeer@peelregion.ca>; Jamroz, Damian <damian.jamroz@peelregion.ca>; Rook, Sally <sally.rook@peelregion.ca>; Gulyas, Ryan <ryan.gulyas@peelregion.ca>; Simms, Joy <joy.simms@peelregion.ca>; Fitzpatrick, Sandra <sandra.fitzpatrick@peelregion.ca>; Ponce Vanelli, Italia <italia.ponce@peelregion.ca>; Dodds, Darrin <darrin.dodds@peelregion.ca>; ZZG-PWI <pwi@peelregion.ca>; LeDrew, Lyle <lyle.ledrew@peelregion.ca>; Wedderburn, Duran <Duran.Wedderburn@peelregion.ca>; Zia, Solmaz <solmaz.zia@peelregion.ca>; Morrison, Chantel <chantel.morrison@peelregion.ca>; Aubin, Louise <louise.aubin@peelregion.ca>; Toy, William <william.toy@peelregion.ca>; Carrick, Sean <sean.carrick@peelregion.ca>; Ansari, Seema <seema.ansari@peelregion.ca>; Schembri, Jeremy <jeremy.schembri@peelregion.ca>; Patterson, Adaoma <adaoma.patterson@peelregion.ca>; Head, Mark <mark.head@peelregion.ca>; Powell, Sarah <sarah.powell@peelregion.ca>; Kuczynski, Roman <roman.kuczynski@peelregion.ca>; Saiyed, Sabbir <sabbir.saiyed@peelregion.ca>; Canjar, Neha <neha.canjar@peelregion.ca>; Paje, Wilson <wilson.paje@peelregion.ca>; Hamdani, Hashim <hashimali.hamdani@peelregion.ca>; Banuri, Syeda <syeda.banuri@peelregion.ca>; Ghai, Kiran <kiran.ghai@peelregion.ca>; Sinka, Nathan <nathan.sinka@peelregion.ca>; Paley, Marsha <marsha.paley@peelregion.ca>

Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Study - Request for Comments

Hello everyone,

Metrolinx has requested comments on the **Draft Traffic Impact Assessment Study** for the Heritage Road Layover Project. Metrolinx, an agency of the Province of Ontario, and is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP). As part of the TPAP, a Draft Traffic Impact Assessment Study (TIS) has been prepared to assess the traffic impacts of this transit project.

The Draft TIS can be located here:
[redacted]

Additionally this report has also been uploaded to Metrolinx Engage:
[https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Please provide your comments on the Draft Traffic Impact Assessment Study to my attention by **May 24, 2022.**

Thank you,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor

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From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: Monday, June 6, 2022 9:52 AM
To: Clara Chan
Cc: Detaramani, Tina; Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Clara,

Grace Mulcahy and Rani Kol were part of the Regional staff review team for the Draft Traffic Impact Assessment Report.

Thank you,

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: June 6, 2022 9:48 AM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Tamara,

Thank you for your responses. We will review them and provide a response to you as we work through all the compiled stakeholder responses.

Would you please kindly confirm that Grace Mulcahy and Rani Kol were part of the Regional staff review team for the traffic impact assessment report? They had flagged that they had wished to see the traffic study as part of the original set of EPR comments from Peel Region.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: June-06-22 9:31 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Clara,

Thank you for including the Region of Peel as a stakeholder on the Heritage Road Layover project. I have attached for your review and response Regional staff comments on the Draft Traffic Impact Assessment Report, dated April 2022.

Please do not hesitate to contact me If you require more information or clarification.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor

Region of Peel
working with you

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 5, 2022 4:32 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Tamara,

Further to our call this afternoon, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment (Appendix H)** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
[https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 6, 2022 to the Project Team.

Let us know if you have any questions, and apologies for the confusion!

Kind regards,
Clara

Vacation Alert: I will be out of office between May 13 and May 31, 2022.

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

Safety Never Stops.

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Sent: May-05-22 2:38 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

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Hi Clara,

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Thank you,

Tamara

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Sent: April 14, 2022 3:23 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
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If you have any questions on this regard, please let us know.

Kind regards,
Clara

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METROLINX

From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: April-11-22 2:51 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Kwast, Tamara <tamara.kwast@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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On a related note, please be advised that my colleague Tamara Kwast, copied, will be the lead contact from Peel moving forward, as I am in the process of moving on to another position at Peel.

It was a pleasure working with you!

Thanks,
Manvir

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 6, 2022 8:00 AM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>; Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Good day Manvir and Tamara,

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Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.
Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
>
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We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

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From: Clara Chan
Sent: Monday, June 6, 2022 9:32 AM
To: Brian Poole; Dara Corrigan
Subject: FW: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report
Attachments: 220503 Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Study Comments - June 2022.pdf

Please file and pass over to Wood.

Thanks!

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Project Manager, Environmental Programs & Assessment
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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: June-06-22 9:31 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Clara,

Thank you for including the Region of Peel as a stakeholder on the Heritage Road Layover project. I have attached for your review and response Regional staff comments on the Draft Traffic Impact Assessment Report, dated April 2022.

Please do not hesitate to contact me If you require more information or clarification.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor

Region of Peel
working with you

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---

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 5, 2022 4:32 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Tamara,

Further to our call this afternoon, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment (Appendix H)** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
[https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 6, 2022 to the Project Team.

Let us know if you have any questions, and apologies for the confusion!

Kind regards,
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peelregion.ca

June 6, 2022

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

Re: Region of Peel Comments on the Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Study

Dear Simon:

Thank you for including the Region of Peel as a stakeholder in the Draft Traffic Impact Assessment Study for the Heritage Road Layover Project. Regional staff have reviewed the material presented and we offer the following comments:

Transportation Planning General Comments

Regional Roads

- The Heritage Road Layover Project subject site is located in the center of four Regional roads: Mayfield Road, Mississauga Road, Winston Churchill Boulevard, and Bovaird Drive. A section of the Winston Churchill Boulevard between Mayfield Road and Guelph St. are considered to be the closest intersections to the subject site. All the Regional roads surrounding the subject site, including a section of Winston Churchill Boulevard, are two-lane roads.

Long Range Transportation Plan

- The Region's approved Let's Move Peel Long Range Transportation Plan 2019, ('LRTP') does not identify road improvements or widenings for this area along Winston Churchill Boulevard.
- The Region of Peel Official Plan 2022 identifies the following:
    - A right-of-way ('ROW') of 36 meters for Winston Churchill Boulevard (Schedule F: Regional Road Mid-Block Right-of-Way Requirements).
    - The access intersection is subject to Section 7.10 Regional Road Right of Way Requirements and need to be considered to ensure that intersection right-of-way requirements are being maintained.

Transportation Master Plan Update

- On April 28, 2022, Regional Council passed By-law 20-2022, adopting the Regional Official Plan Amendment (ROPA) that extends the planning horizon to 2051. This amendment is currently awaiting Provincial approval.
- As such, the Region is initiating a Comprehensive Transportation Master Plan ('CTMP') that will act as an implementation plan in developing a multi-modal sustainable transportation system, planned to 2051. The CTMP will include the

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following: an addendum to the Agency's 2019 Long Range Transportation Plan; and, updates to the Vision Zero Road Safety Strategic Plan, the Sustainable Transportation Strategy, the Road Characterization Study, and the Goods Movement Strategic Plan and Network.

- The CTMP will include alternative solutions to address competing interests for rights-of-way ("ROW") within the Region, all while further promoting active transportation modes and providing recommendations for the implementation of a multi-modal sustainable transportation system. Any future development near the subject site may have an impact on traffic and will need to consider the policies outlined in the CTMP update.

Traffic Development General Comments

- The proposed full moves movement access along Winston Churchill Boulevard is supported by the Region at this time.
- Current existing accesses along the property frontage are required to be reinstated to the Region's satisfaction.
- More details are requested in the TIS regarding the impact to the access of the heritage feature located at 10826 Winston Churchill Boulevard. The existing access to the heritage feature subject site are required to be reinstated, and access is to be obtained from the main driveway to the subject lands located at the southerly limits.
- A Road Occupancy Permit is required for any construction on the subject site.
- A Traffic Control Plan is required for any proposed lane closures.

TIS Detailed Comments

Traffic Signals & Streetlighting

- The count data used in the TIS includes 2020 pandemic traffic data. What procedures were used to balance the data?
    - Was the highest count from 2018-2020 to produce 2022 base data?
    - What procedures were taken to account for the lower-than-normal traffic volumes?
    - Using the pandemic data will provide a misinterpretation off your projected traffic volumes and the results will not be as high as they should be.
- The TIS shows 4 SB lanes at Mississauga Road and Bovaird Drive - confirm future configurations with the Peel Road Capital department (Pg. 194)
- There may be 30% or 60% lane configuration designs available for Bovaird Drive from Heritage Road to Mississauga Road.
    - Please reconfirm the Mississauga Road Lane configuration by attaining the latest configurations from the Peel Roads Capital department (Project Manager- Scott Durdle).

Synchro Analysis

- The Synchro analysis **does not** address the following:

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- Signal timings that were used for each Regional Intersection
- The type of phasing that is being used for left turn movements. Not having this information makes it hard to determine if the calculated Level of Service and Delay is accurate.
- Can this be provided as well for all scenario years?

Traffic Safety

- What is the desirable sight distance? (Section 4.2)
- WCB/Guelph St – LOS F – This could promote aggressive driving behaviours (Section 5.2.2)
- Traffic safety risks such as driver delay, queues, poor level of service, etc. are all can lead to driver frustration, aggression, and unsafe behaviours. This should be mitigated if possible (Section 5.2)
- Ensure Book 7 is adhered to during construction, safe movement of traffic, adequate signage, facilities for pedestrians and cyclists.

Through the review of the Final Traffic Impact Study additional comments may be forthcoming. Regional staff look forward to the continued engagement with Metrolinx throughout the evaluation process for the Heritage Road Layover Project. Should there be any questions regarding the comments above, please do not hesitate to contact me.

Yours truly,

Tamara Kwast
Principal Planner, Sustainable Transportation & Strategic Initiatives
Transportation Division
Region of Peel

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peelregion.ca

May 05, 2022

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

Re: Region of Peel Comments on the Draft 75% Environmental Project Report for the Heritage Road Layover Project

Dear Simon:

Thank you for including the Region of Peel as a stakeholder in Draft Environmental Project Report for the Heritage Road Layover Project. Regional staff have reviewed the material presented and we offer the following comments:

Roads Design and Construction – Ommar Moeen

1. The report provided by Metrolinx does not discuss Peel/Halton's proposed capital project within this corridor, that has been ongoing for numerous years. The project limits and timelines overlap, therefore close coordination is required between Peel and Metrolinx. As of March 31st, 2022 Peel has provided Metrolinx staff with design drawings and proposed grades for tie-in purposes.
2. Entrance tie-into to Winston Churchill Boulevard must match the proposed road grades in this area as part of Peel Project 06-4015. Peel has provided CAD and PDF drawings to Metrolinx for tie-in purposes.
3. There will be AT infrastructure (paved shoulders) installed as part of the capital project in this area.
4. As part of Metrolinx's design the proposed storm water conditions should be taken into consideration in their design. The culvert configuration at the CN crossing will be changed as part of Peel project 06-4015.

Traffic Safety – Grace Mulcahy

1. Please include the Region of Peel's Road Safety Strategic Plan (2018 – 2022) in the municipal review.
2. Ensure Book 7 is adhered to during construction process. Include necessary signs along WCB and ensure pedestrians and cyclists are safely accommodated.
3. Please provide sufficient notice to the Region of Peel and other stakeholders (Emergency Services, school boards, etc.) for upcoming road closures.
4. In Appendix E, is it stated that a Traffic Impact Assessment was completed. Will this be provided to the Region of Peel for review?

Transportation Systems Planning – Roman Kuczynski

The Heritage Road Layover Project site is located in the vicinity of four Regional roads: Mayfield Road, Mississauga Road, Winston Churchill Boulevard, and Bovaird Drive. A section of Winston Churchill Boulevard between Mayfield Road and Guelph St. and its

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intersections are the closest to the project site. All the Regional roads near the project site, including the section of Winston Churchill Boulevard, are two-lane roads.

The Region's currently approved LRTP (Let's Move Peel Long Range Transportation Plan 2019) does not identify any road improvements or widenings for that section of Winston Churchill Boulevard. Schedule F of the current Regional Official Plan (Region of Peel Official Plan: Office Consolidation September 2021) identifies a right-of-way (ROW) of 36 meters for that section of Winston Churchill Boulevard (Schedule F: Regional Road Mid-Block Right-of-Way Requirements).

However, on April 28, 2022, Regional Council passed By-law 20-2022 adopting the Regional Official Plan Amendment (ROPA) that extended planning horizon to 2051. This amendment is currently awaiting Provincial approval. The new amendment requires the Region to review and possibly revise its plans for road improvements.

In addition, the area near the project site experiences significant goods movement activities. The Strategic Goods Movement Network in this area needs to be considered when planning for the Heritage Road Layover.

The Region is initiating a Comprehensive Transportation Master Plan (CTMP) study that will look into different aspects of transportation including the widening or improving regional roads based on the 2051 forecast and updating the Strategic Goods Movement Network .

We are of the opinion that any future work on the Heritage Road Layover needs to consider all the factors mentioned above.

Sustainable Transportation and Strategic Initiatives – Sid Ahuja
There is an access road planned at the Winston Churchill Boulevard near the planned layover. No significant impacts are expected with regards to active transportation.

Real Estate – Ryan Gulyas:
<u>Kitchener Corridor Expansion Project Impacts</u>

1. The Heritage Road layover is part of the Kitchener Corridor Expansion project which include six (6) land pins within Peel Region. Three (3) of these pins are easements and three (3) are considered fee simple as noted in the chart below.
2. Regional staff is requesting that the Heritage Road Layover and Kitchen Corridor Expansion project be coordinated together to ensure all information can be reviewed by Regional staff. This will ensure all potential impacts to Region owned infrastructure can be identified early on.

<u>Heritage Road Layover</u>

3. There does not appear to be any Region owned assets in the immediate vicinity of the project for the Heritage Rd. Layover.

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tel: 905-791-7800

peelregion.ca

4. There may be potential impacts to Winston Churchill Boulevard which is a Region owned road.

Regional interest to be expropriated			
PIN	**Easement**	**Fee Simple**	**Purpose**
14364-2357	PR2285727	n/a	Sanitary Sewers, Drains and Related Appurtenances, Access Road
14026-0198	VS232369	n/a	Sanitary Sewers, Drains and Related Appurtenances
14094-2833	PR1137421	n/a	Sanitary Sewers, Drains and Related Appurtenances
14094-0910	n/a	Block 176, Plan 43M-1409	Uncertain
14094-0923	n/a	Block 189, Plan 43M-1409	Road widening
14094-0924	n/a	Block 190, Plan 43M-1409	1ft Reserve

Traffic Development and Permits – Rani Kol

1. No major concerns at this stage of the project.
2. Detailed comments to be provided through the review of the Traffic Impact Study anticipated to be circulated in Q2.
3. The EPR shows a connection to Winston Churchill Boulevard for which a Road Occupancy Permit will be required for its construction. Additional requirements pertaining to the proposed access would be provided through the review of the TIS
4. Details pertaining to the impact to the access of the heritage feature located at 10826 Winston Churchill Boulevard are to be provided within the TIS
5. Details pertaining to the impact to the access of the heritage feature located at 10746 Winston Churchill Boulevard are to be provided within the TIS
6. Road Occupancy Permit and Traffic Control Plan would be required for any proposed lane closures.

Regional staff look forward to the continued engagement with Metrolinx throughout the evaluation process for the Heritage Road Layover Project. Should there be any questions regarding the comments above, please do not hesitate to contact me.

Yours truly,

Tamara Kwast
Principal Planner, Sustainable Transportation & Strategic Initiatives
Transportation Division
Region of Peel

From: Clara Chan
Sent: Monday, June 27, 2022 3:06 PM
To: Kwast, Tamara; ommar.moeen@peelregion.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Detaramani, Tina; Ahuja, Sidharth; Talha Asif
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - ROP Comments
Attachments: M6300-90-NP2-08 - markup.pdf

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We will be sending you a complete set of responses to all of the Region's comments shortly.

Thank you very much,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal - ROP Comments

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Please do not hesitate to contact me If you require more information or clarification.

Regards,

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Sustainable Transportation & Strategic Initiatives, Transportation Division
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10 Peel Centre Drive, Suite B, 4th Floor

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part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.
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ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
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Regards,
Clara

Clara Chan
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Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Thursday, June 30, 2022 9:34 AM
To: Moeen, Ommar; Kwast, Tamara
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Detaramani, Tina; Ahuja, Sidharth; Talha Asif; Zia, Solmaz
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - ROP Comments

Good morning Ommar,

Thank you very much for the clarification! We will reach out to you or Tamara if we have any further questions.

Have a great long weekend!

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
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From: Moeen, Ommar <ommar.moeen@peelregion.ca>
Sent: June-29-22 4:35 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Detaramani, Tina <tina.detaramani@peelregion.ca>; Ahuja, Sidharth <sidharth.ahuja@peelregion.ca>; Talha Asif <Talha.Asif@metrolinx.com>; Zia, Solmaz <solmaz.zia@peelregion.ca>
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Hi Clara,

Hope you're doing well.

My comments are below in blue.

Best Regards,

Ommar Moeen, P.Eng.
Project Manager, Roads Design and Construction
Transportation, Public Works

10 Peel Centre Dr., Suite B, 4th Floor, Brampton, ON L6T 4B9
Tel: 905-791-7800, ext. 7998 cell: 416-553-0009

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From: Clara Chan
Sent: Friday, July 8, 2022 4:24 PM
To: Kwast, Tamara
Cc: Detaramani, Tina; Brian Poole; Dara Corrigan; Simon Strauss
Subject: HRL - Response to EPR Comments
Attachments: 2022-07-06 - Heritage Road Layover - GRT Comment Responses (Peel).xlsx; IM21405045_Heritage Layover_Traffic_Draft_Rev3.pdf

Good afternoon Tamara,

Happy Friday! Please find attached our responses to the Region of Peel's feedback on the EPR, SELUC, and TIA. Please let us know if these comments can be considered addressed. A copy of these responses will be included in our EPR.

For reference, given that a significant amount of comments relate to traffic, we've attached the updated TIA for review. Due to the size of the appendix (13 mb), we've saved a copy of the report the TIA and separate appendix file in the dropbox link [redacted]. If you have any issues, please let us know.

Thank you,
Clara

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: June-06-22 9:52 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Clara,

Grace Mulcahy and Rani Kol were part of the Regional staff review team for the Draft Traffic Impact Assessment Report.

Thank you,

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: June 6, 2022 9:48 AM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Tamara,

Thank you for your responses. We will review them and provide a response to you as we work through all the compiled stakeholder responses.

Would you please kindly confirm that Grace Mulcahy and Rani Kol were part of the Regional staff review team for the traffic impact assessment report? They had flagged that they had wished to see the traffic study as part of the original set of EPR comments from Peel Region.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: June-06-22 9:31 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Good morning Clara,

Thank you for including the Region of Peel as a stakeholder on the Heritage Road Layover project. I have attached for your review and response Regional staff comments on the Draft Traffic Impact Assessment Report, dated April 2022.

Please do not hesitate to contact me If you require more information or clarification.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor



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---

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: May 5, 2022 4:32 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Tamara,

Further to our call this afternoon, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment (Appendix H)** for your review and have included it in the link below:
[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
[https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 6, 2022 to the Project Team.

Let us know if you have any questions, and apologies for the confusion!

Kind regards,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

Clara Chan

Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Safety Never Stops.

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: May-05-22 2:38 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

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Hi Clara,

I am in the process of compiling the Region of Peel staff comments on the above-noted Draft EPR for Metrolinx. The EPR indicates a completed TIS by April 2022- has that already been circulated or completed?

Thank you,

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 14, 2022 3:23 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

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Good afternoon Tamara,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service

	all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Tatla, Manvir <manvir.tatla@peelregion.ca>
Sent: April-11-22 2:51 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Kwast, Tamara <tamara.kwast@peelregion.ca>
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hi Clara,

Thank you – we've circulated for comments.

On a related note, please be advised that my colleague Tamara Kwast, copied, will be the lead contact from Peel moving forward, as I am in the process of moving on to another position at Peel.

It was a pleasure working with you!

Thanks,
Manvir

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April 6, 2022 8:00 AM
To: Tatla, Manvir <manvir.tatla@peelregion.ca>; Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Good day Manvir and Tamara,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

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To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.
Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR documents
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
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From: Clara Chan
Sent: Tuesday, August 9, 2022 9:20 AM
To: Brian Poole; Dara Corrigan
Subject: FW: HRL - Response to EPR Comments

Follow Up Flag: Follow up
Flag Status: Flagged

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: July-15-22 2:49 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: HRL - Response to EPR Comments

Hi Tamara,

Thank you for your additional feedback. We will share with our Consultant for further re-evaluation of page 27, and integrate your other feedback in our matrix of responses.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: July-15-22 2:43 PM
To: Clara Chan <Clara.Chan@metrolinx.com>

Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: HRL - Response to EPR Comments

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Hi Clara,

Thank you for sending the comment response matrix, I have circulated it to the team for their review and additional response if necessary.

Please see below additional comments from our Health Department (Franca Ursitti) on the Air Quality Baseline Conditions and Impact Assessment report for the Heritage Road Layover.

- Page 27 – notes that the cumulative effects (project + background concentration of PM2.5, CO, 1-3Butatdiene, Formaldehyde, Acetaldehyde and acrolein within the study area are below the AAQC for all averaging times. This statement is not consistent with data present in table 10-1 where the PM2.5 cumulative concentrations are predicted to exceed the annual AAQC (109%).
- With respect to the three recommendations offered to minimize air quality impacts, we support the recommendation for the development and implementation of a comprehensive Air Quality and Dust Management Plan during the construction phase of the project particularly as they related to dust control and monitoring. Greater clarity is required with respect to the scope of the air monitoring program, where the monitors will be placed in relation to sensitive receptors and whether monitoring will continue in the operational phase. Notwithstanding the conservative assumptions being used in the air quality modelling, given the exceedances of the cumulative concentrations for both PM2.5 and PM10 it is appropriate to include PM2.5 in the air monitoring program.

If you could please revise the response matrix to include these comments and resend me the updated matrix and responses.

Thank you,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Mobile: (437)-241-9026



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From: Brian Poole
Sent: Friday, August 12, 2022 4:20 PM
To: tamara.kwast@peelregion.ca
Cc: Clara Chan; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Air Quality Report Comments & Responses
Attachments: 2022-08-09-Peel Region Comments_Heritage Rd Layover_AQ Draft Report_Wood Response - BP.xlsx; IM21405045_Heritage Layover_Air Quality_RoP_Clean.pdf

Hi Tamara,
I wanted to thank you and the Region of Peel again, for the comments on the Heritage Road Layover Air Quality Report. I've attached a copy of the excel file with the Region's comments and our responses, along with the updated copy of the report.
Let us know if you have any additional questions.
Thank you,
-Brian

Brian Poole, B.Sc., C.Tech., EP
Environmental Project Coordinator, Environmental Programs & Assessment
Metrolinx
10 Bay Street, 15th Floor | Toronto | Ontario | M5J 2W3
C: 416.550.7444
C: 647.334.9949

Please note that my contracted employment with Metrolinx is coming to an end on August 26th, 2022. Any project related work continuing beyond this date will be delegated accordingly. Feel free to contact me with any questions as needed. Thank you.

METROLINX

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Town of Halton Hills

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:00 AM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Heritage Road Layover Draft EPR - GRT.xlsx; 2022-04-05_GRT Circulation Cover Letter.pdf

Good day Everyone,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.
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iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Wednesday, April 6, 2022 8:00 AM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Heritage Road Layover Draft EPR - GRT.xlsx; 2022-04-05_GRT Circulation Cover Letter.pdf

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We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

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Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Wednesday, April 6, 2022 10:50 AM
To: Maureen Van Ravens; Jeff Jelsma; Ivan Drewnitski; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Notice of Commencement for Heritage Road Layover
Attachments: Heritage Road Layover - NoC - English - QME-WPC-160.pdf; Heritage Road Layover - NoC - Francais - QME-WPC-160.pdf

Good morning Maureen, Jeff, Ivan and Melissa,

We are currently still working through the meeting minutes for the TAC meeting held last Friday, but we wanted to share the Notice of Commencement as requested in advance of the minutes circulation (attached).

Just for reference, the Metrolinx Engage page with the updated project material will be going live shortly (before noon) (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Please let me know if you have any questions.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Thursday, April 14, 2022 3:24 PM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

Good afternoon Maureen, Ivan, Jeff and Melissa,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April-06-22 8:00 AM
To: Maureen Van Ravens <MaureenV@haltonhills.ca>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Jeff Jelsma <JeffJ@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

Good day Everyone,

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Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Thursday, May 5, 2022 5:10 PM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Sent: Tuesday, May 24, 2022 6:44 PM
To: Clara Chan; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci; Laura Loney
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Clara

The Town of Halton Hills is coordinating comments. We hope to have them to you by May 27, 2022.

Thanks

Maureen Van Ravens C.E.T.
Director of Transportation
Transportation & Public Works
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maureenv@haltonhills.ca

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Sent: Friday, June 3, 2022 9:00 AM
To: Clara Chan; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Sent: Friday, July 8, 2022 3:18 PM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Response to Town of Halton Hills EPR, TIA and Noise and Vibration Reports
Attachments: 2022-07-08-Heritage Road Layover - GRT Comment Responses (HH).xlsx

Good afternoon Maureen,

Please find attached responses to the Town of Halton Hill's comments provided as for your review.

A copy of these responses will be included in our EPR. Please let us know if these comments can be considered addressed.

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Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

[EXTERNAL EMAIL]

Good day Maureen, Ivan, Jeff and Melissa,

Further to requesting your comments of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:

[redacted]

Additionally this report has been uploaded to Metrolinx Engage:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover.

Should you wish to provide comments on the Draft Traffic Impact Assessment, we'd request you to submit your feedback ideally by **May 28, 2022**, but no later than June 5, 2022 to the Project Team.

Also, this is a gentle reminder, that if you haven't provided a response for the remaining EPR, we ask that you provide your feedback by **May 8, 2022.**

Let us know if you have any questions.

Thank you,
Clara

***Vacation Alert*: I will be out of office between May 13 and May 31, 2022.**

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

Safety Never Stops.

From: Clara Chan
Sent: April-14-22 3:24 PM
To: Maureen Van Ravens <MaureenV@haltonhills.ca>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Jeff Jelsma <JeffJ@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>
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Subject: RE: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

Good afternoon Maureen, Ivan, Jeff and Melissa,

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If you have any questions on this regard, please let us know.

Kind regards,
Clara

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Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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From: Maureen Van Ravens <MaureenV@haltonhills.ca>
Sent: Monday, July 11, 2022 4:47 PM
To: Clara Chan; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: RE: Response to Town of Halton Hills EPR, TIA and Noise and Vibration Reports

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Hi Clara

Thanks for sending this to the Town of Halton Hills. All our comments have been adequately addressed.

Please continue in keeping us informed of the project.

Thanks

Maureen Van Ravens C.E.T.
Director of Transportation
Transportation & Public Works
Town of Halton Hills
(905) 873-2600 ext. 2314
maureenv@haltonhills.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-08-22 3:18 PM
To: Maureen Van Ravens <MaureenV@haltonhills.ca>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Jeff Jelsma <JeffJ@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Response to Town of Halton Hills EPR, TIA and Noise and Vibration Reports

[EXTERNAL EMAIL]

Good afternoon Maureen,

Please find attached responses to the Town of Halton Hill's comments provided as for your review.

A copy of these responses will be included in our EPR. Please let us know if these comments can be considered addressed.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Maureen Van Ravens <MaureenV@haltonhills.ca>
Sent: June-03-22 9:00 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Jeff Jelsma <JeffJ@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Hi Clara

Sorry for the delay in providing comments.

The Town of Halton Hills has the following comments as it relates to your report and future construction of the Heritage Road Layover.

Section 2.1.2.5- This section is incorrect. The Large Study Area within the Town of Halton Hills is within the Greenbelt and it is designated Protected Countryside in the Town's Official Plan. The Rural Policy Review is a project that the Town was undertaken to bring the Official Plan rural policies into conformity with ROPA 38. This study was halted in 2019 and a decision was made to update the rural policies once the Region completes their current ROPA.

Noise and Vibration Impact Assessment needs to be updated to include the draft plan approved subdivision located on Sugarbush Crt. just south of the track on the west side of Winston Churchill. This subdivision has been draft plan approved for a number of years and the new homeowners will be living there before the this project commences. Further, staff recommend that Metrolinx contact the Developer to arrange for formal notices to the purchasers as part of their purchase and sales agreement.

As part of the construction of the layover, any trucks accessing to and from Winston Churchill Blvd must come from Mayfield Road. No truck traffic should be going through the Norval Hamlet. Due to the physical constraints at the intersection of Highway 7 and Winston Churchill Blvd/Adamson Street along with the all year around load restrictions, the Town of Halton Hills does not permit heavy trucks on Winston Churchill Blvd.

In addition, as a courtesy to all the residents living on Winston Churchill Blvd. and in the Norval Hamlet, please provide notification in advance detailing the construction work that will be occurring along with a Metrolinx contact. Please provide a copy of that notification to the Town of Halton Hills staff representation, Maureen Van Ravens at maureenv@haltonhills.ca.

Thank you for giving us the opportunity to provide the Town of Halton Hills comments.

Please let me know if you have any questions.

Maureen Van Ravens C.E.T.
Director of Transportation

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Credit Valley Conservation

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:00 AM
To: 'Kilis, Jakub'; Haq, Rizwan; Wilson, Christine
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Heritage Road Layover Draft EPR - GRT.xlsx; 2022-04-05_GRT Circulation Cover Letter.pdf

Good day Jakub, Rizwan and Christine,

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Sent: Wednesday, May 11, 2022 8:58 AM
To: 'Kilis, Jakub'; Haq, Rizwan; Wilson, Christine
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Metrolinx Heritage Road Layover - Draft Traffic Impact Assessment Report

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Thank you,
Clara

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METROLINX

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: April-06-22 8:00 AM
To: 'Kilis, Jakub' <Jakub.Kilis@cvc.ca>; Haq, Rizwan <Rizwan.Haq@cvc.ca>; Wilson, Christine <Christine.Wilson@cvc.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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METROLINX

From: Clara Chan
Sent: Tuesday, July 12, 2022 6:08 PM
To: 'Kilis, Jakub'
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: CVC Comments - Heritage Layover EPR
Attachments: IM21405045_Heritage Layover_NER_R4.pdf; 2022-07-06 - Heritage Road Layover - CVC Comments.xlsx

Good evening Jakub,

Thank you for your feedback. Please find attached responses to CVC's feedback for your view. The comments have been integrated into the NER (attached), and will be included in the EPR as well.

Please let us know if these comments can be considered addressed. A copy of these responses will be included in our EPR.

Thank you,
Clara

Clara Chan
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METROLINX

From: Kilis, Jakub <Jakub.Kilis@cvc.ca>
Sent: May-31-22 2:22 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: CVC Comments - Heritage Layover EPR

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Hi Clara,

My apologies – I neglected to attach floodplain mapping from the HHSWS.

Jakub

From: Kilis, Jakub
Sent: Tuesday, May 31, 2022 2:19 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: CVC Comments - Heritage Layover EPR

Hi Clara,

Thank you for the opportunity to provide input on the EPR. CVC staff has completed our review of the EPR and provide the following comments for your consideration:

Engineering

1. The Heritage Road Layover, Environmental Project Report (Wood, April 2022) generally speaks to stormwater management in Table 4.13.1 and Section 4.10, Section 4.11; and recognizes the impact of development on flooding, stormwater quality, and impacts to groundwater during construction. It is understood that a mitigation plan will be prepared through detailed SWM mitigation report and ESC Plans. High level comments related to planning and design of stormwater management mitigation plans are noted for your consideration:
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    d. It is understood that the stormwater management mitigation plan for Heritage Road Layover will be prepared at later date. The impacts of development on natural heritage system is already established through HHSWS Phase-2. It is recommended to adopt the same for consistency and to avoid duplication. Overall, the SWM mitigation plan must address flooding, watercourse erosion, stormwater quality and water balance to the existing level.
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Ecology

TABLE ES-1: Impact Assessment

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4. In conjunction with mitigation measures related to vegetation removal, please also account for non-treed natural vegetation communities that will also require avoidance and/or replacement (i.e., there is wetland present within the area associated with the intermittent CRT1-2).

5. Mention is made to compensation for tree removals. Please note that within CVC's regulated area, CVC promotes the use of CVC's Ecological Offsetting Guideline and the individual tree replacement ratios found in Table D-1. Please also amend to include CVC's expectations in addition to City of Brampton standards on page 83 for trees within CVC Regulated area.

Main Report Body

6. Please clarify how much, if any, the proposed project will extend beyond the existing CNR lands. This will allow us to better understand any additional impacts that were not initially considered during the Heritage Heights SWS.

7. Please ensure that field studies and background information also consider findings from Wood's draft Heritage Heights SWS Phase 1 and 2.

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Please let me know if you have any questions or comments about the above,
Jakub

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

Jakub Kilis | RPP
Senior Manager, Infrastructure and Regulations | Credit Valley Conservation
905-670-1615 ext 287 | M: 647-212-6554
jakub.kilis@cvc.ca | cvc.ca



View our privacy statement

From: Clara Chan
Sent: Wednesday, June 1, 2022 1:54 PM
To: Brian Poole; Dara Corrigan
Cc: Simon Strauss
Subject: FW: CVC Comments - Heritage Layover EPR
Attachments: Floodplain-HHSWS.pdf

More responses 😐

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kilis, Jakub <Jakub.Kilis@cvc.ca>
Sent: May-31-22 2:22 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: CVC Comments - Heritage Layover EPR

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Hi Clara,

My apologies – I neglected to attach floodplain mapping from the HHSWS.

Jakub

From: Kilis, Jakub
Sent: Tuesday, May 31, 2022 2:19 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: CVC Comments - Heritage Layover EPR

Hi Clara,

Thank you for the opportunity to provide input on the EPR. CVC staff has completed our review of the EPR and provide the following comments for your consideration:

Engineering

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Ecology

TABLE ES-1: Impact Assessment

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Main Report Body

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Please let me know if you have any questions or comments about the above,
Jakub

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

Jakub Kilis | RPP
Senior Manager, Infrastructure and Regulations | Credit Valley Conservation
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jakub.kilis@cvc.ca | cvc.ca



View our privacy statement

From: Kilis, Jakub <Jakub.Kilis@cvc.ca>
Sent: Tuesday, August 16, 2022 4:44 PM
To: Clara Chan
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: [External] RE: CVC Comments - Heritage Layover EPR

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Hi Clara,

We have reviewed your responses to our previous comments and we cannot consider them as addressed as some comments have been deferred to other processes such as updating the SWM report or to detailed design. The comments have been acknowledged and potential process to address them have been noted, but they are not addressed at this time. We are happy to continue working with Metrolinx and your consulting team to resolve the comments as the project moves past the TPAP phase.

We also have a few additional comments below:

1. Some of the responses direct us to Figure 4-3, however, in the NER, page 22 is blank (see paste below). Are these figures available somewhere else?



2. #94 in your response matrix appears to maintain the position that a culvert is the approved solution. There was no conclusion at the meeting that identified a culvert is a preferred or appropriate solution. The only conclusion at the meeting was that further discussion is required on the projects impacts on the Natural Heritage System and ongoing planning associated with HH as well as any hazards associated with this system.

3. There are a number of response comments that state that 'feedback received will be considered and incorporated where feasible'. This kind of statement is not conclusive and we feel does not provide a commitment that the comments in which we have an interest will actually be addressed to our satisfaction.

Please let me know if you have any questions or comments on the above,
Jakub

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GREATER TORONTO'S TOP 2021 EMPLOYERS

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Tuesday, July 12, 2022 6:08 PM
To: Kilis, Jakub <Jakub.Kilis@cvc.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: [External] RE: CVC Comments - Heritage Layover EPR

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Good evening Jakub,

Thank you for your feedback. Please find attached responses to CVC's feedback for your view. The comments have been integrated into the NER (attached), and will be included in the EPR as well.

Please let us know if these comments can be considered addressed. A copy of these responses will be included in our EPR.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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T: 416-202-7931 C: 647-262-8958
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Canadian National Railway

From: Clara Chan
Sent: Wednesday, April 6, 2022 8:54 AM
To: Rhema Stevenson; Marco Mazzaferro; Alan Macdougall
Cc: Simon Strauss; Brian Poole; Dara Corrigan; Jeff Yee; Talha Asif; Christina Dmytruszko
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal
Attachments: Heritage Road Layover - NoC - English - QME-WPC-160.pdf; 2022-04-05_GRT Circulation Cover Letter.pdf; Heritage Road Layover Draft EPR - GRT.xlsx

Good morning Rhema, Marco and Alan,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard. **While the work will connect to the CN Rail Corridor, Metrolinx does not anticipate significant impacts to the Kitchener Line, and Metrolinx will continue to engage with CN as this Project progresses**.

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents
ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR document
iii. The draft EPR can be accessed via the following link [redacted]
iv. Supporting Draft EPR Appendices can be accessed via the following link [redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover].
Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Thursday, April 14, 2022 3:26 PM
To: proximity@cn.ca
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal - Correction

Good afternoon Sir/Madam,

A typographical error was identified in our EPR report regarding the GO Expansion Service along Kitchener corridor (below). We will make the following change in the updated EPR following receipt and consolidation of GRT comments.

Section Number	Presented in EPR	Revision (revised text in **bold** for emphasis)
Section 1.2.2	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to Mount Pleasant GO Station and 30-minute two-way all-day service between Mount Pleasant GO Station and Kitchener GO Station	As part of GO Expansion, the Kitchener Corridor will include 15-minute two-way all-day service from Union GO Station to **Bramalea GO Station**, and **15-minute peak service and 30-minute off peak and counterpeak** service **for stations** between **Bramalea GO Station** and **Mount Pleasant GO Station**.

If you have any questions on this regard, please let us know.

Kind regards,
Clara

Clara Chan
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: April-07-22 8:23 AM
To: proximity@cn.ca
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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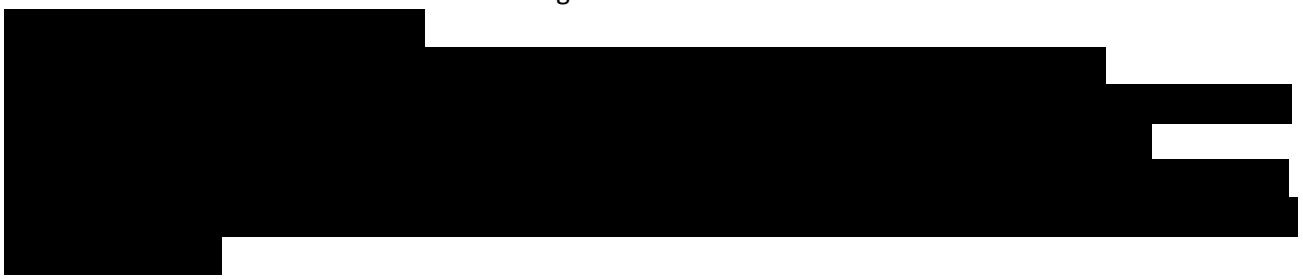

iv. Supporting Draft EPR Appendices can be accessed via the following link



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Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Tuesday, May 3, 2022 11:58 AM
To: Dara Corrigan; Brian Poole
Subject: FW: 2022-04-08_Metrolinx Heritage Road Layover - Draft EPR Transmittal

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: April-29-22 1:43 PM
To: Proximity <proximity@cn.ca>; Ashkan.Matlabi@cn.ca
Cc: Mark Bedard <Mark.Bedard@cn.ca>; Jeff Yee <Jeff.Yee@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: 2022-04-08_Metrolinx Heritage Road Layover - Draft EPR Transmittal

Good afternoon Ashkan,

Would you kindly provide details as to what plans you would require? Does this include design drawings, or would mapping be sufficient?

Thank you,
Clara

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Project Manager, Environmental Programs & Assessment
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METROLINX

From: Ashkan Matlabi <Ashkan.Matlabi@cn.ca> **On Behalf Of** Proximity
Sent: April-29-22 1:32 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Mark Bedard <Mark.Bedard@cn.ca>
Subject: FW: 2022-04-08_Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hello Clara,

May I ask for more elaborate plans facilitating our review and understanding of the proposed project.

Best regards

Ashkan Matlabi, Urb. OUQ. MBA

Urbaniste sénior / Senior Planner (CN Proximity)
Planning, Landscape Architecture and Urban Design
Urbanisme, architecture de paysage et design urbain

wsp

E : proximity@cn.ca
T : 1-438-459-9190
1600, René-Lévesque Ouest, 11e étage
Montréal (Québec)
H3H 1P9 CANADA
wsp.com

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, April 07, 2022 8:23 AM
To: Proximity <proximity@cn.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR document
iii. The draft EPR can be accessed via the following link [redacted]
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We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

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Sent: Thursday, May 5, 2022 5:55 PM
To: Proximity
Cc: Ashkan.Matlabi@cn.ca; Mark Bedard; Jeff Yee; Talha Asif; Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Good afternoon,

Further to requesting your comments of the Draft Environmental Project Report (EPR) for the Heritage Road Layover, we've finalized an additional technical report supporting the EPR, the **Draft Traffic Impact Assessment** for your review and have included it in the link below:
[redacted]

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H3H 1P9 CANADA
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Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Clara

Clara Chan
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From: Dara Corrigan
Sent: Thursday, June 16, 2022 3:21 PM
To: Mark Bedard; Proximity; Ashkan Matlabi; Saadia Jamil
Cc: Jeff Yee; Talha Asif; Simon Strauss; Brian Poole; Clara Chan; Marco Mazzaferro; Rhema Stevenson
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Hi Mark,

Please find the 60% detailed design report, specification and drawings for the site within the Dropbox link below. Please note we are planning on changing the design to reduce encroachment onto CN property. Additionally, we will circulate the SWM Storm Water management report once it is prepared.

[redacted]

Let me know if you have any questions or if you have issues accessing the documents.

Thanks,
Dara

Dara Corrigan, M.Env.Sc
Junior Project Coordinator, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
C: 416.357.6123

METROLINX

From: Mark Bedard <Mark.Bedard@cn.ca>
Sent: June 8, 2022 10:44 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Proximity <proximity@cn.ca>; Ashkan Matlabi <Ashkan.Matlabi@cn.ca>; Saadia Jamil <Saadia.Jamil@cn.ca>
Cc: Jeff Yee <Jeff.Yee@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Marco Mazzaferro <Marco.Mazzaferro@cn.ca>; Rhema Stevenson <Rhema.Stevenson@cn.ca>
Subject: RE: Heritage Road Layover TPAP - Draft Traffic Impact Assessment Report

Some people who received this message don't often get email from mark.bedard@cn.ca. Learn why this is important

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Hello Clara

Please provide the following for review,
-SWM Storm Water Management report, the report is to include a plan showing the proposed site and grading plan. The site and grading plan(s) are to show the proposed building(s), parking, hard and soft features, tracks and the proposed storm water management drainage plan.

Don't hesitate to email or call if you have any questions

Mark

Mark Bedard, B.Sc, P.Eng, OLS, OLIP

Design & Construction
1 Administration Road
P.O. Box 1000
Concord, ON L4K 1B9
Canada
☎ 416-550-0514 mark.bedard@cn.ca



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Thank you, Mark!

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Sent: June-07-22 3:51 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Proximity <proximity@cn.ca>; Ashkan Matlabi <Ashkan.Matlabi@cn.ca>

Cc: Jeff Yee <Jeff.Yee@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
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I will reply to you in the morning

Mark

Mark Bedard, B.Sc, P.Eng, OLS, OLIP

CN Design & Construction
1 Administration Road
P.O. Box 1000
Concord, ON L4K 1B9
Canada
☎ 416-550-0514 mark.bedard@cn.ca



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Good afternoon,

Further to my voicemail yesterday, Ashkan, would you please kindly advise what types of drawings are required to help facilitate your review of applicability? If you could provide your feedback ASAP, that would be much appreciated.

We are working to respond to all the comments received from other Stakeholders at this time in preparation of wrapping up our TPAP next month, but want to make sure that you had an opportunity to provide your feedback as well.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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Sent: April-29-22 1:32 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Mark Bedard <Mark.Bedard@cn.ca>
Subject: FW: 2022-04-08_Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Hello Clara,

May I ask for more elaborate plans facilitating our review and understanding of the proposed project.

Best regards

Ashkan Matlabi, Urb. OUQ. MBA

Urbaniste sénior / Senior Planner (CN Proximity)
Planning, Landscape Architecture and Urban Design
Urbanisme, architecture de paysage et design urbain



E : proximity@cn.ca
T : 1-438-459-9190
1600, René-Lévesque Ouest, 11e étage
Montréal (Québec)
H3H 1P9 CANADA
wsp.com

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, April 07, 2022 8:23 AM
To: Proximity <proximity@cn.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Metrolinx Heritage Road Layover - Draft EPR Transmittal

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Good morning Sir/Madam,

Metrolinx is seeking your comments on the Draft Environmental Project Report (EPR) for the Heritage Road Layover Project.

Metrolinx, an agency of the Province of Ontario, is working towards delivery of the GO Expansion project, providing two-way all-day service along the Kitchener Corridor. To facilitate the work, Metrolinx is proposing to construct a new layover (Heritage Road Layover) within the City of Brampton. The layover facility is proposed to be located south of the CN Rail Corridor, between Heritage Road and Winston Churchill Boulevard. **While the work will connect to the CN Rail Corridor, Metrolinx does not anticipate significant impacts to the Kitchener Line, and Metrolinx will continue to engage with CN as this Project progresses.**

To facilitate the implementation of the proposed layover, this project will be assessed following the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08 under the Environmental Assessment Act. As part of the TPAP, an Environmental Project Report (EPR) has been prepared to assess the potential environmental effects of this transit project, and to provide mitigation measures.

Metrolinx is currently seeking your comments on the Draft EPR for the Heritage Road Layover Project. The following documents have been provided for your information and review:

i. Summary cover letter attached in this email describing the Project Scope and list of Draft EPR documents

ii. Comment/Response form attached to this email – please use this form to provide your comments on the Draft EPR document

iii. The draft EPR can be accessed via the following link

[redacted]

iv. Supporting Draft EPR Appendices can be accessed via the following link

[redacted]

We note that field surveys for noise and vibration, fish and fish habitat, vegetation survey, species at risk and significant wildlife habitat, and tree inventory are still being planned for the upcoming months to confirm baseline data for the draft Noise and Vibration Impact Assessment and Natural Environment Report following receipt of permission to enter.

We also note that the Consultation Record (Appendix I) is still undergoing preparation and will be issued mid-April.

Should you wish to provide comments on the Draft EPR, please submit your feedback in writing by **May 8, 2022**, to the Project Team. Comments will be reviewed and considered as part of finalizing the EPR.

Also note that the Notice of Commencement (attached) was issued March 24, 2022, and our second Public Information Centre (PIC) will begin on April 6, 2022 on Metrolinx Engage [https://secure-web.cisco.com/140xMuYIk0N_3aZ2rfzwQBwMUX4SZFv6-KQW39Hwi70Pw_TsPrCQnUaUamC0zDj994wPn32pr0A-Ho6S-GsYeJBba2GCvU_cFdFDjM8S4ftd57UBNH5-lf6UUp5Z1YBxGTuENTBfseuYo9Sc7Vd8LdnwIZkgRYy22SXzeiEjLWvUdk535KvRkE_o7Bbv34yjbyrRxe8Kn_pFFdPinOBueePR8oM3Kl8_2BdM-TQTzA5oyupgmsEcUkxnLwaALgvzN0NraYQp4U4HcAQU5WaLaS9lW8AevZSrCS5_oXTuw-TBRrIQJ5h8FD72oyGka9UYo/https%3A%2F%2Fwww.metrolinxengage.com%2Fen%2Fcontent%2Fkitchener-corridor-heritage-road-layover].

Thank you for contributing to this Metrolinx undertaking. We look forward to your involvement as this Project progresses.

Regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Appendix I-4a

Time Out Correspondence Record:

Technical and Community Stakeholders

Notice of Issue

METROLINX

July 18, 2022

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON, M4V 1P5

Attention: Kathleen O'Neill Carter, Director, Environmental Assessment Branch
c/o Jordan Hughes, Project Officer, Environmental Assessment Services

By Email: Kathleen.oneill@ontario.ca; Jordan.hughes@ontario.ca

Dear Ms. O'Neill:

Notice of Issue - Heritage Road Layover Project

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* for the Heritage Road Layover (project) located in the City of Brampton.

Metrolinx is of the opinion that additional information from Indigenous Nations is required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted.

Under subsection 10(1) of Ontario Regulation 231/08, if a Notice of Issue is given, the 120-day TPAP consultation period stops running and will resume when the above-noted determination has been addressed and a Notice of Resumption has been provided to both the Director of the Environmental Assessment Branch and the Regional Director.

A copy of this Notice of Issue will also be posted today on the project's website, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover.

If you have any questions, or need further information about the project, please don't hesitate to contact me.

Sincerely,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay Street | Toronto | Ontario | M5J 2R8

Notice of Resumption

METROLINX

August 16, 2022

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON, M4V 1P5

Attention: Kathleen O'Neill, Director, Environmental Assessment Branch
c/o Jordan Hughes, Project Officer, Environmental Assessment Services

By Email: Kathleen.oneill@ontario.ca; Jordan.hughes@ontario.ca

Dear Ms. O'Neill:

Notice of Resumption - Heritage Road Layover Project

Metrolinx posted a Notice of Issue on July 18, 2022 which indicated that a time out from the 120-day consultation period was being taken for the Heritage Road Layover (the Project) located in the City of Brampton to further assess potential impacts to Indigenous Treaty and/or Aboriginal Rights. This notice is to advise you that we will be resuming the transit project assessment process. As required under Ontario Regulation 231/08, the date by which the Notice of Completion of the Environmental Project Report (EPR) for this project must be given has been extended to August 18, 2022.

Metrolinx is of the opinion that additional information from Indigenous Nations was required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Project.

Prior to and during the pause, Metrolinx engaged with a Nation to discuss the details of the Project, outline the studies completed as part of the TPAP, and identify commitments for future work outside of the TPAP (i.e., during detailed design and construction). [redacted]

As part of our engagement prior to and during the pause, Metrolinx also committed to continued engagement with Indigenous Nations outside of the TPAP, and has continued to work with Indigenous Nations to set up field monitors for any field activities in which they expressed interest.

A copy of this Notice of Resumption has also been posted on the project website, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover.

If you have any questions or need further information about this transit project, please contact the undersigned.

97 Front Street West
Toronto, ON M5J 1E6
416.874.5900
metrolinx.com

Sincerely,



Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay Street | Toronto | Ontario | M5J 2R8

Department of Fisheries and Oceans

From: Dara Corrigan
Sent: Tuesday, July 19, 2022 9:14 AM
To: Dara Corrigan
Subject: FW: Heritage Road Layover TPAP - Notice of Issue
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

---

From: Clara Chan
Sent: July-18-22 4:18 PM
To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Subject: Heritage Road Layover TPAP - Notice of Issue

Dear Kyle,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from Fisheries and Oceans Canada on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Tuesday, August 16, 2022 1:37 PM
To: FPP.CA / PPP.CA (DFO/MPO)
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Resumption Transmittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Kyle,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: July-18-22 4:18 PM
To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Subject: Heritage Road Layover TPAP - Notice of Issue

Dear Kyle,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from Fisheries and Oceans Canada on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Environment and Climate Change Canada

From: Clara Chan
Sent: Monday, July 18, 2022 4:21 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Dear Mr. Plant,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Tuesday, August 16, 2022 1:40 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Dear Mr. Plant,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 4:21 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

Dear Mr. Plant,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of Environment, Conservation and Parks

From: Clara Chan
Sent: Monday, July 18, 2022 4:48 PM
To: Brian Poole; Dara Corrigan
Subject: FW: Notice of Issue Submittal - Heritage Road Layover

FYI

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: July-18-22 3:59 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Pam Foster <Pam.Foster@metrolinx.com>; James Hartley <James.Hartley@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Notice of Issue Submittal - Heritage Road Layover

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Thank you Clara,

I am in receipt of the Notice of Issue,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 2:57 PM
To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Pam

Foster <Pam.Foster@metrolinx.com>; James Hartley <James.Hartley@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Notice of Issue Submittal - Heritage Road Layover

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Hi Jordan,

Following the discussion from our meeting on July 7, 2022, Metrolinx has decided to pause the TPAP for the Heritage Road Layover Project. As described in the attached Notice of Issue, we are of the opinion that additional engagement with Indigenous Nations is required to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be circulated to Indigenous Nations previously engaged as part of the Project, and stakeholders, including but not limited to Regulators, Municipalities, Region and Conservation Authority. This Notice will be posted later today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Please let me know if you have any questions or concerns.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Wednesday, August 3, 2022 11:36 AM
To: Brian Poole; Dara Corrigan
Subject: FW: Notice of Issue Submittal - Heritage Road Layover
Attachments: Acknowledgement_Letter_Notice of Issue_08_03_22.pdf

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: August-03-22 11:22 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Pam Foster <Pam.Foster@metrolinx.com>; James Hartley <James.Hartley@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Notice of Issue Submittal - Heritage Road Layover

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Hi Clara,

Please see the attached acknowledgment letter with regards to the Notice of Issue for the Heritage Road project.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 2:57 PM
To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Pam Foster <Pam.Foster@metrolinx.com>; James Hartley <James.Hartley@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Notice of Issue Submittal - Heritage Road Layover

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Hi Jordan,

Following the discussion from our meeting on July 7, 2022, Metrolinx has decided to pause the TPAP for the Heritage Road Layover Project. As described in the attached Notice of Issue, we are of the opinion that additional engagement with Indigenous Nations is required to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be circulated to Indigenous Nations previously engaged as part of the Project, and stakeholders, including but not limited to Regulators, Municipalities, Region and Conservation Authority. This Notice will be posted later today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Please let me know if you have any questions or concerns.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

August 3, 2022

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx
Email: simon.strauss@metrolinx.com

Re: Acknowledgement – GO Expansion: Heritage Road Layover Transit Project Assessment Process Notice of Issue

Dear Simon Strauss:

On behalf of the Director of the Environmental Assessment Branch, thank you for your letter/email dated July 18, 2022, providing the Ministry of the Environment, Conservation and Parks (ministry) with the Notice of Issue for the Heritage Road Layover Project. The ministry understands that Metrolinx, while preparing the environmental project report (EPR), encountered an issue where there may be a potential negative impact on a matter of provincial importance or an Aboriginal treaty right that will require additional time for further study. As such, this Notice of Issue will halt the 120-day EPR development period to allow time for the proponent to examine the issue. Once the issue is resolved, Metrolinx can submit a Notice of Resumption to the ministry to resume the Transit Project Assessment Process (Ontario Regulation 231/08).

Should you have any further questions related to the Transit Project Assessment Process and its requirements, please contact me at 437-770-6953 or by e-mail at jordan.hughes@ontario.ca.

Sincerely,

Jordan Hughes
Project Officer

Environmental Assessment Branch

C: Solange Desautels, Supervisor, Project Coordination, MECP
Cindy Batista, Special Project Officer, MECP
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx

From: Clara Chan
Sent: Tuesday, August 9, 2022 7:24 PM
To: Clara Chan; jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca; solange.desautels@ontario.ca; Brian Poole; Dara Corrigan; Simon Strauss; James Hartley
Subject: RE: Heritage Road Layover Indigenous Nations Consultation Record

Follow Up Flag: Follow up
Flag Status: Flagged

Good evening Jordan,

Further to the email below, I just wanted to confirm whether you have received the EATS transmittal associated with the Heritage Road Layover Indigenous Nations Consultation Record.

The EATs transmittal included the consolidated Indigenous Nations portion of the Consultation Record for your review, including the letter circulated to Six Nations of the Grand River to address the queries and feedback received from the workshop held on July 25, 2022.
As mentioned in our meeting last Wednesday, we are aiming to issue the Notice of Resumption next Monday, August 15, 2022

Please let us know if you have any issues opening up the document or have any other concerns.
We will be sending a draft Notice of Resumption for your review tomorrow.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: August-09-22 7:14 PM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca; solange.desautels@ontario.ca
Subject: Indigenous Nations Consultation Record

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clara.chan@metrolinx.com sent you a secure message

Access message

Good evening Jordan, Please find attached the consolidated Indigenous Nations portion of the Consultation Record for your review. This file ..

Attachments expire on Aug 14, 2022

1 PDF
Appendix I_IN consultation.pdf

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From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: Wednesday, August 10, 2022 12:03 PM
To: Clara Chan
Cc: Batista, Cindy (MECP); Desautels, Solange (MECP); Brian Poole; Dara Corrigan; Simon Strauss; James Hartley
Subject: RE: Heritage Road Layover Indigenous Nations Consultation Record

Some people who received this message don't often get email from jordan.hughes@ontario.ca. Learn why this is important

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Thank you Clara,

I have successfully retrieved the Consultation Record.

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-09-22 7:24 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; James Hartley <James.Hartley@metrolinx.com>
Subject: RE: Heritage Road Layover Indigenous Nations Consultation Record

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good evening Jordan,

Further to the email below, I just wanted to confirm whether you have received the EATS transmittal associated with the Heritage Road Layover Indigenous Nations Consultation Record.

The EATs transmittal included the consolidated Indigenous Nations portion of the Consultation Record for your review, including the letter circulated to Six Nations of the Grand River to address the queries and feedback received from the workshop held on July 25, 2022.
As mentioned in our meeting last Wednesday, we are aiming to issue the Notice of Resumption next Monday, August 15, 2022

Please let us know if you have any issues opening up the document or have any other concerns.

We will be sending a draft Notice of Resumption for your review tomorrow.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: August-09-22 7:14 PM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca; solange.desautels@ontario.ca
Subject: Indigenous Nations Consultation Record

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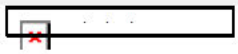
clara.chan@metrolinx.com sent you a secure message

Access message

Good evening Jordan, Please find attached the consolidated Indigenous Nations portion of the Consultation Record for your review. This file ..



Attachments expire on Aug 14, 2022

1 PDF
Appendix I_IN consultation.pdf

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From: Clara Chan
Sent: Wednesday, August 10, 2022 8:54 PM
To: Brian Poole; Dara Corrigan; Simon Strauss; Felker, Bob; Mrochkovskaia, Nadya; Mcandrew, Louise
Subject: FW: Heritage Road Layover - Appendix I Stakeholder Consultation and Draft Notice of Resumption Transmittal

Follow Up Flag: Follow up
Flag Status: Flagged

Hi All,

FYI – Content of the message is as follows:

Good evening Jordan,

Please find attached the remainder of Appendix I - Stakeholder Consultation for the Heritage Road Layover EPR. These packages do not include the Indigenous Nations consultation record that was sent separately by way of EATs yesterday, and has placeholders for communications in relation to the Notice of Resumption and Notice of Completion (which have not been circulated thus far).

Additionally, I have included the draft Notice of Resumption to you for your review.

If you have any issues opening the documents, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: August-10-22 8:50 PM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca; solange.desautels@ontario.ca
Subject: Heritage Road Layover - Appendix I Stakeholder Consultation and Draft Notice of Resumption Transmittal

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clara.chan@metrolinx.com sent you a secure message

Access message

Good evening Jordan, Please find attached the remainder of Appendix I - Stakeholder Consultation for the Heritage Road Layover EPR. These pa..

Attachments expire on Aug 16, 2022

6 PDFs

Appendix I Pre Planning Elected Official Meetings.pdf, Appendix I PP TCS.pdf, Appendix I_TPAP EO Meetings.pdf, Appendix I_Pre Planning Stakeholder Meetings.pdf, Appendix I_TPAP Stakeholder Meetings.pdf, Appendix I_TPAP TCS.pdf

1 document

2022-08-09-Notice of Resumption Letter_DRAFT.docx

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From: Clara Chan
Sent: Tuesday, August 16, 2022 1:01 PM
To: Hughes, Jordan (MECP)
Cc: Batista, Cindy (MECP); Desautels, Solange (MECP); James Hartley; Simon Strauss
Subject: Heritage Road Layover - Notice of Resumption
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Dear Jordan,

Following the discussion from our meeting on August 3, 2022, regarding the Notice of Issue (dated July 18, 2022), Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project as described in this Notice of Resumption.

Metrolinx issued the Notice of Issue because we were of the opinion that additional engagement with Indigenous communities and Nations was required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

On July 22, 2022, at the request of the Six Nations of the Grand River (SNGR), Metrolinx held a workshop with SNGR to discuss the details of Heritage Road Layover, outline the studies completed as part of the TPAP, and identify commitments for future work outside of the TPAP (i.e. detailed design, construction). Following the workshop, Metrolinx issued a letter to SNGR providing further information and committing to more extensive field studies in advance of construction in order to address SNGR's concerns. [redacted]

Prior to and during the pause, Metrolinx also committed to continued engagement with Indigenous communities and Nations outside of the TPAP, and continued to work with Indigenous communities and Nations to set up field monitors for any field activities in which they expressed interest. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

To resume the regulated 120-day TPAP period, this Notice of Resumption will be circulated to Indigenous communities and Nations previously engaged as part of the Project, and stakeholders including but not limited to Regulators, Municipalities, the Region and the Conservation Authority. This Notice will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Please let me know if you have any questions or concerns.

Sincerely,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Tuesday, August 16, 2022 4:25 PM
To: Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover - Notice of Resumption (MECP Confirmation)
Attachments: Acknowledgement_Letter_Notice of Resumption_16-08-22.pdf

FYI

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: August-16-22 4:18 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; James Hartley <James.Hartley@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover - Notice of Resumption

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Hi Clara,

Please see the attached acknowledgment letter with regards to your Notice of Resumption.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-16-22 1:01 PM

To: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: Batista, Cindy (MECP) <Cindy.Batista@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; James Hartley <James.Hartley@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover - Notice of Resumption

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Dear Jordan,

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Metrolinx issued the Notice of Issue because we were of the opinion that additional engagement with Indigenous communities and Nations was required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

On July 22, 2022, at the request of the Six Nations of the Grand River (SNGR), Metrolinx held a workshop with SNGR to discuss the details of Heritage Road Layover, outline the studies completed as part of the TPAP, and identify commitments for future work outside of the TPAP (i.e. detailed design, construction). Following the workshop, Metrolinx issued a letter to SNGR providing further information and committing to more extensive field studies in advance of construction in order to address SNGR's concerns. [redacted]

Prior to and during the pause, Metrolinx also committed to continued engagement with Indigenous communities and Nations outside of the TPAP, and continued to work with Indigenous communities and Nations to set up field monitors for any field activities in which they expressed interest. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

To resume the regulated 120-day TPAP period, this Notice of Resumption will be circulated to Indigenous communities and Nations previously engaged as part of the Project, and stakeholders including but not limited to Regulators, Municipalities, the Region and the Conservation Authority. This Notice will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Please let me know if you have any questions or concerns.

Sincerely,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

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Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

August 16, 2022

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx
Email: simon.strauss@metrolinx.com

Re: Acknowledgement – GO Expansion: Heritage Road Layover Transit Project Assessment Process Notice of Resumption

Dear Simon Strauss:

Thank you for your letter dated August 16, 2022, providing the Ministry of the Environment, Conservation and Parks (ministry) with the Notice of Resumption for the Heritage Road Layover Project related to the Notice of Issue dated July 18, 2022. This Notice of Resumption will effectively continue the 120-day Environmental Project Report (EPR) development period from where it left off and the Transit Project Assessment Process (Ontario Regulation 231/08). The ministry looks forward to receiving your Notice of Completion upon the completion of your EPR.

Should you have any further questions related to the Transit Project Assessment Process and its requirements, please contact me at 437-770-6953 or by e-mail at jordan.hughes@ontario.ca.

Sincerely,

Jordan Hughes
Project Officer
Environmental Assessment Branch

C: Solange Desautels, Supervisor, Project Coordination, MECP
Cindy Batista, Special Project Officer, MECP
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx

Ministry of Municipal Affairs and Housing

From: Clara Chan
Sent: Monday, July 18, 2022 4:23 PM
To: Watt, Heather (MMAH)
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Dear Heather,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan
Sent: Tuesday, August 16, 2022 1:43 PM
To: Watt, Heather (MMAH)
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Heather,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 4:23 PM
To: Watt, Heather (MMAH) <Heather.Watt@ontario.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

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This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of Natural Resources and Forestry

From: Clara Chan
Sent: Monday, July 18, 2022 4:25 PM
To: Capelle, Pauline (NDMNRF)
Cc: McCloskey, Amanda (NDMNRF); Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Dear Pauline,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from NDMNRF on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Tuesday, August 16, 2022 1:45 PM
To: Capelle, Pauline (NDMNRF)
Cc: McCloskey, Amanda (NDMNRF); Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Pauline,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 4:25 PM
To: Capelle, Pauline (NDMNRF) <Pauline.Capelle@ontario.ca>
Cc: McCloskey, Amanda (NDMNRF) <Amanda.McCloskey@ontario.ca>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

Dear Pauline,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from NDMNRF on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of Tourism, Culture and Sport

From: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Sent: Monday, July 18, 2022 4:27 PM
To: Clara Chan
Cc: Hamilton, James (MTCS); Barboza, Karla (MTCS); Zirger, Rosi (MTCS); Desautels, Solange (MECP); Hughes, Jordan (MECP); Simon Strauss; Brian Poole; Dara Corrigan
Subject: RE: Heritage Road Layover TPAP - Notice of Issue

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Hi Clara,

Thank you for the update.

All the best,
Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Tourism, Culture and Sport
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 18, 2022 4:15 PM
To: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue

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Dear Laura,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from MHSTCI/MCTS on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



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From: Clara Chan
Sent: Tuesday, August 16, 2022 1:41 PM
To: Hatcher, Laura (MTCS)
Cc: Hamilton, James (MTCS); Barboza, Karla (MTCS); Zirger, Rosi (MTCS); Desautels, Solange (MECP); Hughes, Jordan (MECP); Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Notice of Resumption Transmittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Laura,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

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METROLINX

From: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Sent: July-18-22 4:27 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Notice of Issue

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Hi Clara,

Thank you for the update.

All the best,
Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Tourism, Culture and Sport
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 18, 2022 4:15 PM
To: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue

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Dear Laura,

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We appreciate the comments received from MHSTCI/MCTS on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

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Ministry of Transportation

From: Kelly, Alexander (MTO) <Alexander.Kelly2@ontario.ca>
Sent: Monday, July 18, 2022 4:00 PM
To: Jocelyn Stenner; Bunker, Kristine (MTO)
Cc: Clara Chan; Dara Corrigan; Brian Poole
Subject: RE: Heritage Road Layover project - Pausing TPAP

Some people who received this message don't often get email from alexander.kelly2@ontario.ca. Learn why this is important

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Hi Jocelyn,

Thanks for letting us know. We'll be in touch in case there are any questions!

Also, taking Debra off this chain – she doesn't need to be on these emails 😊

Best,

Alex

From: Jocelyn Stenner <Jocelyn.Stenner@metrolinx.com>
Sent: July 18, 2022 3:52 PM
To: Kelly, Alexander (MTO) <Alexander.Kelly2@ontario.ca>; Merowitz, Debra (MTO) <Debra.Merowitz@ontario.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover project - Pausing TPAP

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello Alex, Debra:

Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project on **Monday, July 18th, 2022** until additional engagement with Indigenous Nations is completed to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

The attached Notice of Issue – which formally pauses the TPAP - will be circulated to Aboriginal and Treaty Rights holders and stakeholders previously engaged in the Project, including but not limited to Regulators, Municipalities, Credit Valley Conservation Authority, and the Region of Peel. The Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

The Notice of Issue has been received and approved by the Ministry of Environment Conservation and Parks.

A Notice of Resumption will be shared after the issue has been addressed.

Best regards,

JS

JOCELYN STENNER
Senior Advisor, Capital Communications

C: 437.240.1559
Metrolinx

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From: Kelly, Alexander (MTO)
To: Jocelyn Stenner; Bunker, Kristine (MTO)
Cc: Clara Chan; Dara Corrigan; Brian Poole
Subject: RE: Heritage Road Layover project - Pausing TPAP
Date: Thursday, July 21, 2022 4:47:09 PM
Attachments: image001.png

Some people who received this message don't often get email from alexander.kelly2@ontario.ca.
Learn why this is important

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Thanks for the additional info, Jocelyn! Will let you know if anything else is needed on this front.

Best,

Alex

From: Jocelyn Stenner <Jocelyn.Stenner@metrolinx.com>
Sent: July 21, 2022 4:44 PM
To: Kelly, Alexander (MTO) <Alexander.Kelly2@ontario.ca>; Bunker, Kristine (MTO) <Kristine.Bunker@ontario.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: Heritage Road Layover project - Pausing TPAP

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Hi Alex good afternoon,

I've gathered a bit more context from the team in addition to the answers to the questions below. Do let us know if you need any further information.

JS

[redacted] Metrolinx circulated the draft Stage 1 AA on February 8, and the draft Cultural Heritage Report on March 7, 2022. On April 5, 2022, the Environmental Project Report (EPR) and associated documents were shared with these three Indigenous communities/Nations. Specifically, the material shared included:

- Notice of Commencement and Public Information Centre #2 Letter
- Attachment 2: Summary of Findings and Next Steps for Heritage Road Layover

Technical Reports

- Heritage Road Layover Project – Report Package Circulation Letter (Draft EPR and Supporting Draft Technical Studies)
- Draft EPR;
- Draft Air Quality Baseline Conditions and Impact Assessment Report;
- Draft Noise and Vibration Baseline Conditions and Impact Assessment Report;
- Draft Natural Environment: Existing Conditions and Impact Assessment Report;
- Draft Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report;
- Draft Traffic and Transportation: Existing Conditions and Impact Assessment; and
- Draft Phase I Environmental Site Assessment.
- Draft Natural Environment: Existing Conditions and Impact Assessment Report;
- Draft Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment; and
- Draft Stage 1 Archaeological Assessment Report.

These materials were all shared with the following Indigenous communities/Nations on an interest-based level:

- Huron-Wendat Nation

On May 30, 2022, MCFN replied, indicating they had no concerns with the project proceeding. SNGR indicated an interest in learning more about the project before commenting. Metrolinx and SNGR set up a workshop in mid-June to walk SNGR through the EPR documents. However, due to capacity/timing constraints for SNGR, they requested the workshop be postponed to July 22, the same day the Notice of Completion was to have been sent to the Ministry of Environmental, Conservation and Parks. [redacted] in the interest of maintaining a trustful relationship between Metrolinx and SNGR, a decision was made to pause the TPAP so that the workshop can take place, and any comments from SNGR could be considered, prior to the Notice of Completion proceeding.

Which Indigenous nations are they waiting to hear from?

- Metrolinx expects to hear back from Six Nations of the Grand River (SNGR) and the Haudenosaunee Confederacy Chiefs Council (HCCC).

What steps are they taking to work with them and get the outstanding information?

- Following the workshop with SNGR on July 22, Metrolinx will work with SNGR on opportunities to incorporate their feedback, as feasible, into the EPR. Metrolinx is also working with HCC, through the Haudenosaunee Development Institute (HDI) to expedite their comments, if any. Metrolinx and HDI have recently renewed relationship, and HDI has agreed to expedite their review of the EPR materials.

What is the expected timeline to finalize?

- The timeline for re-issuing a Notice of Resumption will be two weeks following the workshop with SNGR on July 22. Metrolinx will update the EPR to ensure a record of the consultation and feedback received is captured, and depending on the responses received, any outstanding items will be addressed in the development of the mitigation and restoration plans.

JOCELYN STENNER
Senior Advisor, Capital Communications
C: 437.240.1559
Metrolinx

From: Kelly, Alexander (MTO) <Alexander.Kelly2@ontario.ca>
Sent: July 20, 2022 11:40 AM
To: Jocelyn Stenner <Jocelyn.Stenner@metrolinx.com>; Bunker, Kristine (MTO) <Kristine.Bunker@ontario.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: Heritage Road Layover project - Pausing TPAP

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Hi Jocelyn,

Our policy folks had no issues with the notice but there are some additional questions on why it is being paused. If you're able to provide further details on this, we would

likely want to flag for our Indigenous Relations Branch in case there are similar issues with a particular nation but with different lines of business involved (ex. highways).

- Which indigenous nations are they waiting to hear from?
- What steps are they taking to work with them and get the outstanding information?
- What is the expected timeline to finalize?

Thanks,

Alex

From: Kelly, Alexander (MTO)
Sent: July 18, 2022 4:00 PM
To: Jocelyn Stenner <Jocelyn.Stenner@metrolinx.com>; Bunker, Kristine (MTO) <Kristine.Bunker@ontario.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: RE: Heritage Road Layover project - Pausing TPAP

Hi Jocelyn,

Thanks for letting us know. We'll be in touch in case there are any questions!

Also, taking Debra off this chain – she doesn't need to be on these emails

Best,

Alex

From: Jocelyn Stenner <Jocelyn.Stenner@metrolinx.com>
Sent: July 18, 2022 3:52 PM
To: Kelly, Alexander (MTO) <Alexander.Kelly2@ontario.ca>; Merowitz, Debra (MTO) <Debra.Merowitz@ontario.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover project - Pausing TPAP

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Hello Alex, Debra:

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Treaty Rights.

The attached Notice of Issue – which formally pauses the TPAP - will be circulated to Aboriginal and Treaty Rights holders and stakeholders previously engaged in the Project, including but not limited to Regulators, Municipalities, Credit Valley Conservation Authority, and the Region of Peel. The Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

The Notice of Issue has been received and approved by the Ministry of Environment Conservation and Parks.

A Notice of Resumption will be shared after the issue has been addressed.

Best regards,

JS

JOCELYN STENNER
Senior Advisor, Capital Communications
C: 437.240.1559
Metrolinx

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City of Brampton

From: Clara Chan
Sent: Monday, July 18, 2022 4:29 PM
To: Lakeman, Brian; Mazzotta, Frank
Cc: Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Dara Corrigan; Brian Poole; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Hi Brian,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from the City on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP. Further to the email below, if you can provide the Environmental Planning staff's comments when they become available, we can work to address them in the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Tuesday, August 16, 2022 1:30 PM
To: Kwast, Tamara
Cc: Dara Corrigan; Simon Strauss; Brian Poole
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Tamara,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

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E: Clara.Chan@metrolinx.com

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Region of Peel

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: Monday, July 18, 2022 5:52 PM
To: Clara Chan
Cc: Dara Corrigan; Simon Strauss; Brian Poole
Subject: RE: Heritage Road Layover TPAP - Notice of Issue Submittal

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Hi Clara,

Thank you for the update, I will pass this information onto the team.

Have a nice evening.

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 18, 2022 4:37 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

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We appreciate the comments received from the Region on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

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Project Manager, Environmental Programs & Assessment
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To: Kwast, Tamara
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Attachments: 2022-08-16-Notice of Resumption Letter.pdf

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Please let us know if you have any questions.

Kind regards,
Clara

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METROLINX

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Sent: July-18-22 5:52 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
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Hi Clara,

Thank you for the update, I will pass this information onto the team.

Have a nice evening.

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 18, 2022 4:37 PM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

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Clara

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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: July-15-22 2:43 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: HRL - Response to EPR Comments

Town of Halton Hills

From: Clara Chan
Sent: Monday, July 18, 2022 4:31 PM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Dear Maureen,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

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Please reach out to me with any questions.

Best regards,
Clara

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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Tuesday, August 16, 2022 1:28 PM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Maureen,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 4:31 PM
To: Maureen Van Ravens <MaureenV@haltonhills.ca>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Jeff Jelsma <JeffJ@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

Dear Maureen,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from the Town on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Credit Valley Conservation

From: Clara Chan
Sent: Monday, July 18, 2022 4:39 PM
To: 'Kilis, Jakub'
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Good afternoon Jakub,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from CVC on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan
Sent: Tuesday, August 16, 2022 1:47 PM
To: 'Kilis, Jakub'
Cc: Simon Strauss; Brian Poole; Dara Corrigan
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Jakub,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 4:39 PM
To: 'Kilis, Jakub' <Jakub.Kilis@cvc.ca>
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

Good afternoon Jakub,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from CVC on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



Canadian National Railway

From: Clara Chan
Sent: Monday, July 18, 2022 4:40 PM
To: Dara Corrigan; Mark Bedard; Proximity; Ashkan Matlabi; Saadia Jamil
Cc: Jeff Yee; Talha Asif; Simon Strauss; Brian Poole; Marco Mazzaferro; Rhema Stevenson
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

Good afternoon Mark,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Clara Chan
Sent: Tuesday, August 16, 2022 1:48 PM
To: Mark Bedard; Proximity; Ashkan Matlabi; Saadia Jamil
Cc: Jeff Yee; Talha Asif; Simon Strauss; Brian Poole; Marco Mazzaferro; Rhema Stevenson; Dara Corrigan
Subject: Heritage Road Layover TPAP - Notice of Resumption Submittal
Attachments: 2022-08-16-Notice of Resumption Letter.pdf

Hi Mark,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

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This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
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T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July-18-22 4:40 PM
To: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Mark Bedard <Mark.Bedard@cn.ca>; Proximity <proximity@cn.ca>; Ashkan Matlabi <Ashkan.Matlabi@cn.ca>; Saadia Jamil <Saadia.Jamil@cn.ca>
Cc: Jeff Yee <Jeff.Yee@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Marco Mazzaferro <Marco.Mazzaferro@cn.ca>; Rhema Stevenson <Rhema.Stevenson@cn.ca>
Subject: Heritage Road Layover TPAP - Notice of Issue Submittal

Good afternoon Mark,

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This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



Other Stakeholders

From: Dara Corrigan
Sent: Wednesday, July 20, 2022 1:15 PM
To: Dara Corrigan
Subject: FW: Heritage Road Layover project update
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

---

From: Peel <Peel@metrolinx.com>
Sent: July 19, 2022 4:45 PM
To: [redacted]
Cc: Jackie Czajka <Jackie.Czajka@metrolinx.com>
Subject: Heritage Road Layover project update

Hello [redacted] #
#
I hope all is well with you. My name is Radhika Sharma, I work for Metrolinx on the Heritage Road Layover project.

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted on Tuesday July 19th 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover)

The Notice of Issue has been received and approved by the Ministry of Environment Conservation and Parks.

A Notice of Resumption will be shared after the issue has been addressed and will keep you apprised as to when we restart the TPAP.

If your office has questions or concerns, please don't hesitate to reach out we're happy to connect.

Sincerely,

RADHIKA SHARMA (She/Her)
Community Engagement & Issues Specialist
Peel Region
E: peel@metrolinx.com
Mobile: 416-723-6975

From: Jackie Czajka
To: [redacted]
Cc: Peel
Subject: Heritage Road Layover - Notice of Resumption
Date: Tuesday, August 16, 2022 2:06:42 PM
Attachments: image001.png
2022-08-16-Notice of Resumption Letter (1).pdf

Hello,

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the Constitution Act, 1982, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in.

We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

If your office has questions or concerns, please don't hesitate to reach out we're happy to connect.

Best,

JACKIE CZAJKA
Senior Manager, Community Engagement, Peel Region
Communications Division
(mobile) 647.262.3946

Community Relations Offices:
3024 Hurontario Street | Unit G12 | **Mississauga** | Ontario | L5B 4M4
17 Ray Lawson Blvd. | Unit 9 | **Brampton** | Ontario | L6Y 5L7

From: Dara Corrigan
Sent: Wednesday, July 20, 2022 1:20 PM
To: Dara Corrigan
Subject: FW: Heritage Road Layover project update
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

---

From: Peel <Peel@metrolinx.com>
Sent: July 19, 2022 4:38 PM
To: [redacted]
Cc: Jackie Czajka <Jackie.Czajka@metrolinx.com>
Subject: Heritage Road Layover project update

Hello [redacted],

I hope all is well with you. My name is Radhika Sharma, I work for Metrolinx on the Heritage Road Layover project.

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted on Tuesday July 19th 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover)

The Notice of Issue has been received and approved by the Ministry of Environment Conservation and Parks.

A Notice of Resumption will be shared after the issue has been addressed and will keep you apprised as to when we restart the TPAP.

If your office has questions or concerns, please don't hesitate to reach out we're happy to connect.

Sincerely,
RADHIKA SHARMA (She/Her)
Community Engagement & Issues Specialist
Peel Region
E: peel@metrolinx.com
Mobile: 416-723-6975

From: Jackie Czajka
To: [redacted]
Cc: Peel
Subject: Heritage Road Layover - Notice of Resumption
Date: Tuesday, August 16, 2022 2:05:08 PM
Attachments: image001.png
2022-08-16-Notice of Resumption Letter (1).pdf

Hello,

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the Constitution Act, 1982, are impacted by the Heritage Road Layover Project.

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We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

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Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

If your office has questions or concerns, please don't hesitate to reach out we're happy to connect.

Best,

JACKIE CZAJKA
Senior Manager, Community Engagement, Peel Region
Communications Division
(mobile) 647.262.3946

Community Relations Offices:
3024 Hurontario Street | Unit G12 | **Mississauga** | Ontario | L5B 4M4
17 Ray Lawson Blvd. | Unit 9 | **Brampton** | Ontario | L6Y 5L7

From: Jackie Czajka
To: [redacted]
Cc: Peel
Subject: Heritage Road Layover - Notice of Resumption
Date: Tuesday, August 16, 2022 2:03:26 PM
Attachments: image001.png
2022-08-16-Notice of Resumption Letter (1).pdf

Hello,

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the Constitution Act, 1982, are impacted by the Heritage Road Layover Project.

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Best,

JACKIE CZAJKA
Senior Manager, Community Engagement, Peel Region
Communications Division
(mobile) 647.262.3946

Community Relations Offices:
3024 Hurontario Street | Unit G12 | **Mississauga** | Ontario | L5B 4M4
17 Ray Lawson Blvd. | Unit 9 | **Brampton** | Ontario | L6Y 5L7

From:	Dara Corrigan
To:	Dara Corrigan
Subject:	FW: Heritage Road Layover project update
Date:	Wednesday, July 20, 2022 1:16:23 PM
Attachments:	2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf

---

From: Peel <Peel@metrolinx.com>
Sent: July 19, 2022 4:41 PM
To [redacted]
Cc: Jackie Czajka <Jackie.Czajka@metrolinx.com>
Subject: Heritage Road Layover project update

Hello Cale,

I hope all is well with you. My name is Radhika Sharma, I work for Metrolinx on the Heritage Road Layover project.

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted on Tuesday July 19th 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover)

The Notice of Issue has been received and approved by the Ministry of Environment Conservation and Parks.

A Notice of Resumption will be shared after the issue has been addressed and will keep you apprised as to when we restart the TPAP.

If your office has questions or concerns, please don't hesitate to reach out we're happy to connect.

Sincerely,

RADHIKA SHARMA (She/Her)
Community Engagement & Issues Specialist
Peel Region
E: peel@metrolinx.com
Mobile: 416-723-6975

From: Jackie Czajka
To: [redacted]
Cc: Peel
Subject: Heritage Road Layover - Notice of Resumption
Date: Tuesday, August 16, 2022 2:05:41 PM
Attachments: image001.png
2022-08-16-Notice of Resumption Letter (1).pdf

Hello,

I am reaching out to you update you on the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the Constitution Act, 1982, are impacted by the Heritage Road Layover Project.

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We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

If your office has questions or concerns, please don't hesitate to reach out we're happy to connect.

Best,

JACKIE CZAJKA
Senior Manager, Community Engagement, Peel Region
Communications Division
(mobile) 647.262.3946

Community Relations Offices:
3024 Hurontario Street | Unit G12 | **Mississauga** | Ontario | L5B 4M4
17 Ray Lawson Blvd. | Unit 9 | **Brampton** | Ontario | L6Y 5L7

Surrounding Property Owners

TRANSFORMING TRANSIT IN YOUR AREA

Project Update - GO Expansion Program – Kitchener Corridor – Heritage Road Layover

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings for the Heritage Road Layover Project located in the City of Brampton. We previously circulated a Notice of Commencement (dated March 24, 2022) to you and held two virtual open houses for this project.

We are writing to inform you that Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. As described in the attached Notice of Issue, Metrolinx continues to engage with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

A copy of this Notice of Issue was also posted on July 18, 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

If you have any questions, or need further information about the project, please do not hesitate to contact me.

Sincerely,

Jackie Czajka
Senior Manager, Community Engagement (Peel Region)
Metrolinx
416-202-7500
peel@metrolinx.com

TRANSFORMING TRANSIT IN YOUR AREA

Project Update - GO Expansion Program – Kitchener Corridor – Heritage Road Layover

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings for the Heritage Road Layover Project located in the City of Brampton. We previously circulated a Notice of Commencement (dated March 24, 2022) to you and held two virtual open houses for this project.

Following the Notice of Issue (dated July 18, 2022), which paused the TPAP, we are writing to inform you that Metrolinx has decided to resume the TPAP for the Heritage Road Layover Project as per our attached Notice of Resumption. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the Constitution Act, 1982, are impacted by the Heritage Road Layover Project.

We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in.

A copy of this Notice of Resumption will also be posted on August 15, 2022 on the project's website:(https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Following the Notice of Resumption the Notice of Completion will be formally circulated on August 18, 2022.

If you have any questions, or need further information about the project, please do not hesitate to contact me.

Sincerely,

Jacquelin Czajka

Jackie Czajka
Senior Manager, Community Engagement (Peel Region)
Metrolinx
416-202-7500
peel@metrolinx.com

Appendix I-5

Notice of Completion Correspondence Record:

Technical and Community Stakeholders

METROLINX

Notice of Completion of Environmental Project Report GO Expansion: Heritage Road Layover Project Transit Project Assessment Process

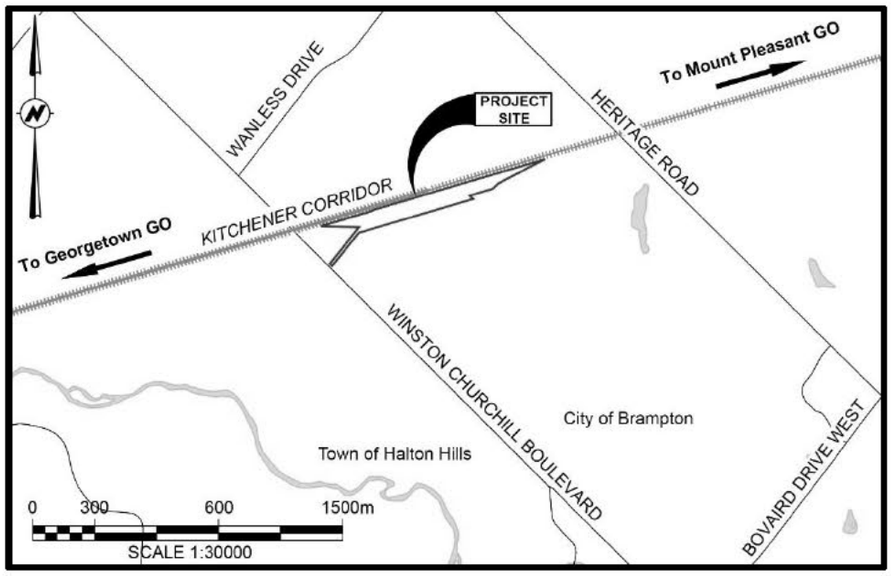
Metrolinx has completed an Environmental Project Report (EPR) in accordance with the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 for the Heritage Road Layover Project. As part of the GO Expansion Program, Metrolinx is building a transit service that will improve how residents and customers move throughout the region. GO Expansion will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network to create better, faster, and easier travel within the region and broader Greater Toronto and Hamilton Area.

The Project

Metrolinx is proposing to construct a new layover, Heritage Road Layover (the Project), between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional storage capacity to support the planned service expansion to implement two-way, all-day service along the Kitchener Corridor from Union GO Station to Kitchener GO Station.

Project Location

The Project Site is adjacent to the Canadian National Railway (CN) within the Halton Subdivision portion of the Kitchener Corridor. The Project Site is between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel.



30-Day Public Review: August 19, 2022 to September 19, 2022

The environmental impact of the transit project was assessed and an Environmental Project Report (EPR) was prepared in accordance with the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings (made under the Environmental Assessment Act).

The EPR for the Heritage Road Layover project is now available for a 30-day public review period starting **August 19, 2022** on the project website: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. If you have any project-related questions, or would like to provide input, interested persons are encouraged to review the document(s) and provide comments by **September 19, 2022** to:

Attn: Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx |10 Bay Street |Toronto | Ontario | M5J 2W3

Tel: 416-202-7500 (Peel Region); 416-938-9930 (Halton Region)
e-mail: peel@metrolinx.com (Peel Region); haltonregion@metrolinx.com (Halton Region)

There are circumstances where the Minister of the Environment, Conservation and Parks has the authority to require further consideration of the transit project or impose conditions on it. These include if the Minister is of the opinion that:

- The transit project may have a negative impact on a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest; or
- The transit project may have a negative impact on a constitutionally protected Aboriginal or treaty right.

Before exercising the authority referred to above, the Minister is required to consider any written objections to the transit project that he or she may receive within 30 days of first publishing the Notice of Completion. If you have discussed your issues with the proponent(s) and you object to the project, you can provide a written submission to the Minister of the Environment, Conservation and Parks by no later than **September 19, 2022**, to the email provided below.

All submissions must clearly indicate that an objection is being submitted and describe any negative impacts to matters of provincial importance (natural/cultural environment) or Aboriginal rights.

Ministry of the Environment, Conservation & Parks
Environmental Assessment Branch
Attn: Jordan Hughes
Project Officer
135 St, Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5
Tel:437-770-6953
Email: jordan.hughes@ontario.ca

Comments and information regarding this project are being collected to assist in meeting the requirements of the *Environmental Assessment Act*. All personal information included in a submission, (such as name, address, telephone number and property location) is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Senior Privacy Officer for Metrolinx at 416-202-5941.

Pour plus de renseignements, veuillez appeller le 416 874-5900 ou le 1 888 GET-ON-GO (438-6646).

This Notice was first issued on August 18, 2022.

TRANSFORMING TRANSIT IN YOUR AREA

Project Update - GO Expansion Program – Kitchener Corridor – Heritage Road Layover

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* for the Heritage Road Layover Project located in the City of Brampton. We previously circulated a Notice of Commencement (dated March 24, 2022), initiating the TPAP, a Notice of Issue (dated July 18, 2022) pausing the TPAP, a Notice of Resumption (dated August 16, 2022) resuming the TPAP, along with holding two virtual open houses for this project.

We are writing to inform you that Metrolinx has now completed the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project, as described in the attached Notice of Completion. The Environmental Project Report (EPR) and associated technical studies for the Heritage Road Layover Project is now available for a 30-day public review period from August 19, 2022 until September 19, 2022.

A copy of this Notice of Completion, the EPR and technical studies are posted on August 18, 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

If you have any questions, or need further information about the project, please do not hesitate to contact me.

Sincerely,

Jackie Czajka
Senior Manager, Community Engagement (Peel Region)
Metrolinx
416-202-7500
peel@metrolinx.com

GO Expansion
@GOExpansion

🏞️ The Environmental Project Report for the #HeritageRoadLayover is now available for review on #Metrolinx Engage. Read it here 👉 bddy.me/3CpzAI9



3:00 PM · Aug 22, 2022 · Salesforce - Social Studio

4 Retweets **8** Likes

GO Expansion
@GOExpansion

📣 The public review period for the #HeritageRoadLayover is ongoing until Sept 19! 📅. Check out the completed Environmental Project Report here: bddy.me/3QT1ryD #GOExpansion



3:00 PM · Aug 25, 2022 · Salesforce - Social Studio

1 Retweet **5** Likes

Tweet your reply

Reply

Chris Drew @chrisjamesdrew · Aug 25
Replying to @GOExpansion
Provided two suggestions ✅

1 1

GO Expansion
@GOExpansion

📣 The 30-day public review period ends Sept 19 📅 for the #HeritageRoadLayover as part of the Transit Project Assessment Process. Check out the completed Environmental Project Report here: bddy.me/3ezLDCr #GOExpansion



9:00 AM · Sep 13, 2022 · Salesforce - Social Studio

2 Retweets **5** Likes

Department of Fisheries and Oceans

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:11 PM
To: FPP.CA / PPP.CA (DFO/MPO)
Cc: Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report
Attachments: Appendix B_ Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Hi Kyle,

Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Engage page and in the dropbox link below.

Two minor changes were made in comparison to the existing report that circulated in the Notice of Completion submittal package:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; and
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-18-22 5:15 PM
To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (DFO)

Hi Kyle,

In accordance with Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* (made under the *Environmental Assessment Act*), please find attached the Notice of Completion (dated August 18, 2022) for the Heritage Road Layover TPAP.

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.
The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or [redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-16-22 1:37 PM
To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Resumption Transmittal

Hi Kyle,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they

expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

From: Clara Chan
Sent: July-18-22 4:18 PM
To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Subject: Heritage Road Layover TPAP - Notice of Issue

Dear Kyle,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from Fisheries and Oceans Canada on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Environment and Climate Change Canada

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:09 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss; Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report (ECCC)
Attachments: Appendix B_ Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Dear. Mr. Plant,

Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Engage page and in the dropbox link below.

Two minor changes were made in comparison to the existing report that circulated in the Notice of Completion submittal package:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; and
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-18-22 5:15 PM
To: wesley.plant@ec.gc.ca
Cc: Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (ECCC)

Dear Mr. Plant,

In accordance with Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* (made under the *Environmental Assessment Act*), please find attached the Notice of Completion (dated August 18, 2022) for the Heritage Road Layover TPAP.

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.
The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below,
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or
[redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of Environment, Conservation and Parks

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:28 PM
To: Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: FW: Heritage Road Layover TPAP - Updated Noise and Vibration Report

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Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: September-01-22 12:06 PM
To: heather.watt@ontario.ca
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report

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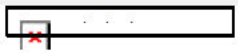
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

clara.chan@metrolinx.com sent you a secure message

Access message

Hi Heather, Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx E..



Attachments expire on Sep 06, 2022

1 PDF

Appendix B Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

This message requires that you sign in to access the message and any file attachments.

You have received attachment link(s) within this e-mail message sent via Enterprise Attachment Transfer Service. To retrieve the attachment(s), please click on the link(s).If you have any difficulty accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:18 PM
To: Clara Chan; jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca; Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: RE: HRL Updated Noise and Vibration Report
Attachments: Appendix B - Noise and Vibration Baseline Conditions and Impact Assessment Report_Final.pdf

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Hi Jordan,

I just wanted to revise my last email sent to you. There were two changes that were completed:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; **and**
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

Please use the report attached.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: September-01-22 11:30 AM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca
Subject: HRL Updated Noise and Vibration Report

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

clara.chan@metrolinx.com sent you a secure message

Access message

Good morning Jordan, Please find attached the signed version of the noise and vibration report. We will be issuing a separate email to the G..

Attachments expire on Sep 06, 2022

1 PDF

Appendix B - Noise and Vibration Baseline Conditions and Impact Assessment Report_Final.pdf

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 11:31 AM
To: Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: FW: HRL Updated Noise and Vibration Report

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Hi All,

Please see communication to MECP regarding the updated N&V report.

We'll flag this as an update in our erratum as well to identify what's changed.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: September-01-22 11:30 AM
To: jordan.hughes@ontario.ca
Cc: cindy.batista@ontario.ca
Subject: HRL Updated Noise and Vibration Report

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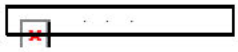
clara.chan@metrolinx.com sent you a secure message

Access message

Good morning Jordan, Please find attached the signed version of the noise and vibration report. We will be issuing a separate email to the G..



Attachments expire on Sep 06, 2022

1 PDF

Appendix B - Noise and Vibration Baseline Conditions and Impact Assessment Report_Final.pdf

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Ministry of Municipal Affairs and Housing

From: info-attachmail@ontario.ca
Sent: Thursday, August 18, 2022 5:04 PM
To: Watt, Heather (MMAH)
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (MMAH)

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clara.chan@metrolinx.com sent you a secure message

Access message

Hi Heather, In accordance with Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings (made under the Environmental Assessmen..

Attachments expire on Aug 23, 2022

2 PDFs
Heritage Road Layover - Environmental Project Report.pdf, 2022-08-18_Heritage Road Layover Notice_Completion - Final.pdf

1 spreadsheet
Comment Log Template_Heritage Road Layover EPR - GRT.xlsx

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accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

Ministry of Natural Resources and Forestry

From: info-attachmail@ontario.ca
Sent: Thursday, August 18, 2022 4:56 PM
To: pauline.capelle@ontario.ca
Cc: amanda.mccloskey@ontario.ca
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (MNRF)

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clara.chan@metrolinx.com sent you a secure message

Access message

Hi Pauline, In accordance with Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings (made under the Environmental Assessmen..

Attachments expire on Aug 23, 2022

10 PDFs

Appendix A_ Air Quality Baseline Conditions and Impact Assessment Report.pdf, Appendix D_ Natural Environment Report Field Studies Addendum Flysheet.pdf, Appendix C_ Natural Environment Existing Conditions and Impact Assessment Report.pdf, Appendix E_ Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report.pdf, Appendix G_ Stage 1 Archaeological Assessment Report.pdf, Appendix H Traffic and Transportation Existing Conditions and Impact Assessment.pdf, Appendix F Cultural Heritage Report Existing Conditions and Preliminary Impact Assessment.pdf, Appendix B Draft Noise and Vibration Baseline Conditions and Impact Assessment Report.pdf, Heritage Road Layover - Environmental Project Report.pdf, 2022-08-18_Heritage Road Layover Notice_Completion - Final.pdf

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You have received attachment link(s) within this e-mail message sent via Enterprise Attachment Transfer Service. To retrieve the attachment(s), please click on the link(s).If you have any difficulty accessing the file using the enclosed link, please log into the Application first at the following location http://attachmail.ontario.ca/

Ministry of Tourism, Culture and Sport

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:29 PM
To: Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: FW: Heritage Road Layover TPAP - Updated Noise and Vibration (MTCS)

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Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

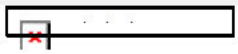
From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: September-01-22 11:48 AM
To: laura.e.hatcher@ontario.ca
Cc: karla.barboza@ontario.ca; jordan.hughes@ontario.ca; james.hamilton@ontario.ca
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration (MTCS)

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

clara.chan@metrolinx.com sent you a secure message

Access message

Hi Laura, Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Eng..



Attachments expire on Sep 06, 2022

1 PDF

Appendix B Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

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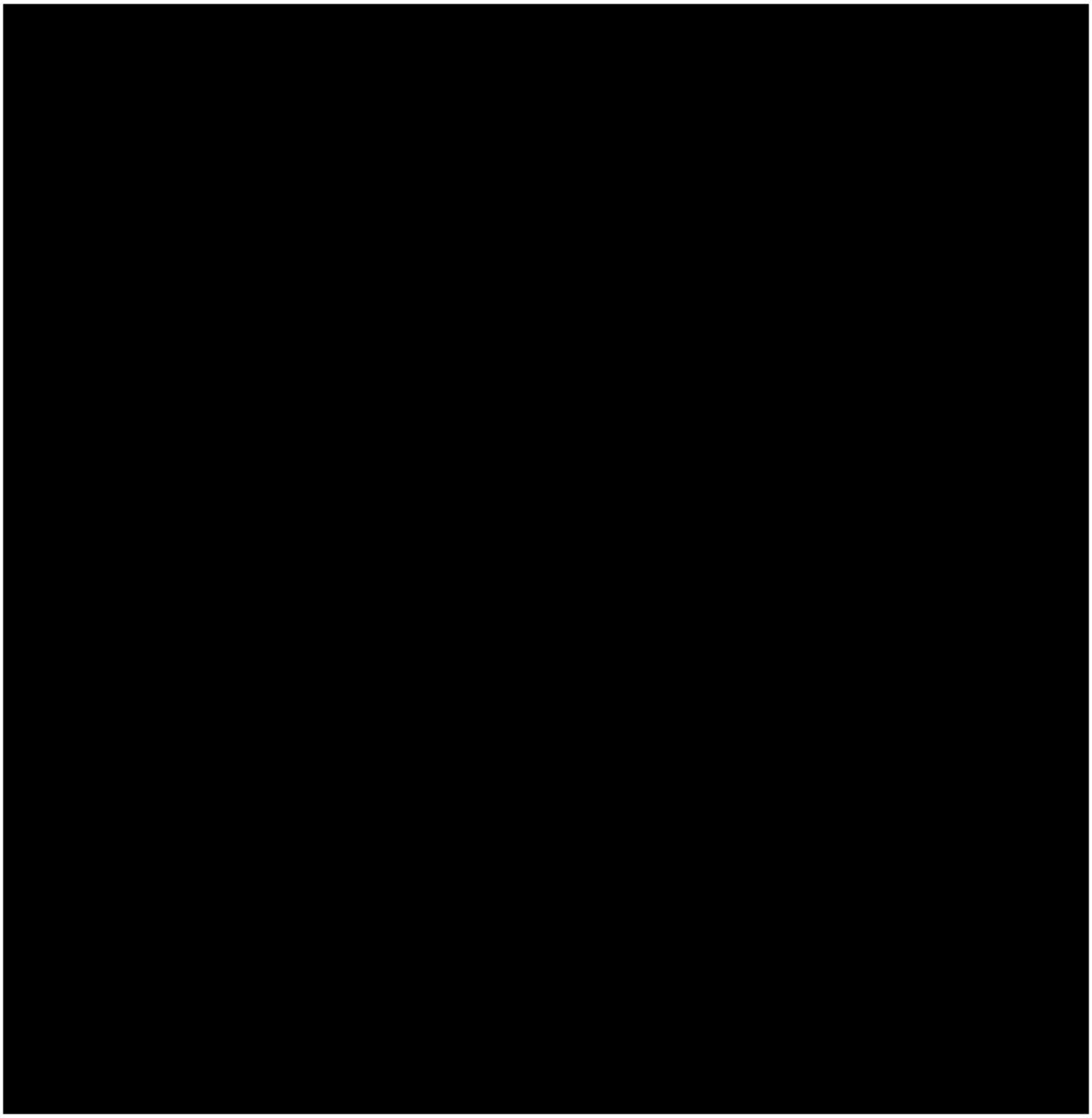

From: pastport <pastport@ontario.ca>
Sent: September-16-22 4:45 PM
To: henry.cary@woodplc.com
Cc: shelby.swinfield@brampton.ca; Clara Chan <Clara.Chan@metrolinx.com>; PastPort@ontario.ca
Subject: ENTERED INTO REGISTER: Archaeological Report for P327-0021-2021 / *

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Dear Henry Cary,

The ministry has reviewed the Revised report for PIF P327-0021-2021 submitted by you as a condition of your licence.

This report has been deemed compliant with ministry requirements for archaeological fieldwork and reporting. It has been entered into the *Ontario Public Register of Archaeological Reports.* Please refer to the attached letter to see the result of this review.

Note: the ministry makes no representation or warrant as to the completeness, accuracy or quality of reports in the register.

Development proponents and approval authorities: the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries has copied you on this email as you have been identified by the consultant archaeologist as either the proponent or approval authority for this project.

Please **do not** reply to this e-mail. The message will be undeliverable and we are unable to respond from this address.

If you have any questions about this report email us at: Archaeology@ontario.ca

Thank you,

Shari Prowse

Shari.Prowse@ontario.ca

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Ministry of Tourism, Culture and Sport (MTCS)

Archaeology Program Unit
Programs and Services Branch
Heritage, Tourism and Culture Division
5th Floor, 400 University Ave.
Toronto ON M7A 2R9
Tel.: (519) 671-7742
Email: Shari.Prowse@ontario.ca

Ministère du Tourisme, de la Culture et du Sport (MTCS)

Unité des programme d'archéologie
Direction des programmes et des services
Division du patrimoine, du tourisme et de la culture
5e étage, 400 ave. University
Toronto ON M7A 2R9
Tél. : (519) 671-7742
Email: Shari.Prowse@ontario.ca

Ontario

Sep 16, 2022

Henry Cary (P327)
Wood Environment &Infrastructure Solutions
PO BOX 0 Burlington ON L7N 3W5

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Heritage Road Layover: Stage 1 Archaeological Assessment Part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), former Township of Chinguacousy, County of Peel, now City of Brampton, Regional Municipality of Peel, Ontario", Dated Sep 1, 2022, Filed with MHSTCI Toronto Office on Sep 16, 2022, MHSTCI Project Information Form Number P327-0021-2021, MHSTCI File Number 0004330

Dear Dr. Cary:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18.[1] This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 *Standards and Guidelines for Consultant Archaeologists* set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the Stage 1 assessment of the study area as depicted in Figure 8 of the above titled report and recommends the following:

Based on the results of this Stage 1 archaeological assessment of the study area, the following recommendations are made, subject to the conditions outlined below and in Section 7.0:

1) The previous recommendations by Archeoworks (2017b:29-30) for Stage 3 site-specific assessment for AjGx-267 remain in effect. These are:

a. The Stage 3 AA [archaeological assessment] should be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy

b. Since the intensified Stage 2 CSP [controlled surface pickup] survey with GPS recording meets the requirements of Section 3.2.1 of the 2011 S&G [Standards andGuidelines for Consultant Archaeologists], a further Stage 3 CSP is not necessary. Therefore, the Stage 3 AA must commence with the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the

Stage 2 CSP), followed by test unit excavation.

c. The primary goal is to determine any patterning within the site, to ensure that a larger site sample is generated in case of a lack of features, and to determine site extent prior to mechanical topsoil stripping. Given that the level of cultural heritage value or interest is evident that the aforementioned site will result in a recommendation for Stage 4 mitigation of development impacts, the excavation of a series of one metre by one metre test units in a 10 metre grid across the site within the established grid must be pursued, in accordance with the methodology outlined in Section 3.2.3, Table 3.1, Standard 3 of the 2011 S&G (MTCS, 2011), in order to gather larger sample of artifacts and determine the nature and extent of the cultural deposit. Furthermore, additional test units, amounting to 40% of the grid unit total, need to be excavated, focusing on areas of interest within the site extent (Section 3.2.3, Table 3.1, Standard 4 of the 2011 S&G).

d. All test units must be excavated into five centimetres of subsoil, unless cultural features are encountered, and all excavated soil will be screened through six millimetre wire mesh to facilitate artifact recovery. The sterile subsoil must be trowelled and all soil profiles examined for undisturbed cultural deposits. If test unit excavation uncovers a cultural feature, the exposed plan of the feature must be recorded, and geotextile fabric is to be placed over the unit floor prior to backfilling the unit.

e. A thorough photographic record of on-site investigations must be maintained. Finally, a report documenting the methods and results of excavation and laboratory analysis, together with an artifact inventory, allnecessary cartographic and photographic documentation must be produced in accordance with the licensing requirements of the MTCS

f. No construction activities shall take place within the study area prior to the MTCS Archaeology Programs Unit confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

2) Archaeological Site AjGx-268 (Heritage Layover H2) is within 300 m the current study area but since it is not anticipated to be impacted by the Project, no further archaeological assessment of Site AjGx-268 is required as part of the Project.

a. However, if the study area boundaries of the Project change and work in an expanded study area will avoid the AjGx-268 (Heritage Layover H2) site area and an additional 20 m no-go buffer —but is between 20 m and 70 m of the site area— the following actions are recommended:

i. Retain a licensed archaeologist to conduct archaeological construction monitoring for work done between 20 m and 70 m from the site area;

ii. Erect a temporary barrier around the site area to be avoided;

iii. Depict the area to be avoided on all applicable contract drawingsand provide clear instructions to avoid the area;

iv. Issue “no go” instructions to all on-site construction crews and personnel during construction.

b. If work in in an expanded study area cannot avoid AjGx-268 (Heritage Layover H2) and a 20 m no-go buffer, the previous recommendations by Archeoworks (2017b:30-31) for Stage 3 site-specific assessment remain in effect. These are:

i. This site is considered to have significant cultural heritage value and interest; a comprehensive Stage 3 AA must be undertaken, in accordance with the 2011 S&G, prior to any intrusive activity that may result in the destruction or disturbance to the archaeological site documented in this assessment. The Stage 3 AA should be conducted to define the site extent, gather a representative sample of artifacts, and aid in the determination of a Stage 4 mitigation strategy, if required.

ii. Since the intensified Stage 2 CSP survey with GPS recording meets the requirements of Section 3.2.1 of the 2011 S&G, a further Stage 3 CSP is not necessary. Therefore, the Stage 3 AA must commence with the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the Stage 2 CSP), followed by test unit excavation.

iii. The primary goal is to determine any patterning within the site, to ensure that a larger site sample is generated in case of a lack of features, and to determine site extent prior to mechanical topsoil stripping. The Stage 3 AA must commence with a Stage 3 CSP survey with GPS recordings and meet the requirements of Section 3.2.1 of the 2011 S&G, followed by the establishment of a site datum at the centre of the site (or the centres of any localities or concentrations identified from the Stage 2 findspots and Stage 3 CSP), and then test unit excavation.

iv. Given that the level of cultural heritage value or interest is not evident that the aforementioned site will result in a recommendation for Stage 4 mitigation of development impacts, the excavation of a series of one metre by one metre test units in a five-metre grid across the site within the established grid must be pursued, in accordance with the methodology outlined in Section 3.2.3, Table 3.1, Standard 1 of the 2011 S&G (MTCS, 2011), in order to gather larger sample of artifacts and determine the nature and extent of the cultural deposit. Furthermore, additional test units, amounting to 20% of the grid unit total, need to be excavated, focusing on areas of interest within the site extent (Section 3.2.3, Table 3.1, Standard 2 of the 2011 S&G).

v. Should it become evident during the course of the Stage 3 AA that the level of cultural heritage value or interest will result in a recommendation to proceed to Stage 4, the Stage 3 AA test unit strategy may be amended to the excavation of one metre square test units on a 10 metre grid across the site, in accordance with the methodology outlined in Section 3.2.3, Table 3.1, Standard 3 of the 2011 S&G (MTCS, 2011). Furthermore, additional test units, amounting to 40% of the grid unit total, need to be excavated, focusing on areas of interest within the site extent (Section 3.2.3, Table 3.1, Standard 2 of the 2011 S&G).

vi. All test units must be excavated into five centimetres of subsoil, unless cultural features are encountered, and all excavated soil will be screened through six millimetre wire mesh to facilitate artifact recovery. The sterile subsoil must be trowelled and all soil profiles examined for undisturbed cultural deposits. If test unit excavation uncovers a cultural feature, the exposed plan of the feature must be recorded, and geotextile fabric is to be placed over the unit floor prior to backfilling the unit.

vii. A thorough photographic record of on-site investigations must be maintained. Finally, a report documenting the methods and results of excavation and laboratory analysis, together with an artifact inventory, all necessary cartographic and photographic documentation must be produced in accordance with the licensing requirements of the MTCS.

viii. No construction activities shall take place within the study area [including AjGx-268] prior to the MTCS (Archaeology Programs Unit) confirming in writing that all archaeological licensing and technical review requirements have been satisfied.

3) If not already addressed, the previous recommendations by Archeoworks (2017c:15) for Stage 3 site-specific assessment for McNichol's Cemetery remain in effect. These are:

a. Erect a new fence line around the cemetery using the staked limits as a minimum periphery (a perimeter was staked around the cemetery limits, including a minimum buffer zone of five metres past the furthest identified grave shaft), in order to ensure long-term protection of the cemetery. Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 *Standards and Guidelines for*

Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Shari Prowse
Archaeology Review Officer

cc. Archaeology Licensing Officer
Clara Chan,Metrolinx
Shelby Swinfield,City of Brampton

[1] *In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.*

From: Clara Chan
To: Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Cc: Dara Corrigan
Subject: MTCS - Heritage Road Layover TPAP - Notice of Resumption Transmittal
Date: Monday, September 19, 2022 11:27:27 AM

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Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Sent: September-19-22 11:26 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Notice of Resumption Transmittal

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Dear Clara,

Thank you for circulating the Ministry of Tourism, Culture and Sport (MTCS) on the Notice of Completion of Environmental Project Report (EPR) for the Heritage Road Layover project. I have reviewed the revised EPR and the associated Cultural Heritage Report and Metrolinx comment log. I have also reviewed the findings and recommendations of the Stage 1 Archaeological Assessment. I have no concerns with the recommendations in the documents with regard to cultural heritage resources and find that the EPR has appropriately considered cultural heritage, which is a matter of provincial importance under Ontario Regulation 231/08.

Thank you for working with MTCS on this project. We look forward to continuing to work with Metrolinx on transit projects such as this one.

Sincerely,

Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Tourism, Culture and Sport
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August 16, 2022 1:41 PM
To: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Zirger, Rosi (NDMNRF) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Resumption Transmittal

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Hi Laura,

As described in the attached Notice of Resumption, Metrolinx has decided to resume the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We have conducted additional engagement with various Indigenous communities and Nations to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted by the Heritage Road Layover Project.

Metrolinx is committed to continued engagement with Indigenous communities and Nations outside of the TPAP. Metrolinx will work with Indigenous communities and Nations to set up field monitors for any field activities they expressed interest in. We are of the opinion that we have now addressed the concerns which led to the Notice of Issue and have attached our Notice of Resumption.

This Notice of Resumption will be posted on August 16, 2022 on the project's website: (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover). Following the Notice of Resumption, the Notice of Completion will be formally circulated on August 18, 2022.

Please let us know if you have any questions.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3

T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Sent: July-18-22 4:27 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover TPAP - Notice of Issue

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Hi Clara,

Thank you for the update.

All the best,
Laura

Laura Hatcher, MCIP, RPP
Heritage Planner
Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division
Ministry of Tourism, Culture and Sport
Tel. 437-239-3404 New| email: laura.e.hatcher@ontario.ca

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: July 18, 2022 4:15 PM
To: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Cc: Hamilton, James (MTCS) <James.Hamilton@ontario.ca>; Barboza, Karla (MTCS) <Karla.Barboza@ontario.ca>; Zirger, Rosi (MTCS) <Rosi.Zirger@ontario.ca>; Desautels, Solange (MECP) <Solange.Desautels@ontario.ca>; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: Heritage Road Layover TPAP - Notice of Issue

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Dear Laura,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project to have additional engagement with Indigenous Nations to better understand the potential and scope for adverse impacts to Aboriginal and Treaty Rights.

This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate the comments received from MHSTCI/MCTS on the technical studies and EPR to date, and will keep you apprised as to when we restart the TPAP.

Please reach out to me with any questions.

Best regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Ministry of Transportation

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:29 PM
To: Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: FW: Heritage Road Layover TPAP - Updated Noise and Vibration Report (MTO)

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Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: info-attachmail@ontario.ca <info-attachmail@ontario.ca>
Sent: September-01-22 11:45 AM
To: jason.white@ontario.ca
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report (MTO)

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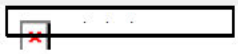
clara.chan@metrolinx.com sent you a secure message

Access message

Dear Mr. White, Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metroli..



Attachments expire on Sep 06, 2022

1 PDF

Appendix B Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

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City of Brampton

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, August 18, 2022 5:13 PM
To: Lakeman, Brian
Cc: Dara Corrigan; Brian Poole; Simon Strauss; Zbogar, Henrik; Ranjan, Kumar; Padhya, Harsh; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (City of Brampton)
Attachments: Comment Log Template_Heritage Road Layover EPR - GRT.xlsx; 2022-08-18_Heritage Road Layover Notice_Completion - Final.pdf

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Hi Brian,

In accordance with Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* (made under the *Environmental Assessment Act*), please find attached the Notice of Completion (dated August 18, 2022) for the Heritage Road Layover TPAP.

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.

The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below,
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or
[redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log. As mentioned in the Notice of Resumption, we will be addressing your Environmental Issues letter within the 30-day review period and hope to share with you shortly.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Region of Peel

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:12 PM
To: Kwast, Tamara
Cc: Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report
Attachments: Appendix B_ Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Hi Tamara,

Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Engage page and in the dropbox link below.

Two minor changes were made in comparison to the existing report that circulated in the Notice of Completion submittal package:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; and
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: August-22-22 11:01 AM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: RE: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (Region of Peel)

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Thanks Clara for the update and associated links. I have circulated this information to Regional staff for their review and comment.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Mobile: (437)-241-9026

Region of Peel
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Hi Tamara,

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As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.

The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below,
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or
[redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From:	Kwast, Tamara
To:	Clara Chan
Cc:	Dara Corrigan; Simon Strauss; Brian Poole; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; Detaramani, Tina; Duque, Erica
Subject:	Heritage Road Layover EPR Comments - September 2022
Date:	Friday, September 16, 2022 3:08:28 PM
Attachments:	image002.png 220916 Metrolinx Heritage Road Layover - Draft EPR Comments - September 16, 2022.pdf

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Hi Clara,

Thank you for continuing to include the Region of Peel as a stakeholder on the Heritage Road Layover project. I have attached for your review and response Regional staff comments on the Environment Project Report, dated August 2022.

Please do not hesitate to contact me If you require more information or clarification.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
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Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (Region of Peel)

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[redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
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Region of Peel
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Public Works

10 Peel Centre Dr.
Suite B
Brampton, ON
L6T 4B9
tel: 905-791-7800

peelregion.ca

September 16, 2022

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

Re: Region of Peel Comments on the Environmental Project Report dated August 2022 for the Heritage Road Layover Project

Dear Simon:

Thank you for including the Region of Peel as a stakeholder in the Environmental Project Report for the Heritage Road Layover Project. Regional staff have reviewed the material presented and we offer the following comments:

Heritage Heights Subwatershed Study

Planning and Development Services, Research and Analysis- Marsha Paley

1. Recommend that Metrolinx continue working with the City of Brampton and Credit Valley Conservation staff to implement the recommendations of the Heritage Heights' Subwatershed Study to address appropriate compensation and mitigation of the Greenlands System features and functions impacted by the project.

Population and Employment Growth Forecast

Planning and Development Services, Policy Development- Lina Alhabash

2. The TPAP includes population and employment growth forecast numbers that may be outdated. We note Section 3.5.2 of the TPAP report and Tables 2-5 and 2-8 of Appendix E, Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report.
3. Please note that the Region's final Land Needs Assessment report includes updated population and employment forecast numbers (September 2021), which can be found under Land Needs Assessment 2022 at https://www.peelregion.ca/officialplan/review/focus-areas/growth-management.asp. The growth forecasts are subject to further refinement. Please note that forecast numbers by ward are not available at this time.
4. The ward population projection information is based on the City of Brampton's presentation for the Council workshop, dated September 27, 2021. We recommend using the reference "City of Brampton, 2021" instead of "Hemson Consulting Ltd., 2021" for accuracy.

Traffic

Traffic Signal & Systems – Michael Yap

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Public Works

10 Peel Centre Dr.
Suite B
Brampton, ON
L6T 4B9
tel: 905-791-7800

peelregion.ca

5. More clear to use worst case scenario counts (pre-pandemic) from 2018 / 2019.

Traffic Safety – Grace Mulcahy

6. The 2030 NB queue on Winston Churchill Blvd. is potentially extending to the site access – what will be done to mitigate this issue?
7. Recommend an intersection warning sign north of the rail crossing for SB traffic to safely approach the access.
8. Poor LOS and V/C ratios increase driver frustration and promote unsafe driving behaviours such as aggressive driving. With current LOS and V/C ratios, how will construction be planned/structured to mitigate delays?
9. Heavy truck restriction along Winston Churchill Blvd. from Steeles to Mayfield – concerned with 20+ trucks travelling on Winston Churchill Blvd. daily during construction period.
10. Ensure safe access in and out of residential properties along WCB is maintained.
11. What will be the construction hours for this project?
12. Who will provide public notice to residents of construction and how far in advance will they be notified?
13. Please ensure ROP Traffic Safety is provided with a copy of the Traffic Control Plan/s for review.
14. On page 45, for clarity, what is meant by “the site access could be used as a truck queuing lane”? Is this referring to Winston Churchill Blvd. or the site access driveway?

Traffic Operations- Nathan Sinka

15. A traffic signal warrant should be proactively conducted to determine if traffic signals are warranted for the site access
16. Please be advised that Winston Churchill Blvd. is heavy truck restricted from Mayfield Road south.
17. The traffic volumes and LOS shown in table 2-2 are different then what the Region is aware of. The existing LOS at the intersection of Winston Churchill Blvd. and Guelph St/Bovaird Dr is quite a bit better when than what the table in the report shows. How were the traffic volumes derived and what signal timings were used?
18. Traffic volumes for the Bovaird Dr. and Heritage Rd. intersection were assumed. The Region has the turning movement count data for this intersection. Please contact our team for this information.

Traffic Development and Permits – Rani Kol

19. Details pertaining to the impact and access to the heritage features located at 10826 and 10746 Winston Churchill Blvd. are to be provided as it is not mentioned within the TIS.
20. We support the truck route concerns noted by the Traffic Safety group. Further discussions will be needed to understand the proposed traffic to and from the site during construction.

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Public Works

10 Peel Centre Dr.
Suite B
Brampton, ON
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tel: 905-791-7800

peelregion.ca

Engineering Requirements

21. The Region of Peel has the following engineering requirements for this project:
    i. A detailed engineering submission of road works will be required for our review and comment, designed, stamped and signed by a Licensed Ontario Professional Engineer. The engineering submission must include the removals, new construction and grading, typical sections and pavement markings and signing drawings. All works within Region of Peel's right of way must be designed in accordance to the Public Works, "Design Criteria and Development Procedures Manual" and "Material Specifications and Standard Drawings Manual";
    ii. A detailed cost estimate of the proposed road and access works within the Regional right of way will be required;
    iii. Securities shall be submitted as either a letter of credit, or certified cheque, in the amount of 100% of the approved estimated cost of road and access works along Regional Road 1 (Winston Churchill Boulevard);
    iv. 10.8% engineering and inspection fees shall be paid to the Region based on the approved estimated cost of road and access works (minimum $1,724.40).
    v. A PUCC circulation will be required once the engineering design is approved (6-8 week process);
    vi. The Owner will be required to submit the following prior to commencement of works within the Region's right-of-way:
        a. $10,000.00 mud tracking securities will be required;
        b. Completed Road Occupancy Permit and a permit fee as per the Region's user fees and charges By-law;
        c. Completed Notice to Commence Work ;
        d. Provide proof of insurance with the Region of Peel added to the certificate as an additional insured with $5 million minimum from the Contractor;
        e. Traffic Control Plan is required for our review and approval.
    vii. All costs associated with the design and construction of road and access works will be 100% paid by the Owner.

Regional staff look forward to the continued engagement with Metrolinx throughout the evaluation process for the Heritage Road Layover Project. Should there be any questions regarding the comments above, please do not hesitate to contact me.

Yours truly,

Tamara Kwast
Principal Planner, Sustainable Transportation & Strategic Initiatives
Transportation Division
Region of Peel

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Monday, October 3, 2022 9:25 AM
To: Kwast, Tamara
Cc: Dara Corrigan; Simon Strauss; Detaramani, Tina; Duque, Erica; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya; Talha Asif
Subject: RE: Heritage Road Layover EPR Comments - September 2022
Attachments: 2022-10-03 Peel_Region Traffic and Eng.xlsx

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Good morning Tamara,

Hope all is well. Please find attached our comments to your responses received during the Public Review period. Please let us know if you have any further comments or if these comments can be considered closed.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: September-16-22 3:06 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>; Detaramani, Tina <tina.detaramani@peelregion.ca>; Duque, Erica <erica.duque@peelregion.ca>
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[redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
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PROJECT NAME:	Heritage Road Layover
Submittal Date:	16-Sep-22

*** Actions:**

1 = Will comply

2 = Discuss, clarification required

3 = Not applicable because ……..

**** Line Item Status:**

R##Rshq/#qrw#uhvroyhg

P = Pending incorporation in design

C = Closed, implementation complete

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Phyvh»hq#-%ø#-ri#7ho
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Item No.	Reviewer Name	Organization	Report	Drawing No./ Document No. Specification Section/ Page No.	Review Comment (Metrolinx, Third Party Reviewers)	Response and Details (Submitter)	* Action 1 / 2 / 3 (Submitter)	** Line Item Status O / P / C (Reviewer)	Mx/Reviewer Comment
1	Marsha Paley, Planning and Development Services, Research and Analysis	Region of Peel	EPR	HHSWS	Recommend that Metrolinx continue working with the City of Brampton and Credit Valley Conservation staff to implement the recommendations of the Heritage Heights' Subwatershed Study to address appropriate compensation and mitigation of the Greenlands System features and functions impacted by the project.	Metrolinx will continue working with the City of Brampton and CVC to implement the recommendations of the HHSWS as appropriate. This commitment is noted in Section 7.1.4 of the EPR.	1		
2	Lina Alhabash, Planning and Development Services, Policy Development	Region of Peel	EPR	Population and Employment Growth Forecast	The TPAP includes population and employment growth forecast numbers that may be outdated. We note Section 3.5.2 of the TPAP report and Tables 2-5 and 2-8 of Appendix E, Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report.	The population data for Brampton was provided by the City of Brampton. Other population data was from the 2021 Canadian Census results, however when data was unavailable, it was obtained from the 2016 Canadian Census results.	2		
3	Lina Alhabash, Planning and Development Services, Policy Development	Region of Peel	EPR	Population and Employment Growth Forecast	Please note that the Region's final Land Needs Assessment report includes updated population and employment forecast numbers (September 2021), which can be found under Land Needs Assessment 2022 at https://www.peelregion.ca/officialplan/review/focus-areas/growth-management.asp. The growth forecasts are subject to further refinement. Please note that forecast numbers by ward are not available at this time.	Noted.	1		
4	Lina Alhabash, Planning and Development Services, Policy Development	Region of Peel	EPR	Population and Employment Growth Forecast	The ward population projection information is based on the City of Brampton's presentation for the Council workshop, dated September 27, 2021. We recommend using the reference "City of Brampton, 2021" instead of "Hemson Consulting Ltd., 2021" for accuracy.	Reference to be modified and **included in the Errata**	1		
5	Michael Yap, Traffic Signal and Systems	Region of Peel	EPR	Traffic	More clear to use worst case scenario counts (pre-pandemic) from 2018 / 2019.	As noted in section 2.1, base traffic volumes from 2018, 2019 and 2020 were considered and balanced to match the highest available volumes. Then, 2% per year growth was applied to determine worst case 2022 volumes, and future background volumes for 2025 and 2030. Development anticipated in the Heritage Heights secondary plan areas was further layered onto the 2025 and 2030 forecasts, which yields a conservative forecast.	1		
6	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	The 2030 NB queue on Winston Churchill Blvd. is potentially extending to the site access – what will be done to mitigate this issue?	Ingress and egress volumes at the Winston Churchill Blvd./Site Access T-intersection are infrequent and low. As indicated in section 5.2.1; *… the southbound left turn volumes are forecast to be less than 10 vehicles per hour and less than 2% of the approach volumes during the peak periods, and therefore would not meet a left turn lane warrant.* As indicated in section 6.1, in Table 6-1, the future forecast is for 2 CN Freight trains during the Peak Hour. It is the CN Freight Trains that have the potential to generate the maximum NB queue lengths. On balance, based on the limited site access inbound and outbound volumes (20 vph AM peak & 18 vph PM peak), and the infrequent potential for maximum queue lengths to extend to the site access T-intersection, mitigation is not required.	1		
7	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	Recommend an intersection warning sign north of the rail crossing for SB traffic to safely approach the access.	Noted. The need for traffic signage will be reviewed with the Region of Peel as part of detailed design, and in obtaining permits, such as the Road Occupancy Permit.	1		
8	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	Poor LOS and V/C ratios increase driver frustration and promote unsafe driving behaviours such as aggressive driving. With current LOS and V/C ratios, how will construction be planned/structured to mitigate delays?	The mitigation strategies to be applied during construction to minimize traffic delays are outlined in section 7.0. *Winston Churchill Boulevard will remain open during all the planned construction stages. Due to the narrow shoulder (approximately 1.2m), short term closures of one lane to move equipment onto the site could take place for one day only as the worst-case scenario, prior the early construction stages (Stage 1 & 2). A Traffic Control Plan will be created for the proposed lane closures and a Road Occupancy Permit will be obtained from the Region of Peel. An alternative solution to avoid any closure include using the farm field entrance located south of the layover site and construction of a temporary road parallel to Winston Churchill Boulevard. The Region of Peel, emergency services and school boards for the City of Brampton and Region of Peel, as well as residents in the surrounding areas will be notified of any short term closures to Winston Churchill Boulevard.*	1		
9	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	Heavy truck restriction along Winston Churchill Blvd. from Steeles to Mayfield – concerned with 20+ trucks travelling on Winston Churchill Blvd. daily during construction period.	As indicated in section 7.0; *… Anticipated material quantities are not expected to generate high volumes of construction vehicles. The current estimate is no more than 20 heavy vehicles (dump trucks and tractor trailers to deliver railway ties).* The daily 20 max truck traffic estimate will not be constant during the estimated 2 year construction period. The majority of truck traffic will occur at off-peak hours during the initial site preparation stage. Prior to construction start a Traffic Control and Management Plan will be prepared that will provide further detail on construction traffic volumes and mitigation measures.	1		
10	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	Ensure safe access in and out of residential properties along WCB is maintained.	Noted. The Traffic Control and Management Plan will set out the Ontario Traffic Manual - Book 7 - Temporary Conditions that will be adhered to during the construction process to allow safe accommodation for drivers, pedestrians and cyclists, and for rail traffic.	1		
11	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	What will be the construction hours for this project?	The Construction Hours will generally be limited to daylight hours, with very limited night work.	1		
12	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	Who will provide public notice to residents of construction and how far in advance will they be notified?	As set out in Table 4.13-1 of the EPR; a Communications Protocol will be developed, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any.	1		
13	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	Please ensure ROP Traffic Safety is provided with a copy of the Traffic Control Plan/s for review.	Noted.	1		
14	Grace Mulcahy, Traffic Safety	Region of Peel	EPR	Traffic	On page 45, for clarity, what is meant by "the site access could be used as a truck queuing lane"? Is this referring to Winston Churchill Blvd. or the site access driveway?	Recognizing that truck queueing on Winston Churchill Blvd, particularly with the restriction on NB travel, would require temporary lane closures, due to the limited shoulders, one mitigation strategy is to use the site access road, once constructed, as a queueing lane. As a further measure to get truck traffic off Winston Churchill Blvd. a temporary road could be constructed from the farm field access up to the site access road.	1		
15	Nathan Sinka, Traffic Operations	Region of Peel	EPR	Traffic	A traffic signal warrant should be proactively conducted to determine if traffic signals are warranted for the site access	Traffic volumes forecast to and from the site are far too low to warrant a traffic signal. In the weekday morning peak hour, 17 vph inbound and 3 vph outbound are forecast. During the weekday afternoon peak hour, 3 vph inbound and 15 vph outbound are forecast. Absolute minimum outbound volumes required to satisfy a signal warrant would be 50 vph, sustained each hour over 8 hours.	3		
16	Nathan Sinka, Traffic Operations	Region of Peel	EPR	Traffic	Please be advised that Winston Churchill Blvd. is heavy truck restricted from Mayfield Road south.	Noted. We have also had comment from the Town of Halton Hills that construction truck traffic is restricted from travel through Norval at the Guelph St / Winston Churchill Blvd. intersection.	1		
17	Nathan Sinka, Traffic Operations	Region of Peel	EPR	Traffic	The traffic volumes and LOS shown in table 2-2 are different then what the Region is aware of. The existing LOS at the intersection of Winston Churchill Blvd. and Guelph St/Bovaird Dr is quite a bit better when than what the table in the report shows. How were the traffic volumes derived and what signal timings were used?	See item 5 and report section 2.1 for a description of how volumes were derived. Due to the conservative approach to developing these volumes, actual volumes may be lower. Traffic signal timing plans used for analysis are provided in Appendix A. Synchro output files are provided in Appendix B. Note that the operation of the intersection of Winston Churchill Boulevard & Guelph Street/Bovaird Drive did not affect study recommendations.	1		

18	Nathan Sinka, Traffic Operations	Region of Peel	EPR	Traffic	Traffic volumes for the Bovaird Dr. and Heritage Rd. intersection were assumed. The Region has the turning movement count data for this intersection. Please contact our team for this information.	Noted. In addition to these data, to prepare the Traffic Control and Management Plan, Metrolinx will work with the regional and local municipalities to obtain the most up to date traffic counts, and related data and plans.	1		
19	Rani Kol, Traffic Development and Permits	Region of Peel	EPR	Traffic	Details pertaining to the impact and access to the heritage features located at 10826 and 10746 Winston Churchill Blvd. are to be provided as it is not mentioned within the TIS.	Comment unclear. As indicated in section 8.0; *No direct adverse traffic impacts are expected to occur to 1082 7 Winston Churchill Boulevard, or 10746 Winston Churchill Boulevard, the two Cultural Heritage Resources within proximity of the Project Site, during construction and operation of the Heritage Road Layover facilities, and specifically the construction and operation of the site access road that enters from Winston Churchill Boulevard.*	1		
20	Rani Kol, Traffic Development and Permits	Region of Peel	EPR	Traffic	We support the truck route concerns noted by the Traffic Safety group. Further discussions will be needed to understand the proposed traffic to and from the site during construction.	Noted. It is recognized that Heavy Truck restrictions on Winston Churchill Blvd. present a significant constraint to construction traffic access to the Project Site. As previously stated, Metrolinx will continue to work with Peel Region to address construction traffic concerns, including the preparation of a Traffic Control and Management Plan, and obtaining the necessary permits.	1		
21	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	A detailed engineering submission of road works will be required for our review and comment, designed, stamped and signed by a Licensed Ontario Professional Engineer. The engineering submission must include the removals, new construction and grading, typical sections and pavement markings and signing drawings. All works within Region of Peel's right of way must be designed in accordance to the Public Works, "Design Criteria and Development Procedures Manual" and "Material Specifications and Standard Drawings Manual";	Noted. The Design Team will work with the Region to ensure that the design specifications are met.	1		
22	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	A detailed cost estimate of the proposed road and access works within the Regional right of way will be required;	Noted. Separate cost estimate will be prepared by Technical Advisor for the proposed road works	1		
23	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	Securities shall be submitted as either a letter of credit, or certified cheque, in the amount of 100% of the approved estimated cost of road and access works along Regional Road 1 (Winston Churchill Boulevard);	Noted. These requirements will be specified in the Tender Package	1		
24	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	10.8% engineering and inspection fees shall be paid to the Region based on the approved estimated cost of road and access works (minimum $1,724.40).	Noted. It is requested that inspection fees be charged on time and material basis for review and approval. We can not provide lumpsum costs for inspections.	2		
25	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	A PUCC circulation will be required once the engineering design is approved (6-8 week process);	Noted that the design of the site access will need to be circulated to the Public Utility Coordinating Committee (PUCC)	1		
26	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	The Owner will be required to submit the following prior to commencement of works within the Region's right-of-way: a. $10,000.00 mud tracking securities will be required; b. Completed Road Occupancy Permit and a permit fee as per the Region's user fees and charges By-law; c. Completed Notice to Commence Work ; d. Provide proof of insurance with the Region of Peel added to the certificate as an additional insured with $5 million minimum from the Contractor; e. Traffic Control Plan is required for our review and approval.	Noted.	1		
27	Tamara Kwast, Sustainable Transportation & Strategic Initiatives	Region of Peel	EPR	Engineering Requirements	All costs associated with the design and construction of road and access works will be 100% paid by the Owner.	Noted.	1		
28									

From: Dara Corrigan <Dara.Corrigan@metrolinx.com>
Sent: Tuesday, October 18, 2022 12:05 PM
To: Mrochkovskaia, Nadya
Cc: Mcandrew, Louise; Felker, Bob; Clara Chan
Subject: FW: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

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FYI Confirming no further comments from the Region 😊

Thanks,
Dara

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: October 18, 2022 12:00 PM
To: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Alhabash, Lina <lina.alhabash@peelregion.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

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That's great! Thank you for confirming. I have received no further comments from staff on the EPR.

From: Dara Corrigan <Dara.Corrigan@metrolinx.com>
Sent: October 18, 2022 11:46 AM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>; Alhabash, Lina <lina.alhabash@peelregion.ca>
Cc: Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

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Hi Tamara and Lina,

Thank you for your comments. We have made the reference revisions to the Region of Peele report as per your suggestions.

Let me know if there are any further comments or questions.

Thanks,
Dara

Dara Corrigan, M.Env.Sc
Project Coordinator (A), Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
C: 416.357.6123

METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: October 13, 2022 2:17 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Alhabash, Lina <lina.alhabash@peelregion.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

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Hi Clara,

Please see the additional comment from Lina Alhabash below that needs to be addressed by Metrolinx:

- No concerns regarding the information provided by 2016/2021 Census results or by the City of Brampton.
- However, the growth forecast information in Appendix E still seems to be confusing.
    - The information in Tables 2-5, and Table 2-8 of Appendix E is making reference to the 2051 Land Needs Assessment (LNA) report, which was prepared by the Region, and not Hemson. Additionally, the specific numbers in Table 2-8 seem to be taken from the Employment Strategy Discussion Paper – 2051 Addendum (page 4), which was prepared by Cushman and Wakefield. For accuracy purposes, I recommend editing the references to the Region of Peel when referring to the LNA report and Cushman and Wakefield when referring to the Employment Strategy Discussion paper.

Please let me know how Metrolinx will address this comment and revise the EPR to include references to the LNA report (Cushman and Wakefield).

Thank you,

Tamara

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: October 11, 2022 10:29 AM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>; Alhabash, Lina <lina.alhabash@peelregion.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>
Subject: RE: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

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Hi Tamara and Lina,

Hope you both had a good long weekend!

The item was marked as "2" to confirm whether the information utilized in the TPAP (City of Brampton population information provided by the City), and the 2016/2021 Canadian Census results were in the line with the data that Lina has regarding the growth forecasts. If the information used satisfies, we can consider the comment addressed.

Thanks,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: October-11-22 10:23 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Alhabash, Lina <lina.alhabash@peelregion.ca>
Subject: FW: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
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Hi Clara,

Can you provide additional insight on the comment from Lina below?

Thank you,

Tamara

From: Alhabash, Lina <lina.alhabash@peelregion.ca>
Sent: October 6, 2022 11:58 AM
To: Kwast, Tamara <tamara.kwast@peelregion.ca>
Cc: Fang, Bihui April <bihui.fang@peelregion.ca>
Subject: RE: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

Hi Tamara,

Thank you for forwarding Metrolinx's response. We have no further concerns or comments. However, it seems that comment No. 2 is noted for discussion/clarification. I am not sure if Metrolinx is looking for any specific information. We are happy to chat or meet to further discuss this. Please let me know.

Thanks,

Lina Alhabash MES, RPP
Intermediate Planner, Policy Development
Planning and Development Services, Public Works
10 Peel Centre Drive, Suite B, 4th Floor
T: 905 791-7800 ext. 5287

From: Kwast, Tamara <tamara.kwast@peelregion.ca>
Sent: October 3, 2022 10:54 AM
To: Sinka, Nathan <nathan.sinka@peelregion.ca>; Mulcahy, Grace <grace.mulcahy@peelregion.ca>; Yap, Michael <michael.yap@peelregion.ca>; Alhabash, Lina <lina.alhabash@peelregion.ca>; Paley, Marsha <marsha.paley@peelregion.ca>
Cc: Detaramani, Tina <tina.detaramani@peelregion.ca>
Subject: Heritage Road Layover EPR - Metrolinx's Response Comment Matrix

Good morning,

Thank you for providing comments on the Heritage Road Layover EPR. Please see attached for your review Metrolinx's response to the Region's comments on the EPR.

Please let me know if you have additional comments or outstanding concerns by September 13th.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Mobile: (437)-241-9026

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From: Kwast, Tamara
Sent: August 22, 2022 10:58 AM
To: Tatla, Manvir <Manvir.Tatla@peelregion.ca>; Van Boxmeer, Kyle <Kyle.VanBoxmeer@peelregion.ca>; Jamroz, Damian <Damian.Jamroz@peelregion.ca>; Rook, Sally <Sally.Rook@peelregion.ca>; Gulyas, Ryan <Ryan.Gulyas@peelregion.ca>; Simms, Joy <joy.simms@peelregion.ca>; Fitzpatrick, Sandra <Sandra.Fitzpatrick@peelregion.ca>; Ponce Vanelli, Italia <Italia.Ponce@peelregion.ca>; Dodds, Darrin <Darrin.Dodds@peelregion.ca>; ZZG-PWI <pwi@peelregion.ca>; LeDrew, Lyle <Lyle.LeDrew@peelregion.ca>; Wedderburn, Duran <Duran.Wedderburn@peelregion.ca>; Zia, Solmaz <Solmaz.Zia@peelregion.ca>; Morrison, Chantel <Chantel.Morrison@peelregion.ca>; Aubin, Louise <Louise.Aubin@peelregion.ca>; Toy, William <William.Toy@peelregion.ca>; Carrick, Sean <Sean.Carrick@peelregion.ca>; Ansari, Seema <Seema.Ansari@peelregion.ca>; Schembri, Jeremy <Jeremy.Schembri@peelregion.ca>; Patterson, Adaoma <adaoma.patterson@peelregion.ca>; Head, Mark <Mark.Head@peelregion.ca>; Powell, Sarah <Sarah.Powell@peelregion.ca>; Kuczynski, Roman <Roman.Kuczynski@peelregion.ca>; Saiyed, Sabbir

<Sabbir.Saiyed@peelregion.ca>; Canjar, Neha <Neha.Canjar@peelregion.ca>; Paje, Wilson <Wilson.Paje@peelregion.ca>; Hamdani, Hashim <HashimAli.Hamdani@peelregion.ca>; Banuri, Syeda <Syeda.Banuri@peelregion.ca>; Bubas, Sonya <sonya.bubas@peelregion.ca>; Ahuja, Sidharth <sidharth.ahuja@peelregion.ca>; Sinka, Nathan <Nathan.Sinka@peelregion.ca>; Paley, Marsha <marsha.paley@peelregion.ca>
Cc: Detaramani, Tina <Tina.Detaramani@peelregion.ca>; Dave, Richa <richa.dave@peelregion.ca>
Subject: Heritage Road Layover TPAP Update/Resuming - EPR Comments Requested

Good morning,

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.
The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below, and provide your comments to me by **September 9, 2022** .

https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or [redacted]

If you have any questions or concerns please feel free to contact me. Please note I will be away from the office on August 29th – September 2nd, during my absence @Dave, Richa will be the main contact on this project.

Regards,

Tamara Kwast, MCIP RPP
Principal Planner
Sustainable Transportation & Strategic Initiatives, Transportation Division
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Mobile: (437)-241-9026

Region of Peel
working with you

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Town of Halton Hills

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:13 PM
To: Maureen Van Ravens; Ivan Drewnitski; Jeff Jelsma; Melissa Ricci
Cc: Brian Poole; Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report (Town of Halton Hills)
Attachments: Appendix B_ Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Hi Maureen,

Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Engage page and in the dropbox link below.

Two minor changes were made in comparison to the existing report that circulated in the Notice of Completion submittal package:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; and
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-18-22 5:12 PM
To: Maureen Van Ravens <MaureenV@haltonhills.ca>; Ivan Drewnitski <idrewnitski@haltonhills.ca>; Jeff Jelsma <JeffJ@haltonhills.ca>; Melissa Ricci <mricci@haltonhills.ca>
Cc: Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Felker, Bob <bob.felker@woodplc.com>; Mcandrew, Louise <louise.mcandrew@woodplc.com>; Mrochkovskaia, Nadya <nadya.mrochkovskaia@woodplc.com>
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (Town of Halton Hills)

Hi Maureen,

In accordance with Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* (made under the *Environmental Assessment Act*), please find attached the Notice of Completion (dated August 18, 2022) for the Heritage Road Layover TPAP.

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.
The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below,
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or
[redacted]

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Credit Valley Conservation

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:15 PM
To: 'Kilis, Jakub'
Cc: Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report (CVC)
Attachments: Appendix B_ Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

CAUTION: External email. Please do not click on links/attachments unless you know the content is genuine and safe.

Dear Jakub,

Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Engage page and in the dropbox link below.

Two minor changes were made in comparison to the existing report that circulated in the Notice of Completion submittal package:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; and
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-18-22 5:18 PM
To: 'Kilis, Jakub' <Jakub.Kilis@cvc.ca>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise' <louise.mcandrew@woodplc.com>; 'Mrochkovskaia, Nadya' <nadya.mrochkovskaia@woodplc.com>
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (CVC)

Hi Jakub,

In accordance with Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* (made under the *Environmental Assessment Act*), please find attached the Notice of Completion (dated August 18, 2022) for the Heritage Road Layover TPAP.

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.
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The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

Please review the EPR and associated technical reports at the link below,
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or
[redacted]

Thank you for your earlier feedback dated August 16, 2022. We will respond to your additional comments during the public review period.

If you have any comments please provide them by September 19, 2022 using the attached comment log.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

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From: Kilis, Jakub <Jakub.Kilis@cvc.ca>
Sent: Friday, September 9, 2022 2:06 PM
To: Clara Chan
Cc: Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: CVC Comments - Final EPR and Appendices - Metrolinx Heritage Layover Facility (CVC File No. EA 15/015)

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Hi Clara,

CVC staff has now had the opportunity to review the Final EPR and associated Appendices. We do not have any additional comments at this time beyond what has been provided to date. We acknowledge Metrolinx's recognition and commitment to continue working with CVC to address our feedback that extends beyond the completion of the EPR.

Further, CVC looks forward to working with Metrolinx and the City of Brampton to address recommendation of the Heritage Heights Subwatershed Study to address impacts and appropriate avoidance, mitigation and compensation related to the NHS features and functions that may be impacted by this project. CVC supports the City of Brampton memo prepared by Anand Balram and dated August 10, 2022 which also reflects CVC interest in the ongoing Heritage Heights planning process.

Please do not hesitate to contact me should you have any questions,
Jakub

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

Jakub Kilis | RPP
Senior Manager, Infrastructure and Regulations | Credit Valley Conservation
905-670-1615 ext 287 | M: 647-212-6554
jakub.kilis@cvc.ca | cvc.ca

Credit Valley Conservation
inspired by nature

2021 CANADA'S GREENEST EMPLOYERS

GREATER TORONTO'S TOP 2021 EMPLOYERS

View our privacy statement

From:	Clara Chan
To:	Kilis, Jakub
Cc:	Dara Corrigan; Simon Strauss; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject:	RE: CVC Comments - Final EPR and Appendices - Metrolinx Heritage Layover Facility (CVC File No. EA 15/015)
Date:	Thursday, September 22, 2022 1:35:48 PM
Attachments:	image002.jpg image003.jpg

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Hi Jakub,

Apologies in the delayed response. This email confirms receipt of your reply. We will include this in our consultation record.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Kilis, Jakub <Jakub.Kilis@cvc.ca>
Sent: September-09-22 2:06 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Cc: Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise' <louise.mcandrew@woodplc.com>; 'Mrochkovskaia, Nadya' <nadya.mrochkovskaia@woodplc.com>
Subject: CVC Comments - Final EPR and Appendices - Metrolinx Heritage Layover Facility (CVC File No. EA 15/015)

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Hi Clara,

CVC staff has now had the opportunity to review the Final EPR and associated Appendices. We do not have any additional comments at this time beyond what has been provided to date. We acknowledge Metrolinx's recognition and commitment to continue working with CVC to address our feedback that extends beyond the completion of the EPR.

Further, CVC looks forward to working with Metrolinx and the City of Brampton to address recommendation of the Heritage Heights Subwatershed Study to address impacts and appropriate avoidance, mitigation and compensation related to the NHS features and functions that may be impacted by this project. CVC supports the City of Brampton memo prepared by Anand Balram and dated August 10, 2022 which also reflects CVC interest in the ongoing Heritage Heights planning process.

Please do not hesitate to contact me should you have any questions,
Jakub

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

Jakub Kilis | RPP
Senior Manager, Infrastructure and Regulations | Credit Valley Conservation
905-670-1615 ext 287 | M: 647-212-6554
jakub.kilis@cvc.ca | cvc.ca



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Canadian National Railway

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 1, 2022 12:16 PM
To: Mark Bedard; Proximity; Ashkan Matlabi; Saadia Jamil
Cc: James Schick; Talha Asif; Simon Strauss; Brian Poole; Marco Mazzaferro; Rhema Stevenson; Dara Corrigan; Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Subject: Heritage Road Layover TPAP - Updated Noise and Vibration Report (CN)
Attachments: Appendix B_ Noise and Vibration Baseline Conditions and Impact Assessment Report FINAL.pdf

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Hi CN Team,

Please find attached the signed version of the noise and vibration report. The updated copy will also be made to the Metrolinx Engage page and in the dropbox link below.

Two minor changes were made in comparison to the existing report that circulated in the Notice of Completion submittal package:

- Section 7.1 - In the fourth paragraph, we added the following statement was added for context "The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility."; and
- Section 7.1 - In the fifth paragraph, "The layover facility will be designed with four (4) tracks with capacity to accommodate one (1) train consist of two (2) locomotives and 12 coaches or two (2) train consists of one (1) locomotive and six (6) coaches on each track." was added.

If you have any questions, please let us know.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: August-18-22 5:21 PM
To: Mark Bedard <Mark.Bedard@cn.ca>; Proximity <proximity@cn.ca>; Ashkan Matlabi <Ashkan.Matlabi@cn.ca>; Saadia Jamil <Saadia.Jamil@cn.ca>
Cc: Jeff Yee <Jeff.Yee@metrolinx.com>; Talha Asif <Talha.Asif@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Marco Mazzaferro <Marco.Mazzaferro@cn.ca>; Rhema Stevenson <Rhema.Stevenson@cn.ca>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; 'Felker, Bob' <bob.felker@woodplc.com>; 'Mcandrew, Louise'

<louise.mcandrew@woodplc.com>; 'Mrochkovskaia, Nadya' <nadya.mrochkovskaia@woodplc.com>
Subject: Heritage Road Layover TPAP Notice of Completion - August 18, 2022 (CN)

Hi Mark,

In accordance with Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* (made under the *Environmental Assessment Act*), please find attached the Notice of Completion (dated August 18, 2022) for the Heritage Road Layover TPAP.

As part of the TPAP process, Metrolinx has been engaging with Indigenous communities and Nations, and consulting with stakeholders. Two public meetings were held in early 2022 as part of the pre-planning and formal TPAP period. The official Notice of Commencement which initiated the formal TPAP period was issued March 24, 2022.

A "TPAP pause" was undertaken to further engage with Indigenous communities and Nations, and the TPAP resumed through a Notice of Resumption issued August 16, 2022. This Notice of Completion is to announce the conclusion of the up to 120-day TPAP period.

The EPR is made available for a 30-day public and agency review at the Notice of Completion and is followed by a 35-day Ministry of the Environment, Conservation and Parks review.

The EPR for the Heritage Road Layover is now available for a 30-day public review period starting August 19, 2022 and ending on September 19, 2022.

The draft environmental studies were shared with CN in March of this year. If you are interested in viewing the EPR and associated technical reports, they can be accessed at the link below,
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover or
[redacted]

If you have any comments please provide them by September 19, 2022.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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Public Stakeholders

Heritage Road Layover - Environmental Project Report - Submit Your Comments

Submission Details			**Which of the following would you like to comment on? Please select all that apply.**										**Submit your general comments about the Environmental Project Report below.**	**E-mail (optional). You can include your email if you would like a reply to your comment.**
Serial	SID	Submitted Time	Appendix A -	Appendix B -	Appendix C -	Appendix D -	Appendix E -	Appendix F -	Appendix G -	Appendix H -	Appendix I -	General comm		
2	37764	8/22/2022 15:53										X	On Figure 2-2 and 2-4 of the EPR, I see that there are a few buildings. Is it possible to have green roofs on these buildings or would that be outside the budget scope or not feasible based on the advice of the consultant? Does the City of Brampton have any green standards that offer guidance? Between "2" and "3" on Figure 2-4 since the field looks too small to use for farming (I assume) would it be possible to add a few plants or along the roadway that could be used for bees and pollination?	[redacted]

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 29, 2022 3:08 PM
To: Felker, Bob; Mcandrew, Louise; Mrochkovskaia, Nadya
Cc: Dara Corrigan
Subject: FW: Heritage Layover Engage page query EML:030500124

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Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Peel <Peel@metrolinx.com>
Sent: September-29-22 3:07 PM
To: [redacted]
Subject: Heritage Layover Engage page query EML:030500124

Hello [redacted],

I hope all is well. We received your query from the Engage page for the Heritage Layover Project. Thank you for comment. We apologize for the delayed response.

The buildings that serve the layover facility are small, prefabricated structures that meet design specifications for energy efficiency. Green roofs have not been specified.

While the City of Brampton does have green standards that offer guidance, in this instance the applicable design standards are those set out in Table 5.3 2: of the EPR for Sustainability Considerations and Climate Change Mitigation Measures, including the use of green construction materials such as those with recycled content or certified sustainable.

During detailed design, a plan will be developed for landscape plantings that:

- Use native and non-native species that are: hardy, drought and salt-tolerant, and resistant to exposure and soil compaction;
- Enhance biodiversity and ecosystem value; and,
- Support and align with the Ontario Pollinator Health Action Plan in areas where practicable and feasible.

If you have any questions or concerns, please let me know.

RADHIKA SHARMA (She/Her)
Community Engagement & Issues Specialist
Peel Region
E: peel@metrolinx.com

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[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]



From: Halton Region <HaltonRegion@metrolinx.com>
Sent: September-19-22 9:48 AM
To: Clara Chan <Clara.Chan@metrolinx.com>; Peel <Peel@metrolinx.com>
Subject: FW: Written Submission re: Environmental Project Report GO Expansion: Heritage Road Layover Project

Hello,
This morning the Region of Halton shared inbox received a series of inquiries from [redacted].
The inquiries were shared as a letter, which has been attached for your review.
Can you please help to address their concerns?

Kind Regards,

LINDSAY ARTHURS (She / Her)
Community Engagement & Issues Specialist
South Western Ontario
Metrolinx
10 Bay St, 17th Floor | Toronto | Ontario | M5J 2R8
T: 416.202.5421 C: 416.804.3642

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From: [redacted]
Sent: September 19, 2022 9:31 AM
To: Peel <Peel@metrolinx.com>; Halton Region <HaltonRegion@metrolinx.com>; jordan.hughes@ontario.ca
[redacted]
Subject: Written Submission re: Environmental Project Report GO Expansion: Heritage Road Layover Project

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Good morning,

Please see the attached Written Submission of [redacted] with respect to the above-noted matter.

Kindly confirm receipt of this email at your earliest convenience.

Thank you,

[redacted]

[redacted].

This e-mail is intended only for the person or entity to which it is addressed. If you received this in error, please contact the sender and delete all copies of the e-mail together with any attachments.

[redacted]

[redacted]

September 19, 2022

Our File No.: [redacted]

Via Email

Metrolinx
10 Bay Street
Toronto, ON M5J 2W3

Attention: Simon Strauss, Manager, Environmental Programs and Assessment

Ministry of the Environment, Conservation & Parks
Environmental Assessment Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5

Attention: Jordan Hughes, Project Officer

Dear Sirs/Mesdames:

Re: Environmental Project Report GO Expansion: Heritage Road Layover Project
Transit Project Assessment Process

We are [redacted] We are writing because we have project-related questions and wish to provide input.

Our client's acoustic consultant has reviewed the August 2022 Draft "Environmental Project Report" (the "**draft EPR**") and "Appendix B – Noise and Vibration Baseline Conditions and Impact Assessment Report" (the "**Noise and Vibration Report**") both prepared by Wood.

It appears, based on the distances to the "existing receptors", that impacts from operational noise and vibration on our client's land are limited. The noise contours presented are based on a number of assumptions. We have the following questions:

The Crossover

We note that the draft EPR indicates that there are no crossover tracks currently proposed as all trains that depart from the layover will be travelling eastbound. However, the draft EPR also states that Metrolinx has protected for a crossover to be constructed in the future to permit trains to travel

[redacted]

westbound. There will be new impacts, which are not evaluated in the Noise and Vibration Report, arising from a crossover. What environmental review process will be required if a crossover is proposed?

Blowers

Our acoustic consultant advises that blowers were not included as noise sources in the Noise and Vibration Report. The sound generated by blowers is material to the evalution of acoustic impacts. Should blowers be required in the future, what environmental evaluation process will be required?

Baseline Measurements

The Noise and Vibration Report indicates that "Baseline measurements are predicted to be completed by the end of April 2022 tentative of suitable weather." The report is dated August 2022. Have the baseline measurements been completed? If they have been completed, would you please provide the measurements to us? If not, when are they expected to be completed?

Switches

Please provide information regarding the location of switches, if any. If none are currently proposed, will there be any in the future? If so, where would they be located?

Conclusion

We would appreciate receiving answers to our questions as it will assist us in understanding the impact of the layover on [redacted] and whether any mitigation, setbacks or other constraints will be imposed as a result.

Yours truly,

[redacted]

From: Clara Chan <Clara.Chan@metrolinx.com>
Sent: Thursday, September 29, 2022 12:24 PM
To: Felker, Bob; Mrochkovskaia, Nadya; Mcandrew, Louise
Cc: Dara Corrigan
Subject: FW: Written Submission re: Environmental Project Report GO Expansion: Heritage Road Layover Project
Attachments: [redacted]

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For your records.

Thanks,

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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METROLINX

From: Halton Region <HaltonRegion@metrolinx.com>
Sent: September-29-22 12:22 PM
To: [redacted]
Cc: [redacted] jordan.hughes@ontario.ca; Peel <Peel@metrolinx.com>
Subject: RE: Written Submission re: Environmental Project Report GO Expansion: Heritage Road Layover Project

[redacted],

Please see attached.

Thanks,

Mandeep Jassal
Metrolinx Community Engagement
416-938-9930

From: [redacted]
Sent: September 19, 2022 9:31 AM
To: Peel <Peel@metrolinx.com>; Halton Region <HaltonRegion@metrolinx.com>; jordan.hughes@ontario.ca
Cc: [redacted]
Subject: Written Submission re: Environmental Project Report GO Expansion: Heritage Road Layover Project

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Good morning,

Please see the attached Written Submission of Bramwest Development Corporation with respect to the above-noted matter.

Kindly confirm receipt of this email at your earliest convenience.

Thank you,

[redacted]

METROLINX

September 26, 2022

[redacted]

Delivered Via Email [redacted]

Dear [redacted],

In response to your letter we received in our haltonregion@metrolinx.com email entitled "Environmental Project Report GO Expansion: Heritage Road Layover Project Transit Project Assessment Process", sent September 19, 2022 [redacted], the following is a response to your Client's questions:

1) We note that the draft EPR indicates that there are no crossover tracks currently proposed as all trains that depart from the layover will be travelling eastbound. However, the draft EPR also states that Metrolinx has protected for a crossover to be constructed in the future to permit trains to travel westbound. There will be new impacts, which are not evaluated in the Noise and Vibration Report, arising from a crossover. What environmental review process will be required if a crossover is proposed?
   Response:
   It is correct that no crossover tracks are components of the conceptual design that was assessed through the TPAP. If, in the future, a westbound layover connection to the mainline track is proposed, the addendum procedures under O. Reg. 231_08_ TRANSIT PROJECTS AND METROLINX UNDERTAKINGS will be applied and the potential impacts of the proposed changes that vary from the EPR will be assessed. If the TPAP addendum is deemed to be significant then the O. Reg. 231_08 notice and public consultation will be implemented.

2) Our acoustic consultant advises that blowers were not included as noise sources in the Noise and Vibration Report. The sound generated by blowers is material to the evaluation of acoustic impacts. Should blowers be required in the future, what environmental evaluation process will be required?
   Response:
   As stated in section 7.1 of the Noise and Vibration Report:
   The operational assessment of the Facility included noise sources associated with layover operation such as idling of trains, train heating and ventilation equipment,

electrical equipment, or hot air track blowers. The Facility's operational noise is predicted to be dominated by the four (4) idling trains. Therefore, the stationary noise sources associated with the Facility's infrastructure, including but not limited to air compressors, transformers, and HVAC equipment, were not considered in the operational assessment of Facility.

3) The Noise and Vibration Report indicates that "Baseline measurements are predicted to be completed by the end of April 2022 tentative of suitable weather." The report is dated August 2022. Have the baseline measurements been completed? If they have been completed, would you please provide the measurements to us? If not, when are they expected to be completed?
   Response:
   The baseline noise and vibration monitoring activity scheduled for Spring 2022 was delayed due to property access constraints. The baseline noise and vibration monitoring activity was included in the EPR as a commitment for future work. The baseline monitoring activity is in progress and will be completed in early Fall.

4) Please provide information regarding the location of switches, if any. If none are currently proposed, will there be any in the future? If so, where would they be located?
   Response:
   The conceptual design includes a total of 4 switches, each equipped with a switch track heater. Three of the switches serve three of the layover tracks within the Project Site. The fourth switch serves the fourth layover track tie-in eastbound to the GO main line track.

We hope that these responses provide your Client with a better understanding of the Project. If you have any further questions, please let us know.

Yours truly,

Simon Yale Strauss

Simon Strauss,
Manager,
Environmental Programs and Assessment
Metrolinx

cc: Community Engagement – Halton Region

Project Delivery Team – Heritage Road Layover

Appendix I-6

Correspondence with Indigenous communities and Nations

METROLINX

Indigenous Engagement on the Heritage Road Layover Project

Metrolinx is committed to building meaningful and long-term relationships with Indigenous communities and Nations. Through its Indigenous Relations Office (IRO), Metrolinx engages with Indigenous communities and Nations on several projects on an ongoing basis. The purpose of this letter is to provide an overview of the engagement that has taken place with Indigenous communities and Nations to-date in support of the Heritage Road Layover project and meeting the Transit Project Assessment Projects (TPAP) requirements.

Background

In 2018, Metrolinx made a commitment to build positive and meaningful relationships with Indigenous Peoples, in alignment with its strategic objectives. To that end, the IRO was established in 2019 with a mandate to build and grow relationships with Indigenous communities and Nations, organizations, businesses and customer-residents. As part of this work, the IRO provides guidance to the organization with respect to engaging Indigenous Nations on projects and is dedicated to working towards establishing and maintaining meaningful relationships with Indigenous Nations.

Engagement with Indigenous communities, Nations and Organizations

In 2020, the IRO became the sole point of contact for Indigenous communities and Nations within Metrolinx and, in that capacity, supports the organization in coordinating engagement and communication with Indigenous communities and Nations related to all projects and Metrolinx activities. The IRO is working to identify best practices for engagement with each Indigenous community and Nation that has Treaty rights and/or territorial interests where Metrolinx operates. General feedback from Indigenous communities and Nations regarding Metrolinx's current engagement approach includes:

- Ensure consistent, timely and transparent communication through a single point of contact
- Ensure appropriate engagement across the project lifecycle, with a specific focus on review and participation in natural environment, cultural heritage, archaeological studies and reports, and the development of mitigation and compensation plans as well as environmentally or culturally sensitive construction activities.
- Indigenous communities and Nations cannot keep pace with the growing volume of engagement from Metrolinx and, in some cases, do not have the in-house technical expertise to facilitate meaningful review and comment on project materials. As such, many Indigenous communities and Nations have requested that Metrolinx consider long term relationship and capacity building through regular meetings, evaluation of funding requests and negotiation of relationship framework agreements.

Metrolinx recognizes that meaningful engagement with Indigenous communities and Nations requires moving beyond simply sharing information regarding project milestones and technical reports that are largely related to the TPAP process, and is actively working toward deeper engagement with Indigenous communities and Nations on matters of interest to each Indigenous community and Nation — including, but not limited to, natural environment, heritage and cultural resources, and other environmentally sensitive activities across the entire project lifecycle.

As an interim step, Metrolinx is putting processes in place to streamline communication and limit the administrative burden placed on Indigenous communities and Nations by:

- Establishing the IRO as the single point of contact within Metrolinx to coordinate the timing of communications across projects and limit the number of Metrolinx staff that contact Indigenous communities and Nations
- Preparing and sending monthly forecasts consolidating requests for feedback and reminders of deadlines to help Indigenous communities and Nations plan for upcoming engagement activities
- Establishing administrative tools and strategies for sharing and tracking the review of materials and associated comments
- Building meaningful relationships through standing monthly meetings, phone calls, emails, and project-specific meetings.

The nature of establishing a single point of contact for Indigenous communities and Nations across all Metrolinx projects often means that engagement can occur in both formal and informal ways, which are summarized below.

List of Indigenous communities and Nations and Organizations

The following Indigenous communities and Nations were identified as being potentially interested in the Heritage Road Layover Project. The IRO supported the development of this list, which was sent to Ministry of Environment, Conservation and Parks (MECP) for feedback and approval, includes:

- Haudenosaunee Confederacy Chiefs Council
- Huron-Wendat Nation
- Mississaugas of the Credit First Nation
- Six Nations of the Grand River

Formal Notices & Reports

As part of engagement on Heritage Road Layover Project, the IRO shared the following project notices and reports with identified Indigenous communities and Nations:

- Project Introduction and Notice of Public Information Centre #1 - January 7, 2022
- Notice of Commencement and Notice of Public Information Centre #2 - March 23, 2022
- Draft Environmental Project Report and supporting technical studies including, but not limited to, Air Quality, Noise and Vibration, Natural Environment and Socio-Economic Land Use for review - April 5, 2022
- Notice of Issue- July 18, 2022
- Notice of Resumption- August 15, 2022
- Notice of Completion- August 18, 2022

Feedback:

- The Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated in email dated January 7, 2022 that until meaningful engagement has taken place, they object to all Metrolinx projects within Haudenosaunee territory. The Haudenosaunee Development Institute requested an extension of the stated deadline. It is noted that this email response did not specify the Heritage Road Layover project directly but should be considered as such. A response letter was sent to Haudenosaunee Development Institute on June 13, 2022 in reply to their correspondence.
- The Mississaugas of the Credit First Nation, stated in an email dated May 30, 2022 that the Nation would like to be kept apprised of the project, and in particular notified of potential impacts and proposed mitigation strategies. Metrolinx confirmed in response, on May 30, 2022, that it would keep the Mississaugas of the Credit First Nation informed as the project moved forward.
- The Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated in a letter on September 19, 2022, outlining concerns with and formal objection to the Project. The Letter included feedback on the project and topics broader than the scope of the project. A response letter was sent to Haudenosaunee Development Institute on October 18, 2022 in reply to their correspondence.

Please note, that due to the sensitive nature of the work being performed by the IRO, not all communication is listed within this document, in order to protect and preserve culturally sensitive information in order to fulfill our legal obligations.

Natural Heritage

Archaeology

Metrolinx recognizes the significance of archaeology to many Indigenous communities and Nations. As such, Metrolinx endeavors to offer opportunities for participation of Indigenous communities and Nations in archaeological fieldwork. Metrolinx has also made commitments to share archaeological

assessments with Indigenous communities and Nations for feedback in draft form prior to submission to the Ministry of Tourism, Culture and Sport (MTCS), formerly known as Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), and to ensure opportunities for Indigenous communities and Nations to participate in archaeological monitoring for the Heritage Road Layover project. Metrolinx aims to incorporate comments and feedback from Indigenous communities and Nations into archaeological assessments.

For the Heritage Road Layover project, Indigenous communities and Nations have been sent the following archaeological reports for review and comment:

- Draft Stage 1 Archaeological Assessment Report for review – February 8, 2022 and followed up on April 21, 2022
- Invitation to Participate in Summer 2022 Fieldwork, including Stage 3 AA (see studies and fieldwork dates in Appendix I Table 1)- May 19, 2022

Feedback:

- The Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, in response to the draft Stage 1 AA, stated in emails dated February 9, 2022 that until meaningful engagement has taken place which must take place within their own framework, they object to all Metrolinx projects within Haudenosaunee territory. The Haudenosaunee Development Institute requested an extension of the stated deadline. The Heritage Road Layover project is not specifically mentioned in this objection. A response letter was sent to Haudenosaunee Development Institute on June 13, 2022 in reply to their correspondence. On June 15, 2022 the Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council indicated that they were interested in participating in the Stage 3 Archaeological Assessment.
- On March 17, Mississaugas of the Credit First Nation expressed interest in the project and requested to be involved with the planned Stage 3 Archaeological Assessment. On May 26, 2022 the Mississaugas of the Credit First Nation reconfirmed their interest in participating in the Stage 3 Archaeological Assessment. Due to timing constraints Mississaugas of the Credit First Nation was unable to send field monitors for the Stage 3 AA fieldwork.
- On June 13, 2022, Six Nations of the Grand River stated they had no comments regarding the Stage 1 AA report and indicated that they were interested in participating in the Stage 3 Archaeological Assessment. Due to timing constraints Six Nations of the Grand River was unable to send field monitors for the Stage 3 AA fieldwork.
- On July 13, 2022, Huron-Wendat Nation provided a letter stating that the Stage 1 AA provided was satisfactory and had no further comments. The Huron-Wendat Nation

expressed interest in participating in future archaeological fieldwork, and to be consulted at every stage of the Project.

Metrolinx made a commitment to Indigenous communities and Nations to include Indigenous monitors in all archaeological fieldwork being completed for the Heritage Road Layover project. Stage 3 Archaeological Assessment is proposed for July 2022 and Metrolinx will be working with Indigenous communities and Nations to ensure their participation or provide sufficient information to Indigenous communities and Nations to ensure meaningful engagement with Nations, if field monitors are unable to attend.

Cultural Heritage

Metrolinx has also made commitments to share cultural heritage reports with Indigenous communities and Nations for feedback in draft form. Metrolinx aims to incorporate comments and feedback from Indigenous communities and Nations into cultural heritage reports.

For the Heritage Road Layover project, Indigenous communities and Nations have been sent the following Cultural Heritage reports for review and comment:

- Draft Cultural Heritage Report for review - March 7, 2022

Feedback:

- The Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, in response to the draft Cultural Heritage Report, stated in email dated March 10, 2022 that until meaningful engagement has taken place, they object to all Metrolinx projects within Haudenosaunee territory. The Haudenosaunee Development Institute requested an extension of the stated deadline. It is noted that this email response did not specify the Heritage Road Layover project directly but should be considered as such. A response letter was sent to Haudenosaunee Development Institute on June 13, 2022 in reply to their correspondence.

Natural Environment

Metrolinx committed to ensuring opportunities for Indigenous communities and Nations to participate in natural environment field studies for the Heritage Road Layover project. The following Indigenous communities and Nations have indicated that they would like to be involved in monitoring for natural environment field studies and select environmentally sensitive construction activities such as, but not limited to, natural environment surveys, tree removals or in-water works:

- Haudenosaunee Confederacy Chiefs Council

- Huron-Wendat Nation
- Mississaugas of the Credit First Nation
- Six Nations of the Grand River

As Metrolinx continues to develop its Indigenous Relations Program, all Indigenous communities and Nations will be provided the opportunity to participate in any future natural environment studies or environmentally sensitive construction activities. Metrolinx is also committed to endeavoring to provide more advance notice to Indigenous communities and Nations in order to better facilitate a process of meaningful consultation and engagement.

In addition to engagement with Indigenous communities and Nations for participation of the natural environment field activities planned in the Spring 2022, Indigenous communities and Nations have been sent the following natural environmental technical studies for review and comment:

- Draft Natural Environment Report for review – April 5, 2022
- Invitation to participate in upcoming fieldwork for Natural Environment surveys including Confirmation Ecological Land Classification and Plant List Collection, Significant Wildlife Habitat and Species at Risk Habitat assessment, Tree Inventory and Fish and Fish Habitat assessments (see studies and fieldwork dates in Appendix I Table 1)- May 19 2022

Feedback:

- On May 26, 2022 the Mississaugas of the Credit First Nation replied to the Invitation to Participation in Summer 2022 Fieldwork noting that they would not be able to send fieldwork monitors to environmental works.
- On June 13, 2022 Six Nations of the Grand River indicated that they were interested in participating in the Natural Environment fieldwork.
- On June 15, 2022 the Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council indicated that they were interested in participating in the Phase II ESA, Fish and Fish Habitat Assessment, and Noise and Vibration Baseline Monitoring works.

Meetings

The IRO facilitated the following meetings to discuss the Heritage Road Layover Project:

- Huron-Wendat Nation – February 18, 2022, and March 22, 2022
- Mississaugas of the Credit First Nation – February 18, 2022, March 22, 2022, May 19, 2022
- Six Nations of the Grand River- January 14, 2022, April 19, 2022, May 30, 2022 and a workshop on July 22, 2022.

- Outside of the Heritage Road Layover Project, Metrolinx has been continuing to meet with the Haudenosaunee Confederacy Chiefs Council to further Metrolinx's relationship with the Nation.
    - Ongoing meetings between Metrolinx and representatives of the Haudenosaunee Confederacy Chiefs Council/Haudenosaunee Development Institute have been taking place since late July in order to facilitate their meaningful engagement moving forward.
    - Metrolinx recirculated the draft Environmental Project Report to the Haudenosaunee Confederacy Chiefs Council/Haudenosaunee Development Institute for review and comment on July 21, 2022.
    - Representatives of the Haudenosaunee Confederacy Chiefs Council/Haudenosaunee Development Institute attended environmental and archaeological fieldwork studies in July and August 2022 for the Heritage Road Layover Project.

Meeting minutes are not included as part of the record of consultation as these discussions are sensitive and confidential. The information shared within these meetings often comprises of traditional knowledge which is not to be disseminated with the broader public.

Formal Feedback

Indigenous community and/or Nation	**Formal Feedback**	**Metrolinx Response**
Haudenosaunee Confederacy Chiefs Council	The Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council has stated that until meaningful engagement has taken place, they object to all Metrolinx projects within Haudenosaunee territory. The Haudenosaunee Development. The Haudenosaunee Development Institute expressed interest in participating in archaeological and natural environment field studies.	Metrolinx continues to engage in conversations with Haudenosaunee Confederacy Chiefs Council regarding best practices for engagement, opportunities to provide capacity support and the Nation's concerns with regard to the level of consultation on Metrolinx projects. Metrolinx continues to welcome opportunities to meet with Haudenosaunee Confederacy Chiefs Council to discuss the Heritage Road Layover project; providing information, updates and technical reports. Metrolinx continues to invite Haudenosaunee Confederacy Chiefs

		Council to archaeological and natural environment field work and environmentally sensitive construction activities for the Heritage Road Layover project. Metrolinx met with the Haudenosaunee Development Institute on June 24, 2022 to discuss opportunities for monitoring. The Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, has sent monitors to observe the Stage 3 Archaeological Assessment and geotechnical/Phase II environmental site assessment groundwater sampling activities in July and August 2022.
Huron-Wendat Nation	Huron-Wendat Nation inquired about potential nesting birds, including barn swallows.	Metrolinx confirmed these species will be surveyed upon as part of the Natural Environment Wildlife surveys. Metrolinx extended an invitation for participation in the field studies on May 19, 2022. Huron-Wendat Nation sent a monitor to observe the Stage 3 archaeological assessment in August.

Mississaugas of the Credit First Nation	Mississaugas of the Credit First Nation expressed interest in participating in field studies, highlighting the tree survey and the Stage 3 archaeological assessment. Mississaugas of the Credit First Nation requested archaeological reports be issued separate to the natural environment reports.	Metrolinx extended an invitation for participation in the field studies on May 19, 2022. Metrolinx will issue future archaeological and natural environment reports separately.
Six Nations of Grand River	Six Nations of the Grand River expressed interest in the cultural heritage, archaeological, natural environment studies being undertaken as part of the TPAP, as well as the subsurface geotechnical studies which support design. Six Nations of the Grand River expressed concern over potential environmental impacts and requested incorporation of Indigenous worldviews in the TPAP methodology as much as possible. They also suggested incorporating the review of natural environment impacts through the lens of an entire ecosystem, instead of specific criterion outlined in regulations. Six Nations of the Grand River inquired about how the natural environment can be enhanced through this Project, and had requested that Metrolinx consider cumulative effects of the proposed development in relation to the	Metrolinx extended an invitation for participation in the field studies on May 19, 2022. Metrolinx held a workshop with representatives of Six Nations of the Grand River to discuss the details of the Heritage Road Layover project on July 22, 2022. The intention of the workshop was to summarize the following: • The proposed location and design of Heritage Road Layover; • The methodology and results of the environmental project report and associated technical studies that support the filing of the Transit Project Assessment Process; • Proposed mitigation strategies identified; and • Identify if there are potential project-related aspects or areas of concerns from Six Nations of the Grand River.

	surrounding area, and opportunities for enhancement/mitigation. Six Nations of the Grand River requested a more detailed meeting to discuss the specifics of the Project and technical studies.	During the workshop, Six Nations of the Grand River provided project-specific feedback, as well as concerns to broader Metrolinx processes. The project specific queries and concerns and responses can be found in the letter "RE: Responses to Outstanding Queries Relating to Heritage Road Layover Six Nations of the Grand River Workshop (July 22, 2022)" in Appendix I.

Additional Engagement:

In addition to the formal engagement outlined above, the IRO actively engaged with Indigenous communities and Nations via email and over the phone, receiving feedback and answering questions during non-project specific meetings.

Consultation with Indigenous communities and Nations is an ongoing process that must continue as planning progresses. Correspondence records with Indigenous communities and Nations are provided in **Appendix I-6** of this Report.

Table 1. Overview of planned field investigations for the Heritage Road Layover presented to Indigenous communities and Nations on May 19, 2022

Field Study	**Anticipated Start Date***	**End Date**	**Duration**
Natural Environment- Fish & Fish Habitat Assessment	July 4, 2022	--	1 day
Natural Environment- Confirmation Ecological Land Classification and Plant List Collection	June 9, 2022	June 10, 2022	2 days
Natural Environment- Significant Wildlife Habitat and SAR Habitat Assessment	June 9, 2022	June 10, 2022	2 days
Tree Inventory and Arborist	June 9, 2022	June 10, 2022	2 days

Stage 3 Archeological Assessment	July 25, 2022	August 12, 2022	11 days (scheduling 15 to account for weather)
Noise and Vibration- Baseline Monitoring	July 4, 2022	August 8, 2022	5 weeks (including weekends)
Phase II Environmental Site Assessment (ESA)	July 11, 2022	July 15, 2022	5 days

*Subject to Permission to Enter

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metrolinx.com

From:	Dara Corrigan
To:	Dara Corrigan
Subject:	FW: Heritage Road Layover Project - Introduction
Date:	June 30, 2022 10:37:54 AM
Attachments:	image001.png

From: Indigenous Relations
Sent: January-07-22 3:13 PM
To: [redacted]
Cc: Chamberlain, Adam <[redacted]>
Subject: Heritage Road Layover Project - Introduction

Dear Ms. Koerner Yeo and Ms. Esmonde,

As per our previous correspondence dated December 16, 2021, [redacted], we wanted to share with you the Project Introduction for the Heritage Layover Project.

Metrolinx is proposing to install the Heritage Road Layover within the City of Brampton. Attached is a letter that provides high level details on the project scope, background of previous environmental assessments and information on future studies including archaeological and natural environment work. In addition, the previous Environmental Project Reports (EPRs) can be found using the following Dropbox link, for your reference:

[redacted]

[redacted]

Please let me know if you have any further questions of if the Indigenous Relations Office can be of any further assistance,

Thank you

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

METROLINX

From: Jackie Esmonde <[redacted]>
Sent: January 7, 2022 4:46 PM
To: Indigenous Relations; Lara Koerner-Yeo
Cc: Chamberlain, Adam
Subject: RE: Heritage Road Layover Project - Introduction

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Dear Metrolinx Representative:

We are writing in response to your January 7, 2022 request for feedback from HCCC/HDI on a Metrolinx project.

HCCC/HDI has established rights within the Nanfan Treaty and Haldimand Treaty territories. An email attaching technical documents relating to development within that territory, and with a short timeframe for response, is not consistent with Haudenosaunee inherent Indigenous and treaty rights, including rights to free, prior and informed consent as well as Haudenosaunee rights to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

In the absence of an Engagement Framework, we refer you to HDI's established process for engagement:https://www.haudenosauneeconfederacy.com/departments/haudenosaunee-development-institute/development/

[redacted]

Until meaningful engagement has taken place, HCCC/HDI objects to the approval of any Metrolinx projects within Haudenosaunee territory with the placement of our monitors on those projects expressly not constituting consent, approval or any form of engagement/consultation. Your email did not identify any deadlines. Please note that if there are deadlines, extensions may to be needed for such engagement to occur.

Yours truly,

Jackie Esmonde
Cavalluzzo LLP
Pronouns: she/her
Jackie Esmonde
Cavalluzzo LLP
Pronouns: she/her

From: Indigenous Relations
Sent: January 7, 2022 3:13 PM
To: Lara Koerner-Yeo ; Jackie Esmonde

Cc: Chamberlain, Adam
Subject: Heritage Road Layover Project - Introduction
Dear Ms. Koerner Yeo and Ms. Esmonde,
As per our previous correspondence dated December 16, 2021, [redacted] we wanted to share with you the Project Introduction for the Heritage Layover Project.
Metrolinx is proposing to install the Heritage Road Layover within the City of Brampton. Attached is a letter that provides high level details on the project scope, background of previous environmental assessments and information on future studies including archaeological and natural environment work. In addition, the previous Environmental Project Reports (EPRs) can be found using the following Dropbox link, for your reference:
[redacted]

Please let me know if you have any further questions of if the Indigenous Relations Office can be of any further assistance,

Thank you

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715
METROLINX
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METROLINX

January 7, 2022

Ms. Tracey General, Office Manager
Haudenosaunee Confederacy Chiefs Council
[redacted]

Delivered by Email

Dear Ms. General,

RE: Project Introduction – Heritage Road Layover, Transit Project Assessment Process (TPAP)

Metrolinx wishes to build a strong and mutually respectful relationship with Haudenosaunee Confederacy Chiefs Council. Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Haudenosaunee Confederacy Chiefs Council. It is our wish to continue to work with your Nation as we move forward.

The purpose of this letter is to inform you that Metrolinx is proposing to install a new layover facility (the Heritage Road Layover, or the Project) within the City of Brampton to support these efforts. An overview of the scope of this project, the environmental assessment process, and opportunities for Haudenosaunee Confederacy Chiefs Council to participate is outlined below. Metrolinx values feedback regarding Haudenosaunee Confederacy Chiefs Council's interest in the project and approach to engagement.

Portions of this proposed project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted in 2006 and in 2016, as part of environmental due diligence which were not shared with Haudenosaunee Confederacy Chiefs Council for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office and Metrolinx, and we acknowledge that previous engagement may not have met the expectation of Haudenosaunee Confederacy Chiefs Council.

Metrolinx wishes to emphasize that it is committed to ensuring appropriate engagement occurs on this project as we move forward. With guidance from the IRO, and informed by ongoing discussion with Indigenous Nations, Metrolinx is changing its business practices

to ensure that meaningful engagement happens earlier and throughout the life cycle of our projects. To ensure that Haudenosaunee Confederacy Chiefs Council is informed of these past studies, copies of the reports are attached, and summarized below.

Project Overview

Metrolinx is proposing to expand its facilities along the Kitchener rail corridor, which runs from Union Station in the City of Toronto, to Kitchener Station in the City of Kitchener. The Heritage Road Layover is required to provide additional train storage capacity to achieve the proposed level of service (currently two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service to Georgetown GO Station). To support this proposed layover, Metrolinx is completing a Transit Project Assessment Process (TPAP) under *Ontario Regulation (O.Reg.) 231/08*, *Transit Project and Metrolinx Undertakings*.

Study Area

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (Figure 1). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The study area contains several watercourses which flow intermittently throughout the year and function as agricultural swales (Figure 2). Two of these watercourses (unnamed tributaries to the Credit River) cross the proposed Heritage Road Layover facility site, and an extension of two existing culverts crossing the Right Of Way is required. An access road south of the at-grade crossing at Winston Churchill Boulevard. The proposed access road to the layover facility will be located south of these properties, to avoid any impacts.



Figure 1. Project Location

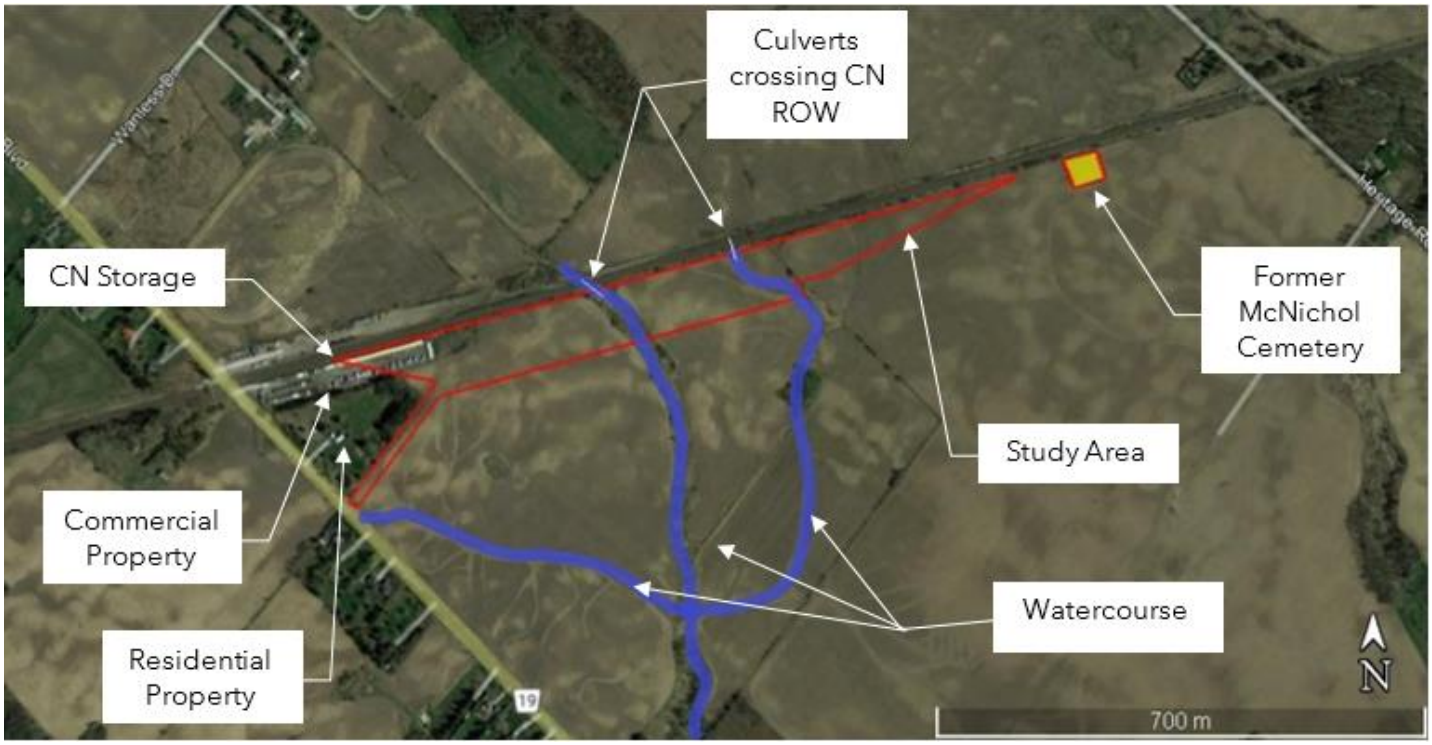

Figure 2. Existing site features

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Project Scope

Below we have outlined the scope of the project and included a list of environmental studies that are anticipated to take place. Metrolinx would like to understand any interest Haudenosaunee Confederacy Chiefs Council may have in participating.

New Layover Facility

- The layover facility will be designed with four (4) tracks with capacity to accommodate one (1), two (2) locomotive 12 car consists (2L12) or two (2), one (1) locomotive, six (6) car consists on each track. Each track will have manual switches and hot air switch blowers, blue flags and derail track protection.
- Four (4) buildings will also be constructed at the facility to support layover functions (staff, electrical, sanitary, storage).

New Service Roadway

No modifications are proposed to existing roads, however a service roadway will be constructed for access to Heritage Road Layover. The service roadway will branch from Winston Churchill Boulevard.

Culvert Modifications

Two culverts run through the proposed Heritage Road Layover footprint. To maintain existing stormwater flows, modifications of the culverts are proposed. Details of the modifications will be further clarified in later stages of the design, following the stormwater management studies.

Anticipated Technical Studies, including Field Surveys and Studies

The following list of studies are anticipated to be completed to support the Heritage Road Layover. Approximate timing of the work and high-level overview of the activities are outlined below, however field studies are subject to change based on several factors, including access permissions and weather:

Technical Studies- Desktop Only

- Air Quality Baseline Conditions and Impact Assessment (April 2022)
    - Modelling operations and construction emissions and determining mitigation strategies.
- Archeological Assessment (AA) Stage 1 (April 2022)

    - Summarizing all the relevant archaeological work that has previously been completed in the vicinity of the archaeology study area and confirming archaeological potential of the site.
- Socio-Economic and Land Use Study (March 2022)
    - Summarizing the existing socio-economic and land use conditions, completing an assessment of socio-economic and land use effects as a result of the proposed works, and outlining possible mitigation measures to be employed during construction and operation phases of the project.
- Transportation and Traffic Impact Analysis (TBD)
    - Summarizing potential traffic effects related to construction and operational activities and identifying potential mitigation strategies.

Technical Studies- Desktop and Fieldwork

- Cultural Heritage Report (Winter 2021/ Spring 2022)
    - Identifying the presence of known and potential built heritage resources and cultural landscapes within, and adjacent to, the study area.
- Limited Phase I Environmental Site Assessment Report (Winter 2021/ Spring 2022)
    - Identifying actual and/or potentially contaminating activities along the track alignment/corridor, proposed associated infrastructure and within the study area.
- Natural Environment (Spring 2022)
    - Establishing existing conditions related to vegetation, wildlife, and fish within the project study area, and assessing the potential impacts to the natural environment with recommended avoidance, mitigation, monitoring and/or compensation measures.
- Noise and Vibration Impact Assessment (Spring 2022)
    - Determining the noise and vibration impacts generated as part of the construction and operation of the Heritage Road Layover facility and developing a mitigation strategy for any identified issues.
- Tree Inventory Plan (Spring 2022)
    - Documenting trees within the study area, identifying type and sizing.

Metrolinx would value the involvement of Haudenosaunee Confederacy Chiefs Council in any of the above studies. Should your Nation wish to participate, please let us know at your earliest convenience. The earlier we understand any expressed interest in participation, the easier it can be to accommodate. We welcome any requests for a meeting to discuss opportunities to participate or to explore this project in more detail with Haudenosaunee Confederacy Chiefs Council.

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Archaeology

Previous Archaeological Assessments:

The Heritage Road Layover project lands, and adjacent lands, have been the subject of previous Stage 1, Stage 2 and Stage 3 Archaeological Assessments (AA) as part of preliminary due diligence studies in 2006 and 2016. These assessments were submitted to the Ministry of Heritage, Sport, Tourism and Cultural Industries (MHSTCI). We regret that an opportunity to review and participate in these Archaeological Assessments was not provided. We will make every effort to ensure opportunities to review and participate in future archaeology occur. We have attached these reports for your information and review, which are summarized below. Any comments made on these reports will be included in the project file.

Studies relating to Heritage Road Layover Study Area:

In 2006, a high-level Stage 1 AA was completed for the rail corridor to evaluate proposed expansion of the Georgetown (now Kitchener) rail corridor, and included the Heritage Road Layover project lands. As tertiary streams that cross the rail line at two locations between Winston Churchill Boulevard and Heritage Road were found, the potential for archaeological sites in the area were identified.

A Stage 1 and 2 AA was completed for the general proximity to the Heritage Road Layover footprint in 2016; one of the Euro-Canadian archeological sites was located within the current Heritage Road Layover study area (H1, AjGx-267, Figure 3) and one site was located approximately 100m South of the current Heritage Road Layover study area (H2, AjGx-268, Figure 3).

These Stage 1 and 2 AA studies identified two Euro-Canadian archaeological sites (H1, AjGx-267 and H2, AjGx-268, as identified in Figure 3). Based on the presence of these two archaeological sites within, or in close proximity to, the project footprint, a Stage 3 AA (site-specific assessment) was recommended. As discussed below, the Stage 3 AA is planned to occur. Metrolinx will ensure an opportunity to participate is extended to Haudenosaunee Confederacy Chiefs Council.

Studies of properties adjacent to the Heritage Road Layover Study Area completed by Others:

The former McNichol's Cemetery, located east of the Heritage Road Layover's archeological study area, has undergone Stage 1, Stage 2 and Stage 3 AAs as part of a proposed redevelopment project by a third party developer at 10510 Heritage Road (not

part of the Heritage Road Layover project or Kitchener rail corridor expansion investigation activities). In the Stage 3 AA, completed within 20 m of the known coordinates of the former McNichol's cemetery, five grave sites were identified. Four of these grave sites contained human remains that were consistent with the information provided by the Ministry of Consumer Services, Cemeteries Regulation Unit, which documented the remains of the McNichol family.

The Stage 3 AA for the adjacent 10510 Heritage Road property recommended that the site be registered as an official cemetery by the Bereavement Authority of Ontario (BAO). The cemetery is under consideration for designation under Part IV of the *Ontario Heritage Act* by the City of Brampton. It is worth noting that long-term protection of the cemetery was recommended, such that no soil disturbing activity could take place within the cemetery limits.

Proposed Archeological Assessments:

As previous archeological studies have covered portions of the Heritage Road Layover study area, a new project-specific Stage 1 AA is proposed, to perform a gap analysis on the previous archeological assessments, summarize and compile the existing archaeological information and recommendations for lands within and adjacent to the archaeology study area, and confirm the outstanding archeological concerns. Metrolinx will ensure that Haudenosaunee Confederacy Chiefs Council has an opportunity to review and provide comments on the Stage 1 AA prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).

Following completion of the Stage 1 AA, a Stage 3 AA is planned. Metrolinx will ensure that Haudenosaunee Confederacy Chiefs Council will be invited to participate in any Stage 3 field activities or any supplemental field activities identified from the site-specific Stage 1 AA, and will keep Haudenosaunee Confederacy Chiefs Council apprised of the status of archaeological work and schedule as environmental assessments continue to be completed.

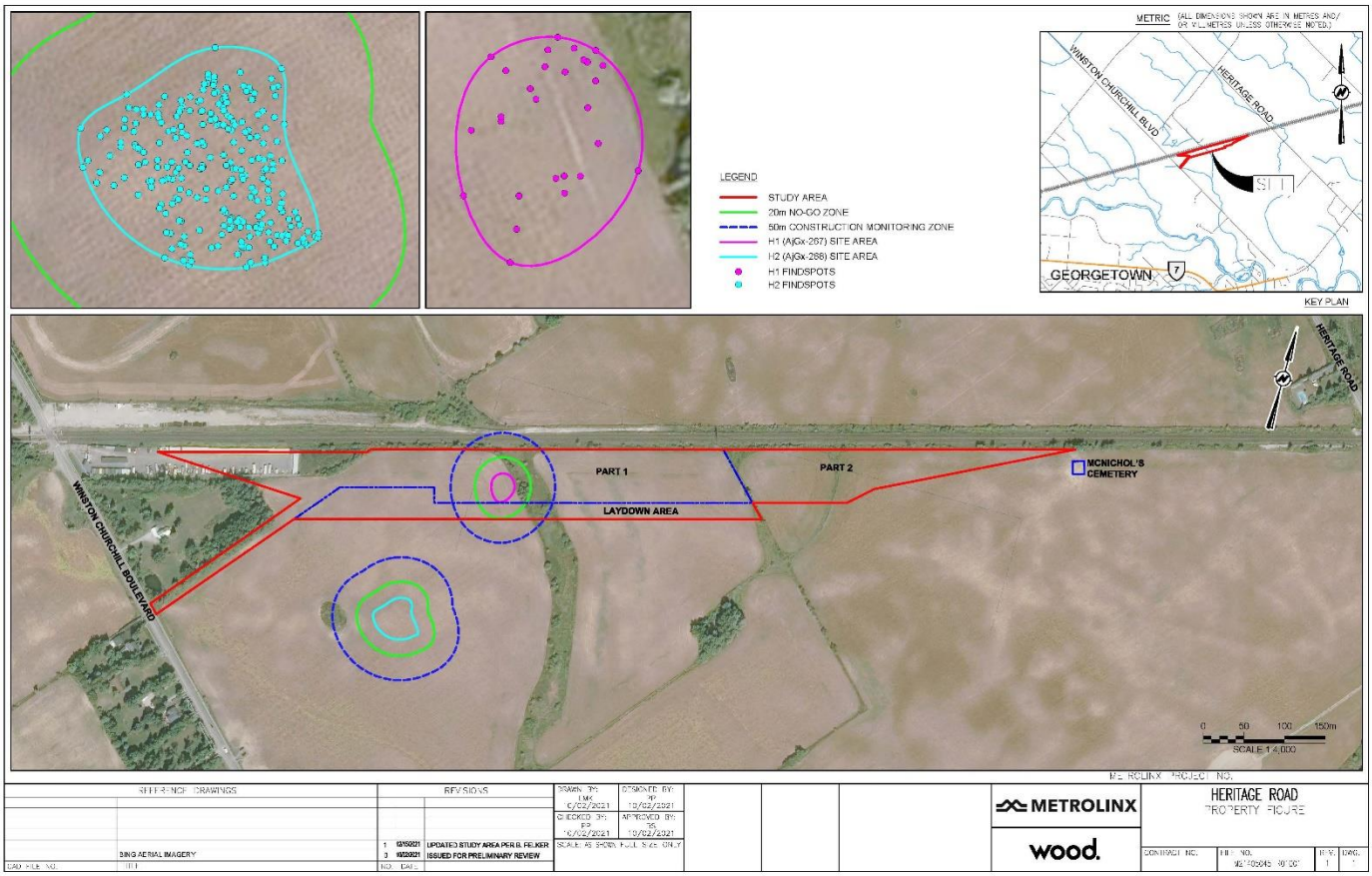

Figure 3. Stage 1 Archeological Study Area

Additional Information

For your awareness, a virtual Public Information Centre will be hosted online on January 12, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to members of Haudenosaunee Confederacy Chiefs Council to participate in the fourth Public Information Centre, however, we acknowledge that this is not meant to replace engagement directly with Haudenosaunee Confederacy Chiefs Council.

For additional information regarding this project, including public meeting related materials, please visit:

https://www.metrolinx.com/en/greaterregion/projects/kitchener-go-expansion.aspx

METROLINX

Invitation for Feedback & Engagement

Metrolinx would appreciate understanding any interest Haudenosaunee Confederacy Chiefs Council may have in the Heritage Road Layover project. As outlined above, we value the participation of Haudenosaunee Confederacy Chiefs Council in any environmental or archaeological studies, and are happy to discuss these opportunities in more detail. Please let us know of any interest as soon as possible. In order to ensure that we can coordinate, we would appreciate that interest be expressed by **February 18, 2022**.

[redacted] If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com.

Metrolinx is committed to building a long-term relationship with Haudenosaunee Confederacy Chiefs Council, and we recognize that this requires transparency and meaningful engagement. We appreciate that we still have much work to do in this regard and we hope to move forward in a good way.

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,



David Ayotte
Director, Indigenous Relations
Metrolinx

cc: Todd Williams, Haudenosaunee Development Institute
Indigenous Relations Office, Metrolinx
Simon Strauss Manager, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx

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Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl:

<u>*Studies relating to Heritage Road Layover Study Area:*</u>

Stage 1 Archaeological Assessment. GO Transit Georgetown North Corridor Rail Expansion Environmental Assessment, prepared by Archaeological Services Inc., dated September 2005 (revised December 2005)

Stage 1 Archaeological Assessment for the The Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario (Revised Report), prepared by Archeoworks Inc., dated June 20, 2017

Stage 2 Archaeological Assessment for the The Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario (Original Report) prepared by Archeoworks Inc., dated December 7, 2017

<u>*Studies of properties adjacent to the Heritage Road Layover Study Area*</u>

Stage 1 Archaeological Assessment (AA): 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS In the former Geographic Township of Chinguacousy South Historical County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated January 24, 2014

Stage 2 Archaeological Assessment of 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS Geographic Township of Chinguacousy South Historical County of Peel Now the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated March 4, 2014

Stage 3 Cemetery Investigation Report for the McNichol's Cemetery as part of the Proposed Development of 10510 Heritage Road Within Lot 14, Concession 6 WHS

Geographic Township of Chinguacousy South Former County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Revised Report), prepared by Archeoworks Inc., dated September 13, 2017

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From:	Indigenous Relations
To:	Lori-Jeanne Bolduc; Dominic Ste-Marie
Cc:	[redacted]; Simon Strauss; Clara Chan; Brian Poole; Dara Corrigan
Subject:	Heritage Road Layover Project - Introduction
Date:	January 7, 2022 3:45:16 PM
Attachments:	Heritage Layover Project Introduction_HWN.pdf image001.png

Dear Lori-Jeanne and Dominic,

Metrolinx is proposing to install the Heritage Road Layover within the City of Brampton. Attached is a letter that provides high level details on the project scope, background of previous environmental assessments and information on future studies including archaeological and natural environment work. This letter is not intended to replace engagement but to provide a high level summary for your information.

In addition, the previous Environmental Project Reports (EPRs) can be found using the following Dropbox link, for your reference:

[redacted]

Metrolinx would appreciate knowing about any interest your Nation may have in the Project moving forward. We kindly ask that you reach out to us in writing by February 18, 2021.

Metrolinx remains committed to meaningful consultation and engagement with the Huron-Wendat Nation. We value our relationship and have learned much about your Nation and its expectations over the past several months. It is our wish to continue to work with your Nation as we move forward.

If you have any questions or concerns, please feel free to reach out to me at any time. Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

METROLINX

January 7, 2022

Grand Chief Rémy Vincent
Huron-Wendat Nation
[redacted]
Delivered by email

Dear Grand Chief Vincent,

RE: Project Introduction – Heritage Road Layover, Transit Project Assessment Process (TPAP)

Metrolinx wishes to build a strong and mutually respectful relationship with Huron-Wendat Nation. Metrolinx remains committed to meaningful consultation and engagement. Metrolinx values its relationship with Huron-Wendat Nation and has learned much about your Nation and its expectations over the past several months. It is our wish to continue to work with your Nation as we move forward.

The purpose of this letter is to inform you that Metrolinx is proposing to install a new layover facility (the Heritage Road Layover, or the Project) within the City of Brampton to support these efforts. An overview of the scope of this project, the environmental assessment process, and opportunities for Huron-Wendat Nation to participate is outlined below. Metrolinx values feedback regarding Huron-Wendat Nation's interest in the project and approach to engagement.

Portions of this proposed project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted in 2006 and in 2016, as part of environmental due diligence which were not shared with Huron-Wendat Nation for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office and Metrolinx, and we acknowledge that previous engagement may not have met the expectation of Huron-Wendat Nation.

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our projects. To ensure that Huron-Wendat Nation is informed of these past studies, copies of the reports are attached, and summarized below.

Project Overview

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The study area contains several watercourses which flow intermittently throughout the year and function as agricultural swales (Figure 2). Two of these watercourses (unnamed tributaries to the Credit River) cross the proposed Heritage Road Layover facility site, and an extension of two existing culverts crossing the Right Of Way is required. An access road south of the at-grade crossing at Winston Churchill Boulevard. The proposed access road to the layover facility will be located south of these properties, to avoid any impacts.



Figure 1. Project Location

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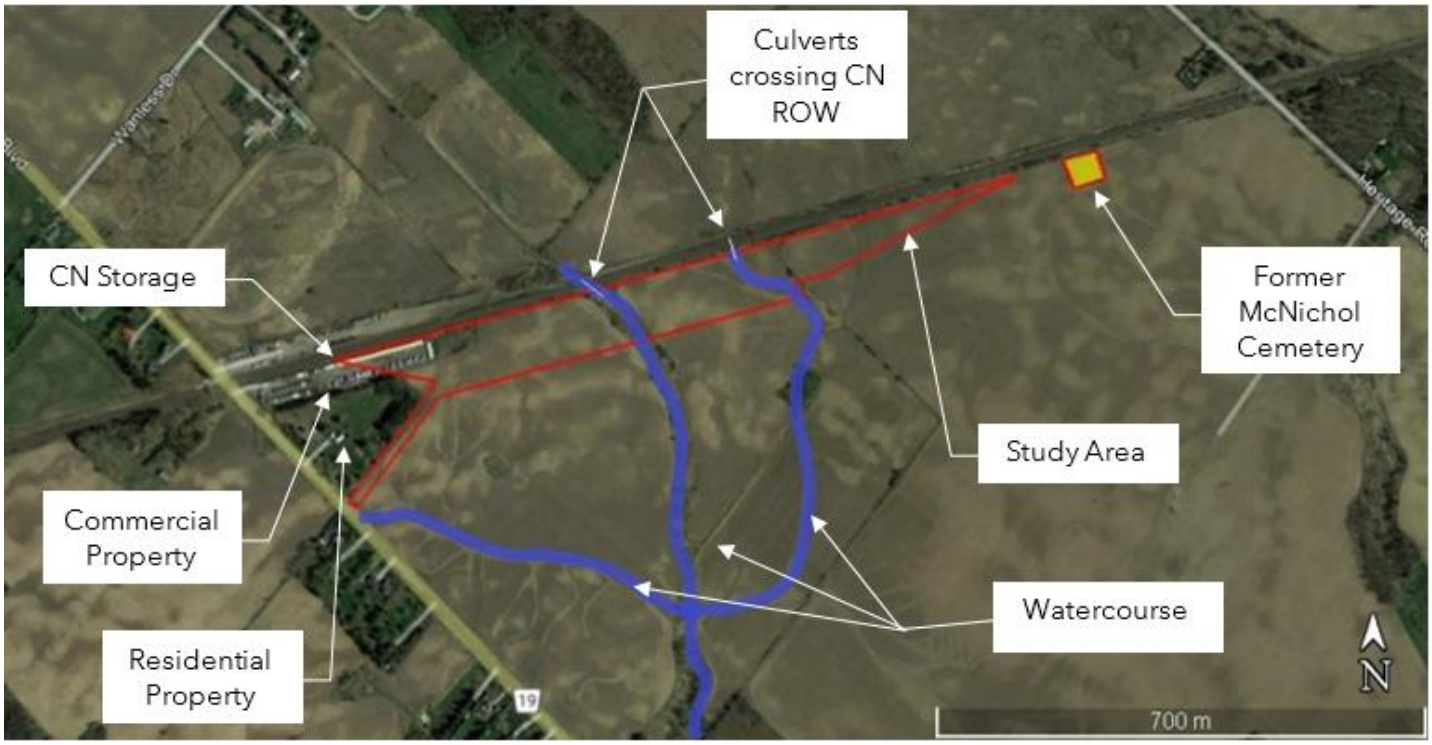

Figure 2. Existing site features

Project Scope

Below we have outlined the scope of the project and included a list of environmental studies that are anticipated to take place. Metrolinx would like to understand any interest Huron-Wendat Nation may have in participating.

<u>New Layover Facility</u>

- The layover facility will be designed with four (4) tracks with capacity to accommodate one (1), two (2) locomotive 12 car consists (2L12) or two (2), one (1) locomotive, six (6) car consists on each track. Each track will have manual switches and hot air switch blowers, blue flags and derail track protection.
- Four (4) buildings will also be constructed at the facility to support layover functions (staff, electrical, sanitary, storage).

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No modifications are proposed to existing roads, however a service roadway will be constructed for access to Heritage Road Layover. The service roadway will branch from Winston Churchill Boulevard.

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Two culverts run through the proposed Heritage Road Layover footprint. To maintain existing stormwater flows, modifications of the culverts are proposed. Details of the modifications will be further clarified in later stages of the design, following the stormwater management studies.

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The following list of studies are anticipated to be completed to support the Heritage Road Layover. Approximate timing of the work and high-level overview of the activities are outlined below, however field studies are subject to change based on several factors, including access permissions and weather:

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Technical Studies- Desktop and Fieldwork

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    - Identifying the presence of known and potential built heritage resources and cultural landscapes within, and adjacent to, the study area.
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    - Establishing existing conditions related to vegetation, wildlife, and fish within the project study area, and assessing the potential impacts to the natural environment with recommended avoidance, mitigation, monitoring and/or compensation measures.
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Metrolinx would value the involvement of Huron-Wendat Nation in any of the above studies. Should your Nation wish to participate, please let us know at your earliest convenience. The earlier we understand any expressed interest in participation, the easier it can be to accommodate. We welcome any requests for a meeting to discuss opportunities to participate or to explore this project in more detail with Huron-Wendat Nation.

Archaeology

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review, which are summarized below. Any comments made on these reports will be included in the project file.

Studies relating to Heritage Road Layover Study Area:

In 2006, a high-level Stage 1 AA was completed for the rail corridor to evaluate proposed expansion of the Georgetown (now Kitchener) rail corridor, and included the Heritage Road Layover project lands. As tertiary streams that cross the rail line at two locations between Winston Churchill Boulevard and Heritage Road were found, the potential for archaeological sites in the area were identified.

A Stage 1 and 2 AA was completed for the general proximity to the Heritage Road Layover footprint in 2016; one of the Euro-Canadian archeological sites was located within the current Heritage Road Layover study area (H1, AjGx-267, Figure 3) and one site was located approximately 100m South of the current Heritage Road Layover study area (H2, AjGx-268, Figure 3).

These Stage 1 and 2 AA studies identified two Euro-Canadian archaeological sites (H1, AjGx-267 and H2, AjGx-268, as identified in Figure 3). Based on the presence of these two archaeological sites within, or in close proximity to, the project footprint, a Stage 3 AA (site-specific assessment) was recommended. As discussed below, the Stage 3 AA is planned to occur. Metrolinx will ensure an opportunity to participate is extended to Huron-Wendat Nation.

Studies of properties adjacent to the Heritage Road Layover Study Area completed by Others:

The former McNichol's Cemetery, located east of the Heritage Road Layover's archeological study area, has undergone Stage 1, Stage 2 and Stage 3 AAs as part of a proposed redevelopment project by a third party developer at 10510 Heritage Road (not part of the Heritage Road Layover project or Kitchener rail corridor expansion investigation activities). In the Stage 3 AA, completed within 20 m of the known coordinates of the former McNichol's cemetery, five grave sites were identified. Four of these grave sites contained human remains that were consistent with the information provided by the Ministry of Consumer Services, Cemeteries Regulation Unit, which documented the remains of the McNichol family.

The Stage 3 AA for the adjacent 10510 Heritage Road property recommended that the site be registered as an official cemetery by the Bereavement Authority of Ontario (BAO). The cemetery is under consideration for designation under Part IV of the *Ontario Heritage Act* by the City of Brampton. It is worth noting that long-term protection of the cemetery

was recommended, such that no soil disturbing activity could take place within the cemetery limits.

Proposed Archeological Assessments:

As previous archeological studies have covered portions of the Heritage Road Layover study area, a new project-specific Stage 1 AA is proposed, to perform a gap analysis on the previous archeological assessments, summarize and compile the existing archaeological information and recommendations for lands within and adjacent to the archaeology study area, and confirm the outstanding archeological concerns. Metrolinx will ensure that Huron-Wendat Nation has an opportunity to review and provide comments on the Stage 1 AA prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).

Following completion of the Stage 1 AA, a Stage 3 AA is planned. Metrolinx will ensure that Huron-Wendat Nation will be invited to participate in any Stage 3 field activities or any supplemental field activities identified from the site-specific Stage 1 AA, and will keep Huron-Wendat Nation apprised of the status of archaeological work and schedule as environmental assessments continue to be completed.

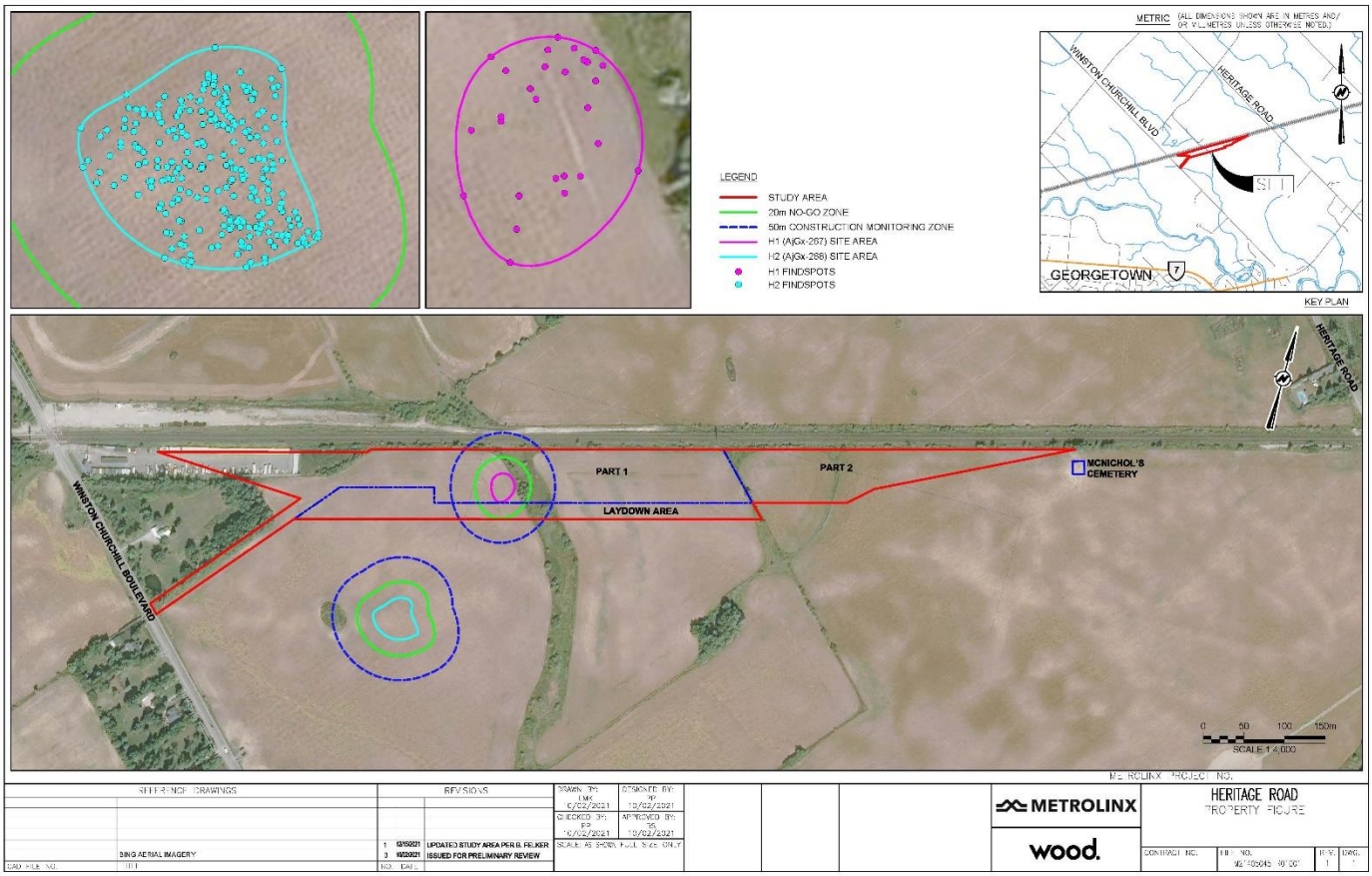

Figure 3. Stage 1 Archeological Study Area

Additional Information

For your awareness, a virtual Public Information Centre will be hosted online on January 12, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to members of Huron-Wendat Nation to participate in the fourth Public Information Centre, however, we acknowledge that this is not meant to replace engagement directly with Huron-Wendat Nation.

For additional information regarding this project, including public meeting related materials, please visit:

https://www.metrolinx.com/en/greaterregion/projects/kitchener-go-expansion.aspx

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Invitation for Feedback & Engagement

Metrolinx would appreciate understanding any interest Huron-Wendat Nation may have in the Heritage Road Layover project. As outlined above, we value the participation of Huron-Wendat Nation in any environmental or archaeological studies, and are happy to discuss these opportunities in more detail. Please let us know of any interest as soon as possible. In order to ensure that we can coordinate, we would appreciate that interest be expressed by **February 18, 2022**.

[redacted] If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com.

Metrolinx is committed to building a long-term relationship with Huron-Wendat Nation, and we recognize that this requires transparency and meaningful engagement. We appreciate that we still have much work to do in this regard and we hope to move forward in a good way.

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,

David Ayotte
Director, Indigenous Relations
Metrolinx

cc: Lori-Jeanne Bolduc, Huron-Wendat Nation
Dominic Ste-Marie, Huron-Wendat Nation
Mario Gros-Louis, Huron-Wendat Nation

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Indigenous Relations Office, Metrolinx
Simon Strauss Manager, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl:

<u>*Studies relating to Heritage Road Layover Study Area:*</u>

Stage 1 Archaeological Assessment. GO Transit Georgetown North Corridor Rail Expansion Environmental Assessment, prepared by Archaeological Services Inc., dated September 2005 (revised December 2005)

Stage 1 Archaeological Assessment for the The Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario (Revised Report), prepared by Archeoworks Inc., dated June 20, 2017

Stage 2 Archaeological Assessment for the The Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario (Original Report) prepared by Archeoworks Inc., dated December 7, 2017

<u>*Studies of properties adjacent to the Heritage Road Layover Study Area*</u>

Stage 1 Archaeological Assessment (AA): 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS In the former Geographic Township of Chinguacousy South Historical County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated January 24, 2014

Stage 2 Archaeological Assessment of 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS Geographic Township of Chinguacousy South

Historical County of Peel Now the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated March 4, 2014

Stage 3 Cemetery Investigation Report for the McNichol's Cemetery as part of the Proposed Development of 10510 Heritage Road Within Lot 14, Concession 6 WHS Geographic Township of Chinguacousy South Former County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Revised Report), prepared by Archeoworks Inc., dated September 13, 2017

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From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: January 7, 2022 3:45 PM
To: Adam LaForme [redacted]>
Cc: Adrian Blake [redacted]; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>
Subject: Heritage Road Layover Project - Introduction

Dear Adam and Team,

Metrolinx is proposing to install the Heritage Road Layover within the City of Brampton. Attached is a letter that provides high level details on the project scope, background of previous environmental assessments and information on future studies including archaeological and natural environment work. This letter is not intended to replace engagement but to provide a high level summary for your information.

In addition, the previous Environmental Project Reports (EPRs) can be found using the following Dropbox link, for your reference:

[redacted]

Metrolinx would appreciate knowing about any interest your Nation may have in the Project moving forward. We kindly ask that you reach out to us in writing by February 18, 2021.

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of

your Nation. Metrolinx values its relationship with Mississaugas of the Credit First Nation and has learned much about your Nation and its expectations over the past several months. It is our wish to continue to work with your Nation as we move forward.

If you have any questions or concerns, please feel free to reach out to me at any time. Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

METROLINX

January 7, 2022

Adam LaForme
Mississaugas of the Credit First Nation
[redacted]
[redacted]

Delivered by email

Dear Mr. LaForme,

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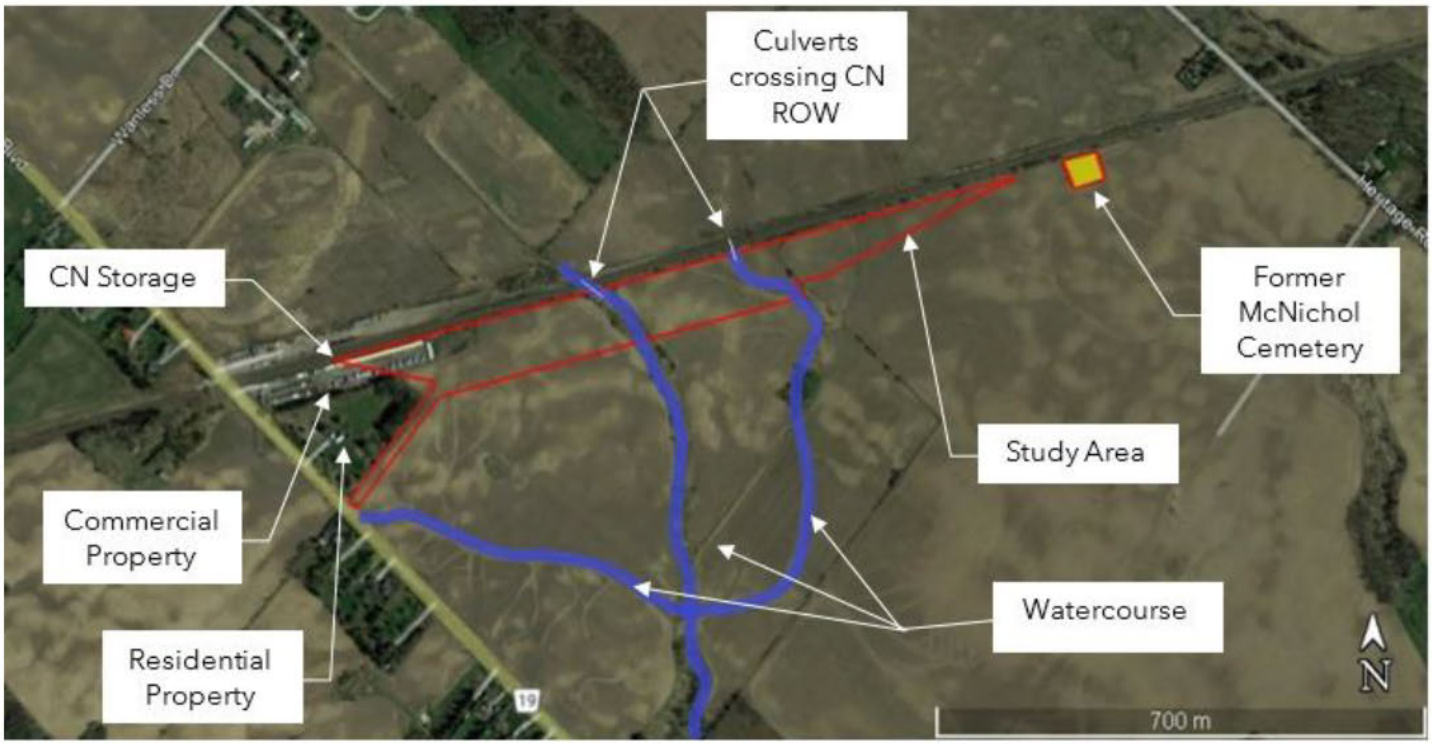

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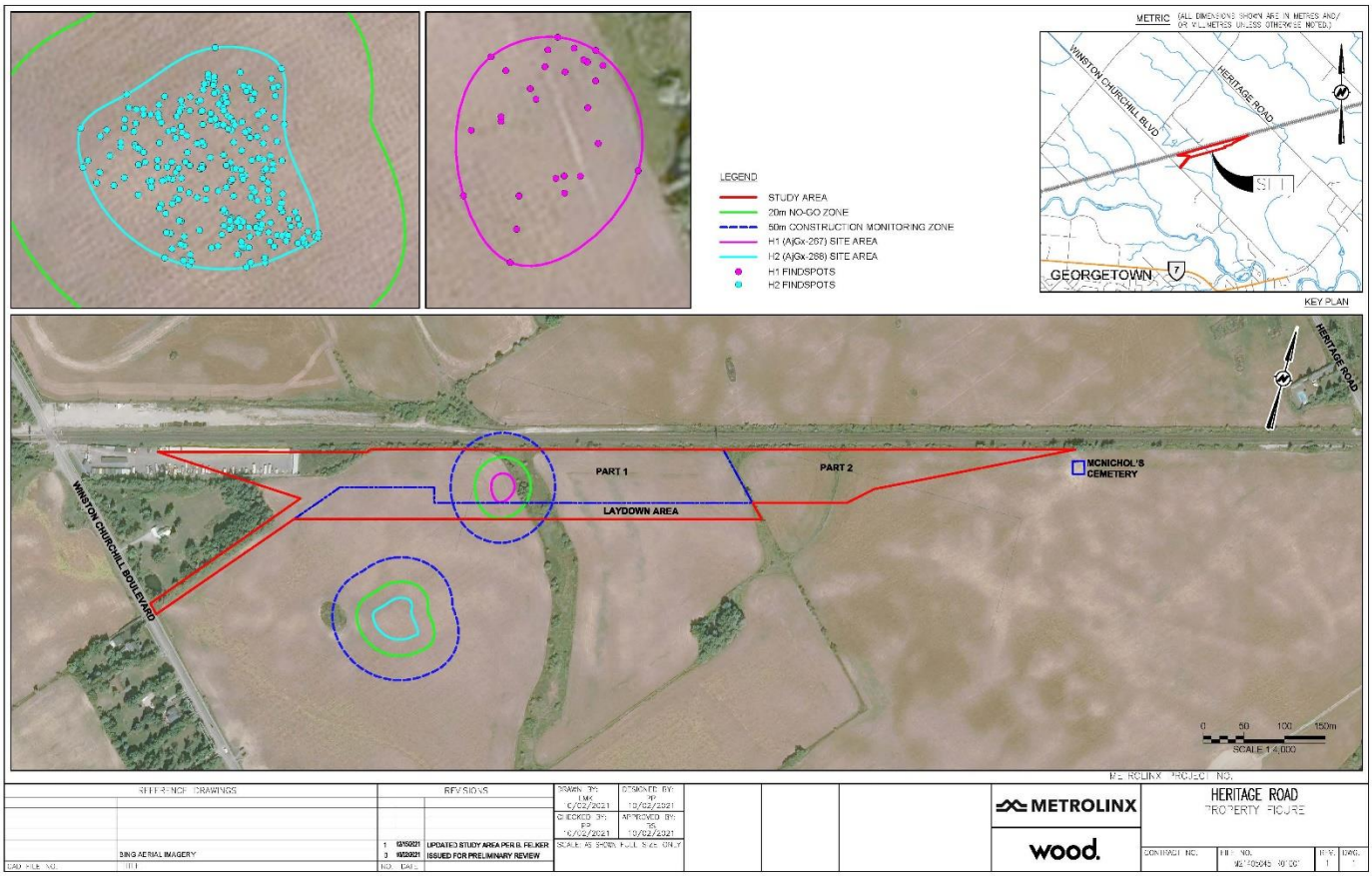

Figure 3. Stage 1 Archeological Study Area

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Yours Truly,



David Ayotte
Director, Indigenous Relations
Metrolinx

cc: Mark LaForme, Director, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Adrian Blake, Field Archaeologist, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation

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Indigenous Relations Office, Metrolinx
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<u>*Studies relating to Heritage Road Layover Study Area:*</u>

Stage 1 Archaeological Assessment. GO Transit Georgetown North Corridor Rail Expansion Environmental Assessment, prepared by Archaeological Services Inc., dated September 2005 (revised December 2005)

Stage 1 Archaeological Assessment for the The Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario (Revised Report), prepared by Archeoworks Inc., dated June 20, 2017

Stage 2 Archaeological Assessment for the The Heritage Road Layover Facility Within Part of Lots 13 to 15, Concession 6 WHS Geographic Township of Chinguacousy (South) and Lots 14 and 15, Concession 11 Geographic Township of Esquesing Former Counties of Peel and Halton City of Brampton and Town of Halton Hills Regional Municipalities of Peel and Halton Ontario (Original Report) prepared by Archeoworks Inc., dated December 7, 2017

<u>*Studies of properties adjacent to the Heritage Road Layover Study Area*</u>

Stage 1 Archaeological Assessment (AA): 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS In the former Geographic Township of Chinguacousy South Historical County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated January 24, 2014

Stage 2 Archaeological Assessment of 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS Geographic Township of Chinguacousy South Historical County of Peel Now the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated March 4, 2014

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Stage 3 Cemetery Investigation Report for the McNichol's Cemetery as part of the Proposed Development of 10510 Heritage Road Within Lot 14, Concession 6 WHS Geographic Township of Chinguacousy South Former County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Revised Report), prepared by Archeoworks Inc., dated September 13, 2017

10 Bay Street
Toronto, ON M5J 2N8

416.202.4967
metrolinx.com

From:	Indigenous Relations
To:	[redacted]
Cc:	Simon Strauss; Clara Chan; Brian Poole; Dara Corrigan; Mark B. Hill; Dawn LaForme; Tanya Hill-Montour; Robin Vanstone; Dawn Russell
Subject:	Heritage Road Layover Project - Introduction
Date:	January 7, 2022 3:45:33 PM
Attachments:	Heritage Layover Project Introduction_SNGR.pdf image002.png

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Dear Lonny and Team,

Metrolinx is proposing to install the Heritage Road Layover within the City of Brampton. Attached is a letter that provides high level details on the project scope, background of previous environmental assessments and information on future studies including archaeological and natural environment work. This letter is not intended to replace engagement but to provide a high level summary for your information.

In addition, the previous Environmental Project Reports (EPRs) can be found using the following Dropbox link, for your reference:

[redacted]

Metrolinx would appreciate knowing about any interest your Nation may have in the Project moving forward. We kindly ask that you reach out to us in writing by February 18, 2021.

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of your Nation. Metrolinx values its relationship with Six Nations of the Grand River and has learned much about your Nation and its expectations over the past several months. It is our wish to continue to work with your Nation as we move forward.

If you have any questions or concerns, please feel free to reach out to me at any time. Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

METROLINX

January 7, 2022

Chief Mark Hill
c/o Lonny Bomberry, Director, Lands & Resources
Six Nations of the Grand River
[redacted]
[redacted]
Delivered by Email

Dear Mr. Bomberry,

RE: Project Introduction – Heritage Road Layover, Transit Project Assessment Process (TPAP)

Metrolinx wishes to build a strong and mutually respectful relationship with Six Nations of the Grand River. Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Six Nations of the Grand River. Metrolinx values its relationship with the Six Nations of the Grand River and has learned much about your Nation and its expectations over the past several months. It is our wish to continue to work with your Nation as we move forward.

The purpose of this letter is to inform you that Metrolinx is proposing to install a new layover facility (the Heritage Road Layover, or the Project) within the City of Brampton to support these efforts. An overview of the scope of this project, the environmental assessment process, and opportunities for Six Nations of the Grand River to participate is outlined below. Metrolinx values feedback regarding Six Nations of the Grand River's interest in the project and approach to engagement.

Portions of this proposed project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted in 2006 and in 2016, as part of environmental due diligence which were not shared with Six Nations of the Grand River for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office and Metrolinx, and we acknowledge that previous engagement may not have met the expectation of Six Nations of the Grand River.

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Metrolinx wishes to emphasize that it is committed to ensuring appropriate engagement occurs on this project as we move forward. With guidance from the IRO, and informed by ongoing discussion with Indigenous Nations, Metrolinx is changing its business practices to ensure that meaningful engagement happens earlier and throughout the life cycle of our projects. To ensure that Six Nations of the Grand River is informed of these past studies, copies of the reports are attached, and summarized below.

Project Overview

Metrolinx is proposing to expand its facilities along the Kitchener rail corridor, which runs from Union Station in the City of Toronto, to Kitchener Station in the City of Kitchener. The Heritage Road Layover is required to provide additional train storage capacity to achieve the proposed level of service (currently two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service to Georgetown GO Station). To support this proposed layover, Metrolinx is completing a Transit Project Assessment Process (TPAP) under *Ontario Regulation (O.Reg.) 231/08*, *Transit Project and Metrolinx Undertakings*.

Study Area

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (Figure 1). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The study area contains several watercourses which flow intermittently throughout the year and function as agricultural swales (Figure 2). Two of these watercourses (unnamed tributaries to the Credit River) cross the proposed Heritage Road Layover facility site, and an extension of two existing culverts crossing the Right Of Way is required. An access road south of the at-grade crossing at Winston Churchill Boulevard. The proposed access road to the layover facility will be located south of these properties, to avoid any impacts.

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Figure 1. Project Location

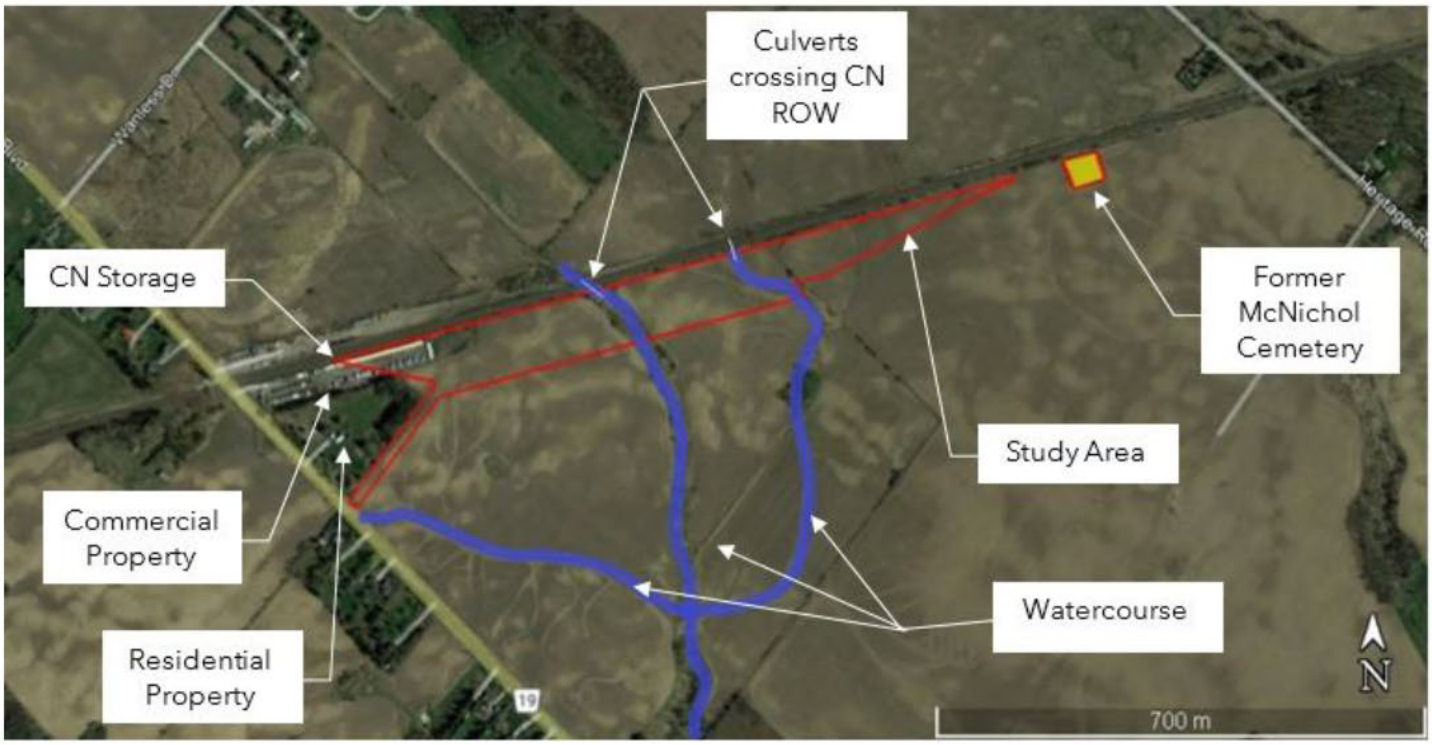

Figure 2. Existing site features

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Project Scope

Below we have outlined the scope of the project and included a list of environmental studies that are anticipated to take place. Metrolinx would like to understand any interest Six Nations of the Grand River may have in participating.

New Layover Facility

- The layover facility will be designed with four (4) tracks with capacity to accommodate one (1), two (2) locomotive 12 car consists (2L12) or two (2), one (1) locomotive, six (6) car consists on each track. Each track will have manual switches and hot air switch blowers, blue flags and derail track protection.
- Four (4) buildings will also be constructed at the facility to support layover functions (staff, electrical, sanitary, storage).

New Service Roadway

No modifications are proposed to existing roads, however a service roadway will be constructed for access to Heritage Road Layover. The service roadway will branch from Winston Churchill Boulevard.

Culvert Modifications

Two culverts run through the proposed Heritage Road Layover footprint. To maintain existing stormwater flows, modifications of the culverts are proposed. Details of the modifications will be further clarified in later stages of the design, following the stormwater management studies.

Anticipated Technical Studies, including Field Surveys and Studies

The following list of studies are anticipated to be completed to support the Heritage Road Layover. Approximate timing of the work and high-level overview of the activities are outlined below, however field studies are subject to change based on several factors, including access permissions and weather:

Technical Studies- Desktop Only

- Air Quality Baseline Conditions and Impact Assessment (April 2022)
    - Modelling operations and construction emissions and determining mitigation strategies.
- Archeological Assessment (AA) Stage 1 (April 2022)

    - Summarizing all the relevant archaeological work that has previously been completed in the vicinity of the archaeology study area and confirming archaeological potential of the site.
- Socio-Economic and Land Use Study (March 2022)
    - Summarizing the existing socio-economic and land use conditions, completing an assessment of socio-economic and land use effects as a result of the proposed works, and outlining possible mitigation measures to be employed during construction and operation phases of the project.
- Transportation and Traffic Impact Analysis (TBD)
    - Summarizing potential traffic effects related to construction and operational activities and identifying potential mitigation strategies.

<u>Technical Studies- Desktop and Fieldwork</u>

- Cultural Heritage Report (Winter 2021/ Spring 2022)
    - Identifying the presence of known and potential built heritage resources and cultural landscapes within, and adjacent to, the study area.
- Limited Phase I Environmental Site Assessment Report (Winter 2021/ Spring 2022)
    - Identifying actual and/or potentially contaminating activities along the track alignment/corridor, proposed associated infrastructure and within the study area.
- Natural Environment (Spring 2022)
    - Establishing existing conditions related to vegetation, wildlife, and fish within the project study area, and assessing the potential impacts to the natural environment with recommended avoidance, mitigation, monitoring and/or compensation measures.
- Noise and Vibration Impact Assessment (Spring 2022)
    - Determining the noise and vibration impacts generated as part of the construction and operation of the Heritage Road Layover facility and developing a mitigation strategy for any identified issues.
- Tree Inventory Plan (Spring 2022)
    - Documenting trees within the study area, identifying type and sizing.

Metrolinx would value the involvement of Six Nations of the Grand River in any of the above studies. Should your Nation wish to participate, please let us know at your earliest convenience. The earlier we understand any expressed interest in participation, the easier it can be to accommodate. We welcome any requests for a meeting to discuss opportunities to participate or to explore this project in more detail with Six Nations of the Grand River.

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Archaeology

Previous Archaeological Assessments:

The Heritage Road Layover project lands, and adjacent lands, have been the subject of previous Stage 1, Stage 2 and Stage 3 Archaeological Assessments (AA) as part of preliminary due diligence studies in 2006 and 2016. These assessments were submitted to the Ministry of Heritage, Sport, Tourism and Cultural Industries (MHSTCI). We regret that an opportunity to review and participate in these Archaeological Assessments was not provided. We will make every effort to ensure opportunities to review and participate in future archaeology occur. We have attached these reports for your information and review, which are summarized below. Any comments made on these reports will be included in the project file.

Studies relating to Heritage Road Layover Study Area:

In 2006, a high-level Stage 1 AA was completed for the rail corridor to evaluate proposed expansion of the Georgetown (now Kitchener) rail corridor, and included the Heritage Road Layover project lands. As tertiary streams that cross the rail line at two locations between Winston Churchill Boulevard and Heritage Road were found, the potential for archaeological sites in the area were identified.

A Stage 1 and 2 AA was completed for the general proximity to the Heritage Road Layover footprint in 2016; one of the Euro-Canadian archeological sites was located within the current Heritage Road Layover study area (H1, AjGx-267, Figure 3) and one site was located approximately 100m South of the current Heritage Road Layover study area (H2, AjGx-268, Figure 3).

These Stage 1 and 2 AA studies identified two Euro-Canadian archaeological sites (H1, AjGx-267 and H2, AjGx-268, as identified in Figure 3). Based on the presence of these two archaeological sites within, or in close proximity to, the project footprint, a Stage 3 AA (site-specific assessment) was recommended. As discussed below, the Stage 3 AA is planned to occur. Metrolinx will ensure an opportunity to participate is extended to Six Nations of the Grand River.

Studies of properties adjacent to the Heritage Road Layover Study Area completed by Others:

The former McNichol's Cemetery, located east of the Heritage Road Layover's archeological study area, has undergone Stage 1, Stage 2 and Stage 3 AAs as part of a proposed redevelopment project by a third party developer at 10510 Heritage Road (not

part of the Heritage Road Layover project or Kitchener rail corridor expansion investigation activities). In the Stage 3 AA, completed within 20 m of the known coordinates of the former McNichol's cemetery, five grave sites were identified. Four of these grave sites contained human remains that were consistent with the information provided by the Ministry of Consumer Services, Cemeteries Regulation Unit, which documented the remains of the McNichol family.

The Stage 3 AA for the adjacent 10510 Heritage Road property recommended that the site be registered as an official cemetery by the Bereavement Authority of Ontario (BAO). The cemetery is under consideration for designation under Part IV of the *Ontario Heritage Act* by the City of Brampton. It is worth noting that long-term protection of the cemetery was recommended, such that no soil disturbing activity could take place within the cemetery limits.

Proposed Archeological Assessments:

As previous archeological studies have covered portions of the Heritage Road Layover study area, a new project-specific Stage 1 AA is proposed, to perform a gap analysis on the previous archeological assessments, summarize and compile the existing archaeological information and recommendations for lands within and adjacent to the archaeology study area, and confirm the outstanding archeological concerns. Metrolinx will ensure that Six Nations of the Grand River has an opportunity to review and provide comments on the Stage 1 AA prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI).

Following completion of the Stage 1 AA, a Stage 3 AA is planned. Metrolinx will ensure that Six Nations of the Grand River will be invited to participate in any Stage 3 field activities or any supplemental field activities identified from the site-specific Stage 1 AA, and will keep Six Nations of the Grand River apprised of the status of archaeological work and schedule as environmental assessments continue to be completed.

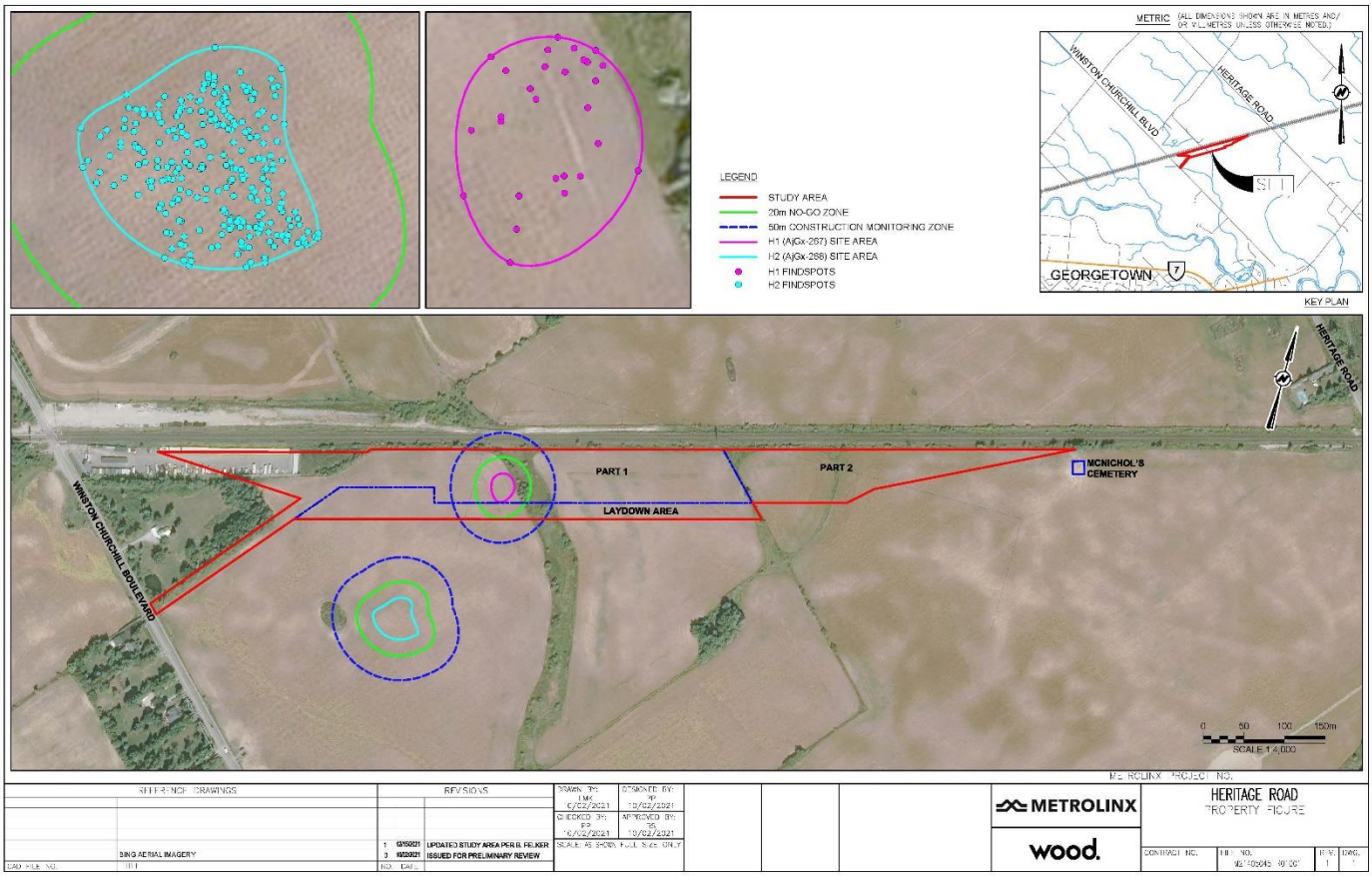

Figure 3. Stage 1 Archeological Study Area

Additional Information

For your awareness, a virtual Public Information Centre will be hosted online on January 12, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to members of Six Nations of the Grand River to participate in the fourth Public Information Centre, however, we acknowledge that this is not meant to replace engagement directly with Six Nations of the Grand River.

For additional information regarding this project, including public meeting related materials, please visit:

https://www.metrolinx.com/en/greaterregion/projects/kitchener-go-expansion.aspx

METROLINX

Invitation for Feedback & Engagement

Metrolinx would appreciate understanding any interest Six Nations of the Grand River may have in the Heritage Road Layover project. As outlined above, we value the participation of Six Nations of the Grand River in any environmental or archaeological studies, and are happy to discuss these opportunities in more detail. Please let us know of any interest as soon as possible. In order to ensure that we can coordinate, we would appreciate that interest be expressed by **February 18, 2022**.

We are happy to address any questions that Six Nations of the Grand River may have about the draft CHER, CHERR and NER reports for the Oshawa-Bowmanville Rail Service Expansion Project. If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com.

Metrolinx is committed to building a long-term relationship with Six Nations of the Grand River, and we recognize that this requires transparency and meaningful engagement. We appreciate that we still have much work to do in this regard and we hope to move forward in a good way.

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,



David Ayotte
Director, Indigenous Relations
Metrolinx

cc: Chief Mark Hill, Six Nations of the Grand River
Dawn LaForme, Secretary/Receptionist, Six Nations of the Grand River
Dawn Russell, Administrative Assistant, Six Nations of the Grand River
Tanya Hill-Montour, Archaeological Coordinator, Six Nations of the Grand River

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Robbin Vanstone, Consultation Supervisor, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Simon Strauss Manager, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl:

<u>*Studies relating to Heritage Road Layover Study Area:*</u>

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Stage 2 Archaeological Assessment of 10510 Heritage Road Within Part of Lots 13 and 14, Concession 6 WHS Geographic Township of Chinguacousy South

Historical County of Peel Now the City of Brampton Regional Municipality of Peel Ontario (Original Report), prepared by Archeoworks Inc., dated March 4, 2014

Stage 3 Cemetery Investigation Report for the McNichol's Cemetery as part of the Proposed Development of 10510 Heritage Road Within Lot 14, Concession 6 WHS Geographic Township of Chinguacousy South Former County of Peel Now in the City of Brampton Regional Municipality of Peel Ontario (Revised Report), prepared by Archeoworks Inc., dated September 13, 2017

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Six Nations of the Grand River & Metrolinx Bi-Monthly Meeting

Heritage Road Layover

January 14, 2022

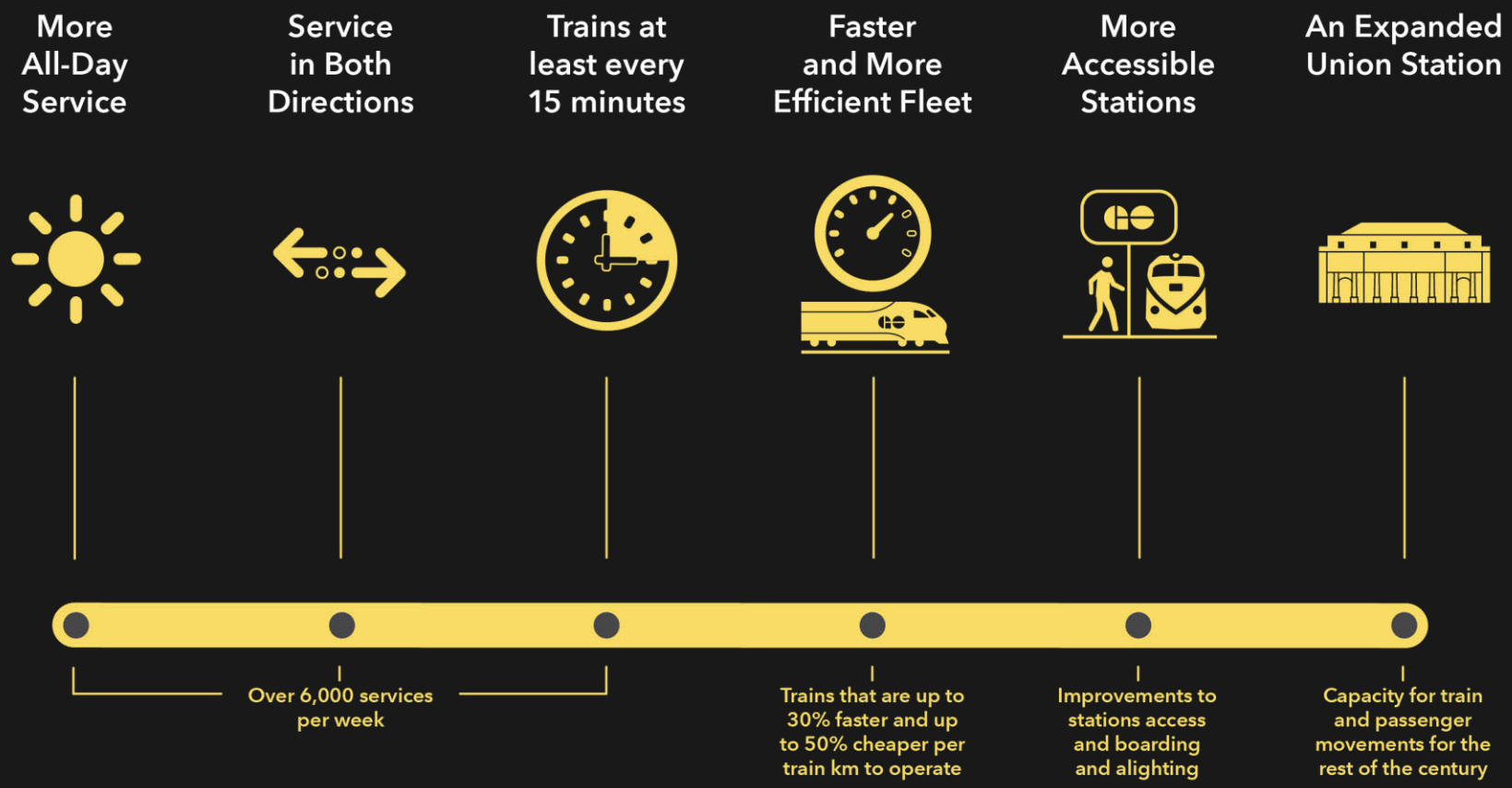
AGENDA

1. Introductions
2. Project Overview
3. Transit Project Assessment Process
4. Environmental Studies
5. Questions/Discussion

Project Overview

GO Expansion

The GO Expansion program will provide a range of improvements across the GTHA:



GO EXPANSION – KITCHENER CORRIDOR

- To get people moving we are actively building and upgrading existing GO rail stations; adding new track; building and opening new maintenance and storage facilities, including train layovers; expanding and revitalizing bridges around our region; and improving pedestrian connections.
- Construction of a train layover (Heritage Road Layover) is proposed along the Kitchener Rail Corridor between Heritage Road and Winston Churchill Boulevard. This would reduce congestion along the corridor.

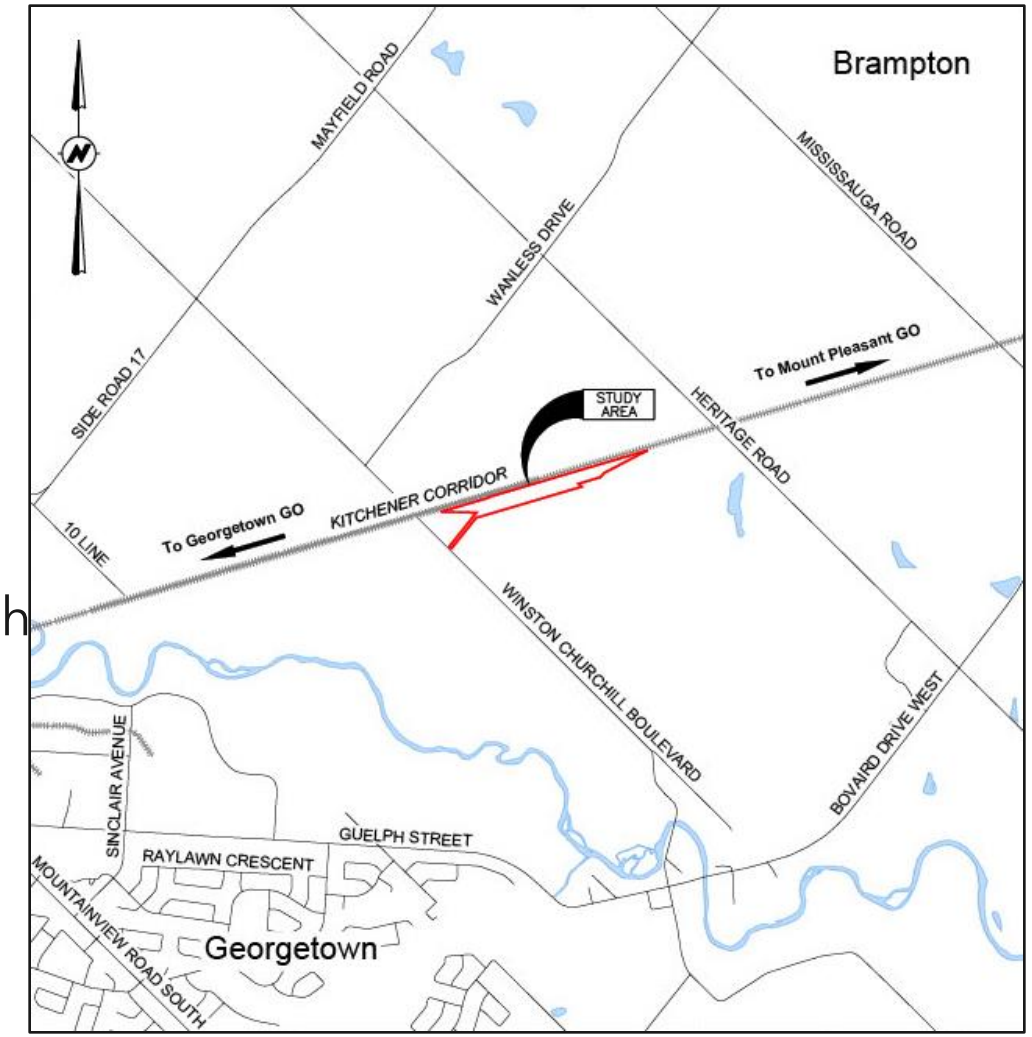


WHAT IS A TRAIN LAYOVER AND HERITAGE ROAD LAYOVER DETAILS

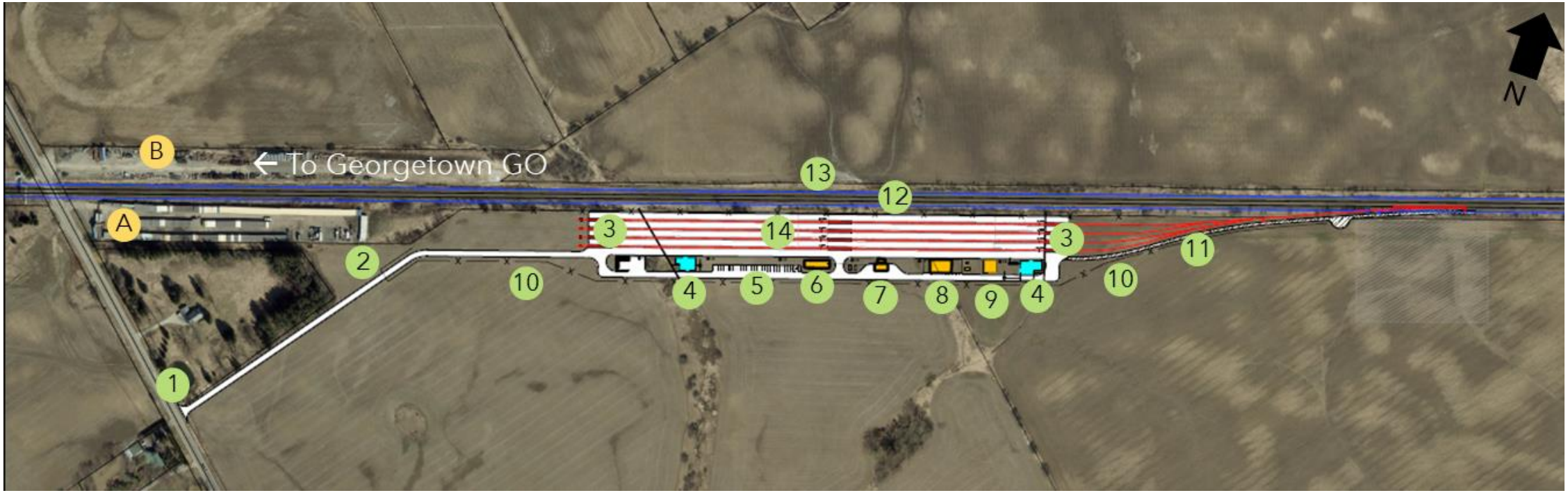
A train layover is a support facility that provides:

- Overnight storage for trains
- Access to trains for crews to perform inspection and light maintenance activities when trains not in service

- Heritage Road Layover is proposed within Halton Subdivision of the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station
- Between Heritage Road (Mile 20.14) and Winston Church Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel



HERITAGE ROAD LAYOVER FACILITY DESIGN



Design Elements

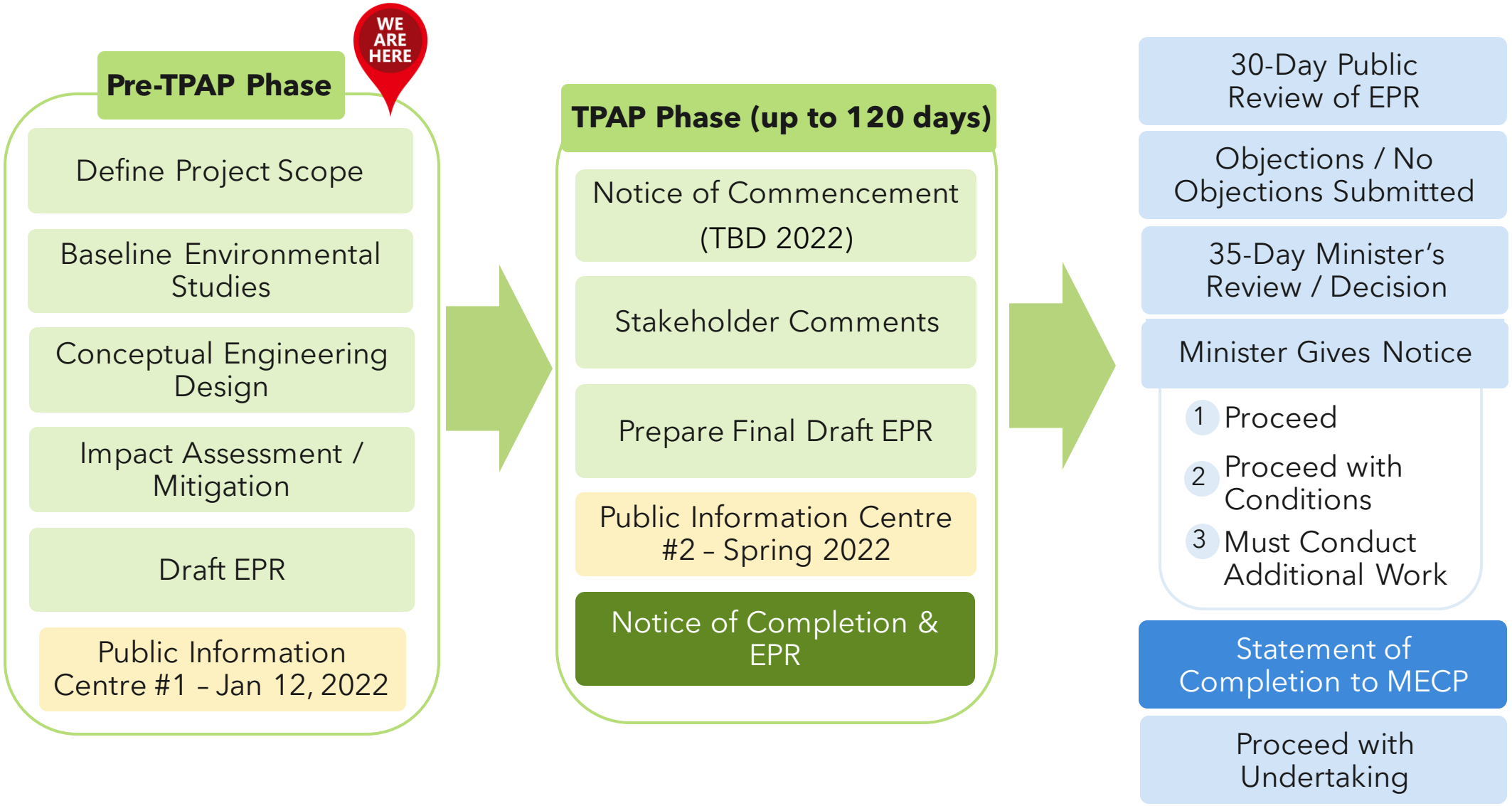
- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track

Legend

1 Facility Entrance
2 Gate
3 Culvert
4 Infiltration Facility
5 Parking Area
6 Crew Building
7 Waste Building
8 Substation
9 Concrete Pad
10 Fence
11 Maintenance Road
12 Current Mainline Tracks
13 Future Mainline Tracks
14 Layover Tracks
A U-Need Storage
B CN Works Yard

Transit Project Assessment Process

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP)



Environmental Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Technical studies are being completed under the TPAP to ensure that natural, social cultural and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Air Quality



Archaeology



Natural Environment



Noise & Vibration



Cultural Heritage



Tree Inventory Plan



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Natural Environment

- Desktop review of aquatic and land environments
- Surveys of potential for species at risk (Butternut and barn swallow)
- Fish and fish habitat assessment
- Plant inventory

Archaeological Assessment

- A Stage 1 AA will summarize existing archaeological information
- Stage 2 AAs were previously completed, and identified the need for a Stage 3 AA
  - One Indigenous lithic artifact was identified in a second study area, approximately 110-130 m south of the Heritage Road Layover footprint.
- Field work for Stage 3 AA will be carried out in spring 2022 by licensed professional archaeologists
  - Note: the Stage 3 AA will only be limited to the Heritage Road Layover footprint

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Air Quality

- Baseline air quality and air contaminants of concern from existing data sources
- Assess local air quality impacts with construction and operations and provide recommendations

Noise and Vibration

- Describe existing and predicted future background noise levels
- Assess noise impacts to nearby current and future residents based on the construction and operations of layover

Traffic

- Review available transit operations (e.g. GO Transit, VIA Rail) on railway and road traffic information for area
- Analyze and forecast traffic conditions for construction and operations
- Collect data for weekday AM and weekday PM peak hour at numerous intersections

Socio-Economic and Land Use

- Desktop review of existing socio-economic and land use conditions, including:
  - Planning policies
  - Active transportation plans
  - Safety and privacy impacts
- Provide assessment and mitigation measures for construction and operations of project

Tree Inventory

- Identify high value trees and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- As necessary, a Tree Protection Zone will be established during the construction process

Note: Phase I and II Environmental Site Assessments, as well as geotechnical studies will also be completed concurrently with the TPAP studies to support the design of the Heritage Road Layover

UPCOMING FIELD STUDIES

Planned field studies include :

Discipline/Activity	Estimated 2022 Timeframe*
Natural Environment	
Fish and Fish Habitat Assessment	March/April
Vegetation Survey and Tree Inventory	May/June
Archaeological Work	
Stage 1 Archaeological Assessment	In Progress
Stage 3 Archaeological Assessment	Late March/Early April
Cultural Heritage Cultural Heritage Evaluation (Adjacent property)	February
Phase II Environmental Site Assessment/Geotechnical	February
Noise and Vibration Monitoring	March

Notes
* Permissions to Enter (PTEs) are still being negotiated; timing may change based on when PTEs are obtained.

NEXT STEPS

Description	Anticipated Timeline
Sharing Draft Technical Reports for Review	Late January – April 2022
Field Surveys	February – June 2022
Sharing of Draft EPR Report for Review	March 2022

DISCUSSION/QUESTION PERIOD


METROLINX

From: Indigenous Relations
Sent: February 8, 2022 3:01 PM
To: [redacted]
Cc: Chamberlain, Adam [redacted]
Subject: Heritage Road Layover - Stage 1 AA for Review

Dear Ms. Koerner Yeo and Ms. Esmonde,

As per our previous correspondence dated December 16, 2021, [redacted] we wanted to share with you a letter, attached, outlining the draft Stage 1 Archaeological Assessment report for the Heritage Road Layover Project.

The report is available for review at the following link:

[redacted]

In order to ensure that any comments received by HCCC/HDI can be incorporated into the report prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries register, we ask that you please share any comments you may have before March 22, 2022.

[redacted]

Please let me know if you have any further questions or if the Indigenous Relations Office can be of any further assistance.

Thank you,

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
[redacted]

METROLINX

February 08, 2022

Ms. Tracey General, Office Manager
Haudenosaunee Confederacy Chiefs Council
[redacted]

Delivered by Email

Dear Ms. General,

RE: Heritage Road Layover - Draft Stage 1 Archaeological Assessment Report for Review

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Haudenosaunee Confederacy Chiefs Council. The purpose of this letter is to share with you the draft Stage 1 Archaeological Assessment (AA) Report for Heritage Road Layover, as well as the previous reports for the surrounding lands for supplemental information.

Metrolinx is proposing to install a new layover facility (Heritage Road Layover, or the Project) to support the GO Expansion program along Kitchener Corridor. The Project is being assessed under the Transit Project Assessment Process (TPAP) (Ontario Regulation 231/08), and an initial Project Introduction letter was sent via email to Haudenosaunee Confederacy Chiefs Council on January 7th, 2022.

We want to emphasize that this project has a long history and pre-dates Metrolinx's Indigenous Relations Office (IRO). With guidance from the IRO, and informed by ongoing discussion with Indigenous Nations, Metrolinx is changing its business practices to ensure that meaningful engagement happens earlier and throughout the life cycle of our projects. Metrolinx wishes to emphasize that it is committed to ensuring appropriate engagement occurs on this project as we move forward.

Project Description

The Heritage Road Layover facility is proposed to accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station), and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.



Figure 1. Project Location

Archaeology Study Summary

Portions of this proposed Project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted for the Project in 2014 and 2017, as part of environmental due diligence which, regrettably, were not shared with Haudenosaunee Confederacy Chiefs Council for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office (IRO) at Metrolinx, and we acknowledge that previous engagement may not have met the expectation of Haudenosaunee Confederacy Chiefs Council.

The Heritage Road Layover footprint ("Site"), and adjacent lands to the south, have been the subject of previous Stage 1 and Stage 2 AAs as part of preliminary due diligence studies in 2014 and 2017. A Stage 3 AA, which was completed in 2017 for McNichol Cemetery by Archeoworks Inc. for a developer (Forest Hill Homers/State Building Group), assessed an area located east of the Heritage Road Layover Site. The Stage 3 AA for McNichol Cemetery was reviewed as part of the Project due to its proximity to the Site. These past AAs have been previously shared with your Nation in conjunction with

the Heritage Road Layover Project Introduction Letter sent on January 7, 2022 (see **Table 1**).

Table 1 – Summary of Reports

	Description	*Completed by*	*Date*
Current Report for Review			
Draft Stage 1 Archaeological Assessments (AA) Report	Heritage Road Layover Site (identified as "Study Area" in Figure 2)	Wood Environment & Infrastructure Solutions, A Division of Wood Canada Limited (Prepared for Metrolinx)	2022-Jan
Previous Reports for Site and Surrounding Area			
Stage 1 AA Report	Heritage Road Layover Site	Archeoworks Inc. (Prepared for R.V. Anderson Associates Ltd. on behalf of Metrolinx)	2017-Jun-20
Stage 2 AA Report	Heritage Road Layover Site	Archeoworks Inc. (Prepared for R.V. Anderson Associates Ltd. on behalf of Metrolinx)	2017-Dec-7
Stage 1 AA Report	Includes Heritage Road Layover site, and surrounding area to the south	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2014-Jan-24
Stage 2 AA Report	Includes Heritage Road Layover site, and surrounding area to the south	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2014-Mar-04
Previous Report for Property Adjacent to the Project Site			
Stage 3 AA Report	McNichol's Cemetery, approximately east of Heritage Road Layover site	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2017-Sep-13

Metrolinx regrets that the previous Stage 1 and 2 AA reports were submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) prior to providing an opportunity for review. We understand this is contrary to building a meaningful

relationship with Haudenosaunee Confederacy Chiefs Council. We endeavour to make sure Indigenous monitors are invited to participate in field work and that reports are shared in draft form moving forward. To that end, as part of the TPAP, Metrolinx completed a Stage 1 AA investigation of the Heritage Road Layover, the draft report is attached for your review.

The Stage 1 AA included a gap analysis of the archeological work previously completed, and gathered additional information associated with the Site. The Stage 1 AA confirmed archeological potential of the Site.

The report included the following recommendations for next steps:

- A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in Figure 2).
- Archeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) is not anticipated to be impacted by the Project (dark blue area in Figure 2). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.
- The former unmarked historical-period cemetery, McNichol's Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

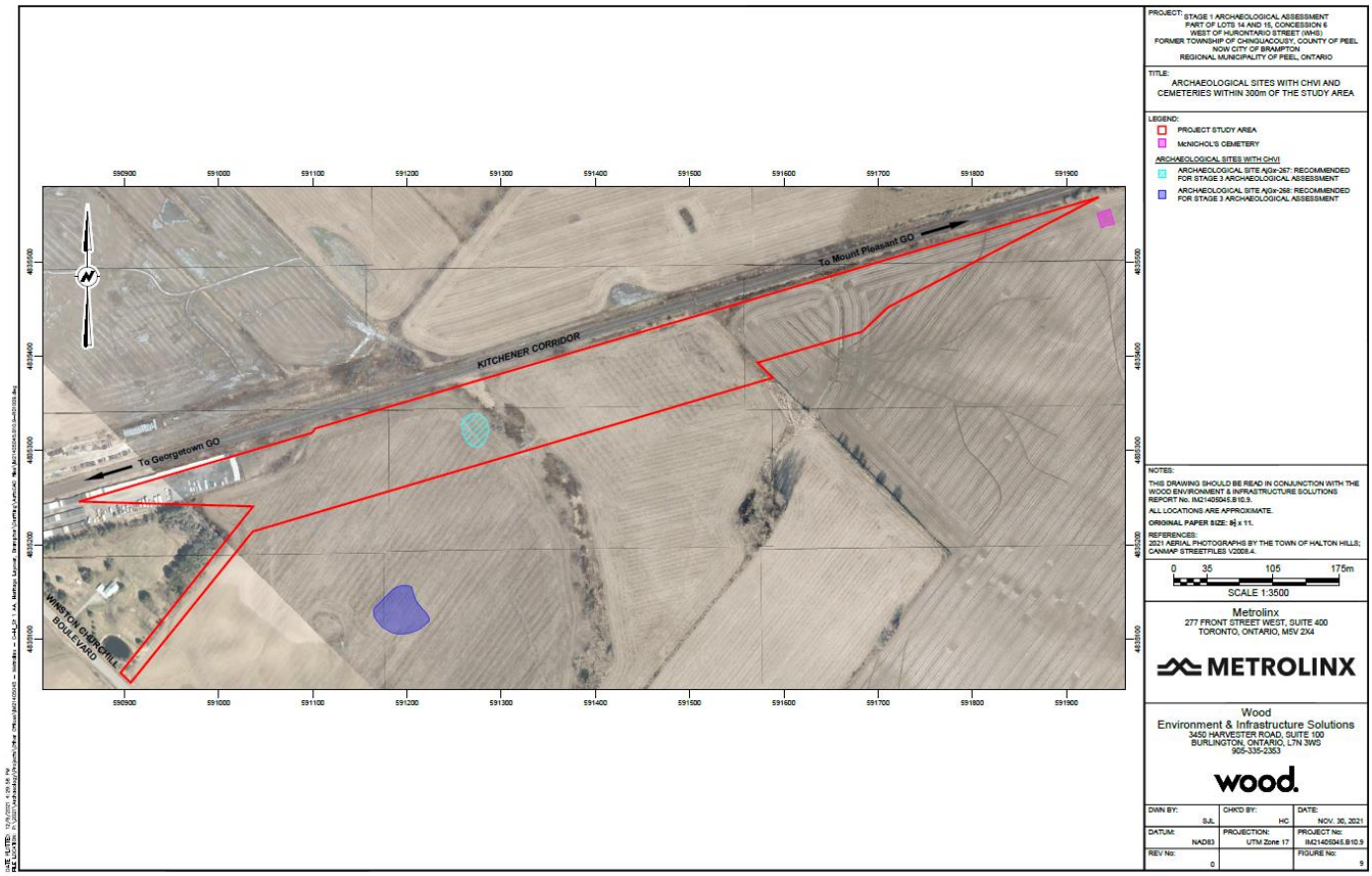


Figure 2. Stage 1 Archeological Study Area

Invitation to Participate

Metrolinx would value the involvement of Haudenosaunee Confederacy Chiefs Council in the aforementioned Stage 3 AA field investigation, which is planned for April 2022. Should your Nation wish to participate, please let us know at your earliest convenience. We welcome any requests for a meeting to discuss opportunities to participate or to explore this project in more detail with Haudenosaunee Confederacy Chiefs Council. Upon receipt of Haudenosaunee Confederacy Chiefs Council interest in participating, Metrolinx will work to coordinate your Nation's involvement. Metrolinx is also willing to share fieldnotes and/or a summary of the field data in addition to the open invitation to participate directly in the monitoring.

Invitation for Input

Metrolinx values any input that Haudenosaunee Confederacy Chiefs Council is willing to provide on the attached Draft Stage 1 AA. We are happy to meet with Haudenosaunee Confederacy Chiefs Council to go over the project in more detail and answer any

questions Haudenosaunee Confederacy Chiefs Council may have on the report or the Heritage Road Layover Project more broadly. Should you wish to provide comments on this report, please submit your feedback in writing by March 22, 2022.

Metrolinx remains committed to building a long-term relationship with Haudenosaunee Confederacy Chiefs Council, and we recognize that this requires transparency. The IRO has been guiding the organization and identifying ways in which we can more meaningfully engage with Indigenous Nations; this includes ensuring that engagement on projects occurs early and often. Metrolinx values its relationship with Haudenosaunee Confederacy Chiefs Council and we are committed to building open and respectful engagement with Haudenosaunee Confederacy Chiefs Council.

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com.

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Todd Williams, Haudenosaunee Development Institute
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

From: Jackie Esmonde
To: Indigenous Relations; Lara Koerner-Yeo
Cc: Chamberlain, Adam
Subject: RE: Heritage Road Layover - Stage 1 AA for Review
Date: February 9, 2022 4:37:02 PM

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
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Dear Metrolinx Representative:

We are writing in response to your February 8, 2022 request for feedback from HCCC/HDI on an archaeological assessment.

HCCC/HDI has established rights within the Nanfan Treaty and Haldimand Treaty territories. An email attaching technical documents relating to development within that territory, and with a short timeframe for response, is not consistent with Haudenosaunee inherent Indigenous and treaty rights, including rights to free, prior and informed consent as well as Haudenosaunee rights to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

In the absence of an Engagement Framework, we refer you to HDI's established process for engagement:https://www.haudenosauneeconfederacy.com/departments/haudenosaunee-development-institute/development/

[redacted]

Until meaningful engagement has taken place, HCCC/HDI objects to the approval of any Metrolinx projects within Haudenosaunee territory with the placement of our monitors on those projects expressly not constituting consent, approval or any form of engagement/consultation. An extension of the stated deadline will be needed for such engagement to occur.

Jackie Esmonde

Cavalluzzo LLP
Pronouns: she/her

From: Indigenous Relations
Sent: February 8, 2022 3:01 PM
To: Jackie Esmonde ; Lara Koerner-Yeo

Cc: Chamberlain, Adam

Subject: Heritage Road Layover - Stage 1 AA for Review

Dear Ms. Koerner Yeo and Ms. Esmonde,

As per our previous correspondence dated December 16, 2021, [redacted] we wanted to share with you a letter, attached, outlining the draft Stage 1 Archaeological Assessment report for the Heritage Road Layover Project.

The report is available for review at the following link:

[redacted]

In order to ensure that any comments received by HCCC/HDI can be incorporated into the report prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries register, we ask that you please share any comments you may have before March 22, 2022.

[redacted]

Please let me know if you have any further questions or if the Indigenous Relations Office can be of any further assistance.

Thank you,

Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

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From:	Indigenous Relations
To:	Marie-Sophie Gendron
Cc:	Isabelle Lechasseur; Jean-Francois Richard; Clara Chan; Brian Poole; Dara Corrigan; Simon Strauss
Subject:	Heritage Road Layover - Stage 1 AA for Review
Date:	February 8, 2022 3:01:44 PM
Attachments:	image002.png [redacted]

Dear Marie-Sophie,

Please find attached, [redacted] Stage 1 Archaeological Assessment Report for your review, in relation to the Heritage Road Layover Project.

The report is available for review at the following link:

[redacted]

Please share any comments you may have by March 22, 2022.

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: April-21-22 4:49 PM
To: Marie-Sophie Gendron [redacted]
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dominic Ste-Marie [redacted]
Subject: Follow up with IN for Heritage Road Layover- Stage 1 AA for Review

Good day, Marie-Sophie,

Further to our conversation in the monthly update with you on March 22, we wanted to follow up with your review of the Stage 1 AA for Heritage Road Layover. In the meeting, we had agreed upon a rough timeline of early April.
Do you have any comments to the report?

Make today great,

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Communications Division
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

METROLINX

February 4, 2022

Grand Chief Rémy Vincent
Huron-Wendat Nation
[redacted]
Delivered by email

Dear Grand Chief Vincent:

RE: Heritage Road Layover – Draft Stage 1 Archaeological Assessment Report for Review

Metrolinx wishes to build a strong, constructive, cooperative and mutually respectful and beneficial relationship with the Huron-Wendat Nation ("HWN"). Accordingly, Metrolinx takes its engagement efforts with HWN seriously, recognizing: (1) the Huron-Wendat Nation's connection to the areas in which Metrolinx plans to construct infrastructure; and (2) that Metrolinx is a public agency of the Province of Ontario with limited resources and a mandate to implement transit infrastructure projects and operations. The purpose of this letter is to share with you the draft Stage 1 Archaeological Assessment (AA) Report for Heritage Road Layover, as well as the previous reports for the surrounding lands for supplemental information.

Metrolinx appreciates and respects HWN's desire to be aware of and, to the degrees possible, be engaged regarding the discovery and preservation of HWN artifacts and sacred burial grounds. [redacted].

Portions of this proposed project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted in 2014 and 2017, as part of environmental due diligence which were not shared with HWN for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office (IRO) and we acknowledge that previous engagement may not have met the expectation of HWN.

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Toronto, ON M5J 2W3
416.874.5900
metrolinx.com

Metrolinx is proposing to install a new layover facility (Heritage Road Layover, or the "Project") to support the GO Expansion program along Kitchener Corridor. The Project is being assessed under the Transit Project Assessment Process (TPAP) (Ontario Regulation 231/08), and an initial Project Introduction Letter was sent via email to HWN on January 7th, 2022.

Metrolinx wishes to emphasize that it is committed to ensuring appropriate engagement occurs on this Project as we move forward. With guidance from the IRO, and informed by ongoing discussion with Indigenous Nations, Metrolinx is changing its business practices to ensure that meaningful engagement happens earlier and throughout the life cycle of our projects.

Project Description

The Heritage Road Layover facility is proposed to accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station), and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.



Figure 1. Project Location

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METROLINX

1. Archaeology Study Summary

The Heritage Road Layover footprint ("Site"), and adjacent lands to the south, have been the subject of previous Stage 1 and Stage 2 AAs as part of preliminary due diligence studies in 2014 and 2017. A Stage 3 AA, which was completed in 2017 for McNichol Cemetery by Archeoworks Inc. for a developer (Forest Hill Homers/State Building Group), assessed an area located east of the Heritage Road Layover Site. The Stage 3 AA for McNichol Cemetery was reviewed as part of the Project due to its proximity to the Site. These past AAs (see **Table 1**) have been previously shared with your Nation in conjunction with the Heritage Road Layover Project Introduction Letter described above.

Table 1 – Summary of Reports

	Description	*Completed by*	*Date*
Current Report for Review			
Draft Stage 1 Archaeological Assessments (AA) Report	Heritage Road Layover Site (identified as "Study Area" in Figure 2)	Wood Environment & Infrastructure Solutions, A Division of Wood Canada Limited (Prepared for Metrolinx)	2022-Jan
Previous Reports for Site and Surrounding Area			
Stage 1 AA Report	Heritage Road Layover Site	Archeoworks Inc. (Prepared for R.V. Anderson Associates Ltd. on behalf of Metrolinx)	2017-Jun-20
Stage 2 AA Report	Heritage Road Layover Site	Archeoworks Inc. (Prepared for R.V. Anderson Associates Ltd. on behalf of Metrolinx)	2017-Dec-7
Stage 1 AA Report	Includes Heritage Road Layover site, and surrounding area to the south	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2014-Jan-24
Stage 2 AA Report	Includes Heritage Road Layover site, and surrounding area to the south	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2014-Mar-04
Previous Report for Property Adjacent to the Project Site			

	Description	*Completed by*	*Date*
Stage 3 AA Report	McNichol's Cemetery, approximately east of Heritage Road Layover site	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2017-Sep-13

Metrolinx regrets that the previous Stage 1 and 2 AA reports completed by R.V. Anderson on behalf of Metrolinx were submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) prior to providing an opportunity for review. We understand this is contrary to building a meaningful relationship with HWN. We endeavour to make sure Indigenous monitors are invited to participate in field work and that reports are shared in draft form moving forward. To that end, as part of the TPAP, Metrolinx completed a Stage 1 AA investigation of the Heritage Road Layover, and the draft report is attached for your review.

The Stage 1 AA included a gap analysis of the archeological work previously completed, and gathered additional information associated with the Site. The Stage 1 AA confirmed archeological potential of the Site.

The report included the following recommendations for next steps:

- A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in Figure 2).
- Archeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) is not anticipated to be impacted by the Project (dark blue area in Figure 2). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.
- The former unmarked historical-period cemetery, McNichol's Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

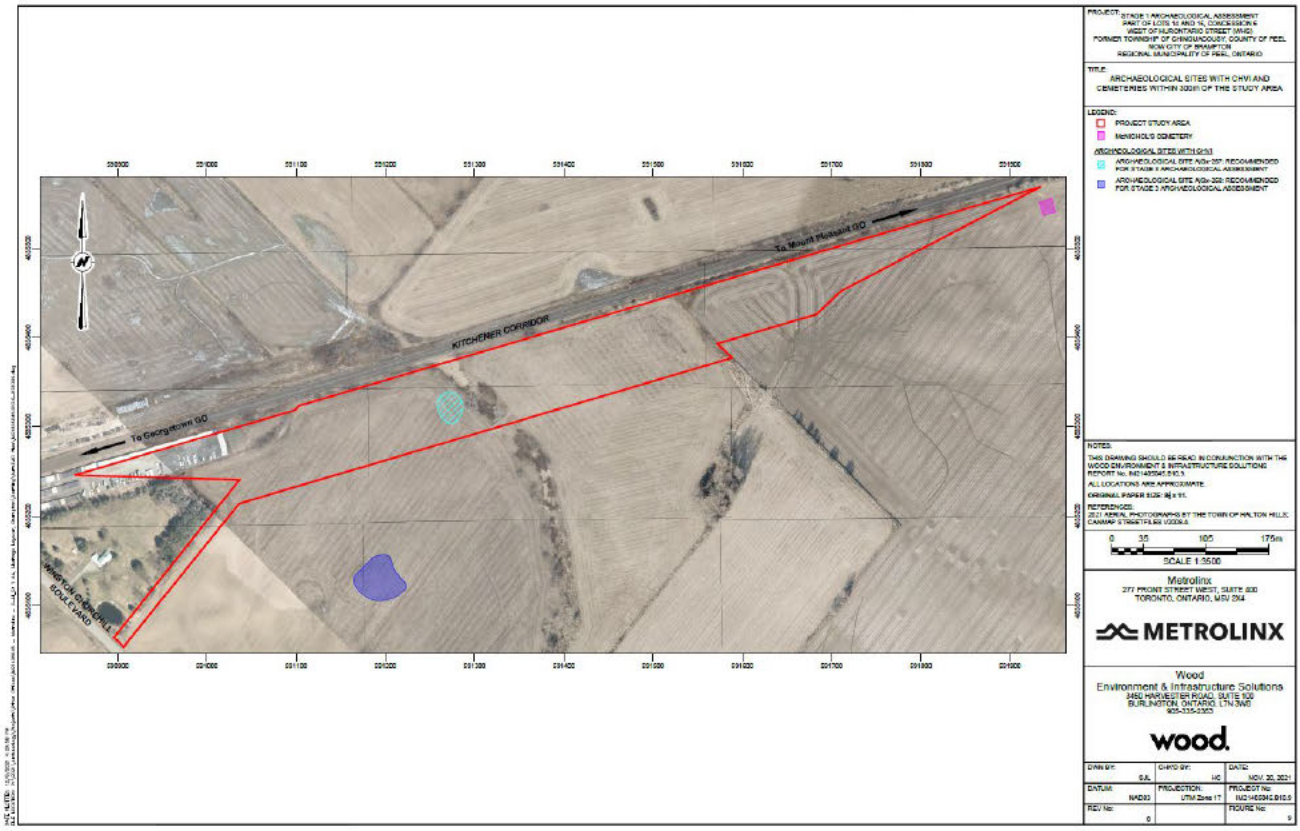

Figure 2. Stage 1 Archeological Study Area

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

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Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

4. Non-derogation

Nothing contained herein shall be interpreted as limiting or narrowing any present or future rights claimed by the HWN.

5. Applicable Law

The above commitments shall be governed by the laws of the Province of Ontario and Canada as applicable. We look forward to working with HWN on the Heritage Road Layover, and to receiving input throughout the Project. [redacted]

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please feel free to contact the undersigned, or David Ayotte, Director, Indigenous Relations at Metrolinx. He can be contacted at IndigenousRelations@metrolinx.com.

Yours Truly,

Simon Gale Strauss

Simon Strauss,
Manager, Environmental Programs & Assessment
Metrolinx

cc:
Marie-Sophie Gendron, Huron-Wendat Nation
Isabelle Lechasseur, Huron-Wendat Nation
Jean-Francois Richard, Huron-Wendat Nation
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

METROLINX

[redacted]

[redacted]

[redacted]

[redacted]

10 Bay Street
Toronto, ON M5J 2W3

416.874.5900
metrolinx.com

Wendake, July 13, 2022

Ms. Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx

By email: IndigenousRelations@metrolinx.com

Re: Heritage Road Layover - Stage 1 AA for Review

Dear Ms. O'Hara,

Further to your email addressed to the Huron-Wendat Nation dated February 8, 2022, on the Stage 1 Archaeological Assessment for the Heritage Road Layover Project Transit Project Assessment Process (TPAP), the Huron-Wendat Nation (HWN) would like to thank you for giving us this opportunity to provide comments and feedback.

The project consists of the installation of a new layover for the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) to respond to the planned growth and service improvements on the Kitchener rail corridor, part of Metrolinx's commitment to GO Expansion. The study area is 7.1 ha and principally consisted of agricultural land with a part of gravel-surfaced parking and depot in the west. It is located in the City of Brampton, Regional Municipality of Peel. It was historically a part of Lots 14 and 15, Concession 6 West of Hurontario Street (WHS), Township of Chinguacousy, County of Peel.

The report provides a good review of the cultural history and land use and settlement of Southern Ontario from the Paleo period to the Post-Contact period. The Euro-Canadian settlement in the former Chinguacousy Township is also well described. This township is part of the 648,000 acre Mississauga tract included in the treaty with the Mississauga Anishinaabeg people on October 28, 1818. An unmarked historical cemetery, the

McNichol's Cemetery is approximately 18 m to the east of the study area in Lot 14. It was used by the McNichol's family who owned the land during many decades in the mid-19th century. The grave memorials were since moved to the Alloa Cemetery but the bodies are still in place. The report indicates that multiple historic sources were used to understand the development of the study area and to determine the archaeological potential: Tremaine's 1859 Map of the County of Peel, Canada West and Pope's 1877 Illustrated Historical Atlas of the County of Peel. The historical roadway that became Winston Churchill Boulevard is illustrated on those maps; it's adjacent to the southwest part of the study area. Also, the "Grand Trunk Railway" is present at its northern boundary. The Norval railway station is also depicted in the west of the study area. No historical features are illustrated in the study area but some features are present around it on the 1877 map.

Regarding the archaeological context, 17 previously registered archaeological sites are within 1 km of the study area. Three Euro-Canadian sites are located in proximity, all of which have further CHVI: one homestead is within the study area (AjGx-267) and two other sites are within 300 m (AjGx-268 and AkGx-11). There are also, located more than 300 m away, one Early Archaic campsite (AjGx-253), one Archaic site (AkGx-3), two Pre-Contact Indigenous Findspots (AjGx-176 and AkGx-9), one site with a Post-Contact Euro-Canadian and Indigenous occupation (AjGx-175) and nine Post-Contact Euro-Canadian sites (five of which have further CHVI).

Eight archaeological assessments were completed within 50 m of the study area, six of them were released within it and had covered the entirety of the study area between 2005 and 2017. A Stage 1 AA was conducted in 2005 by ASI. It includes the north portion of the current Study area, and a Stage 2 AA was recommended. In 2014, a Stage 1 AA including the east portion of the present study area, was conducted by Archeoworks. A Stage 2 AA was recommended and conducted by Archeoworks. It resulted in the identification of four Euro-Canadian and seven Indigenous artifact scatters including one (H2), having no further CHVI, located in the current study area. A Stage 3 AA was recommended for H1 (AjGx-239) and H4 (AjGx-240) and for the presumed location of the McNichol's cemetery. Archeoworks conducted the Stage 3 cemetery investigation for

McNichol's Cemetery which is located 18 m east of the current study area. A 5 m buffer was established and the establishment of a permanent fence was recommended. Archeoworks also conducted a Stage 1 AA in 2016 and a Stage 2 AA in 2017 for the Heritage Road Layover Facility, their study area including the west portion of the present project. Two archaeological sites were identified: AjGx-267 and AjGx-268. The site AjGx-267 is in the central portion of the current Study area. A Stage 3 AA was recommended for both sites. In 1993, a Stage 1 and a Stage 2 was conducted by D. R. Poulton & Associates. It resulted in the identification of the AkGx-11 site, which was recommended for a Stage 3 AA. In 2006, a Stage 1 and 2 conducted by Mayer Heritage Consultants Inc. led to the identification of the AjGx-175 and AjGx-176 sites; a Stage 3 AA was conducted on both sites in 2015.

The report describes the physiography and soils of the region. It indicates that the study area is situated in the South Slope physiographic region of Ontario. In the west portion, the soil consists of Chinguacousy loam which has imperfect drainage. Soil in the east portion consists of Oneida clay loam and has a good drainage. Primary water sources are present in the central, the west and the east portion of the study area; they are three unnamed tributaries of the Credit River.

The report summarizes the criteria that the study area meets that are indicative of potential for the identification of Indigenous and Euro-Canadian archaeological resources (depending on soil conditions and disturbance): proximity to early transportation routes (Winston Churchill Boulevard and the Toronto & Guelph Railway), presence of registered archaeological sites (AjGx-267, AjGx-268 and AjGx-11), proximity of the unmarked historical Cemetery McNichol, presence of a farmstead south of the central portion of the study area on the 1877 map, presence of three primary natural water sources (unnamed tributaries of the Credit River), and the presence of a well-drained soil (Oneida clay loam). Nevertheless, previous assessments have determined that extensive disturbance and alterations were made in the parking and depot area during the construction in the west section of the study area. Also, the area following the creek in the centre portion of the study area was identified as permanently wet and steeply sloping.

No Stage 1 AA property inspection was conducted during this assessment since five others were previously realized on it. They all concluded that some portions of the study area had archaeological potential. The report recommendations are in agreement with those presented in Archeoworks 2017b and 2017c. A Stage 3 AA is recommended for the site AjGx-267. No more work is recommended for the site AjGx-268, since no impacts are anticipated in this part. If some change in the boundaries of the project occurs, archaeological monitoring by a licensed archaeologist will be required. In the case of an expanded study area can't avoid the site and its 20 m no-go buffer, a Stage 3 AA is recommended. Finally, it's recommended to erect a new fence line around the McNichol's Cemetery.

In conclusion, the report adequately contextualizes the study area from a historical, environmental, and archaeological point of view, and the conclusions are logical. The report is satisfactory for the purposes of the Stage 1 Archaeological Assessment for the Heritage Road Layover Project Transit Project Assessment Process (TPAP). Regarding future archaeological work, the Huron-Wendat Nation is requesting to be consulted at every stage and, of course, provide liaisons for all field work. Please do not hesitate to contact our team should you have questions and to follow up with the next steps.

Best regards,

Raphaëlle Gaudreau-Couture
Assistante de recherche
Bureau du Nionwentsïo

From:	Indigenous Relations
To:	Adam LaForme
Cc:	Adrian Blake; Clara Chan; Brian Poole; Dara Corrigan; Simon Strauss
Subject:	Heritage Road Layover - Stage 1 AA for Review
Date:	February 8, 2022 3:02:22 PM
Attachments:	image002.png Stage 1 AA Invitation for Review_MCFN.pdf [redacted]

Dear Adam and Team,

Please find attached, a letter outlining the Stage 1 Archaeological Assessment Report for your review, in relation to the Heritage Road Layover Project.

The report is available for review at the following link:

[redacted]

Please share any comments you may have by March 22, 2022.

[redacted]

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

METROLINX

February 08, 2022

Adam LaForme
Mississaugas of the Credit First Nation
2789 Mississauga Road RR #6
Hagersville, ON N0A 1H0
Delivered by email

Dear Mr. LaForme

RE: Heritage Road Layover - Draft Stage 1 Archaeological Assessment Report for Review

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Mississaugas of the Credit First Nation. Metrolinx values its relationship with the Mississaugas of the Credit First Nation and it is our wish to continue to work with your Nation as we move forward. The purpose of this letter is to share with you the draft Stage 1 Archaeological Assessment (AA) Report for Heritage Road Layover, as well as the previous reports for the surrounding lands for supplemental information.

Metrolinx is proposing to install a new layover facility (Heritage Road Layover, or the Project) to support the GO Expansion program along Kitchener Corridor. The Project is being assessed under the Transit Project Assessment Process (TPAP) (Ontario Regulation 231/08), and an initial Project Introduction letter was sent via email to Mississaugas of the Credit First Nation on January 7th, 2022.

We want to emphasize that this project has a long history and pre-dates Metrolinx's Indigenous Relations Office (IRO). With guidance from the IRO, and informed by ongoing discussion with Indigenous Nations, Metrolinx is changing its business practices to ensure that meaningful engagement happens earlier and throughout the life cycle of our projects. Metrolinx wishes to emphasize that it is committed to ensuring appropriate engagement occurs on this project as we move forward.

Project Description

The Heritage Road Layover facility is proposed to accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to

expand to two-way all-day service at Georgetown GO Station), and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.



Figure 1. Project Location

Archaeology Study Summary

Portions of this proposed Project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted for the Project in 2014 and 2017, as part of environmental due diligence which, regrettably, were not shared with Mississaugas of the Credit First Nation for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office (IRO) at Metrolinx, and we acknowledge that previous engagement may not have met the expectation of Mississaugas of the Credit First Nation.

The Heritage Road Layover footprint ("Site"), and adjacent lands to the south, have been the subject of previous Stage 1 and Stage 2 AAs as part of preliminary due diligence studies in 2014 and 2017. A Stage 3 AA, which was completed in 2017 for McNichol Cemetery by Archeoworks Inc. for a developer (Forest Hill Homers/State Building Group), assessed an area located east of the Heritage Road Layover Site. The Stage 3

AA for McNichol Cemetery was reviewed as part of the Project due to its proximity to the Site. These past AAs have been previously shared with your Nation in conjunction with the Heritage Road Layover Project Introduction Letter sent on January 7, 2022 (see **Table 1**).

Table 1 – Summary of Reports

	Description	***Completed by***	***Date***
Current Report for Review			
Draft Stage 1 Archaeological Assessments (AA) Report	Heritage Road Layover Site (identified as "Study Area" in Figure 2)	Wood Environment & Infrastructure Solutions, A Division of Wood Canada Limited (Prepared for Metrolinx)	2022-Jan
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Metrolinx regrets that the previous Stage 1 and 2 AA reports were submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) prior to providing an opportunity for review. We understand this is contrary to building a meaningful relationship with Mississaugas of the Credit First Nation. We endeavour to make sure Indigenous monitors are invited to participate in field work and that reports are shared in draft form moving forward. To that end, as part of the TPAP, Metrolinx completed a Stage 1 AA investigation of the Heritage Road Layover, the draft report is attached for your review.

The Stage 1 AA included a gap analysis of the archeological work previously completed, and gathered additional information associated with the Site. The Stage 1 AA confirmed archeological potential of the Site.

The report included the following recommendations for next steps:

- A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in Figure 2).
- Archeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) is not anticipated to be impacted by the Project (dark blue area in Figure 2). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.
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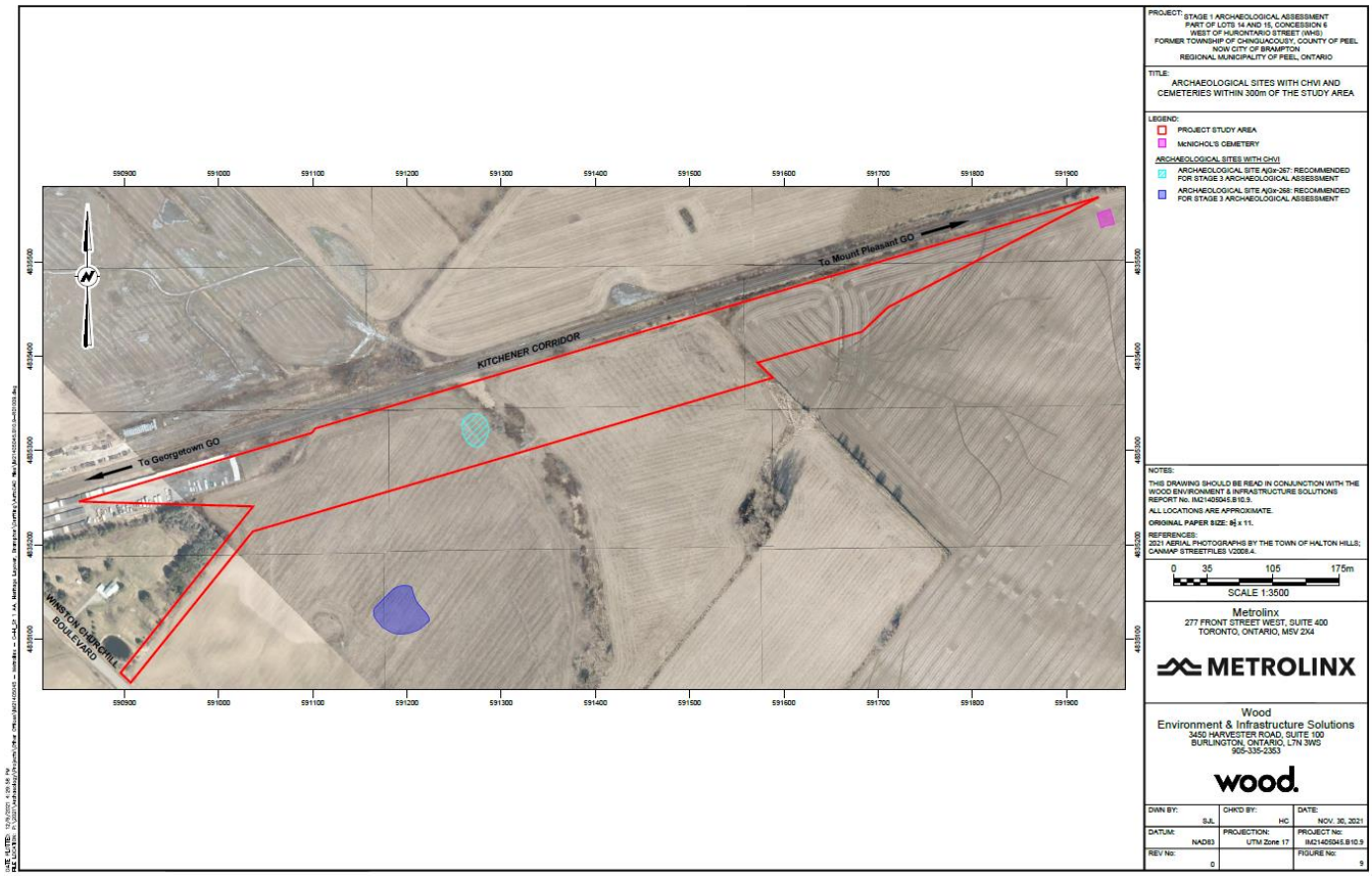

Figure 2. Stage 1 Archeological Study Area

Invitation to Participate

Metrolinx would value the involvement of Mississaugas of the Credit First Nation in the aforementioned Stage 3 AA field investigation, which is planned for April 2022. Should your Nation wish to participate, please let us know at your earliest convenience. We welcome any requests for a meeting to discuss opportunities to participate or to explore this project in more detail with Mississaugas of the Credit First Nation. Upon receipt of Mississaugas of the Credit First Nation interest in participating, Metrolinx will work to coordinate your Nation's involvement. Metrolinx is also willing to share fieldnotes and/or a summary of the field data in addition to the open invitation to participate directly in the monitoring.

Invitation for Input

Metrolinx values any input that Mississaugas of the Credit First Nation is willing to provide on the attached Draft Stage 1 AA. We are happy to meet with Mississaugas of the Credit First Nation to go over the project in more detail and answer any questions

Mississaugas of the Credit First Nation may have on the report or the Heritage Road Layover Project more broadly. Should you wish to provide comments on this report, please submit your feedback in writing by March 22, 2022.

Metrolinx remains committed to building a long-term relationship with Mississaugas of the Credit First Nation, and we recognize that this requires transparency. The IRO has been guiding the organization and identifying ways in which we can more meaningfully engage with Indigenous Nations; this includes ensuring that engagement on projects occurs early and often. Metrolinx values its relationship with Mississaugas of the Credit First Nation and we are committed to building open and respectful engagement with Mississaugas of the Credit First Nation.

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com.

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Adrian Blake, Field Archaeologist, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

From:	Adrian Blake
To:	Indigenous Relations; Adam LaForme
Cc:	Clara Chan; Brian Poole; Dara Corrigan; Simon Strauss
Subject:	RE: Heritage Road Layover - Stage 1 AA for Review
Date:	March 17, 2022 4:00:32 PM
Attachments:	image001.jpg image004.png

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Good afternoon,

Thank you for providing this Stage 1 AA for the Heritage Road Layover Project you are undertaking.

My only comment for this report is that MCFN-DOCA would like to remain involved with the Stage 3 assessment of the archaeological site AjGx-267, if this site ends up requiring further assessment based on the needs of the project.

Regards,

Adrian Blake, MSc. (he/him)
Field Archaeologist

Department of Consultation and Accommodation (DOCA)
Mississaugas of the Credit First Nation (MCFN)
[redacted]
http://www.mncfn.ca

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From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: Tuesday, February 8, 2022 3:01 PM
To: Adam LaForme [redacted]
Subject: Heritage Road Layover - Stage 1 AA for Review

Dear Adam and Team,

Please find attached, a letter outlining the Stage 1 Archaeological Assessment Report for your review, in relation to the Heritage Road Layover Project.

The report is available for review at the following link:

[redacted]

Please share any comments you may have by March 22, 2022.

[redacted]

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx
[redacted]

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From:	Indigenous Relations
To:	Lonny Bomberry
Cc:	Dawn LaForme; Tanya Hill-Montour; Clara Chan; Brian Poole; Dara Corrigan; Simon Strauss
Subject:	Heritage Road Layover - Stage 1 AA for Review
Date:	February 8, 2022 3:00:27 PM
Attachments:	image003.png Stage 1 AA Invitation for Review_SNGR.pdf [redacted] Draft Stage 1 AA Report SD Heritage Rd Layover_Jan 2022.pdf Draft Stage 1 AA Report Heritage Rd Layover_Jan 2022.pdf

---

Dear Lonny and Team,

Please find attached, a letter outlining the Stage 1 Archaeological Assessment Report for your review, in relation to the Heritage Road Layover Project.

In addition to being attached, the report is available for review at the following link:

[redacted]

Please share any comments you may have by March 22, 2022.

[redacted]

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

From: Tanya Hill-Montour
To: Indigenous Relations
Cc: Tayler Hill; Lonny Bomberry; Clara Chan; Brian Poole; Dara Corrigan; Dawn LaForme; Simon Strauss
Subject: Re: Heritage Road Layover - Stage 1 AA for Review
Date: March 25, 2022 7:59:45 AM
Attachments: image001.png
image002.png
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image002.png

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Good morning

April 9, 2022 is perfect

Kind Regards,

Tanya j. Hill-Montour B.A Hons.
Six Nations of the Grand River - Archaeology Supervisor.
[redacted]

> On Mar 24, 2022, at 5:39 PM, Indigenous Relations <IndigenousRelations@metrolinx.com> wrote:
>
> Hi Tanya,
>
> Apologies for another follow-up email. Can you let me know if you are planning on providing comments/feedback on the Heritage Road Layover Project Stage 1 AA? If so, are you able to do so by April 8?
>
> See email chain below for reference.
>
> Thank you! Have a great evening!
>
> Marilyn
>
> **Marilyn Stoyle, M.Ed** *(she/her)*
> Community Relations & Issues Specialist, Indigenous Relations
> 10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
> C: 437-688-5342

From: Dawn LaForme [redacted]
Sent: February 11, 2022 11:18 AM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Tanya Hill-Montour [redacted]; Tayler Hill [redacted] Lonny Bomberry [redacted] Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover - Stage 1 AA for Review

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Good morning Jaimi,

[redacted]

Thank you kindly,
Dawn LaForme
Secretary/Receptionist, SN Lands & Resources, [redacted]

From: Indigenous Relations [mailto:IndigenousRelations@metrolinx.com]
Sent: February 8, 2022 3:00 PM
To: Lonny Bomberry [redacted]
Cc: Dawn LaForme [redacted]; Tanya Hill-Montour [redacted] Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover - Stage 1 AA for Review

Dear Lonny and Team,

Please find attached, a letter outlining the Stage 1 Archaeological Assessment Report for your review, in relation to the Heritage Road Layover Project.

In addition to being attached, the report is available for review at the following link:

[redacted]

Please share any comments you may have by March 22, 2022.

[redacted]

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

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From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: April-21-22 4:57 PM
To: Tanya Hill-Montour [redacted]
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Dawn LaForme [redacted]
Subject: Follow up with IN for Heritage Road Layover- Stage 1 AA for Review

Hi Tanya,

Further to the attached email, are still planning to provide comments or feedback for the Stage 1 AA for Heritage Road Layover?

Make today great,

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Communications Division
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

From: Tanya Hill-Montour
To: Indigenous Relations
Cc: Clara Chan; Brian Poole; Dara Corrigan; Simon Strauss
Subject: Re: Heritage Road Layover - Stage 1 AA for Review
Date: June 13, 2022 5:29:30 PM
Attachments: image001.png
image002.png
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image002.png

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Good afternoon

In regarding the Heritage road layover project stage 1 AA. SNGREC does not have any concerns at this time with the proposed methodologies.

We do have interest in participating with Archeology and Environmental fieldwork.

Kind Regards,

Tanya j. Hill-Montour Hons. BA
SNGREC Archaeology Supervisor
[redacted]

> On Jun 9, 2022, at 4:54 PM, Indigenous Relations <IndigenousRelations@metrolinx.com> wrote:
>
> Hi Tanya,
>
> Just checking in on this. I think the team needs to submit the file ASAP – if you can provide the comments/feedback by Monday it can still be included .
>
> Thank you and apologies for all the emails!
>
> Marilyn
>
> **Marilyn Stoyle, M.Ed** *(she/her)*
> Community Relations & Issues Specialist, Indigenous Relations
> 10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
> C: 437-688-5342
>
> image001.png

From: Tanya Hill-Montour [redacted]
Sent: June 8, 2022 5:59 PM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Re: Heritage Road Layover - Stage 1 AA for Review

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Hi Marilyn

I will let you know in morning, i thought i sent comments

Kind Regards,

Tanya j. Hill-Montour Hons. BA

SNGREC Archaeology Supervisor

[redacted]

[redacted]

> On Jun 8, 2022, at 3:26 PM, Indigenous Relations <IndigenousRelations@metrolinx.com> wrote:
>
> Hi Tanya,
>
> I hope you're feeling better than the last time that we spoke! I wanted to follow-up with you again about whether you have any comments to share regarding the Heritage Road Layover project Stage 1 AA?
>
> Thanks!
> Marilyn

From: Indigenous Relations
Sent: March 24, 2022 5:39 PM
To: Tanya Hill-Montour [redacted]
Cc: Tayler Hill [redacted] Lonny Bomberry [redacted] Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Dawn LaForme [redacted]; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover - Stage 1 AA for Review

Hi Tanya,

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See email chain below for reference.

Thank you! Have a great evening!

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

image001.png

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Sent: February 11, 2022 11:18 AM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Tanya Hill-Montour [redacted] Tayler Hill [redacted]; Lonny Bomberry [redacted] Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover - Stage 1 AA for Review

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[redacted]

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From: Indigenous Relations [mailto:IndigenousRelations@metrolinx.com]
Sent: February 8, 2022 3:00 PM
To: Lonny Bomberry [redacted]
Cc: Dawn LaForme [redacted]; Tanya Hill-Montour [redacted]; Clara Chan <Clara.Chan@metrolinx.com>; Brian Poole <Brian.Poole@metrolinx.com>; Dara Corrigan <Dara.Corrigan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover - Stage 1 AA for Review

Dear Lonny and Team,

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In addition to being attached, the report is available for review at the following link:

[redacted]

Please share any comments you may have by March 22, 2022.

[redacted].

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.

Jaimi

Jaimi O'Hara
Acting Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
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METROLINX

February 08, 2022

Chief Mark Hill
c/o Lonny Bomberry, Director, Lands & Resources
Six Nations of the Grand River
[redacted]
[redacted]
Delivered by Email

Dear Mr. Bomberry,

RE: Heritage Road Layover - Draft Stage 1 Archaeological Assessment Report for Review

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Six Nations of the Grand River. Metrolinx values its relationship with the Six Nations of the Grand River and it is our wish to continue to work with your Nation as we move forward. The purpose of this letter is to share with you the draft Stage 1 Archaeological Assessment (AA) Report for Heritage Road Layover, as well as the previous reports for the surrounding lands for supplemental information.

Metrolinx is proposing to install a new layover facility (Heritage Road Layover, or the Project) to support the GO Expansion program along Kitchener Corridor. The Project is being assessed under the Transit Project Assessment Process (TPAP) (Ontario Regulation 231/08), and an initial Project Introduction letter was sent via email to Six Nations of the Grand River on January 7th, 2022.

We want to emphasize that this project has a long history and pre-dates Metrolinx's Indigenous Relations Office (IRO). With guidance from the IRO, and informed by ongoing discussion with Indigenous Nations, Metrolinx is changing its business practices to ensure that meaningful engagement happens earlier and throughout the life cycle of our projects. Metrolinx wishes to emphasize that it is committed to ensuring appropriate engagement occurs on this project as we move forward.

Project Description

The Heritage Road Layover facility is proposed to accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor. The layover will provide additional train storage capacity which is required to achieve the proposed level of

service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station), and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.



Figure 1. Project Location

Archaeology Study Summary

Portions of this proposed Project were contemplated during previous Environmental Assessments, including the Georgetown EA in 2006. As such, some archaeological studies were conducted for the Project in 2014 and 2017, as part of environmental due diligence which, regrettably, were not shared with Six Nations of the Grand River for review, nor were opportunities to participate extended. These studies occurred prior to the establishment of the Indigenous Relations Office (IRO) at Metrolinx, and we acknowledge that previous engagement may not have met the expectation of Six Nations of the Grand River.

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Group), assessed an area located east of the Heritage Road Layover Site. The Stage 3 AA for McNichol Cemetery was reviewed as part of the Project due to its proximity to the Site. These past AAs have been previously shared with your Nation in conjunction with the Heritage Road Layover Project Introduction Letter sent on January 7, 2022 (see **Table 1**).

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Stage 3 AA Report	McNichol's Cemetery, approximately east of Heritage Road Layover site	Archeoworks Inc. (Prepared for Forest Hill Homers/State Building Group)	2017-Sep-13

Metrolinx regrets that the previous Stage 1 and 2 AA reports were submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) prior to providing an opportunity for review. We understand this is contrary to building a meaningful relationship with Six Nations of the Grand River. We endeavour to make sure Indigenous monitors are invited to participate in field work and that reports are shared in draft form moving forward. To that end, as part of the TPAP, Metrolinx completed a Stage 1 AA investigation of the Heritage Road Layover, the draft report is attached for your review.

The Stage 1 AA included a gap analysis of the archeological work previously completed, and gathered additional information associated with the Site. The Stage 1 AA confirmed archeological potential of the Site.

The report included the following recommendations for next steps:

- A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in Figure 2).
- Archeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) is not anticipated to be impacted by the Project (dark blue area in Figure 2). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.
- The former unmarked historical-period cemetery, McNichol's Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

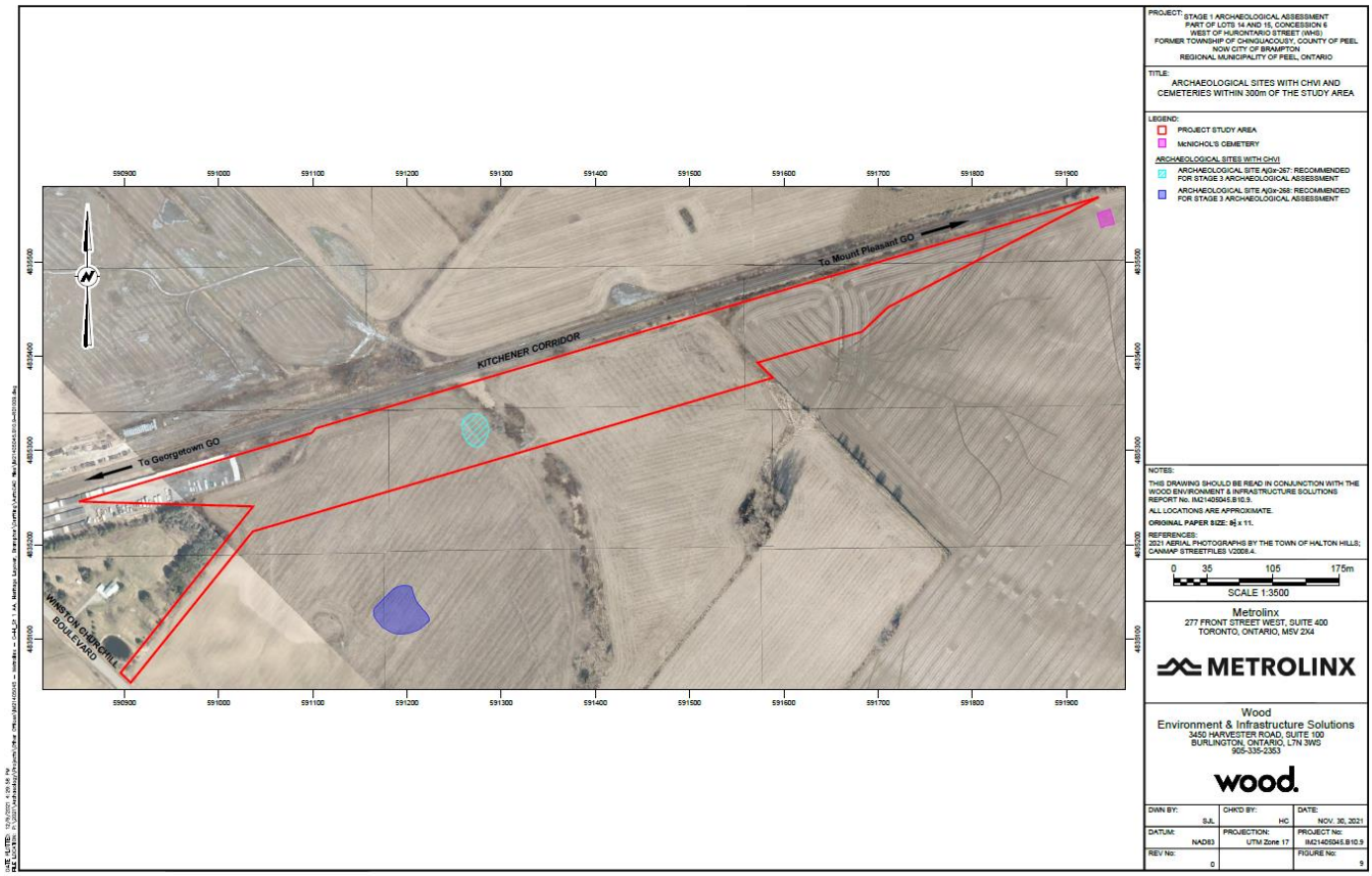


Figure 2. Stage 1 Archeological Study Area

Invitation to Participate

Metrolinx would value the involvement of Six Nations of the Grand River in the aforementioned Stage 3 AA field investigation, which is planned for April 2022. Should your Nation wish to participate, please let us know at your earliest convenience. We welcome any requests for a meeting to discuss opportunities to participate or to explore this project in more detail with Six Nations of the Grand River. Upon receipt of Six Nations of the Grand River interest in participating, Metrolinx will work to coordinate your Nation's involvement. Metrolinx is also willing to share fieldnotes and/or a summary of the field data in addition to the open invitation to participate directly in the monitoring.

Invitation for Input

Metrolinx values any input that Six Nations of the Grand River is willing to provide on the attached Draft Stage 1 AA. We are happy to meet with Six Nations of the Grand River to go over the project in more detail and answer any questions Six Nations of the Grand

River may have on the report or the Heritage Road Layover Project more broadly. Should you wish to provide comments on this report, please submit your feedback in writing by March 22, 2022.

Metrolinx remains committed to building a long-term relationship with Six Nations of the Grand River, and we recognize that this requires transparency. The IRO has been guiding the organization and identifying ways in which we can more meaningfully engage with Indigenous Nations; this includes ensuring that engagement on projects occurs early and often. Metrolinx values its relationship with Six Nations of the Grand River and we are committed to building open and respectful engagement with Six Nations of the Grand River.

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com.

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Dawn LaForme, Secretary/Receptionist, Six Nations of the Grand River
Tanya Hill-Montour, Archaeological Coordinator, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Huron-Wendat Nation & Metrolinx Monthly Meeting

Heritage Road Layover

February 10, 2022

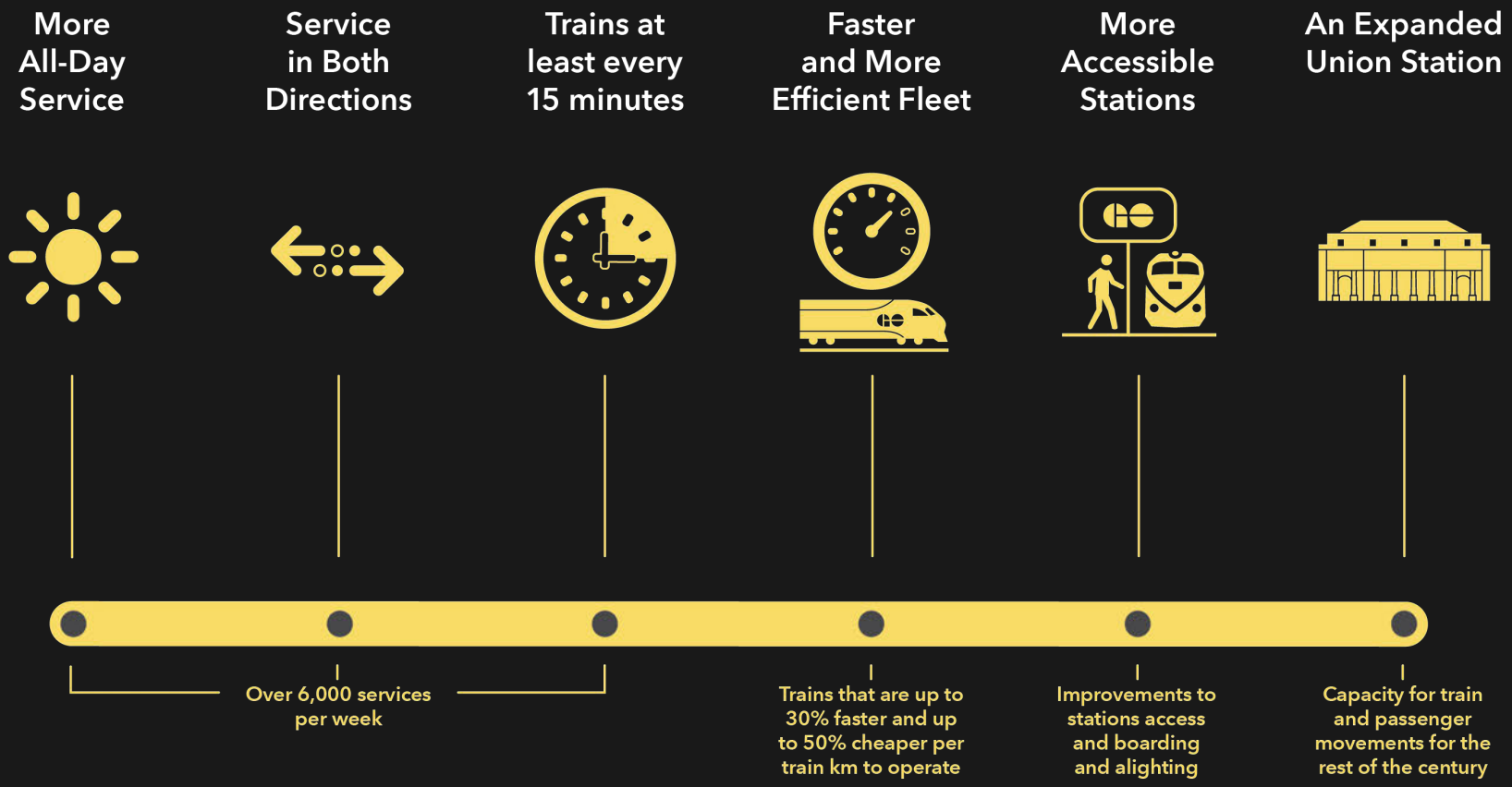
AGENDA

1. Introductions
2. Project Overview
3. Transit Project Assessment Process
4. Environmental Studies
5. Questions/Discussion

Project Overview

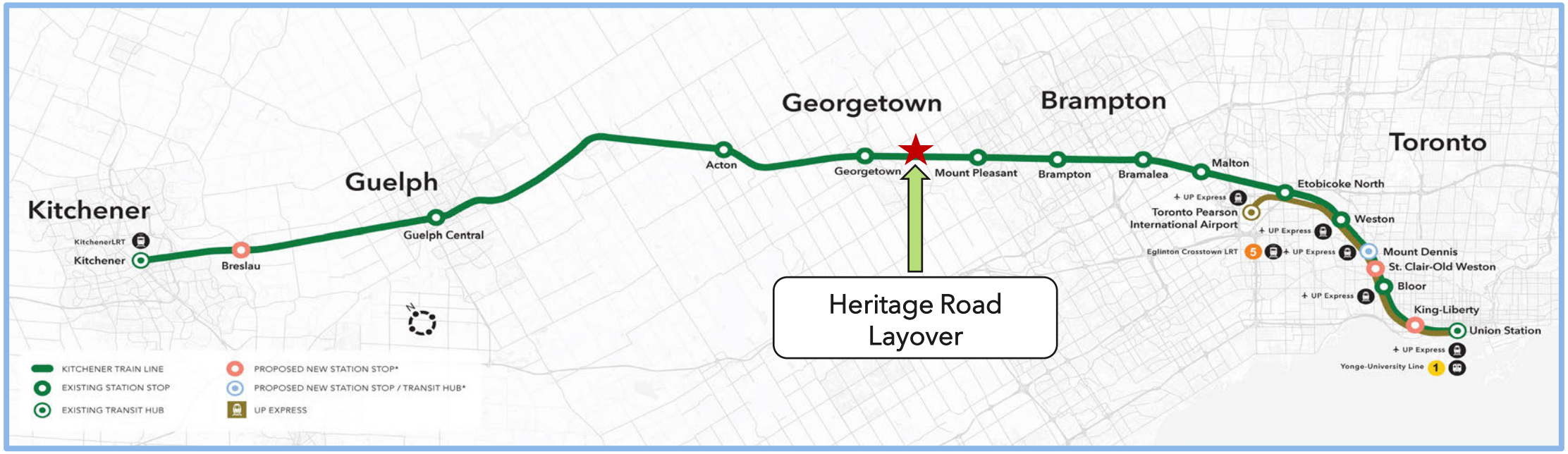
GO Expansion

The GO Expansion program will provide a range of improvements across the GTHA:



GO EXPANSION – KITCHENER CORRIDOR

- To get people moving we are actively building and upgrading existing GO rail stations; adding new track; building and opening new maintenance and storage facilities, including train layovers; expanding and revitalizing bridges around our region; and improving pedestrian connections.
- Construction of a train layover (Heritage Road Layover) is proposed along the Kitchener Rail Corridor between Heritage Road and Winston Churchill Boulevard. This would reduce congestion along the corridor.



WHAT IS A TRAIN LAYOVER AND HERITAGE ROAD LAYOVER DETAILS

A train layover is a support facility that provides:

- Overnight storage for trains
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- Heritage Road Layover is proposed within Halton Subdivision of the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station
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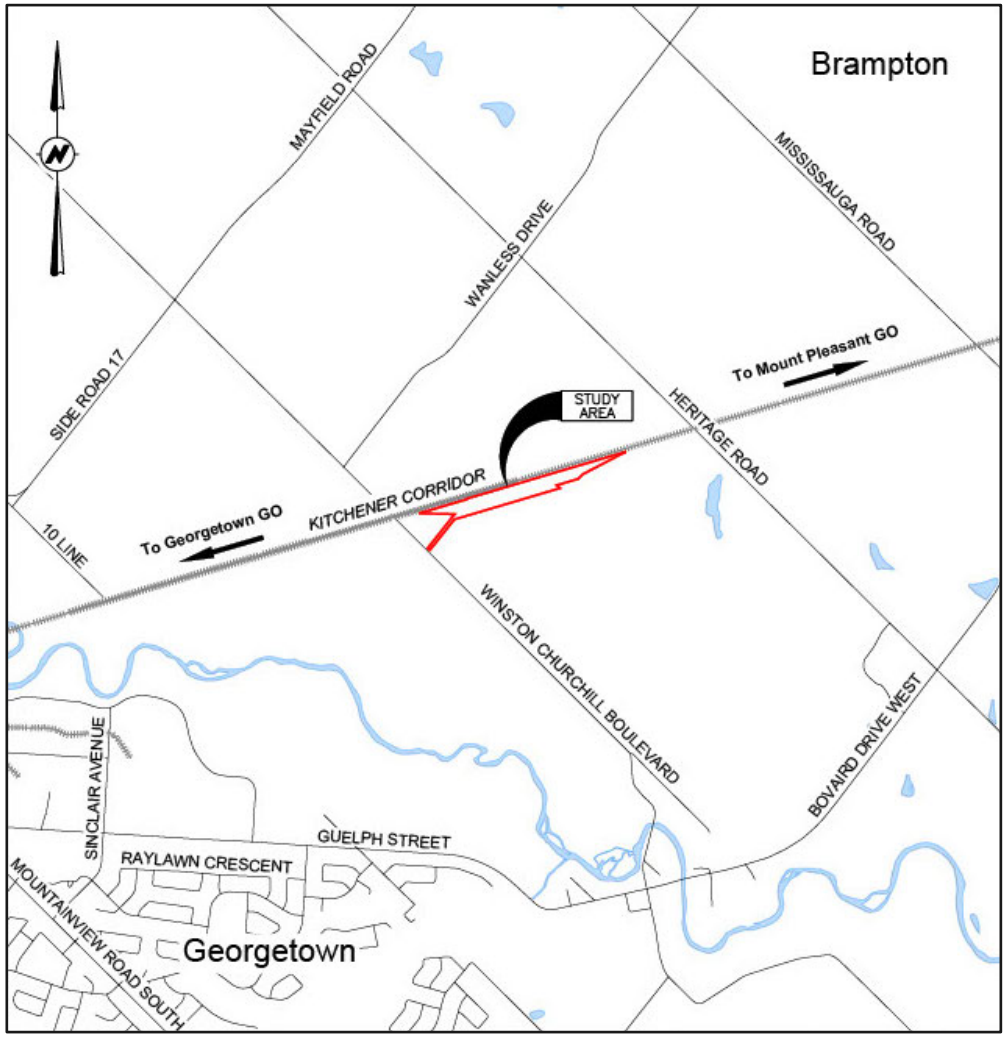
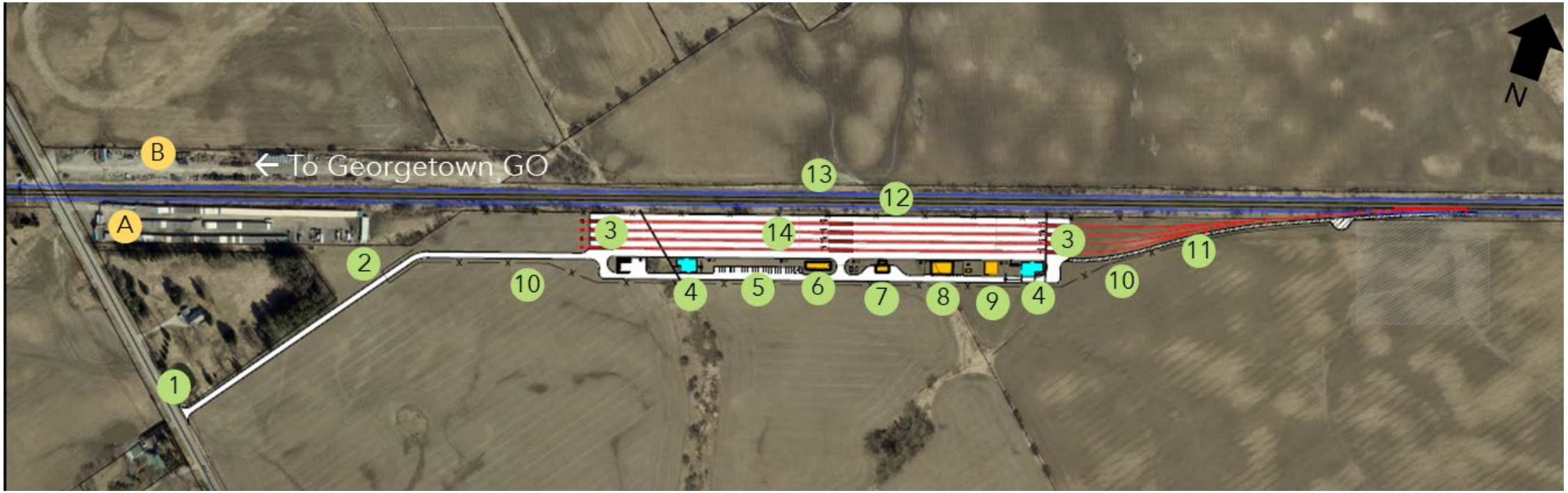


HERITAGE ROAD LAYOVER FACILITY DESIGN



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track

Legend

1 Facility Entrance
2 Gate
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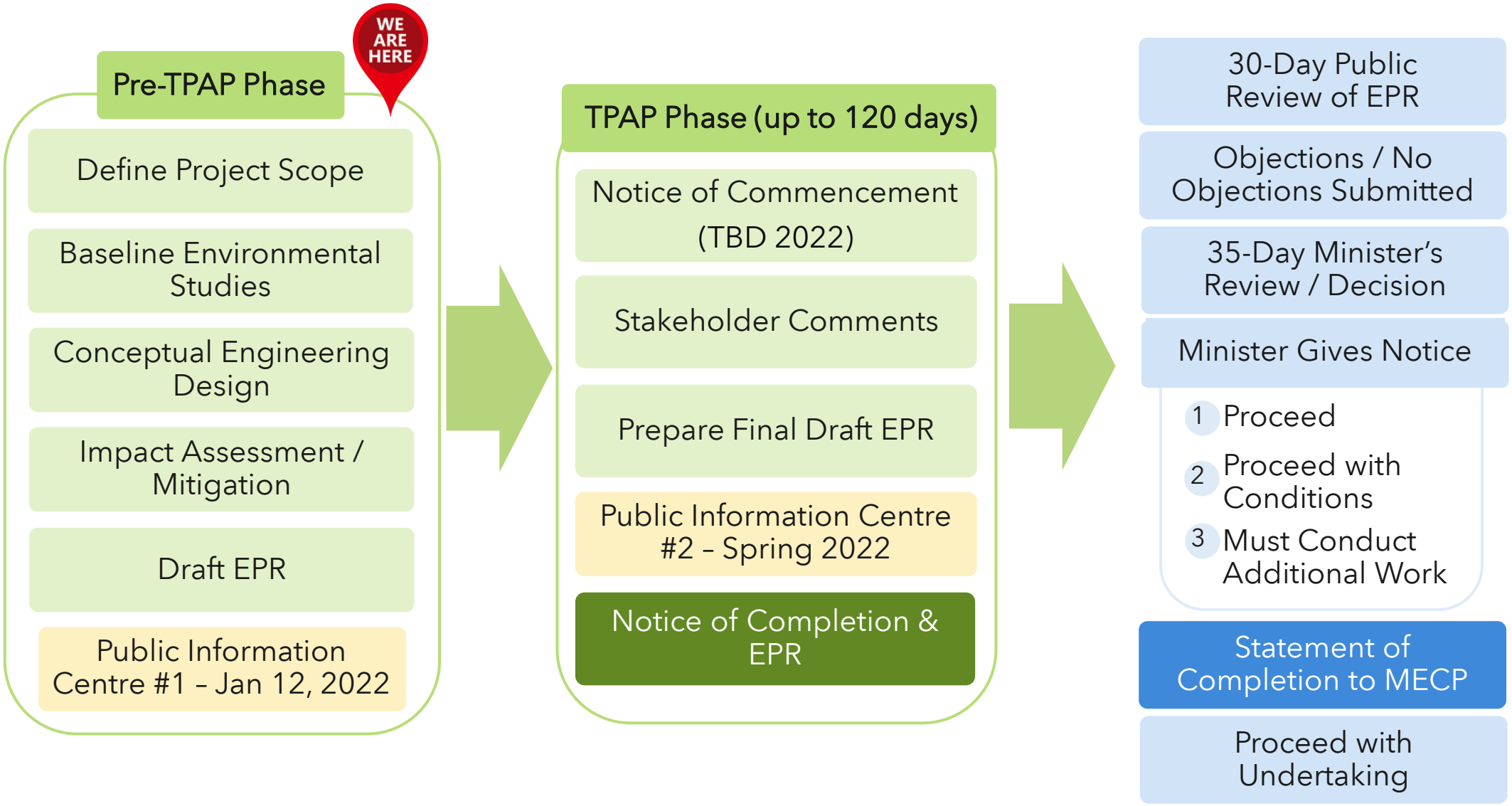
Transit Project Assessment Process

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP)



Environmental Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Technical studies are being completed under the TPAP to ensure that natural, social cultural and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Air Quality



Archaeology



Natural Environment



Noise & Vibration



Cultural Heritage



Tree Inventory Plan



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Natural Environment

- Desktop review of aquatic and land environments
- Surveys of potential for species at risk (Butternut and barn swallow)
- Fish and fish habitat assessment
- Plant inventory

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- Stage 1 and 2 AAs were previously completed.
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- A new Stage 1 AA was completed reviewing existing studies, gap analysis and obtaining additional information. Recommendation to complete a Stage 3 directly.
- Field work for Stage 3 AA will be carried out in spring 2022 by licensed professional archaeologists
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- Classify trees per the Metrolinx Vegetation Guidelines and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- As necessary, a Tree Protection Zone will be established during the construction process

Note: Phase I and II Environmental Site Assessments, as well as geotechnical studies will also be completed concurrently with the TPAP studies to support the design of the Heritage Road Layover

UPCOMING FIELD STUDIES

Planned field studies include :

Discipline/Activity	Estimated 2022 Timeframe*
Natural Environment	
Fish and Fish Habitat Assessment	March/April
Vegetation Survey and Tree Inventory	May/June
Archaeological Work	
Stage 1 Archaeological Assessment	Circulated February 8
Stage 3 Archaeological Assessment	Late March/Early April
Cultural Heritage Cultural Heritage Evaluation (Adjacent property)	February
Phase II Environmental Site Assessment/Geotechnical	February
Noise and Vibration Monitoring	March

Notes
* Permissions to Enter (PTEs) are still being negotiated; timing may change based on when PTEs are obtained.

NEXT STEPS

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DISCUSSION/QUESTION PERIOD


METROLINX

Mississaugas of the Credit First Nations & Metrolinx Monthly Meeting

Heritage Road Layover

February 18, 2022

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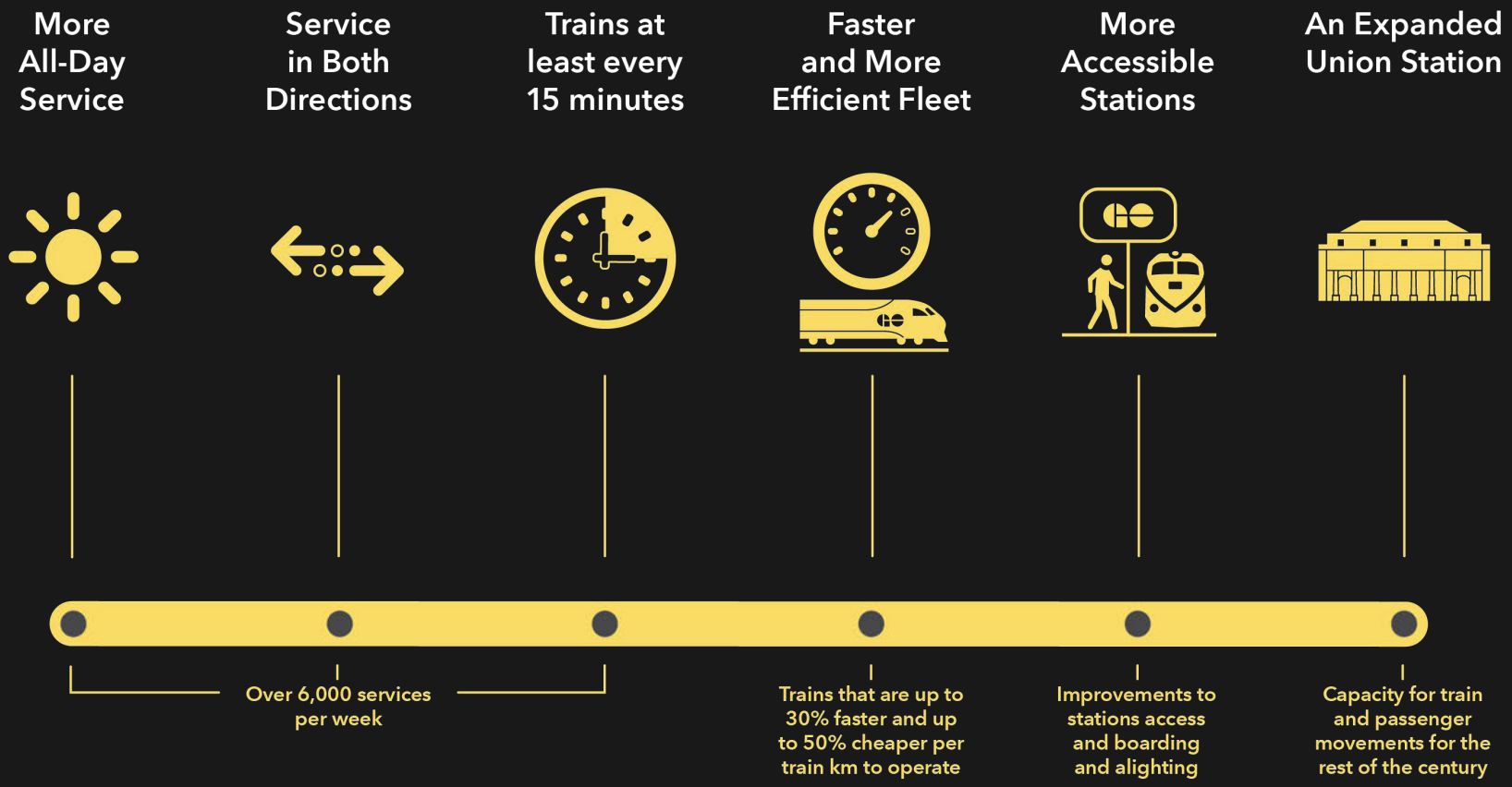

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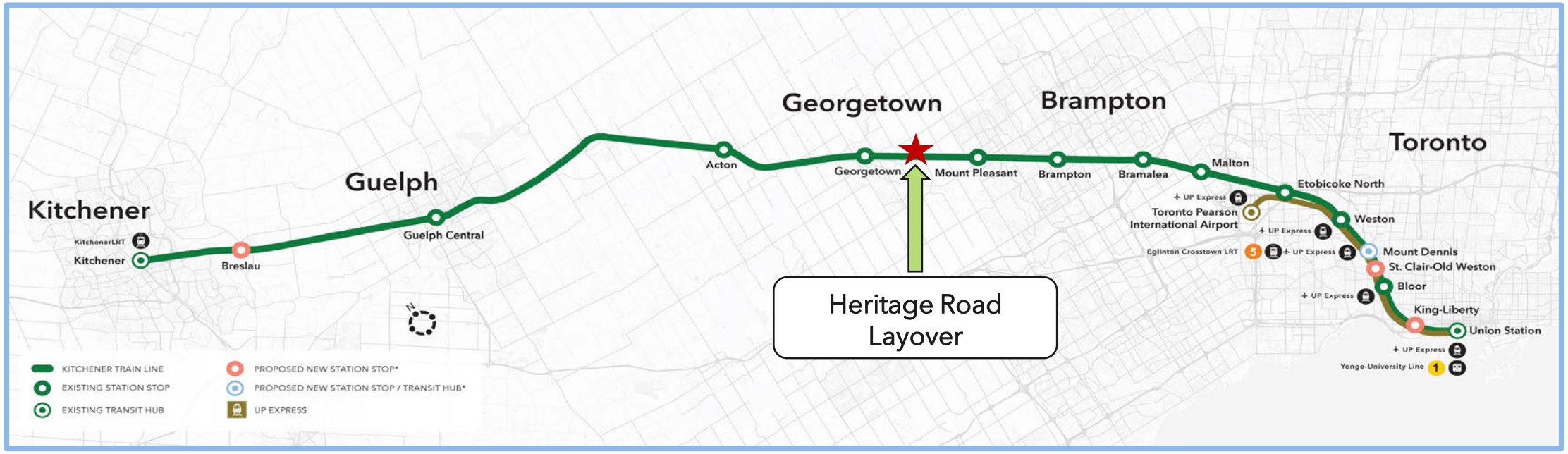

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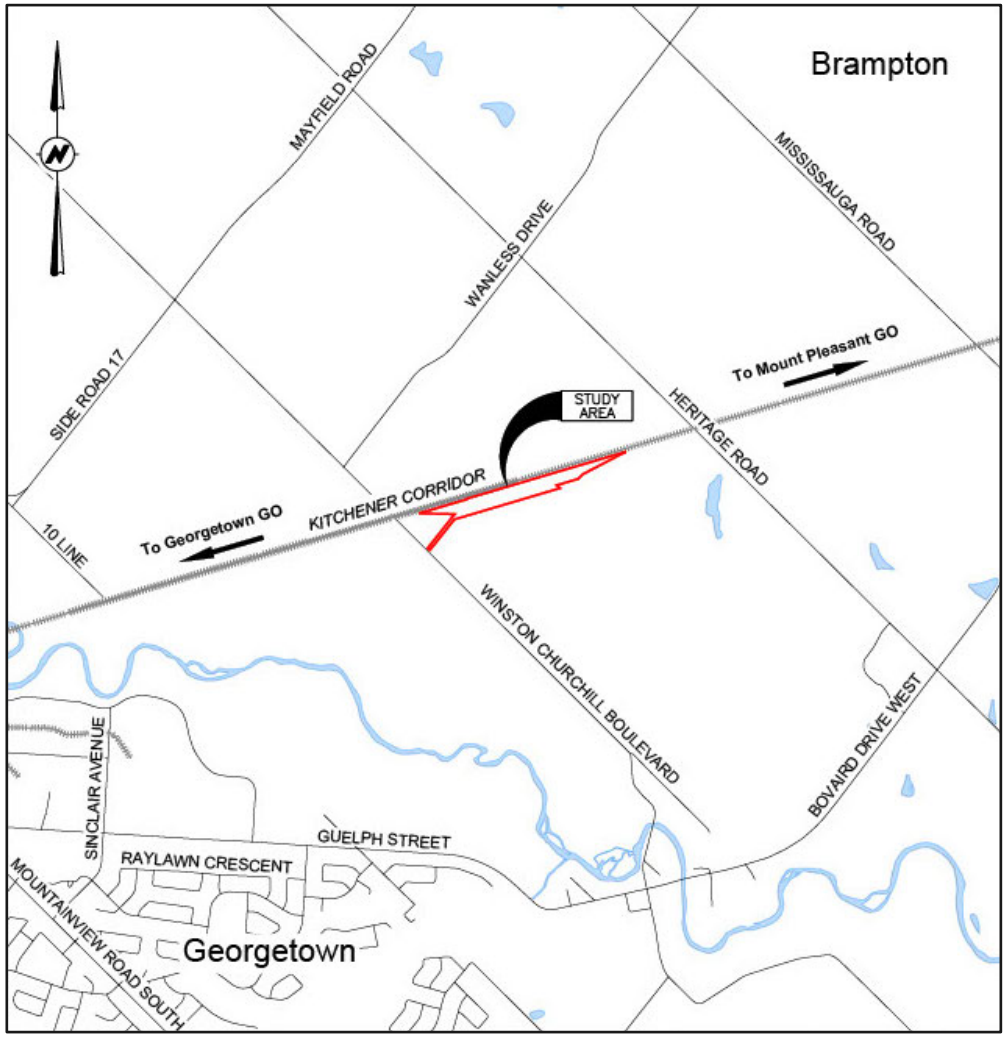

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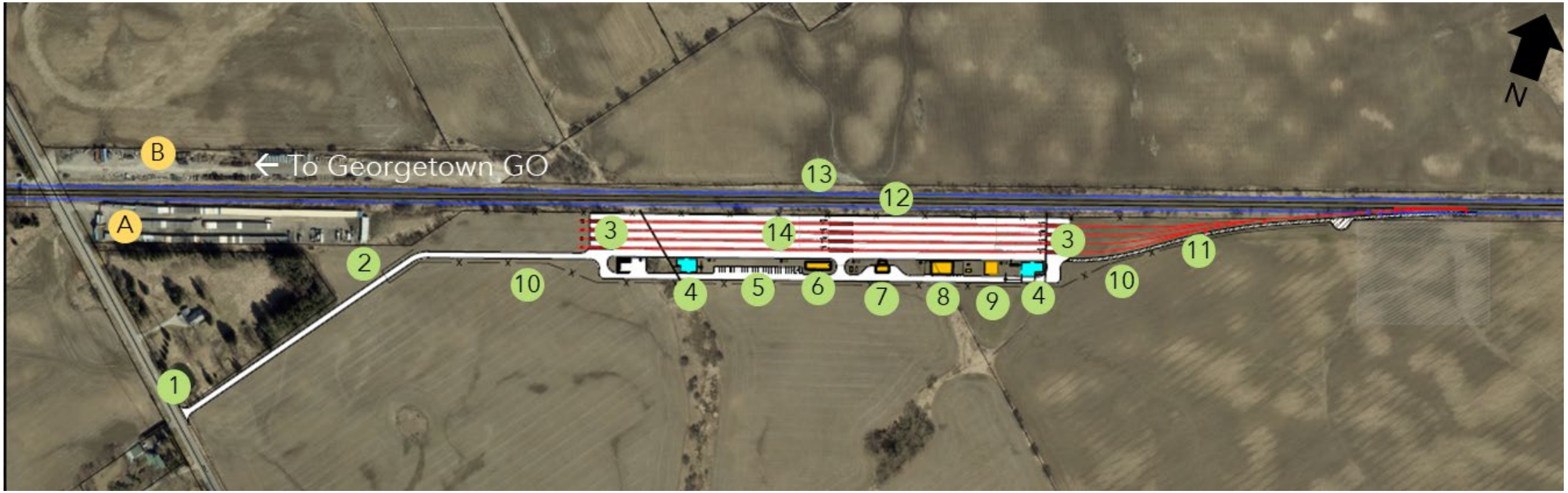

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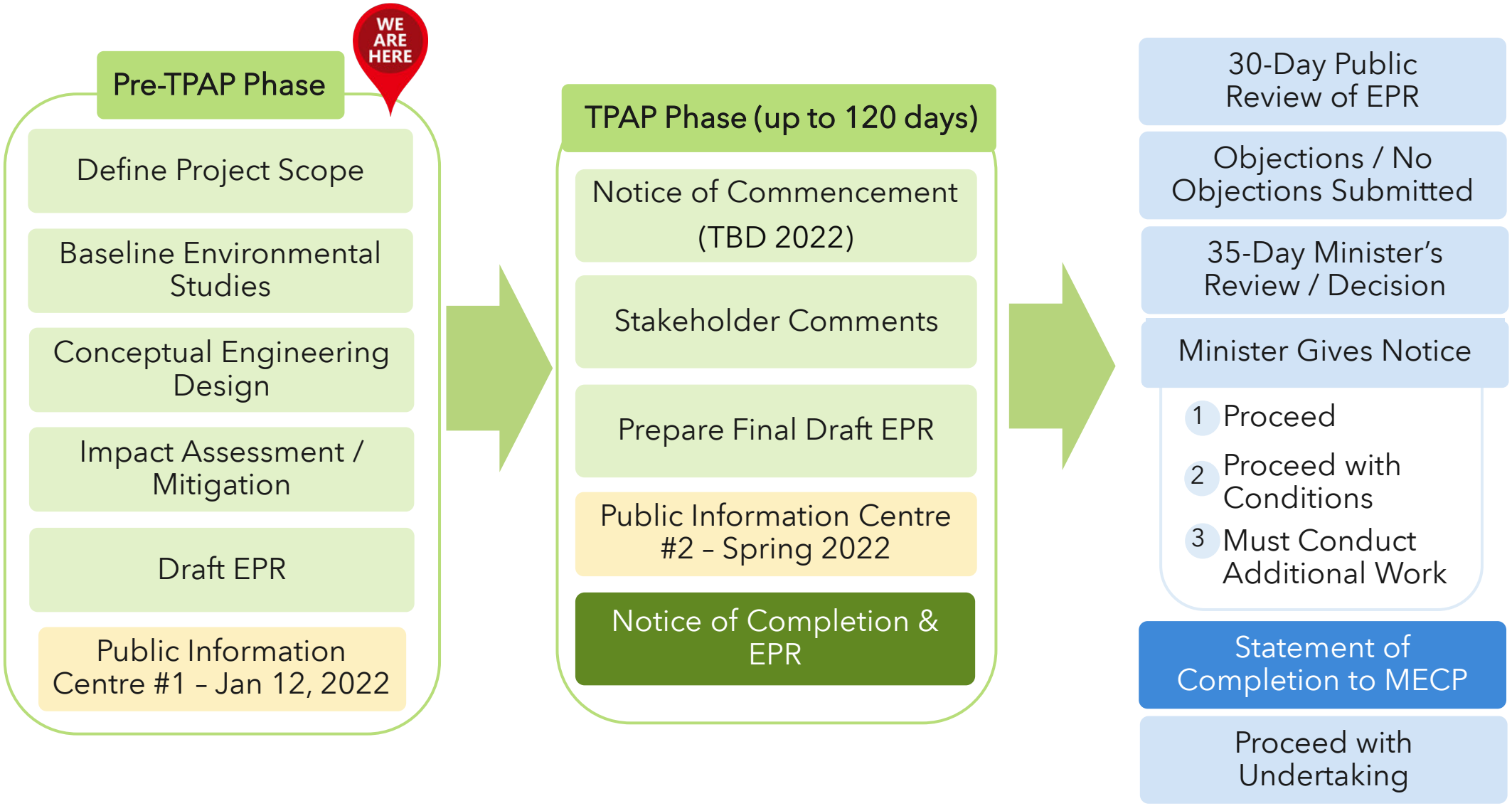

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DISCUSSION/QUESTION PERIOD


METROLINX

From: Indigenous Relations
Sent: March 7, 2022 3:01 PM
To: [redacted]
Cc: Chamberlain, Adam [redacted]
Subject: Heritage Road Layover - Draft Cultural Heritage Report

Dear Ms. Koerner Yeo and Ms. Esmonde,

As per our previous correspondence dated December 16, 2021, [redacted] we wanted to share with you the Cultural Heritage Report (CHR) for the Heritage Road Layover Project.

The report can be accessed using the following link:

[redacted]

In order to ensure that any comments received by HCCC/HDI can be incorporated into the report prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries register, we ask that you please share any comments you may have before April 18, 2022.

[redacted]

Please let me know if you have any further questions or if the Indigenous Relations Office can be of any further assistance.

Thank you,
Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

METROLINX

Ms. Tracey General, Office Manager
Haudenosaunee Confederacy Chiefs Council
[redacted]

Delivered by Email

Dear Ms. General,

RE: Heritage Road Layover - Draft Cultural Heritage Report for Review

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Haudenosaunee Confederacy Chiefs Council. The purpose of this letter is to share with you the draft Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) for the Heritage Road Layover Project.

Metrolinx is proposing to install a new layover facility (Heritage Road Layover) to support the GO Expansion program along Kitchener Corridor. The Project is being assessed under the Transit Project Assessment Process (TPAP) (Ontario Regulation 231/08), and an initial Project Introduction letter was sent via email to Haudenosaunee Confederacy Chiefs Council on January 7th, 2022.

A Draft Cultural Heritage Screening Report (CHSR) was conducted in 2016 on behalf of Metrolinx as part of due diligence in advance of the proposed Project. However, this report was not shared with Haudenosaunee Confederacy Chiefs Council or finalized, as the project was put on hold in 2017. The Draft CHSR was a desktop study and the findings were reviewed as part of the attached draft Cultural Heritage Report, described in more detail below.

Project Description

The Heritage Road Layover facility is proposed to accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile

21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.



Figure 1. Project Location

Cultural Heritage Study Summary

Metrolinx completed a draft Cultural Heritage Report for Heritage Road Layover which is attached for Haudenosaunee Confederacy Chiefs Council's review. The purpose of the draft Cultural Heritage Report is to identify existing baseline cultural heritage conditions within the Cultural Heritage Study Area (Figure 2), conduct a preliminary impact assessment, and identify potential mitigation measures through:

- a historical review of the development of the Heritage Road Layover study area,
- completion of a windshield survey from publicly accessible areas, and
- present an inventory of all known, and previously identified and potential built heritage resources and cultural heritage landscapes within the Cultural Heritage Study Area.

The Cultural Heritage Report identified a total of three known and potential heritage properties in the Study Area (**Figure 2**).

1. CHR 1– former McNichol cemetery, 10510 Heritage Road;
2. CHR 2 – residential property at 10827 Winston Churchill Boulevard (residence identified to be more than 40 years old and with potential built heritage value).

3. CHR 3 – residential property at 10746 Winston Churchill Boulevard (property contains a Victory style structure constructed during the mid-20th century with possible built heritage significance).

Based on the results of the preliminary impact assessment, the following recommendations were made:

1. Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
2. While no direct or indirect impacts were anticipated to CHR 1 from a cultural heritage perspective, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, it was advised to adhere to the guidance outlined in the Stage 1 Archaeological Assessment (circulated to Haudenosaunee Confederacy Chiefs Council on February 8, 2022). The guidance included installation of protective fencing and appropriate buffers.
3. No impacts anticipated to CHR 3.

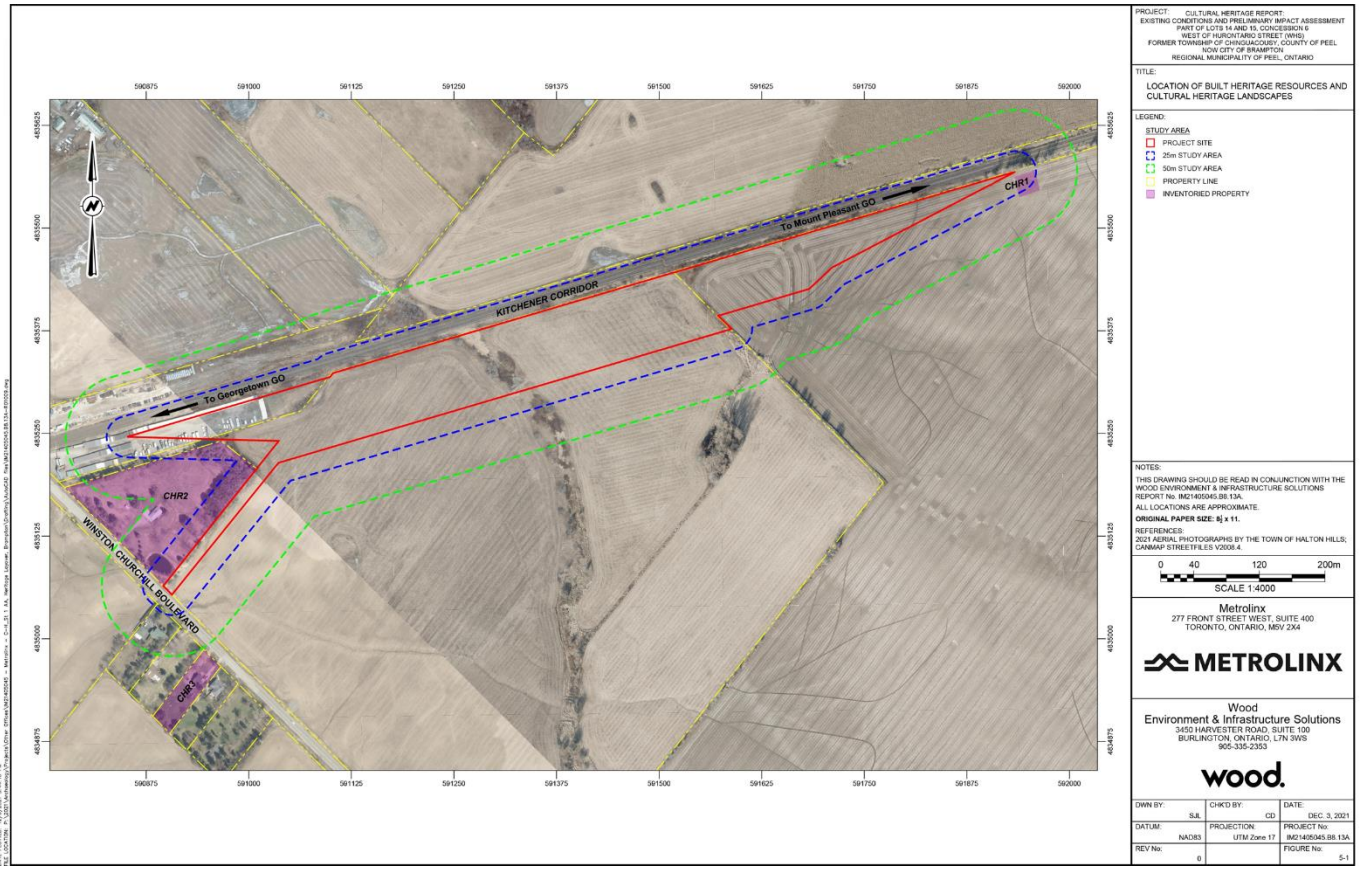

Figure 2. Cultural Heritage Report Study Area and Location of Known and Potential Built Heritage Resources and Cultural Heritage Landscapes

METROLINX

Invitation for Input

Metrolinx values any input that Haudenosaunee Confederacy Chiefs Council is willing to provide on the attached Draft Cultural Heritage Report. We are happy to meet with Haudenosaunee Confederacy Chiefs Council to go over the project in more detail and answer any questions Haudenosaunee Confederacy Chiefs Council may have on the report or the Heritage Road Layover Project more broadly. Should you wish to provide comments on this report, please submit your feedback in writing by April 18, 2022.

Metrolinx will also be issuing a Notice of Commencement on March 24, 2022 under the TPAP. During the formal TPAP period, Metrolinx will continue to keep Haudenosaunee Confederacy Chiefs Council apprised of activities associated with the Project including report review and engage Haudenosaunee Confederacy Chiefs Council in opportunities to participate in field activities as they arise.

Metrolinx remains committed to building a long-term relationship with Haudenosaunee Confederacy Chiefs Council, and we recognize that this requires transparency. The IRO has been guiding the organization and identifying ways in which we can more meaningfully engage with Indigenous Nations; this includes ensuring that engagement on projects occurs early and often. Metrolinx values its relationship with Haudenosaunee Confederacy Chiefs Council and we are committed to building open and respectful engagement with Haudenosaunee Confederacy Chiefs Council.

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com. Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Todd Williams, Haudenosaunee Development Institute
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx

Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

From: Jackie Esmonde [redacted]
Sent: March-10-22 3:21 PM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>; Lara Koerner-Yeo [redacted]
Cc: Chamberlain, Adam [redacted]
Subject: RE: Heritage Road Layover - Draft Cultural Heritage Report

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Dear Metrolinx Representative:

We are writing in response to your March 7, 2022 Notice of a Draft Cultural Heritage Report regarding the Heritage Road Layover.

HCCC/HDI has established rights within the Nanfan Treaty and Haldimand Treaty territories. An email attaching technical documents relating to development within that territory, and with a short timeframe for response, is not consistent with Haudenosaunee inherent Indigenous and treaty rights, including rights to free, prior and informed consent as well as Haudenosaunee rights to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

In the absence of an Engagement Framework, we refer you to HDI's established process for engagement:https://www.haudenosauneeconfederacy.com/departments/haudenosaunee-development-institute/development/

[redacted]

Until meaningful engagement has taken place, HCCC/HDI objects to the approval of any Metrolinx projects within Haudenosaunee territory with the placement of our monitors on those projects

expressly not constituting consent, approval or any form of engagement/consultation. An extension of the stated deadline will be needed for such engagement to occur.

Jackie Esmonde
Cavalluzzo LLP
Pronouns: she/her

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: March 7, 2022 3:01 PM
To: Jackie Esmonde [redacted] Lara Koerner-Yeo [redacted]
Cc: Chamberlain, Adam [redacted]
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The report can be accessed using the following link:

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In order to ensure that any comments received by HCCC/HDI can be incorporated into the report prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries register, we ask that you please share any comments you may have before April 18, 2022.

Metrolinx is prepared to provide capacity supports to HCCC/HDI to support the review of these materials.

Please let me know if you have any further questions or if the Indigenous Relations Office can be of any further assistance.

Thank you,
Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations

10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

METROLINX

This e-mail is intended only for the person or entity to which it is addressed. If you received this in error, please contact the sender and delete all copies of the e-mail together with any attachments.

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From:	Indigenous Relations
To:	Lori-Jeanne Bolduc; Dominic Ste-Marie
Cc:	Simon Strauss; Clara Chan; Dara Corrigan; Brian Poole
Subject:	Heritage Road Layover - Draft Cultural Heritage Report
Date:	March 7, 2022 3:01:43 PM
Attachments:	Heritage Layover_DraftCHR_Invitation for Review_HWN.pdf image001.png

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Dear Lori-Jeanne and Dominic,

Metrolinx continues to advance the Heritage Road Layover Project and would like to share with you for review the draft Cultural Heritage Report (CHR). In addition to the attached letter which offers a high-level overview, the report for review can be found at the following link:

[redacted]

Please share any comments you may have by **April 18, 2022.**

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.
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METROLINX

Grand Chief Rémy Vincent
Huron-Wendat Nation
[redacted]
Delivered by email

Dear Grand Chief Vincent,

RE: Heritage Road Layover - Draft Cultural Heritage Report for Review

Metrolinx remains committed to meaningful consultation and engagement and values its relationship with Huron-Wendat Nation. It is our wish to continue to work with your Nation as we move forward. The purpose of this letter is to share with you the draft Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) for the Heritage Road Layover Project.

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Based on the results of the preliminary impact assessment, the following recommendations were made:

1. Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
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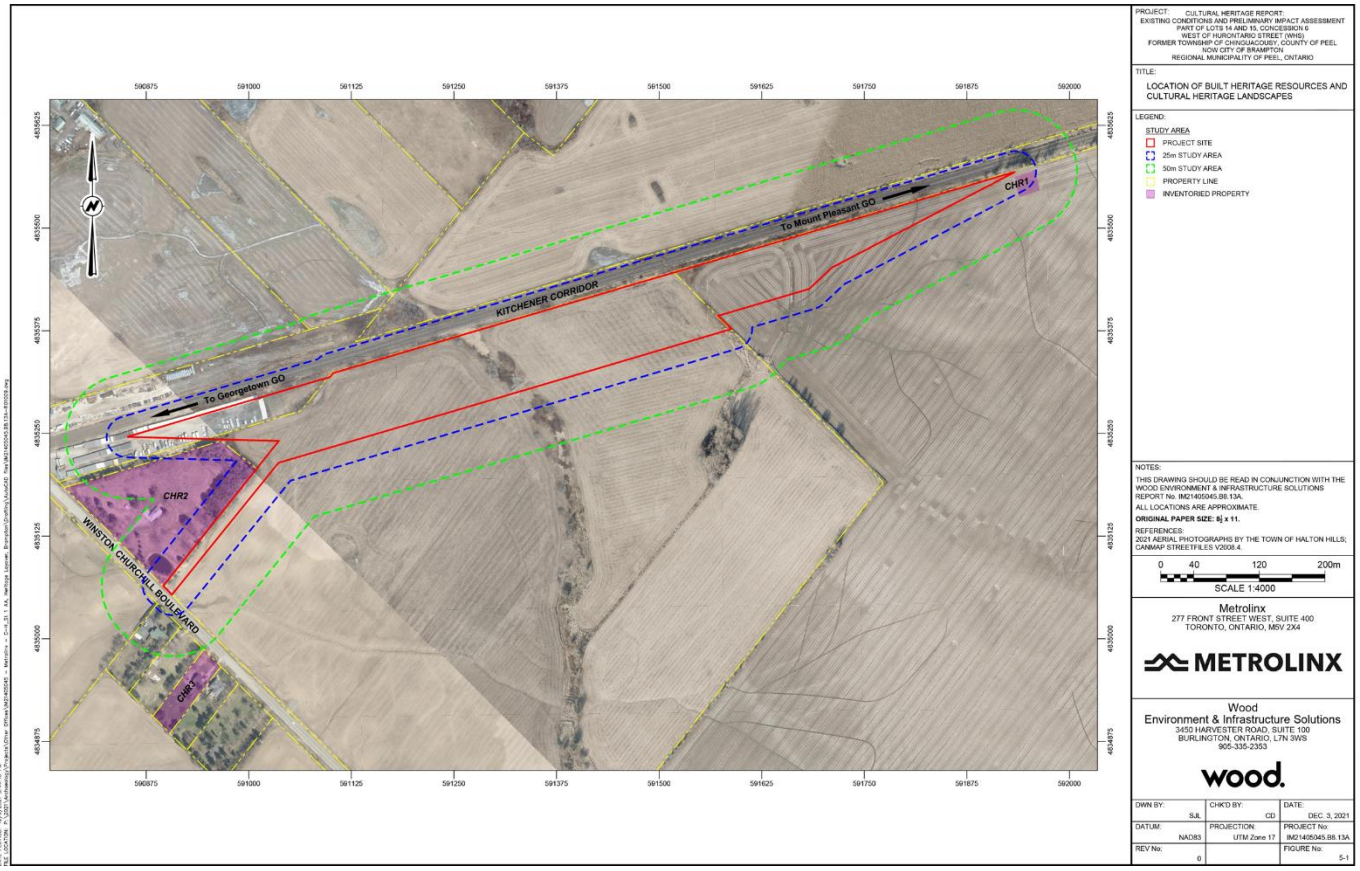

Figure 2. Cultural Heritage Report Study Area and Location of Known and Potential Built Heritage Resources and Cultural Heritage Landscapes

Invitation for Input

Metrolinx values any input that Huron-Wendat Nation is willing to provide on the attached Draft Cultural Heritage Report. We are happy to meet with Huron-Wendat Nation to go over the project in more detail and answer any questions Huron-Wendat Nation may have on the report or the Heritage Road Layover Project more broadly. Should you wish to provide comments on this report, please submit your feedback in writing by April 18, 2022.

Metrolinx will also be issuing a Notice of Commencement on March 24, 2022 under the TPAP. During the formal TPAP period, Metrolinx will continue to keep Huron-Wendat Nation apprised of activities associated with the Project including report review and engage Huron-Wendat Nation in opportunities to participate in field activities as they arise.

Metrolinx remains committed to building a long-term relationship with Huron-Wendat Nation, and we recognize that this requires transparency. The IRO has been guiding the organization and identifying ways in which we can more meaningfully engage with Indigenous Nations; this includes ensuring that engagement on projects occurs early and often. Metrolinx values its relationship with Huron-Wendat Nation and we are committed to building open and respectful engagement with Huron-Wendat Nation.

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager, Indigenous Relations at Metrolinx. She can be contacted at IndigenousRelations@metrolinx.com. Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

Yours Truly,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Lori-Jeanne Bolduc, Huron-Wendat Nation
Dominic Ste-Marie, Huron-Wendat Nation
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx

Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

From:	Indigenous Relations
To:	Adam LaForme
Cc:	Mark LaForme; Simon Strauss; Clara Chan; Brian Poole; Dara Corrigan
Subject:	Heritage Road Layover - Draft Cultural Heritage Report
Date:	March 7, 2022 3:01:31 PM
Attachments:	image001.png Heritage Layover_DraftCHR_Invitation for Review_MCFN.pdf

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Dear Adam,

Metrolinx continues to advance the Heritage Road Layover Project and would like to share with you for review the draft Cultural Heritage Report (CHR). In addition to the attached letter which offers a high-level overview, the report for review can be found at the following link:

[redacted]

Please share any comments you may have by **April 18, 2022.**

If you have any questions or concerns, please feel free to reach out to me at any time.

Thank you for your time and assistance.
Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342



METROLINX

Adam LaForme
Mississaugas of the Credit First Nation
[redacted]
[redacted]

Delivered by email

Dear Mr. LaForme,

RE: Heritage Road Layover - Draft Cultural Heritage Report for Review

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Mississaugas of the Credit First Nation. Metrolinx values its relationship with Mississaugas of the Credit First Nation and it is our wish to continue to work with your Nation as we move forward. The purpose of this letter is to share with you the draft Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (Cultural Heritage Report) for the Heritage Road Layover Project.

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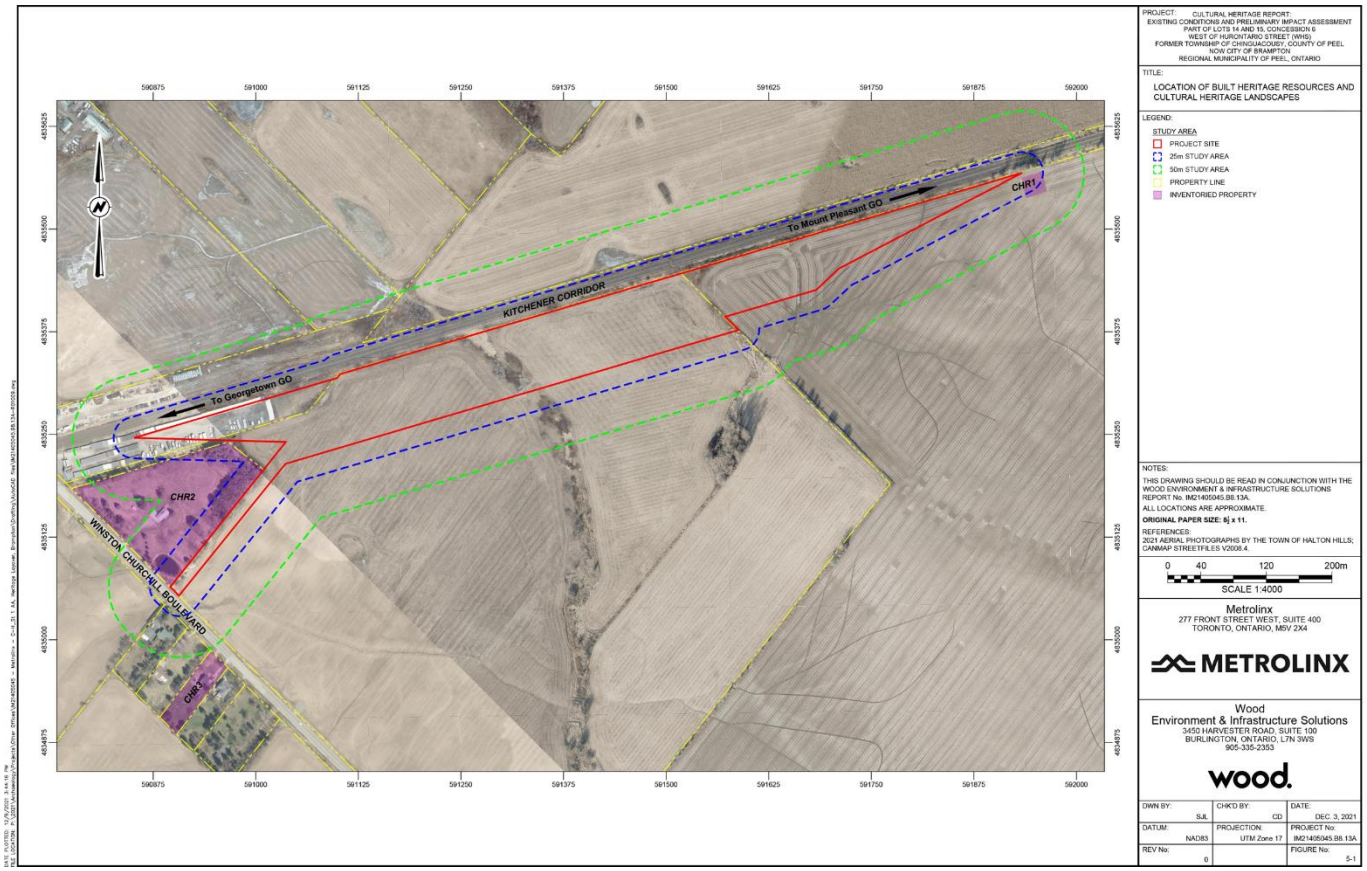

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Yours Truly,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Mark LaForme, Director, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

From:	Indigenous Relations
To:	Lonny Bomberry
Cc:	[redacted]; Dawn LaForme; Tanya Hill-Montour; [redacted] Dawn Russell; Dara Corrigan; Clara Chan; Simon Strauss; Brian Poole
Subject:	Heritage Road Layover - Draft Cultural Heritage Report
Date:	March 7, 2022 3:01:46 PM
Attachments:	image002.png Heritage Layover_DraftCHR_Invitation for Review_SNGR.pdf

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Please share any comments you may have by **April 18, 2022.**

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Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

METROLINX

Chief Mark Hill
c/o Lonny Bomberry, Director, Lands & Resources
Six Nations of the Grand River
[redacted]
[redacted]
Delivered by Email

Dear Mr. Bomberry,

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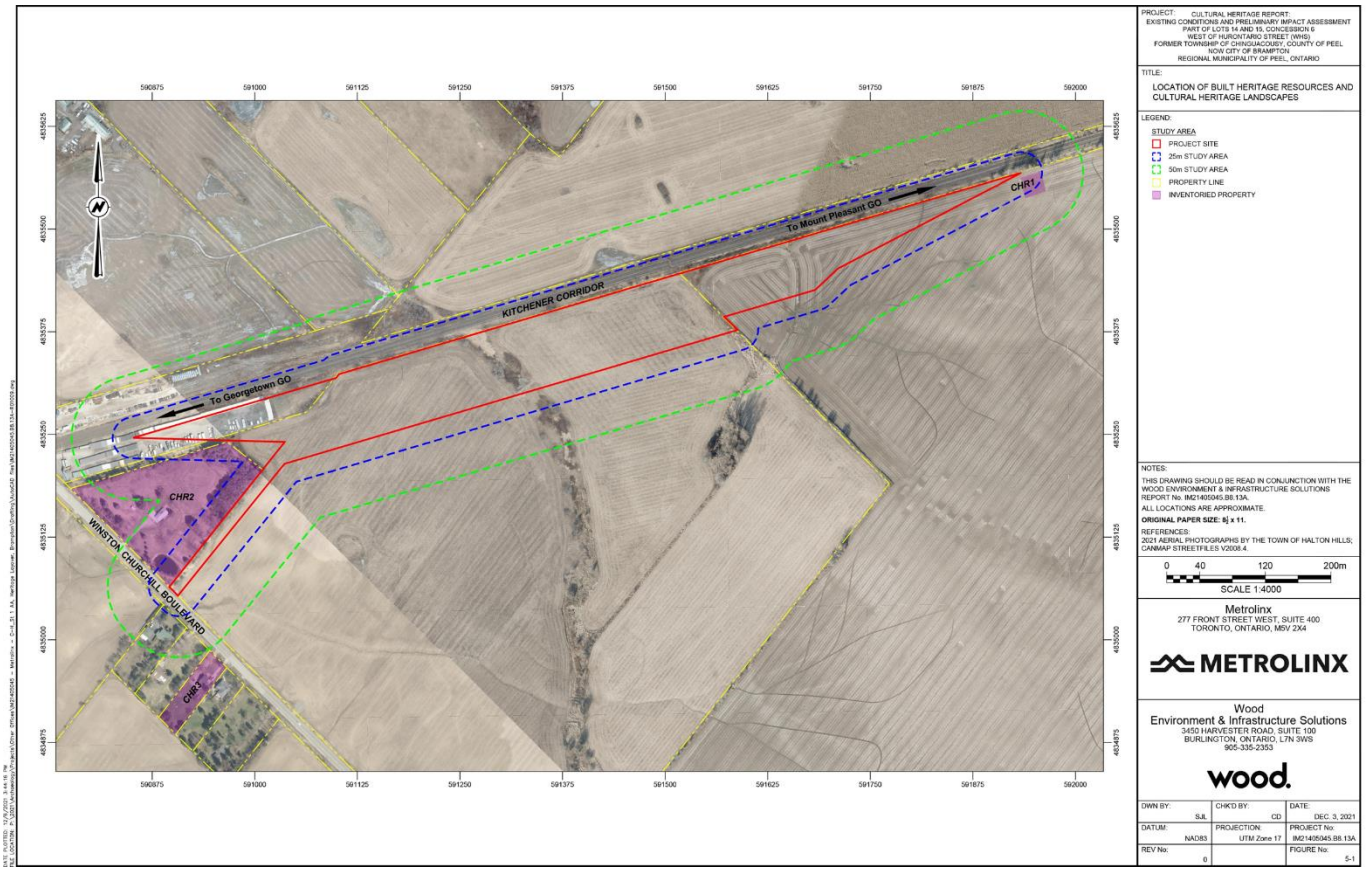

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Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx

cc: Chief Mark Hill, Six Nations of the Grand River
Dawn LaForme, Secretary/Receptionist, Six Nations of the Grand River
Dawn Russell, Administrative Assistant, Six Nations of the Grand River
Tanya Hill-Montour, Archaeological Coordinator, Six Nations of the Grand River
Robbin Vanstone, Consultation Supervisor, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Mississaugas of the Credit First Nations & Metrolinx Monthly Meeting

Heritage Road Layover

March 22, 2022

OBJECTIVES

- To continue conversations on the proposed Heritage Road Layover Project
- To understand how we can advance planning and study of project together

AGENDA

1. Project Recap
2. Request for Consultation
3. Heritage Road Layover Transit Project Assessment Process
4. Environmental Studies of Interest
5. Questions/Discussion

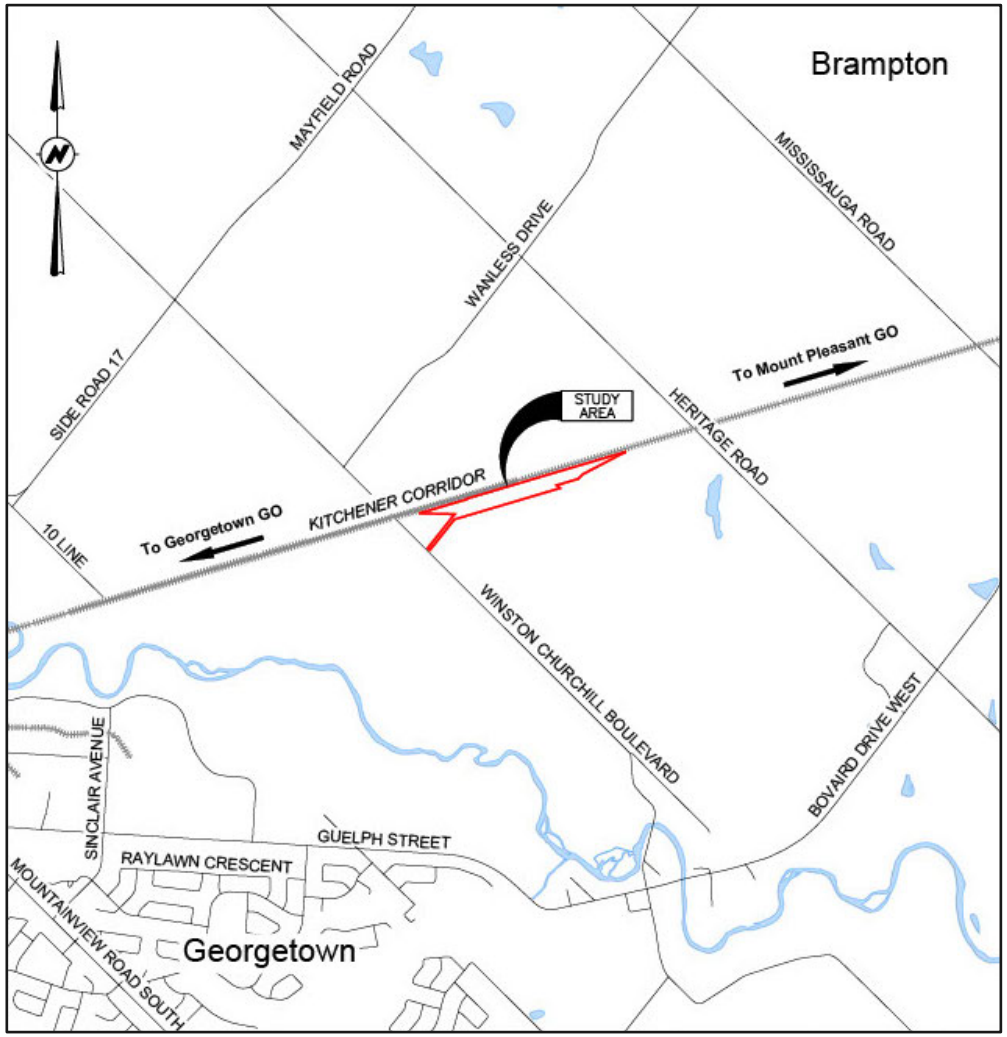
Recap of Proposed Project

WHAT IS A TRAIN LAYOVER AND HERITAGE ROAD LAYOVER DETAILS

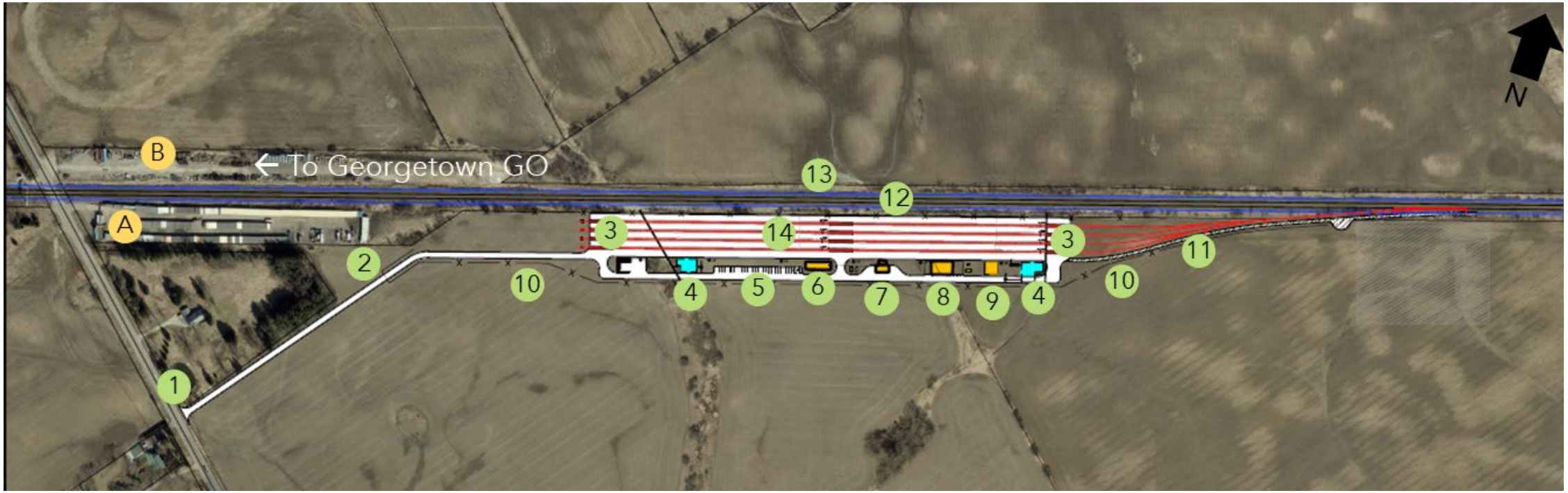
A train layover is a support facility that provides:

- Overnight storage for trains
- Access to trains for crews to perform inspection and light maintenance activities when trains not in service

- Heritage Road Layover is proposed within Halton Subdivision of the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel



HERITAGE ROAD LAYOVER FACILITY DESIGN



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track
- Culvert extension(s) of existing conveyances across CN corridor.

Legend

1 Facility Entrance
2 Gate
3 Culvert
4 Infiltration Facility
5 Parking Area
6 Crew Building
7 Waste Building
8 Substation
9 Concrete Pad
10 Fence
11 Maintenance Road
12 Current Mainline Tracks
13 Future Mainline Tracks
14 Layover Tracks
A U-Need Storage
B CN Works Yard

NATURAL ENVIRONMENT – EXISTING CONDITIONS



Aquatic habitats and watercourses within the Study Area and surrounding areas

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation

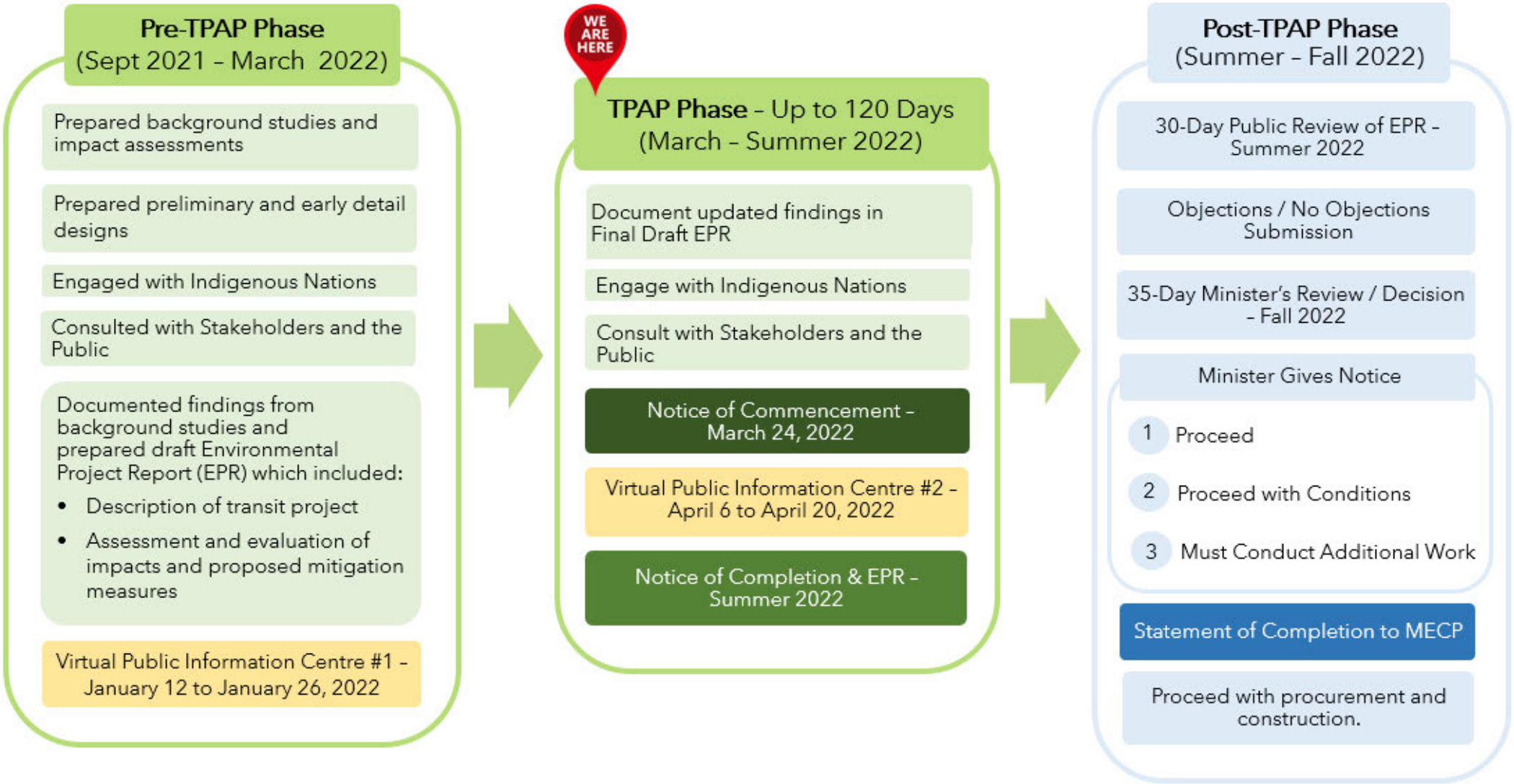
Consultation Request

POTENTIAL IMPACTS ON ABORIGINAL OR TREATY RIGHTS

- The Heritage Rd Layover falls within Treaty 19 territory and may be subject to the Aboriginal Title Claim to Waters within the Traditional Lands of the Mississaugas of the First Credit
- We have identified the potential for adverse impacts on Treaty or Aboriginal rights, including:
  - Impacts to Wildlife, including Species at Risk
  - Impacts to Watercourses
  - Vegetation Removal or Injury
  - Disturbance of Potential Archaeological Resources
- We proposed mitigation measures to minimize impacts on the above as a result of the Project, but are seeking further feedback from your Nation

Heritage Road Layover
Transit Project Assessment Process

HERITAGE ROAD LAYOVER TRANSIT PROJECT ASSESSMENT PROCESS (TPAP)



PREVIOUS COMMUNICATION TO DATE

Description	Date
Project Introduction Letter	January 7, 2022
Circulation of Draft Stage 1 Archaeological Assessment Report	February 8, 2022 (Received feedback from MCFN – March 17)
Introductory Meeting with Nation	February 18, 2022
Circulation of Draft Cultural Heritage Report	March 7, 2022 (Requested feedback by Apr 18)
Consultation Request Letter	March 21, 2022

MISSISSAUGAS OF THE CREDIT FIRST NATIONS FEEDBACK AND THE TPAP

- Records of consultation and any feedback from your Nation will be documented within the Indigenous Nations Consultation section of the Environmental Project Report (EPR).
  - The Heritage Road Layover Project Team will work with your Nation to address questions and input received, and where practicable, include them into Project design considerations or future commitments.

- Invitations to participate will be extended to your Nation for field studies to be carried out in Spring 2022
  - Timelines of the field studies are subject to obtaining Permission to Enter

- Any feedback received through consultations with your Nation will be incorporated into the TPAP

Environmental Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

A number of technical studies were or are being completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. Results of these studies will also help determine if there are adverse impacts on Treaty / Aboriginal rights. These studies include:


Archaeology


Natural Environment*


Tree Inventory Plan*


Cultural Heritage



Air Quality


Noise & Vibration*


Traffic & Transportation


Socio-Economic and
Land Use Characteristics

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

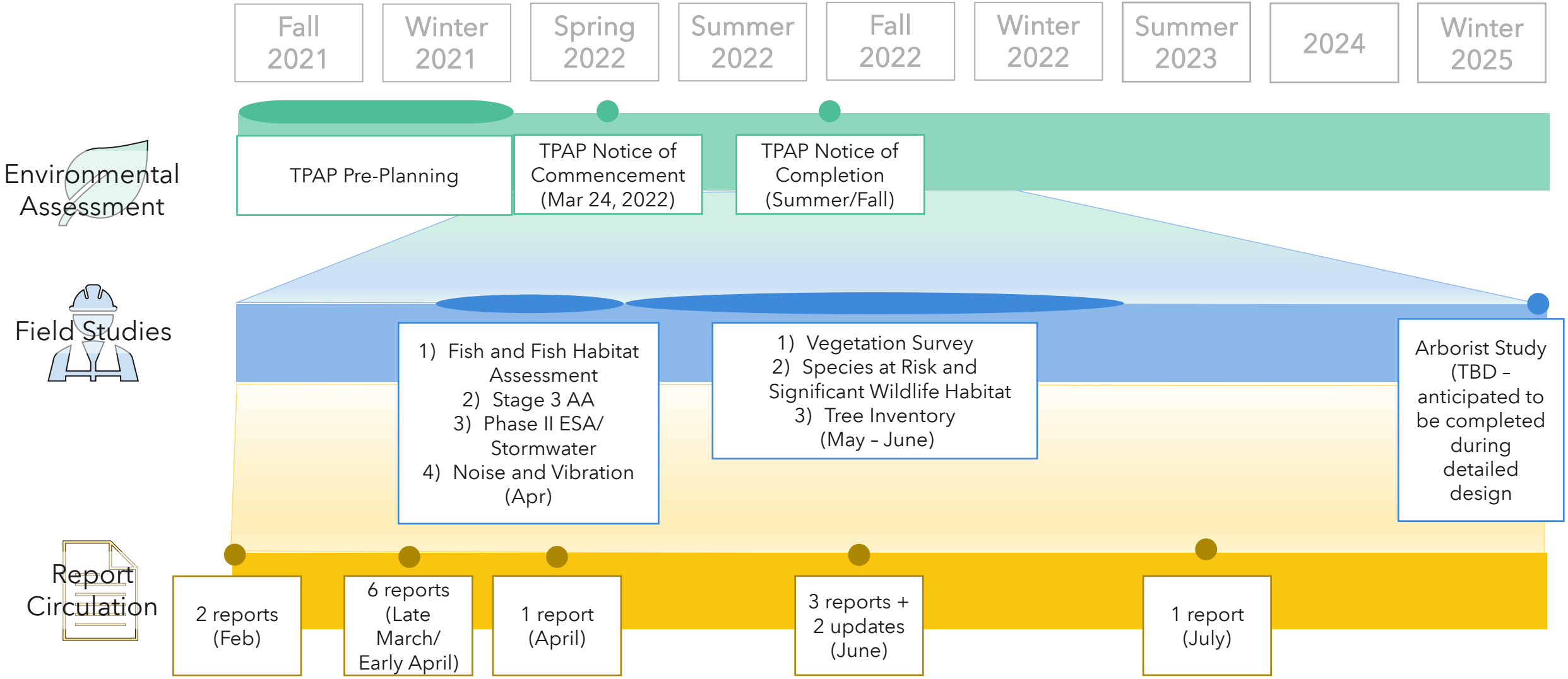
ENVIRONMENTAL STUDIES AND THE TPAP

- The findings of all of the desktop technical studies are presented within the Environmental Project Report (EPR)
  - Additional field studies will be completed during Spring/Summer 2022 which will be integrated into the EPR

- Metrolinx will be circulating the draft EPR and technical studies in the upcoming weeks
  - Will endeavor to circulate reports in bundles as they become available

PROPOSED FIELD STUDY AND REPORT SCHEDULE

Timelines are subject to change



PROPOSED FIELD STUDY AND REPORT CIRCULATION SCHEDULE

Technical Study	Associated Field Activities (Contingent on PTE)	Proposed Report Circulation Timeline
Already Circulated		
Stage 1 Archaeological Assessment	N/A	Circulated Feb 8, Requested feedback Mar 22
Cultural Heritage Report	N/A	Circulated to Nations Mar 7, Requested feedback Apr 18
Upcoming Reports		
75% Environmental Project Report	N/A	**Bundle 1** – Late March/Beginning April
Air Quality Report		
Socio-Economic and Land Use Report		
Phase I Environmental Site Assessment		
Natural Environment Report	• Fish and Fish Habitat Assessment – Apr • Vegetation Survey – May/June • Species at Risk and Significant Wildlife Habitat – May/June	**Bundle 1** – Late March/Beginning April **Bundle 2** - Updated Report with Field Studies – July

PROPOSED FIELD STUDY AND REPORT CIRCULATION SCHEDULE CONT'D

Technical Study	Associated Field Activities (Contingent on PTE)	Proposed Report Circulation Timeline
Noise and Vibration Report	April	**Bundle 1** – Late March/Beginning April **Bundle 2** - Updated Report with Field Studies – July
Traffic and Transportation Report	N/A	Mid-April
Stage 3 Archaeological Assessment	April	**Bundle 2** - June
Phase II Environmental Site Assessment	April	**Bundle 2** - June
Tree Inventory	May/June	**Bundle 2** - June
Stormwater Management Report	April	July
Arborist Report	TBD – anticipated to be completed during Detailed Design Phase	TBD – anticipated to be completed during Detailed Design Phase


METROLINX

Appendix A: Details on Technical Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Natural Environment

- Desktop review of aquatic and land environments
- Surveys of potential for species at risk (Butternut and barn swallow)
- Fish and fish habitat assessment
- Plant inventory

Archaeological Assessment

- Stage 1 and 2 AAs were previously completed.
  - One Indigenous lithic artifact was identified in a second study area, approximately 110-130 m south of the Heritage Road Layover footprint.
- A new Stage 1 AA was completed. Recommendation to complete a Stage 3 for the Heritage Road Layover project area.
- Field work for Stage 3 AA will be carried out in spring 2022 by licensed professional archaeologists

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties

Tree Inventory

- Classify trees per the Metrolinx Vegetation Guidelines and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- As necessary, a Tree Protection Zone will be established during the construction process

NATURAL ENVIRONMENT EXAMPLE MITIGATION AND MONITORING MEASURES

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• Vegetation removal shall be kept to a minimum and limited to within the construction area.	

ARCHAEOLOGY - POTENTIAL IMPACTS, EXAMPLE MITIGATION AND MONITORING MEASURES

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Completion of Stage 3 Archaeological Assessment • All Archaeological Assessment findings will be shared with Indigenous Nations, as per Metrolinx procedures. • If archaeological materials are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot will be protected from impact, and an assessment will be completed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments (ie. Stage 2, 3, 4 as required) will be conducted prior to construction activities. • If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

CULTURAL HERITAGE – POTENTIAL IMPACTS AND MITIGATION MEASURES

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No adverse impacts anticipated.	• Proposed work should be planned in a manner that avoids the cemetery and should be clearly demarked on project drawings
CHR2 (Private property)	Isolation from its surrounding environment, context, or a significant relationship.	• Proposed work should be planned to maximize the buffer between the access road/layover facility and the residential property. The property and should be clearly demarked on project drawings as a "potential heritage property" • Post-construction landscaping should be planned to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.



CHR1: Rail crossing near McNichol Cemetery



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

TREE INVENTORY – NOT YET COMPLETED

Study Overview and Example Mitigation and Monitoring Measures

A Tree Inventory Report with recommendations for specific tree removal and tree injury will be completed in spring 2022 after field studies are carried out by an I.S.A Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable.

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Tree / Vegetation removal, injury and protection	• If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adherence to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals.

Huron-Wendat Nation & Metrolinx Monthly Meeting

Heritage Road Layover

March 22, 2022

OBJECTIVES

- To continue conversations on the proposed Heritage Road Layover Project
- To understand how we can advance planning and study of project together

AGENDA

1. Project Recap
2. Heritage Road Layover Transit Project Assessment Process
3. Environmental Studies of Interest
4. Questions/Discussion

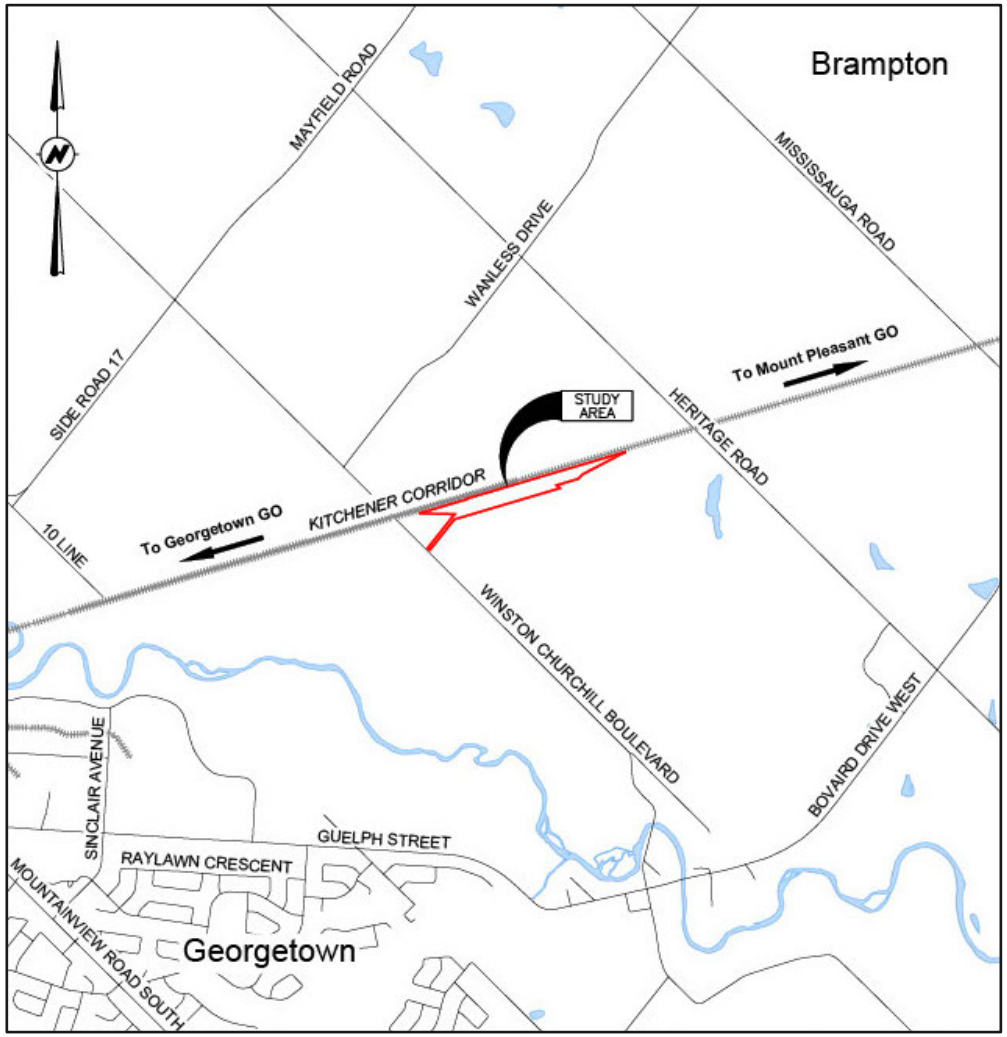
Recap of Proposed Project

WHAT IS A TRAIN LAYOVER AND HERITAGE ROAD LAYOVER DETAILS

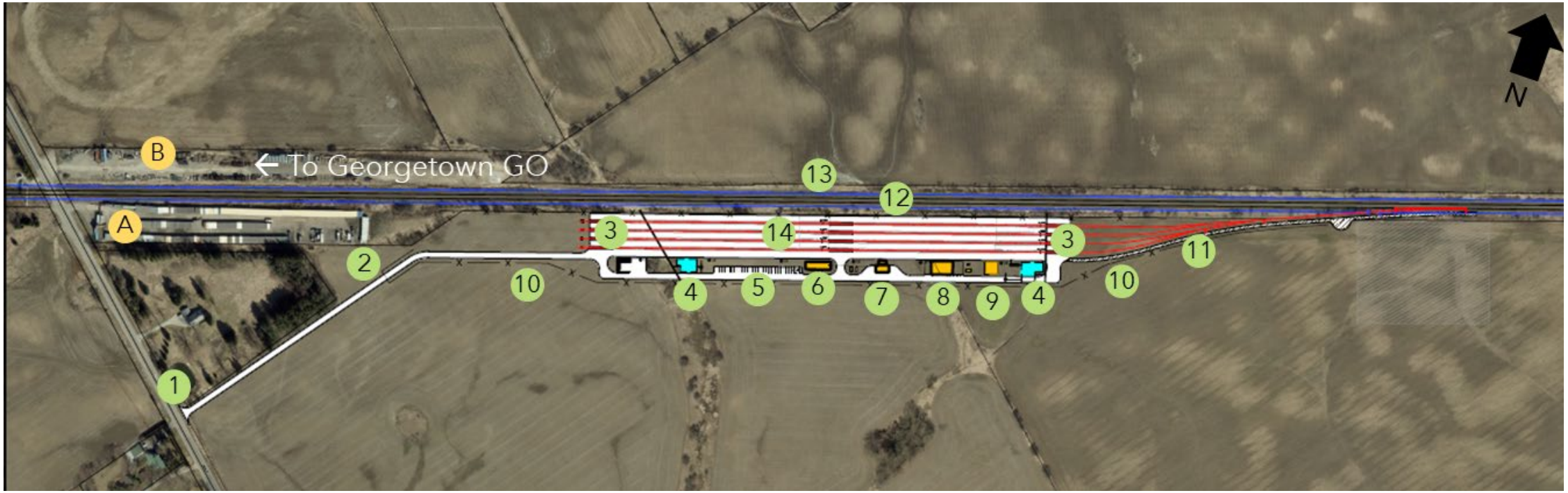
A train layover is a support facility that provides:

- Overnight storage for trains
- Access to trains for crews to perform inspection and light maintenance activities when trains not in service

- Heritage Road Layover is proposed within Halton Subdivision of the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel



HERITAGE ROAD LAYOVER FACILITY DESIGN



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track
- Culvert extension(s) of existing conveyances across CN corridor.

Legend

1 Facility Entrance
2 Gate
3 Culvert
4 Infiltration Facility
5 Parking Area
6 Crew Building
7 Waste Building
8 Substation
9 Concrete Pad
10 Fence
11 Maintenance Road
12 Current Mainline Tracks
13 Future Mainline Tracks
14 Layover Tracks
A U-Need Storage
B CN Works Yard

NATURAL ENVIRONMENT – EXISTING CONDITIONS



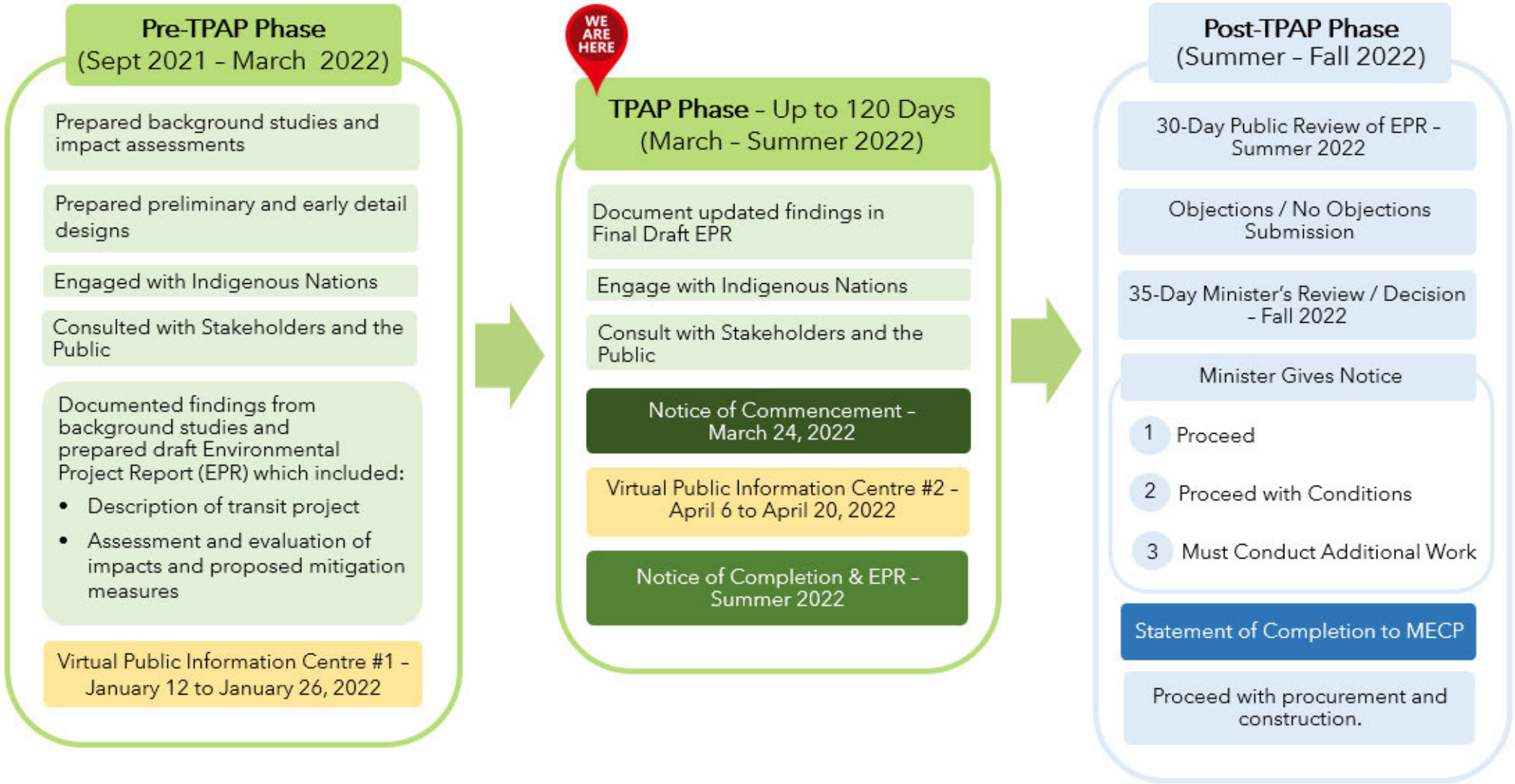
Aquatic habitats and watercourses within the Study Area and surrounding areas

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation

Heritage Road Layover
Transit Project Assessment Process

HERITAGE ROAD LAYOVER TRANSIT PROJECT ASSESSMENT PROCESS (TPAP)



PREVIOUS COMMUNICATION TO DATE

Description	Date
Project Introduction Letter	January 7, 2022
Circulation of Draft Stage 1 Archaeological Assessment Report	February 8, 2022 (Requested feedback by March 22)
Introductory Meeting with Nation	February 18, 2022
Circulation of Draft Cultural Heritage Report	March 7, 2022 (Requested feedback by Apr 18)

HURON-WENDAT NATION FEEDBACK AND THE TPAP

- Records of consultation and any feedback from your Nation will be documented within the Indigenous Nations Consultation section of the Environmental Project Report (EPR).
  - The Heritage Road Layover Project Team will work with your Nation to address questions and input received, and where practicable, include them into Project design considerations or future commitments.

- Invitations to participate will be extended to your Nation for field studies to be carried out in Spring 2022
  - Timelines of the field studies are subject to obtaining Permission to Enter

- Any feedback received through consultations with your Nation will be incorporated into the TPAP

Environmental Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

A number of technical studies were or are being completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies include:



Archaeology



Natural Environment*



Tree Inventory Plan*



Cultural Heritage



Air Quality



Noise & Vibration*



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

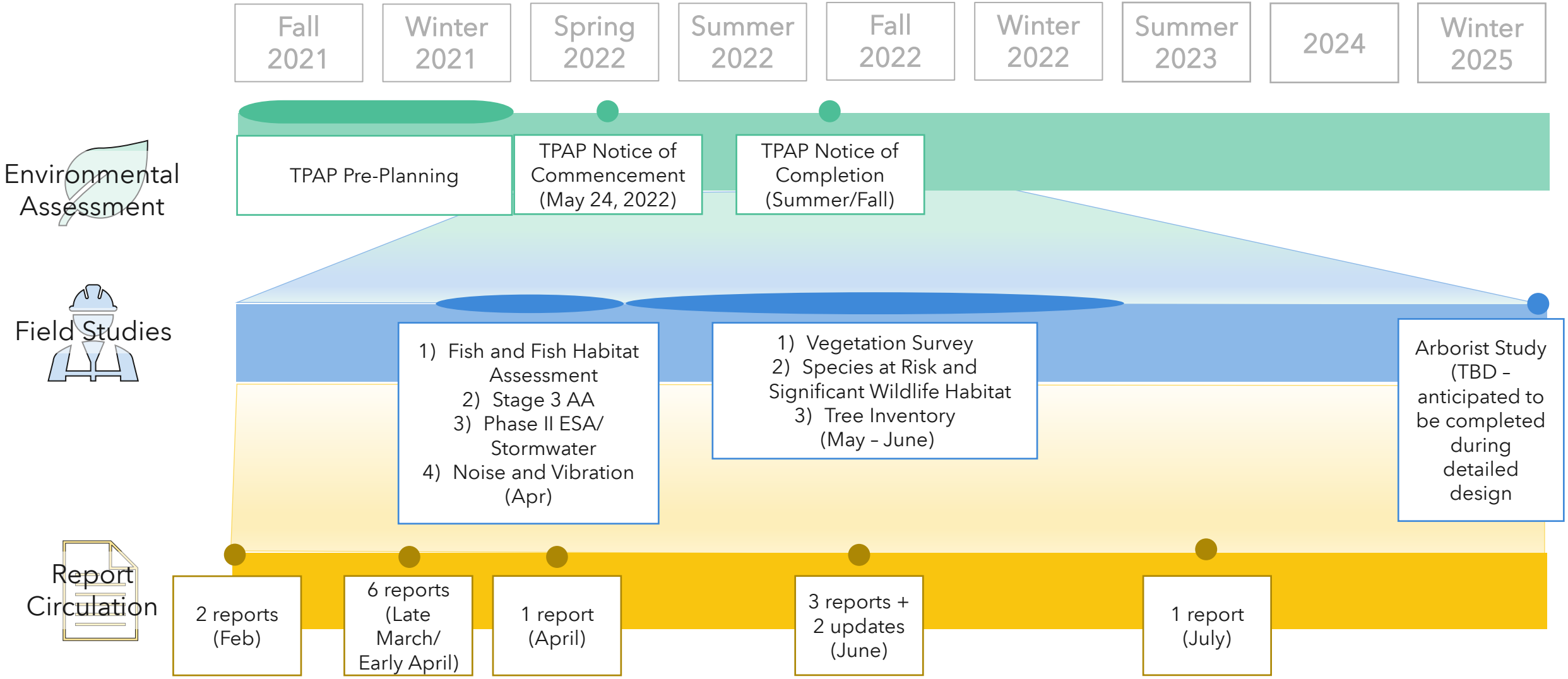
ENVIRONMENTAL STUDIES AND THE TPAP

- The findings of all of the desktop technical studies are presented within the Environmental Project Report (EPR)
  - Additional field studies will be completed during Spring/Summer 2022 which will be integrated into the EPR

- Metrolinx will be circulating the draft EPR and technical studies in the upcoming weeks
  - Will endeavor to circulate reports in bundles as they become available

PROPOSED FIELD STUDY AND REPORT SCHEDULE

Timelines are subject to change



PROPOSED FIELD STUDY AND REPORT CIRCULATION SCHEDULE

Technical Study	Associated Field Activities (Contingent on PTE)	Proposed Report Circulation Timeline
Already Circulated		
Stage 1 Archaeological Assessment	N/A	Circulated Feb 8, Requested feedback Mar 22
Cultural Heritage Report	N/A	Circulated to Nations Mar 7, Requested feedback Apr 18
Upcoming Reports		
75% Environmental Project Report	N/A	**Bundle 1** – Late March/Beginning April
Air Quality Report		
Socio-Economic and Land Use Report		
Phase I Environmental Site Assessment		
Natural Environment Report	• Fish and Fish Habitat Assessment – Apr • Vegetation Survey – May/June • Species at Risk and Significant Wildlife Habitat – May/June	**Bundle 1** – Late March/Beginning April **Bundle 2** - Updated Report with Field Studies – July

PROPOSED FIELD STUDY AND REPORT CIRCULATION SCHEDULE CONT'D

Technical Study	Associated Field Activities (Contingent on PTE)	Proposed Report Circulation Timeline
Noise and Vibration Report	April	**Bundle 1** – Late March/Beginning April **Bundle 2** - Updated Report with Field Studies – July
Traffic and Transportation Report	N/A	Mid-April
Stage 3 Archaeological Assessment	April	**Bundle 2** - June
Phase II Environmental Site Assessment	April	**Bundle 2** - June
Tree Inventory	May/June	**Bundle 2** - June
Stormwater Management Report	April	July
Arborist Report	TBD – anticipated to be completed during Detailed Design Phase	TBD – anticipated to be completed during Detailed Design Phase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Appendix A: Details on Technical Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Natural Environment

- Desktop review of aquatic and land environments
- Surveys of potential for species at risk (Butternut and barn swallow)
- Fish and fish habitat assessment
- Plant inventory

Archaeological Assessment

- Stage 1 and 2 AAs were previously completed.
  - One Indigenous lithic artifact was identified in a second study area, approximately 110-130 m south of the Heritage Road Layover footprint.
- A new Stage 1 AA was completed. Recommendation to complete a Stage 3 for the Heritage Road Layover project area.
- Field work for Stage 3 AA will be carried out in spring 2022 by licensed professional archaeologists

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
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- Classify trees per the Metrolinx Vegetation Guidelines and any impact to tree canopy during construction and operations
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From:	Indigenous Relations
To:	Aaron Detlor
Cc:	Todd Williams; Chamberlain, Adam
Subject:	Notice of Commencement: Heritage Road Layover
Date:	March 23, 2022 10:20:24 AM
Attachments:	image001.png Heritage Road Layover - NoC - English - QME-WPC-160.pdf 2022-03-15- Notice of Commencement and PIC_HCCC.pdf

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Dear Mr. Detlor,

Metrolinx continues to advance the Heritage Road Layover Project. It will be assessed through the Transit Project Assessment Process (TPAP). To that end, Metrolinx wishes to inform you that it will be issuing a Notice of Commencement for this project, on March 24, 2022, which begins the up to 120 day review period under the TPAP.

Please find attached a letter outlining the project, the Notice of Commencement and Environmental Project Report (EPR).

A Draft Natural Environment Report is currently being prepared to support the EPR and will be available for your Nations to review in the upcoming weeks. The draft version of this report, as well as the EPR and other technical studies, will be circulated as they become available. Metrolinx will endeavor to circulate the reports in packages to minimize correspondence.

As part of the natural environment study, the potential impacts of the project were assessed and mitigation measures were identified to be implemented during construction and project operations, and are summarized in the letter. The draft version of this report, as well as the Environmental Project Report and other technical studies, will also be uploaded to the Metrolinx Engage project page [redacted] beginning April 6, 2022.

The Notice of Commencement will also be available on the Project webpage beginning March 24, 2022 for up to 120 days:
[redacted]

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*

Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

METROLINX

March 23, 2022

Ms. Tracey General
Office Manager
Haudenosaunee Confederacy Chiefs Council
[redacted]
Delivered by Email

RE: Heritage Road Layover Project – Notice of Commencement and Public Information Centre #2 (Virtual Open House)

Dear Ms. General,

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands Haudenosaunee Confederacy Chiefs Council. Metrolinx values its relationship with the *Haudenosaunee Confederacy Chiefs Council* and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes Haudenosaunee Confederacy Chiefs Council's connection to the areas in which Metrolinx operates and will be constructing infrastructure.

The purpose of this letter is to announce the formal commencement of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We also with to inform Haudenosaunee Confederacy Chiefs Council of the second online Public Information Centre for the Project. We continue to welcome any interest in engagement with Haudenosaunee Confederacy Chiefs Council on this Project.

Project Description
As previously communicated through our Project Introduction Letter circulated January 7, 2022. Metrolinx, is overseeing the proposed Heritage Road Layover Project (the Project) between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.
For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/



Figure 1. Project Location

Transit Project Assessment Process

The Project is being completed under the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* under the *Environmental Assessment Act*. The TPAP is a proponent-driven, self-assessment process that provides a defined framework to follow to complete the accelerated assessment of the potential environmental impacts and decision-making within a regulated assessment timeline. As part of the TPAP, a draft Environmental Project Report (EPR) is being prepared and will document any potential environmental impacts and mitigation requirements of the Project.

Following the up-to-120-day TPAP consultation and documentation period, the regulation requires a 30-day public and agency review of the Environmental Project Report (EPR), followed by a 35-day review by the Minister of the Environment, Conservation and Parks.

Project and TPAP Timeline	
Project Introduction Letter	January 7, 2022
Public Information Centre #1	January 12 to January 26, 2022
Individual meetings with Indigenous Nations	January 14 to February 18, 2022
Notice of Commencement • Start of up to 120 days consultation period	March 24, 2022 publication date
Public Information Centre #2	April 6 to April 20, 2022

Project and TPAP Timeline	
Notice of Completion * • Public review of Environmental Project Report (30 days) • Minister's review of Environmental Project Report (up to 35 days)	Anticipated June 2022 to September 2022
Statement of Completion *	Anticipated September 2022

*Timelines are subject to change as required

This letter serves as notice that Metrolinx is formally commencing the TPAP process, and the Notice of Commencement is attached as **Attachment 1**. The Notice of Commencement will be available on the Project webpage at https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/ beginning March 24 for up to 120 days.

Draft Environmental Project Report and Technical Studies

The draft Environmental Project Report (EPR) and Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

Details of the impact assessment can be found in the draft Technical Studies, available for download at https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR beginning April 6, 2022. Metrolinx will also circulate the draft EPR and Technical Studies as they become available to Haudenosaunee Confederacy Chiefs Council for review. Metrolinx will endeavor to circulate as many reports as possible in packages to reduce the amount of correspondence delivered to Haudenosaunee Confederacy Chiefs Council.

A summary of the EPR is presented below, followed by a summary of some of the studies completed as part of the EPR.

- Section 1 – Provides an overview of the Heritage Road Layover Project and its purpose, an overview of the TPAP, and how the Project relates to the TPAP.

- Section 2 – Provides a detailed description of key Project components, including design.

- Section 3 – Describes existing conditions at the site of the transit project, as well as the studies that were carried out.

- Section 4 – Describes the potential environmental impacts related to the Project, and recommended mitigation measures and monitoring activities associated with Project implementation.

- Section 5 – Describes how the TPAP incorporates considerations to climate change, and provides a summary of the design considerations and measures to mitigate effects of climate change on the Project

- Section 6 – Describes the consultation process and activities that were undertaken as part of the Heritage Road Layover Project, including key consultation milestones. This section provides an overview of the input/comments/feedback received from various stakeholders (i.e., Review Agencies, Indigenous Nations, the Public, Property Owners, etc.) and how they were considered by Metrolinx as part of the TPAP.

- Section 7 – Describes the proposed commitments and future work to be carried out during future project phases (e.g., detailed design, construction), and outlines the additional anticipated approvals and permits required for implementing the Project beyond the TPAP.

Archaeology

A draft Stage 1 Archaeological Assessment (AA) was prepared and shared with Haudenosaunee Confederacy Chiefs Council on February 8, 2022. The draft Stage 1 AA included a gap analysis of the archaeological work previously completed for Metrolinx and for others that were available for Metrolinx to review. The draft Stage 1 AA also gathered additional information associated with the Site and surrounding Study Area, and included a review of from publicly accessible access points. The draft Stage 1 AA confirmed archeological potential of the Site.

The draft Stage 1 AA indicated that the Study Area was noted to have general archaeological potential due to the following:

- Presence of existing sites of interest:
    - One registered archaeological site (AjGx-267) is located within the Study Area;
    - Two registered archaeological sites (AjGx-268 and AjGx-11) are within 300 m of the Study Area; and
    - An unmarked historical-period cemetery (McNichol Cemetery) is adjacent to the Study Area;
- Three primary natural water sources (unnamed tributaries of the Credit River) cross the central, east, and west portions of the Study Area;
- The Study Area has a flat topography and well drained soils conducive to human inhabitation;
- The 1877 historical atlas map depicts a farmstead with within the Study Area; and,

- The Study Area is adjacent to the early historical transportation routes of Winston Churchill Boulevard and the Toronto & Guelph Railway.

Based on the findings of the draft Stage 1 AA, the following were recommended as next steps:

i) A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in **Figure 2**) due to the presence of Euro-Canadian artifacts.

ii) Archaeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) included a combination of Euro-Canadian and one Indigenous artifact; however the area is not anticipated to be impacted by the Project so no additional work is anticipated at this time (dark blue area in **Figure 2**). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.

iii) The former unmarked historical-period cemetery, McNichol Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

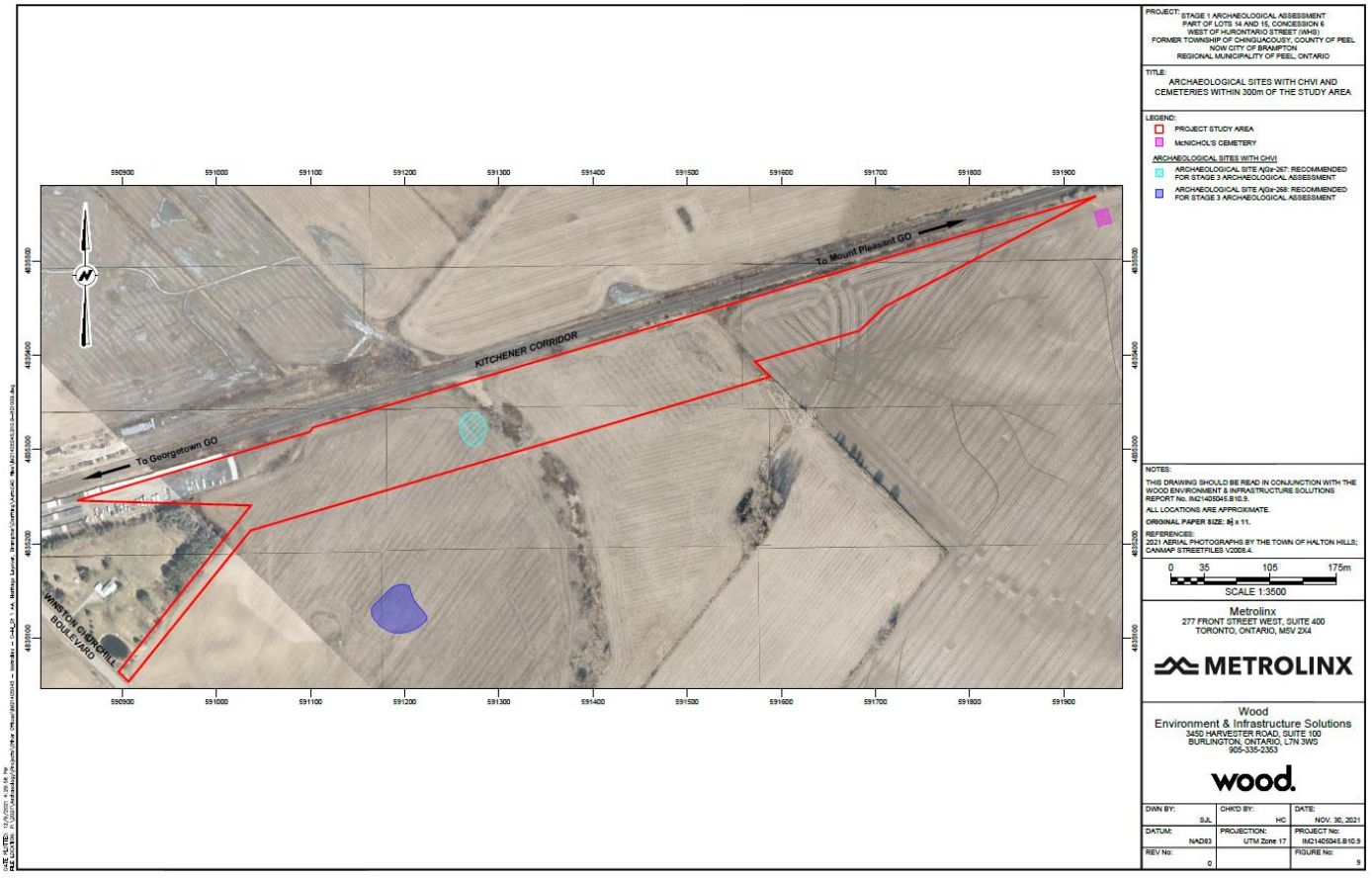

Figure 2. Stage 1 Archeological Study Area

As Metrolinx continues to undertake environmental due diligence for this project, additional archaeological assessment reports will be completed (including the recommended Stage 3 AA identified in the recommendations). Metrolinx acknowledges that Haudenosaunee Confederacy Chiefs Council should be aware of and engaged regarding any future archaeology, and especially the discovery and preservation of Indigenous artifacts and sacred burial grounds. Metrolinx will ensure invitations to participate will be extended to Haudenosaunee Confederacy Chiefs Council for future Archaeological Assessments field studies, and resulting reports are provided to Haudenosaunee Confederacy Chiefs Council in draft form, prior to or in concurrently with submission to the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI).

Natural Environment

The draft Natural Environment Report is currently being prepared to support the EPR and will be available for Haudenosaunee Confederacy Chiefs Council to review in the upcoming weeks. This draft report is based on a desktop review of available information, and field studies are planned for Spring 2022.

Below summarizes the findings of the desktop review:

Aquatic Environment

No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review.

- Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area.
    - Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.
- A Heritage Heights Subwatershed Study that begun in 2021[1] identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch.
- A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low.
- There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat.
- The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022.

[1] Currently in preparation at the time of this report, public release pending approval from the City of Brampton (Note: this subwatershed study is not part of the Heritage Road Layover project).

Terrestrial Environment

- Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site.
    - Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints.
- Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area.
    - During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.).
- A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation.

Species At Risk

- Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area.
    - Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982.
- The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle.
    - Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting.
    - The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area.
- Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed as Special Concern and therefore would receive habitat protection under significant wildlife habitat if individual use is documented.

Impacts and Mitigations

The table presented in **Attachment 2** provides a summary of the Natural Environment potential impacts and mitigation strategies identified as part of the Draft EPR that may be of interest to Haudenosaunee Confederacy Chiefs Council.

Additional details of the impacts and mitigation strategies are outlined in the Draft EPR and the corresponding Natural Environment technical study. If Haudenosaunee Confederacy Chiefs Council has any feedback about these potential impacts and/or mitigation strategies, Metrolinx would appreciate the opportunity to discuss further.

Cultural Heritage

A draft Cultural Heritage Report was prepared and shared with Haudenosaunee Confederacy Chiefs Council on March 7, 2022. At this time, Metrolinx has not received feedback from Haudenosaunee Confederacy Chiefs Council. Should you wish to provide comment, please do so by April 18, 2022, as noted in the initial email provided.

The draft Cultural Heritage Report identified a total of three known and potential heritage properties in the Study Area.

- CHR 1– former McNichol Cemetery, 10510 Heritage Road;
- CHR 2 – residential property at 10827 Winston Churchill Boulevard (residence identified to be more than 40 years old and with potential built heritage value).
- CHR 3 – residential property at 10746 Winston Churchill Boulevard (property contains a Victory style structure constructed during the mid-20th century with possible built heritage significance).

Based on the results of the draft Cultural Heritage Report, the following recommendations were made:

i) Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
ii) While no direct or indirect impacts were anticipated to CHR 1 from a cultural heritage perspective, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, it was advised to adhere to the guidance outlined in the Stage 1 Archaeological Assessment. The guidance included installation of protective fencing and appropriate buffers.

Upcoming Public Meeting

For your awareness, a virtual public meeting will be hosted on Metrolinx Engage (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/) between April 6 and April 20, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to you and members of your community review the online meeting materials and provide feedback, however, this would not preclude any request from you to meet with Metrolinx directly.

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*.

Thank you for your time in reviewing this letter.

Yours Truly,



Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc: Todd Williams, Haudenosaunee Development Institute
Indigenous Relations Office, Metrolinx
Heather Swan, Manager, Environmental Programs & Assessment, Indigenous Relations, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement of the TPAP and Public Meeting #2
Attachment 2: Natural Environment, Archaeology and Cultural Heritage Potential Impacts and Mitigative Strategies

Attachment 1

Notice of Commencement of the TPAP
and Public Meeting #2

10 Bay Street, Suite 600
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Attachment 2

Natural Environment Potential Impacts and Mitigative Strategies

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Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Natural Environment					
Wildlife	•	-	Disturbance, displacement, or mortality of wildlife	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • If wildlife is encountered within the construction site, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	•	-	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Species at Risk – General	•	-	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNRF. • If SAR is present and conservation strategies have been developed by MNRF/MECP, the commitments in the recovery strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				procedure(s) to follow if an individual is encountered or injured.	
Species at Risk – Barn Swallow	•	-	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys will be undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met, including any registration, compensation, replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Eastern Meadowlark	•	-	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys will be undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Butternut	•	-	Habitat loss, disturbance or loss of butternut.	• Field surveys will be conducted by Wood biologists to visually search the Natural Environment Study Area for presence of butternut. If butternut is found, the location and general condition of any butternut observed will be recorded. However, a formal Butternut Health Assessment, completion of a Notice of Activity or authorizations under the ESA are not anticipated to be required.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Aquatic Environment - Watercourses	•	-	Impacts to three watercourses in the Natural Environment Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site in adherence with the Metrolinx Vegetation Guideline (2020). • An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the wetland or waterbody. • A Spill Prevention and Response Plan will be developed before work commences and implemented during construction to ensure procedures and policies are in place during construction to minimize impacts to wetlands or waterbodies. • In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC.	
Aquatic Environment – Fish and Fish Habitat	•	-	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNDMRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation Removal and Compensation Plans	•	-	Tree / Vegetation removal, injury and protection.	• As part of the Arborist Report, all trees within or adjacent to the Project Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR vegetation. SAR vegetation will be subject to permitting and approval	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				requirements under Applicable Law, prior to the commencement of construction. The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and boundary trees. Municipal by-laws will dictate the minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and	maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/ regulations, and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program within the Metrolinx Vegetation Guideline (2020).

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. Refer to Natural Environment commitment tables for additional details.	
Vegetation Removal and Compensation Plans – SAR Habitat	•	-	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with MNRF Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Integrated Vegetation Management (IVM)	•	-	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	•	-	Potential for the spread of Emerald Ash Borer, Agrilus planipennis (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire) (2014), as amended	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.	maintenance and alteration of activities to minimize impacts.
Cultural Environment					
Archaeological Resources	•	-	Potential for site AjGx-267 (Heritage Layover H1) to be impacted by construction and operational activities. No impacts are anticipated to Site AjGx-267 (Heritage Layover H2).	• Develop and implement an Archaeological Risk Management Plan that addresses any recommendations resulting from Archaeological Assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources. The Archaeological Risk Management Plan shall be amended to incorporate any additional actions required resulting from subsequent Archaeological Assessment Reports. • All work shall be performed in accordance with Applicable Law, including but not limited to the *Ontario Heritage Act*, the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), formerly the Ministry of Tourism, Culture and Sport (MTCS) *Standards and Guidelines for Consultant Archaeologists* (2011), and the MHSTCI document, *Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario* (2011). • In the event that archaeological resources are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot should be protected from impact by employing a buffer in accordance with requirements of the MHSTCI. A professionally licensed archaeologist will be consulted to complete the assessment. If resources are confirmed to possess cultural heritage value/interest then they will be reported to the MHSTCI, and further	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Archaeological Assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx should be contacted and Applicable Law will be followed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. This will include completing all required Archaeological Assessments resulting from the Stage 1 AA (Stage 2, Stage 3 and Stage 4, as required) as early as possible, prior to the completion of design, and in advance of any ground disturbance. • For areas determined to have archaeological potential or contain archaeological resources that will be impacted by project activities, additional Archaeological Assessment will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered during project work, all activities must cease immediately and the local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services must be contacted. Archaeological investigations of human remains will not proceed until police have confirmed the remains are not subject to forensic investigation. Once human remains have been cleared of police concern, the MHSTCI will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*. If the human remains are determined to be of Indigenous origin, Metrolinx should be contacted and all Applicable Law must be adhered to.	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• All Archaeological Assessment findings will be shared with Indigenous communities, as per Metrolinx's *Guide to Engaging with Indigenous Communities* (2020).	
CHR1 - McNichol Cemetery	-	-	No direct adverse impacts are anticipated to the McNichol Cemetery. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	• The proposed work should be planned in a manner that avoids the McNichol Cemetery. • Work in proximity to known cemeteries requires completion of an Archaeological Assessment prior to any proposed ground disturbance in accordance with the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (2011) and the *Funeral, Burial, and Cremation Services Act* and regulations under that Act.	• Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits. • Further Archaeological Assessment may identify the need for monitoring during construction.
CHR2 - Built Heritage Resource – 10827 Winston Churchill Boulevard	•	-	Indirect Adverse Impact. Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship	• The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a "potential heritage property" to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx 's selection procedures, which includes avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. • Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design.	• None.
CHR3 - Built Heritage Resource – 10746 Winston Churchill Boulevard	-	-	None. The residence is located approximately 110 metres from the proposed work.	• None.	• None.
Socio-Economic and Land Use					
Property	•	•	Property acquisition – permanent and temporary.	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	
All land uses and adjacent lands	•	-	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Develop a Communications Protocol in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
All land uses and adjacent lands	•	•	Land use and access disruption.	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site.	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	•	•	Visual effects from construction / operations areas / activities.	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	•	•	Light trespass, glare and light pollution effects.	• Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement Comply with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 –	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • Permanent lights will be installed for operations of the site.	
Hydrogeology					
Groundwater	•	–	Construction activities could expose groundwater and associated contamination	• Develop a Groundwater Management and Dewatering Plan to guide the handling, management, and disposal of groundwater encountered during the works. The Groundwater Management and Dewatering Plan will be overseen by a QP and will comply with *Ontario Regulations 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), *64/16* and *387/04*, as amended under the *Ontario Water Resources Act*. • The Groundwater Management and Dewatering Plan will describe the anticipated groundwater quantity and dewatering Zone of Influence that will be encountered during the works, and if approvals are needed for the water taking, such as a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the MECP. • The Groundwater Management and Dewatering Plan will describe the storage, transfer, and disposal and or treatment of the groundwater collected during the works, and approvals for the water disposal, and/or treatment if applicable, based on the quantity and quality. • The Groundwater Management and Dewatering Plan will be reviewed and approved by Metrolinx prior to construction.	• A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for Metrolinx review to document performance monitoring data/results and any corrective actions implemented during the previous month. • Upon completion of the work, the Constructor will submit a Groundwater Management and Dewatering Implementation Report to Metrolinx.
Stormwater Management					
Potential Impacts and Proposed Mitigation	•	–	The proposed construction activities pose a potential impact due to sediment	• Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and	• Turbidity levels within discharges from sites to be monitored visually. Turbidity levels will be monitored

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Measures for Stormwater and Site Drainage			transport into adjacent natural areas including watercourses, wetlands and municipal drainage infrastructure. The proposed works may result in increases to impervious areas, with potential effects to water quantity and quality. In addition to the increases in impervious coverage, there may be alterations to the local drainage system, both overland (major drainage system) and storm sewers (minor drainage system).	erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC. • A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements and American Railway Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (2019). • Infiltration requirements for municipalities will be determined as per the design guidelines and standards. • To offset the potential impacts to wetlands, the grades and drainage system on the periphery of the layover may need to be designed to result in minor local drainage diversions to the wetland features. An annual water budget for existing, future (without mitigation) and future (with mitigation) would have to be conducted. Input from a terrestrial biologist is required to review the annual water budget variations for existing and future conditions. • Develop and implement a Spill Prevention and Response Plan in accordance with the Project Agreement. • A hydraulic assessment of each crossing and any proposed culverts is required to determine proposed flood levels and associated creek bed and bank treatments to prevent scour and erosion	upstream and downstream of sites at watercourse crossings or adjacent to watercourses. Turbidity levels within discharges from sites and within receiving storm sewers will also be monitored visually to determine potential impacts from construction. • Grab samples for existing watercourses and/or wetlands, when runoff from the site discharges to a watercourse and/or wetland will be conducted for pre-construction, during construction, and post construction conditions until the site is considered stabilized. Grab samples for watercourses and wetlands will be taken for non-precipitation event and for precipitation events to obtain a reasonable understanding of the turbidity levels. Post-construction monitoring of wetland areas may be required depending on input from Conservation Authorities. • Monitoring will be conducted for potential oil spills and containment of spills to be conducted as per provincial requirements. • Functionality of stormwater quantity controls including peak flows and water levels for storm events within the design range. Monitoring would require local rainfall data. • Infiltration targets measured by flow monitoring on infiltrative Low Impact Development (LID) Best Management Practices (BMPs). • Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS)

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				and facilitate fish passage. Where applicable, the regulatory model(s) will be obtained from CVC to assess the hydraulic impacts along regulated watercourses. • Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models. Creek bed and banks design will include geomorphological input for scour and erosion prevention, and creation of appropriate fish habitat.	removal as per the MECP *Stormwater Management Planning and Design Manual* (2003).

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From: Indigenous Relations
To: Lori-Jeanne Bolduc; Dominic Ste-Marie
Cc: [redacted]; Clara Chan; Simon Strauss
Subject: Notice of Commencement: Heritage Road Layover
Date: March 23, 2022 10:21:06 AM
Attachments: image001.png
Heritage Road Layover - NoC - English - QME-WPC-160.pdf
Heritage Road Layover - NoC - Francais - QME-WPC-160.pdf
2022-03-15- Notice of Commencement and PIC_HWN.pdf

Dear Lori-Jeanne and Dominic,

Metrolinx continues to advance the Heritage Road Layover Project. It will be assessed through the Transit Project Assessment Process (TPAP). To that end, Metrolinx wishes to inform you that it will be issuing a Notice of Commencement for this project, on March 24, 2022, which begins the up to 120 day review period under the TPAP.

Please find attached a letter outlining the project, the Notice of Commencement and Environmental Project Report (EPR).

A Draft Natural Environment Report is currently being prepared to support the EPR and will be available for your Nation to review in the upcoming weeks. The draft version of this report, as well as the EPR and other technical studies, will be circulated as they become available. Metrolinx will endeavor to circulate the reports in packages to minimize correspondence.

As part of the natural environment study, the potential impacts of the project were assessed and mitigation measures were identified to be implemented during construction and project operations, and are summarized in the letter. The draft version of this report, as well as the Environmental Project Report and other technical studies, will also be uploaded to the Metrolinx Engage project page (https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR) beginning April 6, 2022.

The Notice of Commencement will also be available on the Project webpage beginning March 24, 2022 for up to 120 days: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

METROLINX

March 23, 2022

Grand Chief Rémy Vincent
Huron-Wendat Nation
[redacted]
[redacted]
Delivered by email

RE: Heritage Road Layover Project – Notice of Commencement and Public Information Centre #2 (Virtual Open House)

Dear Grand Chief Vincent,

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands Huron-Wendat Nation. Metrolinx values its relationship with the Huron-Wendat Nation and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes Huron-Wendat Nation's connection to the areas in which Metrolinx operates and will be constructing infrastructure.

The purpose of this letter is to announce the formal commencement of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We also with to inform Huron-Wendat Nation of the second online Public Information Centre for the Project. We continue to welcome any interest in engagement with Huron-Wendat Nation on this Project.

Project Description
As previously communicated through our Project Introduction Letter circulated January 7, 2022, and in our meeting on February 10, 2022, Metrolinx, is overseeing the proposed Heritage Road Layover Project (the Project) between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

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The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.
For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/



Figure 1. Project Location

Transit Project Assessment Process

The Project is being completed under the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* under the *Environmental Assessment Act*. The TPAP is a proponent-driven, self-assessment process that provides a defined framework to follow to complete the accelerated assessment of the potential environmental impacts and decision-making within a regulated assessment timeline. As part of the TPAP, a draft Environmental Project Report (EPR) is being prepared and will document any potential environmental impacts and mitigation requirements of the Project.

Following the up-to-120-day TPAP consultation and documentation period, the regulation requires a 30-day public and agency review of the Environmental Project Report (EPR), followed by a 35-day review by the Minister of the Environment, Conservation and Parks.

Project and TPAP Timeline	
Project Introduction Letter	January 7, 2022
Public Information Centre #1	January 12 to January 26, 2022
Individual meetings with Indigenous Nations	January 14 to February 18, 2022
Notice of Commencement • Start of up to 120 days consultation period	March 24, 2022 publication date
Individual meetings with Indigenous Nations	March 22, 2022
Public Information Centre #2	April 6 to April 20, 2022

Project and TPAP Timeline	
Notice of Completion * • Public review of Environmental Project Report (30 days) • Minister's review of Environmental Project Report (up to 35 days)	Anticipated June 2022 to September 2022
Statement of Completion *	Anticipated September 2022

*Timelines are subject to change as required

This letter serves as notice that Metrolinx is formally commencing the TPAP process, and the Notice of Commencement is attached as **Attachment 1**. The Notice of Commencement will be available on the Project webpage at https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/ beginning March 24 for up to 120 days.

Draft Environmental Project Report and Technical Studies

The draft Environmental Project Report (EPR) and Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

Details of the impact assessment can be found in the draft Technical Studies, available for download at https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR beginning April 6, 2022. Metrolinx will also circulate the draft EPR and Technical Studies as they become available to Huron-Wendat Nation for review. Metrolinx will endeavor to circulate as many reports as possible in packages to reduce the amount of correspondence delivered to Huron-Wendat Nation.

A summary of the EPR is presented below, followed by a summary of some of the studies completed as part of the EPR.

- Section 1 – Provides an overview of the Heritage Road Layover Project and its purpose, an overview of the TPAP, and how the Project relates to the TPAP.

- Section 2 – Provides a detailed description of key Project components, including design.

- Section 3 – Describes existing conditions at the site of the transit project, as well as the studies that were carried out.

- Section 4 – Describes the potential environmental impacts related to the Project, and recommended mitigation measures and monitoring activities associated with Project implementation.

- Section 5 – Describes how the TPAP incorporates considerations to climate change, and provides a summary of the design considerations and measures to mitigate effects of climate change on the Project

- Section 6 – Describes the consultation process and activities that were undertaken as part of the Heritage Road Layover Project, including key consultation milestones. This section provides an overview of the input/comments/feedback received from various stakeholders (i.e., Review Agencies, Indigenous Nations, the Public, Property Owners, etc.) and how they were considered by Metrolinx as part of the TPAP.

- Section 7 – Describes the proposed commitments and future work to be carried out during future project phases (e.g., detailed design, construction), and outlines the additional anticipated approvals and permits required for implementing the Project beyond the TPAP.

Archaeology

A draft Stage 1 Archaeological Assessment (AA) was prepared and shared with Huron-Wendat Nation on February 8, 2022. At this time, Metrolinx has not received feedback from Huron-Wendat Nation. Should you wish to provide comment, please do so by March 22, 2022, as noted in the initial email provided.

The draft Stage 1 AA included a gap analysis of the archaeological work previously completed for Metrolinx and for others that were available for Metrolinx to review. The draft Stage 1 AA also gathered additional information associated with the Site and surrounding Study Area, and included a review of from publicly accessible access points. The draft Stage 1 AA confirmed archeological potential of the Site.

The draft Stage 1 AA indicated that the Study Area was noted to have general archaeological potential due to the following:

- Presence of existing sites of interest:
    - One registered archaeological site (AjGx-267) is located within the Study Area;
    - Two registered archaeological sites (AjGx-268 and AjGx-11) are within 300 m of the Study Area; and
    - An unmarked historical-period cemetery (McNichol Cemetery) is adjacent to the Study Area;
- Three primary natural water sources (unnamed tributaries of the Credit River) cross the central, east, and west portions of the Study Area;

- The Study Area has a flat topography and well drained soils conducive to human inhabitation;
- The 1877 historical atlas map depicts a farmstead with within the Study Area; and,
- The Study Area is adjacent to the early historical transportation routes of Winston Churchill Boulevard and the Toronto & Guelph Railway.

Based on the findings of the draft Stage 1 AA, the following were recommended as next steps:

i) A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in **Figure 2**) due to the presence of Euro-Canadian artifacts.

ii) Archaeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) included a combination of Euro-Canadian and one Indigenous artifact; however the area is not anticipated to be impacted by the Project so no additional work is anticipated at this time (dark blue area in **Figure 2**). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.

iii) The former unmarked historical-period cemetery, McNichol Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

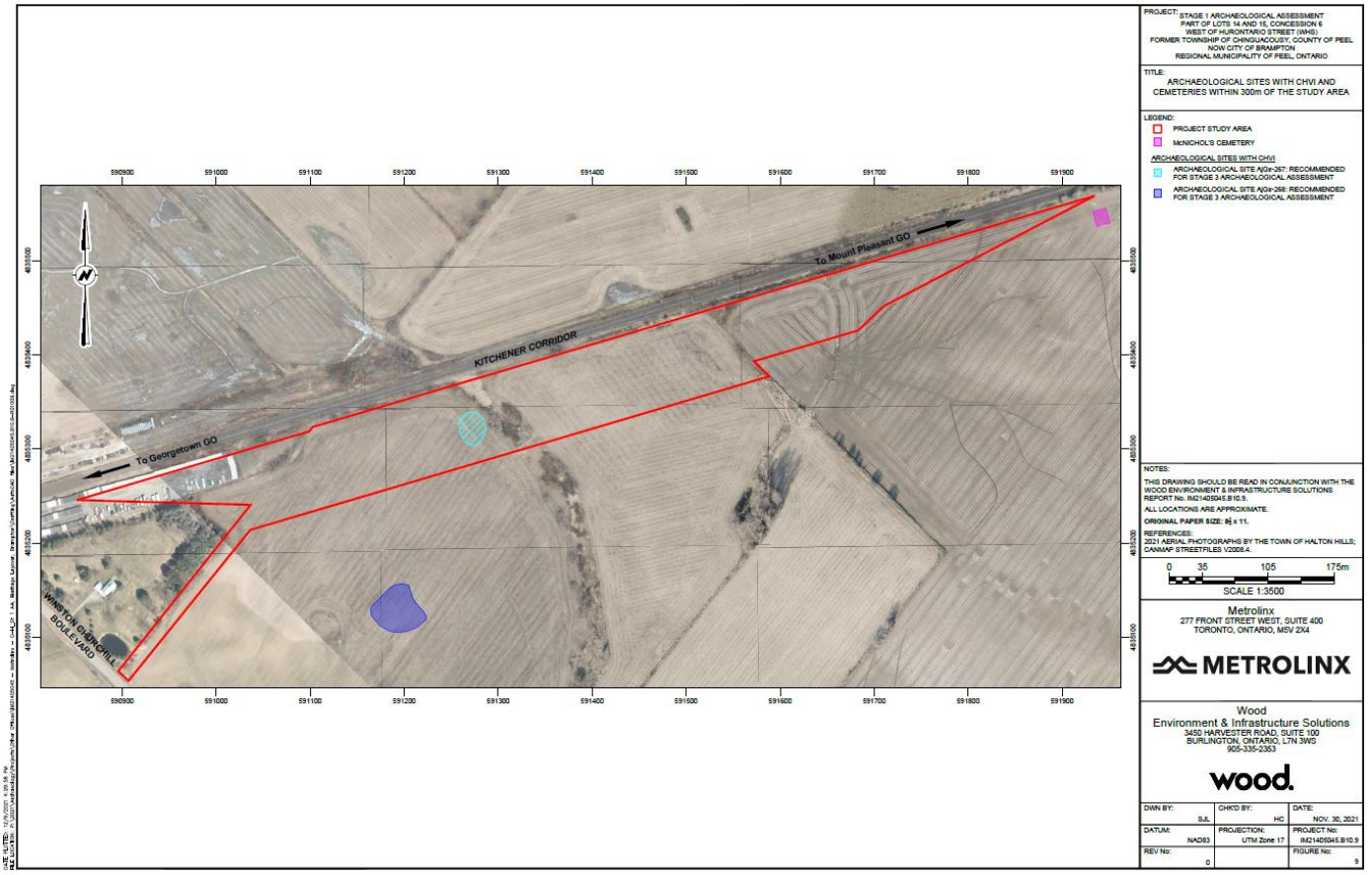

Figure 2. Stage 1 Archeological Study Area

As Metrolinx continues to undertake environmental due diligence for this project, additional archaeological assessment reports will be completed (including the recommended Stage 3 AA identified in the recommendations). Metrolinx acknowledges that Huron-Wendat Nation should be aware of and engaged regarding any future archaeology, and especially the discovery and preservation of Indigenous artifacts and sacred burial grounds. Metrolinx will ensure invitations to participate will be extended to Huron-Wendat Nation for future Archaeological Assessments field studies, and resulting reports are provided to Huron-Wendat Nation in draft form, prior to or in concurrently with submission to the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI).

Natural Environment

The draft Natural Environment Report is currently being prepared to support the EPR and will be available for Huron-Wendat Nation to review in the upcoming weeks. This draft report is based on a desktop review of available information, and field studies are planned for Spring 2022.

Below summarizes the findings of the desktop review:

Aquatic Environment

No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review.

- Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area.
    - Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.
- A Heritage Heights Subwatershed Study that begun in 2021[1] identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch.
- A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low.
- There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat.
- The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022.

[1] Currently in preparation at the time of this report, public release pending approval from the City of Brampton (Note: this subwatershed study is not part of the Heritage Road Layover project).

Terrestrial Environment

- Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site.
    - Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints.
- Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area.
    - During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.).
- A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation.

Species At Risk

- Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area.
    - Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982.
- The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle.
    - Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting.
    - The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area.
- Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed as Special Concern and therefore would receive habitat protection under significant wildlife habitat if individual use is documented.

Impacts and Mitigations

The table presented in **Attachment 2** provides a summary of the Natural Environment potential impacts and mitigation strategies identified as part of the Draft EPR that may be of interest to Huron-Wendat Nation.

Additional details of the impacts and mitigation strategies are outlined in the Draft EPR and the corresponding Natural Environment technical study. If Huron-Wendat Nation has any feedback about these potential impacts and/or mitigation strategies, Metrolinx would appreciate the opportunity to discuss further.

Cultural Heritage

A draft Cultural Heritage Report was prepared and shared with Huron-Wendat Nation on March 7, 2022. The draft Cultural Heritage Report identified a total of three known and potential heritage properties in the Study Area.

- CHR 1– former McNichol Cemetery, 10510 Heritage Road;
- CHR 2 – residential property at 10827 Winston Churchill Boulevard (residence identified to be more than 40 years old and with potential built heritage value).
- CHR 3 – residential property at 10746 Winston Churchill Boulevard (property contains a Victory style structure constructed during the mid-20th century with possible built heritage significance).

Based on the results of the draft Cultural Heritage Report, the following recommendations were made:

i) Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
ii) While no direct or indirect impacts were anticipated to CHR 1 from a cultural heritage perspective, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, it was advised to adhere to the guidance outlined in the Stage 1 Archaeological Assessment. The guidance included installation of protective fencing and appropriate buffers.

Upcoming Public Meeting

For your awareness, a virtual public meeting will be hosted on Metrolinx Engage (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/) between April 6 and April 20, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to you and members of your community review the online meeting materials and provide feedback, however, this would not preclude any request from you to meet with Metrolinx directly.

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be

included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*,

Thank you for your time in reviewing this letter.

Yours Truly,



Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc: Lori-Jeanne Bolduc, Huron-Wendat Nation
Dominic Ste-Marie, Huron-Wendat Nation
Mario Gros-Louis, Huron-Wendat Nation
Indigenous Relations Office, Metrolinx
Heather Swan, Manager, Environmental Programs & Assessment, Indigenous Relations, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement of the TPAP and Public Meeting #2
Attachment 2: Natural Environment, Archaeology and Cultural Heritage Potential Impacts and Mitigative Strategies

Attachment 1

Notice of Commencement of the TPAP
and Public Meeting #2

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Attachment 2

Natural Environment Potential Impacts and Mitigative Strategies

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Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Natural Environment					
Wildlife	•	-	Disturbance, displacement, or mortality of wildlife	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • If wildlife is encountered within the construction site, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	•	-	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Species at Risk – General	•	-	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNRF. • If SAR is present and conservation strategies have been developed by MNRF/MECP, the commitments in the recovery strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				procedure(s) to follow if an individual is encountered or injured.	
Species at Risk – Barn Swallow	•	-	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys will be undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met, including any registration, compensation, replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Eastern Meadowlark	•	-	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys will be undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Butternut	•	-	Habitat loss, disturbance or loss of butternut.	• Field surveys will be conducted by Wood biologists to visually search the Natural Environment Study Area for presence of butternut. If butternut is found, the location and general condition of any butternut observed will be recorded. However, a formal Butternut Health Assessment, completion of a Notice of Activity or authorizations under the ESA are not anticipated to be required.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Aquatic Environment - Watercourses	•	-	Impacts to three watercourses in the Natural Environment Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site in adherence with the Metrolinx Vegetation Guideline (2020). • An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the wetland or waterbody. • A Spill Prevention and Response Plan will be developed before work commences and implemented during construction to ensure procedures and policies are in place during construction to minimize impacts to wetlands or waterbodies. • In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC.	
Aquatic Environment – Fish and Fish Habitat	•	-	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNDMRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation Removal and Compensation Plans	•	-	Tree / Vegetation removal, injury and protection.	• As part of the Arborist Report, all trees within or adjacent to the Project Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR vegetation. SAR vegetation will be subject to permitting and approval	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				requirements under Applicable Law, prior to the commencement of construction. The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and boundary trees. Municipal by-laws will dictate the minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and	maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/ regulations, and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program within the Metrolinx Vegetation Guideline (2020).

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. Refer to Natural Environment commitment tables for additional details.	
Vegetation Removal and Compensation Plans – SAR Habitat	•	-	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with MNRF Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Integrated Vegetation Management (IVM)	•	-	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	•	-	Potential for the spread of Emerald Ash Borer, Agrilus planipennis (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire) (2014), as amended	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.	maintenance and alteration of activities to minimize impacts.
Cultural Environment					
Archaeological Resources	•	-	Potential for site AjGx-267 (Heritage Layover H1) to be impacted by construction and operational activities. No impacts are anticipated to Site AjGx-267 (Heritage Layover H2).	• Develop and implement an Archaeological Risk Management Plan that addresses any recommendations resulting from Archaeological Assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources. The Archaeological Risk Management Plan shall be amended to incorporate any additional actions required resulting from subsequent Archaeological Assessment Reports. • All work shall be performed in accordance with Applicable Law, including but not limited to the *Ontario Heritage Act*, the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), formerly the Ministry of Tourism, Culture and Sport (MTCS) *Standards and Guidelines for Consultant Archaeologists* (2011), and the MHSTCI document, *Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario* (2011). • In the event that archaeological resources are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot should be protected from impact by employing a buffer in accordance with requirements of the MHSTCI. A professionally licensed archaeologist will be consulted to complete the assessment. If resources are confirmed to possess cultural heritage value/interest then they will be reported to the MHSTCI, and further	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Archaeological Assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx should be contacted and Applicable Law will be followed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. This will include completing all required Archaeological Assessments resulting from the Stage 1 AA (Stage 2, Stage 3 and Stage 4, as required) as early as possible, prior to the completion of design, and in advance of any ground disturbance. • For areas determined to have archaeological potential or contain archaeological resources that will be impacted by project activities, additional Archaeological Assessment will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered during project work, all activities must cease immediately and the local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services must be contacted. Archaeological investigations of human remains will not proceed until police have confirmed the remains are not subject to forensic investigation. Once human remains have been cleared of police concern, the MHSTCI will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*. If the human remains are determined to be of Indigenous origin, Metrolinx should be contacted and all Applicable Law must be adhered to.	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• All Archaeological Assessment findings will be shared with Indigenous communities, as per Metrolinx's *Guide to Engaging with Indigenous Communities* (2020).	
CHR1 - McNichol Cemetery	-	-	No direct adverse impacts are anticipated to the McNichol Cemetery. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	• The proposed work should be planned in a manner that avoids the McNichol Cemetery. • Work in proximity to known cemeteries requires completion of an Archaeological Assessment prior to any proposed ground disturbance in accordance with the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (2011) and the *Funeral, Burial, and Cremation Services Act* and regulations under that Act.	• Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits. • Further Archaeological Assessment may identify the need for monitoring during construction.
CHR2 - Built Heritage Resource – 10827 Winston Churchill Boulevard	•	-	Indirect Adverse Impact. Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship	• The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a "potential heritage property" to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx 's selection procedures, which includes avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. • Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design.	• None.
CHR3 - Built Heritage Resource – 10746 Winston Churchill Boulevard	-	-	None. The residence is located approximately 110 metres from the proposed work.	• None.	• None.
Socio-Economic and Land Use					
Property	•	•	Property acquisition – permanent and temporary.	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	
All land uses and adjacent lands	•	-	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Develop a Communications Protocol in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
All land uses and adjacent lands	•	•	Land use and access disruption.	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site.	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	•	•	Visual effects from construction / operations areas / activities.	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	•	•	Light trespass, glare and light pollution effects.	• Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement Comply with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 –	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • Permanent lights will be installed for operations of the site.	
Hydrogeology					
Groundwater	•	–	Construction activities could expose groundwater and associated contamination	• Develop a Groundwater Management and Dewatering Plan to guide the handling, management, and disposal of groundwater encountered during the works. The Groundwater Management and Dewatering Plan will be overseen by a QP and will comply with *Ontario Regulations 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), *64/16* and *387/04*, as amended under the *Ontario Water Resources Act*. • The Groundwater Management and Dewatering Plan will describe the anticipated groundwater quantity and dewatering Zone of Influence that will be encountered during the works, and if approvals are needed for the water taking, such as a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the MECP. • The Groundwater Management and Dewatering Plan will describe the storage, transfer, and disposal and or treatment of the groundwater collected during the works, and approvals for the water disposal, and/or treatment if applicable, based on the quantity and quality. • The Groundwater Management and Dewatering Plan will be reviewed and approved by Metrolinx prior to construction.	• A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for Metrolinx review to document performance monitoring data/results and any corrective actions implemented during the previous month. • Upon completion of the work, the Constructor will submit a Groundwater Management and Dewatering Implementation Report to Metrolinx.
Stormwater Management					
Potential Impacts and Proposed Mitigation	•	–	The proposed construction activities pose a potential impact due to sediment	• Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and	• Turbidity levels within discharges from sites to be monitored visually. Turbidity levels will be monitored

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Measures for Stormwater and Site Drainage			transport into adjacent natural areas including watercourses, wetlands and municipal drainage infrastructure. The proposed works may result in increases to impervious areas, with potential effects to water quantity and quality. In addition to the increases in impervious coverage, there may be alterations to the local drainage system, both overland (major drainage system) and storm sewers (minor drainage system).	erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC. • A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements and American Railway Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (2019). • Infiltration requirements for municipalities will be determined as per the design guidelines and standards. • To offset the potential impacts to wetlands, the grades and drainage system on the periphery of the layover may need to be designed to result in minor local drainage diversions to the wetland features. An annual water budget for existing, future (without mitigation) and future (with mitigation) would have to be conducted. Input from a terrestrial biologist is required to review the annual water budget variations for existing and future conditions. • Develop and implement a Spill Prevention and Response Plan in accordance with the Project Agreement. • A hydraulic assessment of each crossing and any proposed culverts is required to determine proposed flood levels and associated creek bed and bank treatments to prevent scour and erosion	upstream and downstream of sites at watercourse crossings or adjacent to watercourses. Turbidity levels within discharges from sites and within receiving storm sewers will also be monitored visually to determine potential impacts from construction. • Grab samples for existing watercourses and/or wetlands, when runoff from the site discharges to a watercourse and/or wetland will be conducted for pre-construction, during construction, and post construction conditions until the site is considered stabilized. Grab samples for watercourses and wetlands will be taken for non-precipitation event and for precipitation events to obtain a reasonable understanding of the turbidity levels. Post-construction monitoring of wetland areas may be required depending on input from Conservation Authorities. • Monitoring will be conducted for potential oil spills and containment of spills to be conducted as per provincial requirements. • Functionality of stormwater quantity controls including peak flows and water levels for storm events within the design range. Monitoring would require local rainfall data. • Infiltration targets measured by flow monitoring on infiltrative Low Impact Development (LID) Best Management Practices (BMPs). • Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS)

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				and facilitate fish passage. Where applicable, the regulatory model(s) will be obtained from CVC to assess the hydraulic impacts along regulated watercourses. • Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models. Creek bed and banks design will include geomorphological input for scour and erosion prevention, and creation of appropriate fish habitat.	removal as per the MECP *Stormwater Management Planning and Design Manual* (2003).

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From:	Indigenous Relations
To:	Mark LaForme
Cc:	Adam LaForme; Clara Chan; Simon Strauss
Subject:	Notice of Commencement: Heritage Road Layover
Date:	March 23, 2022 10:20:26 AM
Attachments:	image001.png Heritage Road Layover - NoC - English - QME-WPC-160.pdf 2022-03-15- Notice of Commencement and PIC_MCFN.pdf

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Dear Mark and Team,

Metrolinx continues to advance the Heritage Road Layover Project. It will be assessed through the Transit Project Assessment Process (TPAP). To that end, Metrolinx wishes to inform you that it will be issuing a Notice of Commencement for this project, on March 24, 2022, which begins the up to 120 day review period under the TPAP.

Please find attached a letter outlining the project, the Notice of Commencement and Environmental Project Report (EPR).

A Draft Natural Environment Report is currently being prepared to support the EPR and will be available for your Nation to review in the upcoming weeks. The draft version of this report, as well as the EPR and other technical studies, will be circulated as they become available. Metrolinx will endeavor to circulate the reports in packages to minimize correspondence.

As part of the natural environment study, the potential impacts of the project were assessed and mitigation measures were identified to be implemented during construction and project operations, and are summarized in the letter. The draft version of this report, as well as the Environmental Project Report and other technical studies, will also be uploaded to the Metrolinx Engage project page (https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR) beginning April 6, 2022.

The Notice of Commencement will also be available on the Project webpage beginning March 24, 2022 for up to 120 days: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*

Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
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METROLINX

March 23, 2022

Mark LaForme
Mississaugas of the Credit First Nation
[redacted]
[redacted]
Delivered by email

RE: Heritage Road Layover Project – Notice of Commencement and Public Information Centre #2 (Virtual Open House)

Dear Mr. LaForme,

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands Mississaugas of the Credit First Nation. Metrolinx values its relationship with the Mississaugas of the Credit First Nation and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes Mississaugas of the Credit First Nation's connection to the areas in which Metrolinx operates and will be constructing infrastructure.

The purpose of this letter is to announce the formal commencement of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We also with to inform Mississaugas of the Credit First Nation of the second online Public Information Centre for the Project. We continue to welcome any interest in engagement with Mississaugas of the Credit First Nation on this Project.

Project Description
As previously communicated through our Project Introduction Letter circulated January 7, 2022, and in our meeting on February 18, 2022, Metrolinx, is overseeing the proposed Heritage Road Layover Project (the Project) between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.
For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/



Figure 1. Project Location

Transit Project Assessment Process

The Project is being completed under the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* under the *Environmental Assessment Act*. The TPAP is a proponent-driven, self-assessment process that provides a defined framework to follow to complete the accelerated assessment of the potential environmental impacts and decision-making within a regulated assessment timeline. As part of the TPAP, a draft Environmental Project Report (EPR) is being prepared and will document any potential environmental impacts and mitigation requirements of the Project.

Following the up-to-120-day TPAP consultation and documentation period, the regulation requires a 30-day public and agency review of the Environmental Project Report (EPR), followed by a 35-day review by the Minister of the Environment, Conservation and Parks.

Project and TPAP Timeline	
Project Introduction Letter	January 7, 2022
Public Information Centre #1	January 12 to January 26, 2022
Individual meetings with Indigenous Nations	January 14 to February 18, 2022
Notice of Commencement • Start of up to 120 days consultation period	March 24, 2022 publication date
Individual meetings with Indigenous Nations	March 22, 2022

Project and TPAP Timeline	
Public Information Centre #2	April 6 to April 20, 2022
Notice of Completion * • Public review of Environmental Project Report (30 days) • Minister's review of Environmental Project Report (up to 35 days)	Anticipated June 2022 to September 2022
Statement of Completion *	Anticipated September 2022

*Timelines are subject to change as required

This letter serves as notice that Metrolinx is formally commencing the TPAP process, and the Notice of Commencement is attached as **Attachment 1**. The Notice of Commencement will be available on the Project webpage at https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/ beginning March 24 for up to 120 days.

Draft Environmental Project Report and Technical Studies

The draft Environmental Project Report (EPR) and Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

Details of the impact assessment can be found in the draft Technical Studies, available for download at https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR beginning April 6, 2022. Metrolinx will also circulate the draft EPR and Technical Studies as they become available to Mississaugas of the Credit First Nation for review. Metrolinx will endeavor to circulate as many reports as possible in packages to reduce the amount of correspondence delivered to Mississaugas of the Credit First Nation.

A summary of the EPR is presented below, followed by a summary of some of the studies completed as part of the EPR.

- Section 1 – Provides an overview of the Heritage Road Layover Project and its purpose, an overview of the TPAP, and how the Project relates to the TPAP.

- Section 2 – Provides a detailed description of key Project components, including design.

- Section 3 – Describes existing conditions at the site of the transit project, as well as the studies that were carried out.

- Section 4 – Describes the potential environmental impacts related to the Project, and recommended mitigation measures and monitoring activities associated with Project implementation.

- Section 5 – Describes how the TPAP incorporates considerations to climate change, and provides a summary of the design considerations and measures to mitigate effects of climate change on the Project

- Section 6 – Describes the consultation process and activities that were undertaken as part of the Heritage Road Layover Project, including key consultation milestones. This section provides an overview of the input/comments/feedback received from various stakeholders (i.e., Review Agencies, Indigenous Nations, the Public, Property Owners, etc.) and how they were considered by Metrolinx as part of the TPAP.

- Section 7 – Describes the proposed commitments and future work to be carried out during future project phases (e.g., detailed design, construction), and outlines the additional anticipated approvals and permits required for implementing the Project beyond the TPAP.

Archaeology

A draft Stage 1 Archaeological Assessment (AA) was prepared and shared with Mississaugas of the Credit First Nation on February 8, 2022. The draft Stage 1 AA included a gap analysis of the archaeological work previously completed for Metrolinx and for others that were available for Metrolinx to review. The draft Stage 1 AA also gathered additional information associated with the Site and surrounding Study Area, and included a review of from publicly accessible access points. The draft Stage 1 AA confirmed archeological potential of the Site.

The draft Stage 1 AA indicated that the Study Area was noted to have general archaeological potential due to the following:

- Presence of existing sites of interest:
    - One registered archaeological site (AjGx-267) is located within the Study Area;
    - Two registered archaeological sites (AjGx-268 and AjGx-11) are within 300 m of the Study Area; and
    - An unmarked historical-period cemetery (McNichol Cemetery) is adjacent to the Study Area;
- Three primary natural water sources (unnamed tributaries of the Credit River) cross the central, east, and west portions of the Study Area;
- The Study Area has a flat topography and well drained soils conducive to human inhabitation;
- The 1877 historical atlas map depicts a farmstead with within the Study Area; and,

- The Study Area is adjacent to the early historical transportation routes of Winston Churchill Boulevard and the Toronto & Guelph Railway.

Based on the findings of the draft Stage 1 AA, the following were recommended as next steps:

i) A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in **Figure 2**) due to the presence of Euro-Canadian artifacts.

ii) Archaeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) included a combination of Euro-Canadian and one Indigenous artifact; however the area is not anticipated to be impacted by the Project so no additional work is anticipated at this time (dark blue area in **Figure 2**). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.

iii) The former unmarked historical-period cemetery, McNichol Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

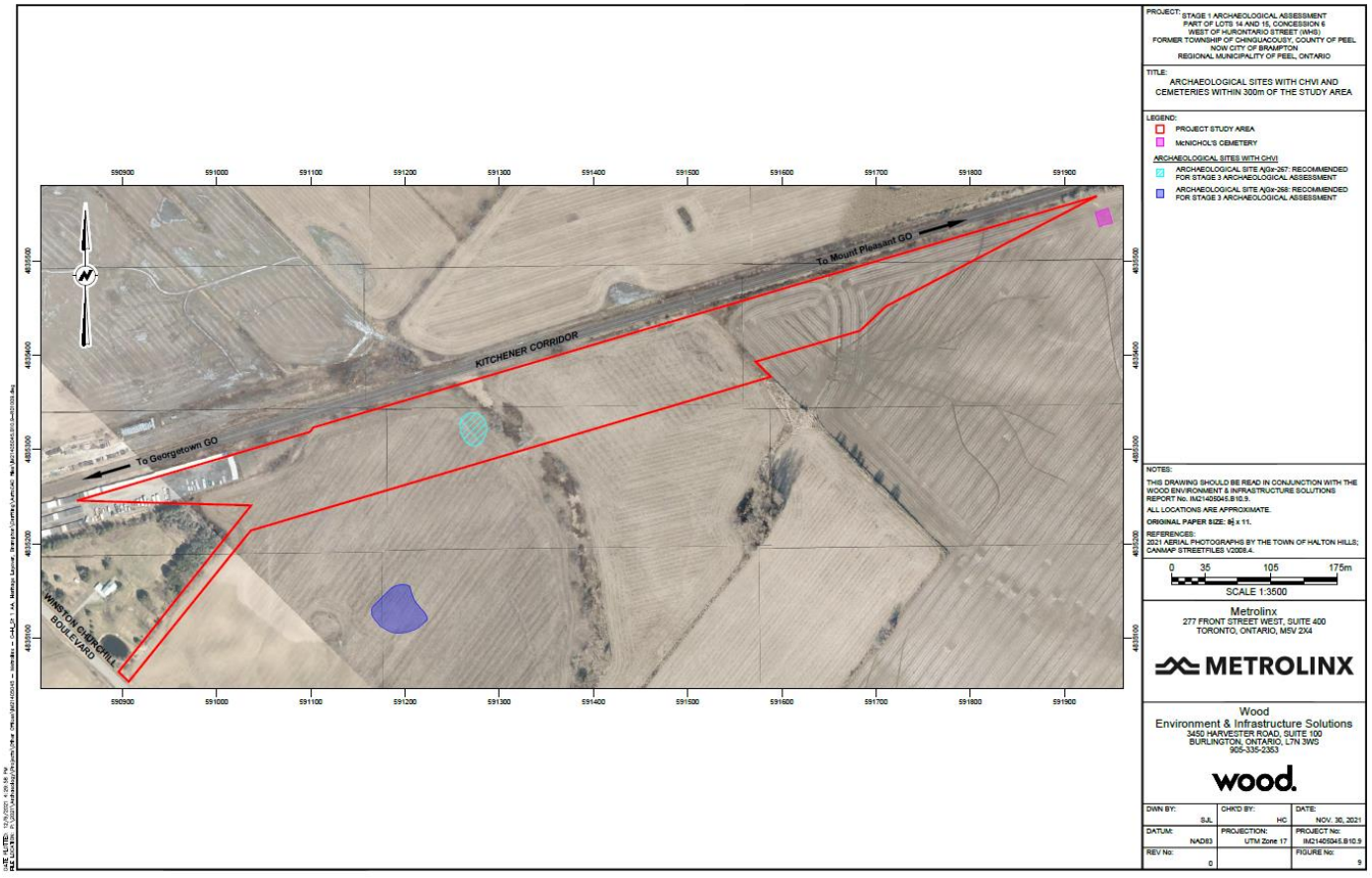

Figure 2. Stage 1 Archeological Study Area

As Metrolinx continues to undertake environmental due diligence for this project, additional archaeological assessment reports will be completed (including the recommended Stage 3 AA identified in the recommendations). Metrolinx acknowledges that Mississaugas of the Credit First Nation should be aware of and engaged regarding any future archaeology, and especially the discovery and preservation of Indigenous artifacts and sacred burial grounds. Metrolinx will ensure invitations to participate will be extended to Mississaugas of the Credit First Nation for future Archaeological Assessments field studies, and resulting reports are provided to Mississaugas of the Credit First Nation in draft form, prior to or in concurrently with submission to the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI).

Natural Environment

The draft Natural Environment Report is currently being prepared to support the EPR and will be available for Mississaugas of the Credit First Nation to review in the upcoming weeks. This draft report is based on a desktop review of available information, and field studies are planned for Spring 2022.

Below summarizes the findings of the desktop review:

Aquatic Environment

No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review.

- Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area.
    - Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.
- A Heritage Heights Subwatershed Study that begun in 2021[1] identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch.
- A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low.
- There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat.
- The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022.

[1] Currently in preparation at the time of this report, public release pending approval from the City of Brampton (Note: this subwatershed study is not part of the Heritage Road Layover project).

Terrestrial Environment

- Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site.
    - Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints.
- Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area.
    - During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.).
- A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation.

Species At Risk

- Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area.
    - Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982.
- The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle.
    - Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting.
    - The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area.
- Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed as Special Concern and therefore would receive habitat protection under significant wildlife habitat if individual use is documented.

Impacts and Mitigations

The table presented in **Attachment 2** provides a summary of the Natural Environment potential impacts and mitigation strategies identified as part of the Draft EPR that may be of interest to Mississaugas of the Credit First Nation.

Additional details of the impacts and mitigation strategies are outlined in the Draft EPR and the corresponding Natural Environment technical study. If Mississaugas of the Credit First Nation has any feedback about these potential impacts and/or mitigation strategies, Metrolinx would appreciate the opportunity to discuss further.

Cultural Heritage

A draft Cultural Heritage Report was prepared and shared with Mississaugas of the Credit First Nation on March 7, 2022. At this time, Metrolinx has not received feedback from Mississaugas of the Credit First Nation. Should you wish to provide comment, please do so by April 18, 2022, as noted in the initial email provided.

The draft Cultural Heritage Report identified a total of three known and potential heritage properties in the Study Area.

- CHR 1– former McNichol Cemetery, 10510 Heritage Road;
- CHR 2 – residential property at 10827 Winston Churchill Boulevard (residence identified to be more than 40 years old and with potential built heritage value).
- CHR 3 – residential property at 10746 Winston Churchill Boulevard (property contains a Victory style structure constructed during the mid-20th century with possible built heritage significance).

Based on the results of the draft Cultural Heritage Report, the following recommendations were made:

i) Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
ii) While no direct or indirect impacts were anticipated to CHR 1 from a cultural heritage perspective, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, it was advised to adhere to the guidance outlined in the Stage 1 Archaeological Assessment. The guidance included installation of protective fencing and appropriate buffers.

Upcoming Public Meeting

For your awareness, a virtual public meeting will be hosted on Metrolinx Engage (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/) between April 6 and April 20, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to you and members of your community review the online meeting materials and provide feedback, however, this would not preclude any request from you to meet with Metrolinx directly.

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*.

Thank you for your time in reviewing this letter.

Yours Truly,



Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc: Adam LaForme, Archaeological Operations Supervisor, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Indigenous Relations Office, Metrolinx
Heather Swan, Manager Environmental Programs & Assessment, Indigenous Relations, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement of the TPAP and Public Meeting #2
Attachment 2: Natural Environment, Archaeology and Cultural Heritage Potential Impacts and Mitigative Strategies

Attachment 1

Notice of Commencement of the TPAP
and Public Meeting #2

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Attachment 2

Natural Environment Potential Impacts and Mitigative Strategies

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Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Natural Environment					
Wildlife	•	-	Disturbance, displacement, or mortality of wildlife	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • If wildlife is encountered within the construction site, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	•	-	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Species at Risk – General	•	-	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNRF. • If SAR is present and conservation strategies have been developed by MNRF/MECP, the commitments in the recovery strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				procedure(s) to follow if an individual is encountered or injured.	
Species at Risk – Barn Swallow	•	-	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys will be undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met, including any registration, compensation, replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Eastern Meadowlark	•	-	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys will be undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Butternut	•	-	Habitat loss, disturbance or loss of butternut.	• Field surveys will be conducted by Wood biologists to visually search the Natural Environment Study Area for presence of butternut. If butternut is found, the location and general condition of any butternut observed will be recorded. However, a formal Butternut Health Assessment, completion of a Notice of Activity or authorizations under the ESA are not anticipated to be required.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Aquatic Environment - Watercourses	•	-	Impacts to three watercourses in the Natural Environment Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site in adherence with the Metrolinx Vegetation Guideline (2020). • An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the wetland or waterbody. • A Spill Prevention and Response Plan will be developed before work commences and implemented during construction to ensure procedures and policies are in place during construction to minimize impacts to wetlands or waterbodies. • In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC.	
Aquatic Environment – Fish and Fish Habitat	•	-	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNDMRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation Removal and Compensation Plans	•	-	Tree / Vegetation removal, injury and protection.	• As part of the Arborist Report, all trees within or adjacent to the Project Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR vegetation. SAR vegetation will be subject to permitting and approval	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				requirements under Applicable Law, prior to the commencement of construction. The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and boundary trees. Municipal by-laws will dictate the minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and	maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/ regulations, and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program within the Metrolinx Vegetation Guideline (2020).

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. Refer to Natural Environment commitment tables for additional details.	
Vegetation Removal and Compensation Plans – SAR Habitat	•	-	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with MNRF Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Integrated Vegetation Management (IVM)	•	-	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	•	-	Potential for the spread of Emerald Ash Borer, Agrilus planipennis (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire) (2014), as amended	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.	maintenance and alteration of activities to minimize impacts.
Cultural Environment					
Archaeological Resources	•	-	Potential for site AjGx-267 (Heritage Layover H1) to be impacted by construction and operational activities. No impacts are anticipated to Site AjGx-267 (Heritage Layover H2).	• Develop and implement an Archaeological Risk Management Plan that addresses any recommendations resulting from Archaeological Assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources. The Archaeological Risk Management Plan shall be amended to incorporate any additional actions required resulting from subsequent Archaeological Assessment Reports. • All work shall be performed in accordance with Applicable Law, including but not limited to the *Ontario Heritage Act*, the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), formerly the Ministry of Tourism, Culture and Sport (MTCS) *Standards and Guidelines for Consultant Archaeologists* (2011), and the MHSTCI document, *Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario* (2011). • In the event that archaeological resources are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot should be protected from impact by employing a buffer in accordance with requirements of the MHSTCI. A professionally licensed archaeologist will be consulted to complete the assessment. If resources are confirmed to possess cultural heritage value/interest then they will be reported to the MHSTCI, and further	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Archaeological Assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx should be contacted and Applicable Law will be followed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. This will include completing all required Archaeological Assessments resulting from the Stage 1 AA (Stage 2, Stage 3 and Stage 4, as required) as early as possible, prior to the completion of design, and in advance of any ground disturbance. • For areas determined to have archaeological potential or contain archaeological resources that will be impacted by project activities, additional Archaeological Assessment will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered during project work, all activities must cease immediately and the local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services must be contacted. Archaeological investigations of human remains will not proceed until police have confirmed the remains are not subject to forensic investigation. Once human remains have been cleared of police concern, the MHSTCI will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*. If the human remains are determined to be of Indigenous origin, Metrolinx should be contacted and all Applicable Law must be adhered to.	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• All Archaeological Assessment findings will be shared with Indigenous communities, as per Metrolinx's *Guide to Engaging with Indigenous Communities* (2020).	
CHR1 - McNichol Cemetery	-	-	No direct adverse impacts are anticipated to the McNichol Cemetery. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	• The proposed work should be planned in a manner that avoids the McNichol Cemetery. • Work in proximity to known cemeteries requires completion of an Archaeological Assessment prior to any proposed ground disturbance in accordance with the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (2011) and the *Funeral, Burial, and Cremation Services Act* and regulations under that Act.	• Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits. • Further Archaeological Assessment may identify the need for monitoring during construction.
CHR2 - Built Heritage Resource – 10827 Winston Churchill Boulevard	•	-	Indirect Adverse Impact. Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship	• The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a "potential heritage property" to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx 's selection procedures, which includes avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. • Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design.	• None.
CHR3 - Built Heritage Resource – 10746 Winston Churchill Boulevard	-	-	None. The residence is located approximately 110 metres from the proposed work.	• None.	• None.
Socio-Economic and Land Use					
Property	•	•	Property acquisition – permanent and temporary.	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	
All land uses and adjacent lands	•	-	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Develop a Communications Protocol in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
All land uses and adjacent lands	•	•	Land use and access disruption.	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site.	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	•	•	Visual effects from construction / operations areas / activities.	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	•	•	Light trespass, glare and light pollution effects.	• Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement Comply with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 –	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • Permanent lights will be installed for operations of the site.	
Hydrogeology					
Groundwater	•	–	Construction activities could expose groundwater and associated contamination	• Develop a Groundwater Management and Dewatering Plan to guide the handling, management, and disposal of groundwater encountered during the works. The Groundwater Management and Dewatering Plan will be overseen by a QP and will comply with *Ontario Regulations 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), *64/16* and *387/04*, as amended under the *Ontario Water Resources Act*. • The Groundwater Management and Dewatering Plan will describe the anticipated groundwater quantity and dewatering Zone of Influence that will be encountered during the works, and if approvals are needed for the water taking, such as a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the MECP. • The Groundwater Management and Dewatering Plan will describe the storage, transfer, and disposal and or treatment of the groundwater collected during the works, and approvals for the water disposal, and/or treatment if applicable, based on the quantity and quality. • The Groundwater Management and Dewatering Plan will be reviewed and approved by Metrolinx prior to construction.	• A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for Metrolinx review to document performance monitoring data/results and any corrective actions implemented during the previous month. • Upon completion of the work, the Constructor will submit a Groundwater Management and Dewatering Implementation Report to Metrolinx.
Stormwater Management					
Potential Impacts and Proposed Mitigation	•	–	The proposed construction activities pose a potential impact due to sediment	• Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and	• Turbidity levels within discharges from sites to be monitored visually. Turbidity levels will be monitored

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Measures for Stormwater and Site Drainage			transport into adjacent natural areas including watercourses, wetlands and municipal drainage infrastructure. The proposed works may result in increases to impervious areas, with potential effects to water quantity and quality. In addition to the increases in impervious coverage, there may be alterations to the local drainage system, both overland (major drainage system) and storm sewers (minor drainage system).	erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC. • A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements and American Railway Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (2019). • Infiltration requirements for municipalities will be determined as per the design guidelines and standards. • To offset the potential impacts to wetlands, the grades and drainage system on the periphery of the layover may need to be designed to result in minor local drainage diversions to the wetland features. An annual water budget for existing, future (without mitigation) and future (with mitigation) would have to be conducted. Input from a terrestrial biologist is required to review the annual water budget variations for existing and future conditions. • Develop and implement a Spill Prevention and Response Plan in accordance with the Project Agreement. • A hydraulic assessment of each crossing and any proposed culverts is required to determine proposed flood levels and associated creek bed and bank treatments to prevent scour and erosion	upstream and downstream of sites at watercourse crossings or adjacent to watercourses. Turbidity levels within discharges from sites and within receiving storm sewers will also be monitored visually to determine potential impacts from construction. • Grab samples for existing watercourses and/or wetlands, when runoff from the site discharges to a watercourse and/or wetland will be conducted for pre-construction, during construction, and post construction conditions until the site is considered stabilized. Grab samples for watercourses and wetlands will be taken for non-precipitation event and for precipitation events to obtain a reasonable understanding of the turbidity levels. Post-construction monitoring of wetland areas may be required depending on input from Conservation Authorities. • Monitoring will be conducted for potential oil spills and containment of spills to be conducted as per provincial requirements. • Functionality of stormwater quantity controls including peak flows and water levels for storm events within the design range. Monitoring would require local rainfall data. • Infiltration targets measured by flow monitoring on infiltrative Low Impact Development (LID) Best Management Practices (BMPs). • Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS)

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				and facilitate fish passage. Where applicable, the regulatory model(s) will be obtained from CVC to assess the hydraulic impacts along regulated watercourses. • Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models. Creek bed and banks design will include geomorphological input for scour and erosion prevention, and creation of appropriate fish habitat.	removal as per the MECP *Stormwater Management Planning and Design Manual* (2003).

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From:	Indigenous Relations
To:	Lonny Bomberry
Cc:	[redacted]; Dawn LaForme; Dawn Russell; Tanya Hill-Montour; [redacted]; Clara Chan; Simon Strauss
Subject:	Notice of Commencement: Heritage Road Layover
Date:	March 23, 2022 10:21:03 AM
Attachments:	image001.png Heritage Road Layover - NoC - English - QME-WPC-160.pdf 2022-03-15- Notice of Commencement and PIC_SNGR.pdf

Dear Lonny and Team,

Metrolinx continues to advance the Heritage Road Layover Project. It will be assessed through the Transit Project Assessment Process (TPAP). To that end, Metrolinx wishes to inform you that it will be issuing a Notice of Commencement for this project, on March 24, 2022, which begins the up to 120 day review period under the TPAP.

Please find attached a letter outlining the project, the Notice of Commencement and Environmental Project Report (EPR).

A Draft Natural Environment Report is currently being prepared to support the EPR and will be available for your Nation to review in the upcoming weeks. The draft version of this report, as well as the EPR and other technical studies, will be circulated as they become available. Metrolinx will endeavor to circulate the reports in packages to minimize correspondence.

As part of the natural environment study, the potential impacts of the project were assessed and mitigation measures were identified to be implemented during construction and project operations, and are summarized in the letter. The draft version of this report, as well as the Environmental Project Report and other technical studies, will also be uploaded to the Metrolinx Engage project page (https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR) beginning April 6, 2022.

The Notice of Commencement will also be available on the Project webpage beginning March 24, 2022 for up to 120 days: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Community Relations & Issues Specialist, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

METROLINX

March 23, 2022

Chief Mark Hill
c/o Lonny Bomberry, Director, Lands & Resources
Six Nations of the Grand River
[redacted]
Delivered by Email

RE: Heritage Road Layover Project – Notice of Commencement and Public Information Centre #2 (Virtual Open House)

Dear Mr. Bomberry,

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands Six Nations of the Grand River. Metrolinx values its relationship with the Six Nations of the Grand River and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes Six Nations of the Grand River's connection to the areas in which Metrolinx operates and will be constructing infrastructure.

The purpose of this letter is to announce the formal commencement of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We also with to inform Six Nations of the Grand River of the second online Public Information Centre for the Project. We continue to welcome any interest in engagement with Six Nations of the Grand River on this Project.

Project Description

As previously communicated through our Project Introduction Letter circulated January 7, 2022, and in our meeting on January 14, 2022, Metrolinx, is overseeing the proposed Heritage Road Layover Project (the Project) between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (**Figure 1**). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.
For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/



Figure 1. Project Location

Transit Project Assessment Process

The Project is being completed under the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* under the *Environmental Assessment Act*. The TPAP is a proponent-driven, self-assessment process that provides a defined framework to follow to complete the accelerated assessment of the potential environmental impacts and decision-making within a regulated assessment timeline. As part of the TPAP, a draft Environmental Project Report (EPR) is being prepared and will document any potential environmental impacts and mitigation requirements of the Project.

Following the up-to-120-day TPAP consultation and documentation period, the regulation requires a 30-day public and agency review of the Environmental Project Report (EPR), followed by a 35-day review by the Minister of the Environment, Conservation and Parks.

Project and TPAP Timeline	
Project Introduction Letter	January 7, 2022
Public Information Centre #1	January 12 to January 26, 2022
Individual meetings with Indigenous Nations	January 14 to February 18, 2022
Notice of Commencement • Start of up to 120 days consultation period	March 24, 2022 publication date
Individual meetings with Indigenous Nations	April 19, 2022
Public Information Centre #2	April 6 to April 20, 2022

Project and TPAP Timeline	
Notice of Completion * • Public review of Environmental Project Report (30 days) • Minister's review of Environmental Project Report (up to 35 days)	Anticipated June 2022 to September 2022
Statement of Completion *	Anticipated September 2022

*Timelines are subject to change as required

This letter serves as notice that Metrolinx is formally commencing the TPAP process, and the Notice of Commencement is attached as **Attachment 1**. The Notice of Commencement will be available on the Project webpage at https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/ beginning March 24 for up to 120 days.

Draft Environmental Project Report and Technical Studies

The draft Environmental Project Report (EPR) and Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

Details of the impact assessment can be found in the draft Technical Studies, available for download at https://www.metrolinxengage.com/en/content/heritage-road-layover-EPR beginning April 6, 2022. Metrolinx will also circulate the draft EPR and Technical Studies as they become available to Six Nations of the Grand River for review. Metrolinx will endeavor to circulate as many reports as possible in packages to reduce the amount of correspondence delivered to Six Nations of the Grand River.

A summary of the EPR is presented below, followed by a summary of some of the studies completed as part of the EPR.

- Section 1 – Provides an overview of the Heritage Road Layover Project and its purpose, an overview of the TPAP, and how the Project relates to the TPAP.

- Section 2 – Provides a detailed description of key Project components, including design.

- Section 3 – Describes existing conditions at the site of the transit project, as well as the studies that were carried out.

- Section 4 – Describes the potential environmental impacts related to the Project, and recommended mitigation measures and monitoring activities associated with Project implementation.

- Section 5 – Describes how the TPAP incorporates considerations to climate change, and provides a summary of the design considerations and measures to mitigate effects of climate change on the Project

- Section 6 – Describes the consultation process and activities that were undertaken as part of the Heritage Road Layover Project, including key consultation milestones. This section provides an overview of the input/comments/feedback received from various stakeholders (i.e., Review Agencies, Indigenous Nations, the Public, Property Owners, etc.) and how they were considered by Metrolinx as part of the TPAP.

- Section 7 – Describes the proposed commitments and future work to be carried out during future project phases (e.g., detailed design, construction), and outlines the additional anticipated approvals and permits required for implementing the Project beyond the TPAP.

Archaeology

A draft Stage 1 Archaeological Assessment (AA) was prepared and shared with Six Nations of the Grand River on February 8, 2022. The draft Stage 1 AA included a gap analysis of the archaeological work previously completed for Metrolinx and for others that were available for Metrolinx to review. The draft Stage 1 AA also gathered additional information associated with the Site and surrounding Study Area, and included a review of from publicly accessible access points. The draft Stage 1 AA confirmed archeological potential of the Site.
The draft Stage 1 AA indicated that the Study Area was noted to have general archaeological potential due to the following:

- Presence of existing sites of interest:
    - One registered archaeological site (AjGx-267) is located within the Study Area;
    - Two registered archaeological sites (AjGx-268 and AjGx-11) are within 300 m of the Study Area; and
    - An unmarked historical-period cemetery (McNichol Cemetery) is adjacent to the Study Area;
- Three primary natural water sources (unnamed tributaries of the Credit River) cross the central, east, and west portions of the Study Area;
- The Study Area has a flat topography and well drained soils conducive to human inhabitation;
- The 1877 historical atlas map depicts a farmstead with within the Study Area; and,
- The Study Area is adjacent to the early historical transportation routes of Winston Churchill Boulevard and the Toronto & Guelph Railway.

Based on the findings of the draft Stage 1 AA, the following were recommended as next steps:

i) A Stage 3 AA site-specific assessment is recommended for the registered archeological site AjGx-267 located within the Site extent (light blue area in **Figure 2**) due to the presence of Euro-Canadian artifacts.
ii) Archaeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) included a combination of Euro-Canadian and one Indigenous artifact; however the area is not anticipated to be impacted by the Project so no additional work is anticipated at this time (dark blue area in **Figure 2**). If the current Study Area boundaries remain unchanged, no further archeological assessment of the Site AjGx-268 is required as part of this Project.
iii) The former unmarked historical-period cemetery, McNichol Cemetery, located east of the Heritage Road Layover's archeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in **Figure 2**).

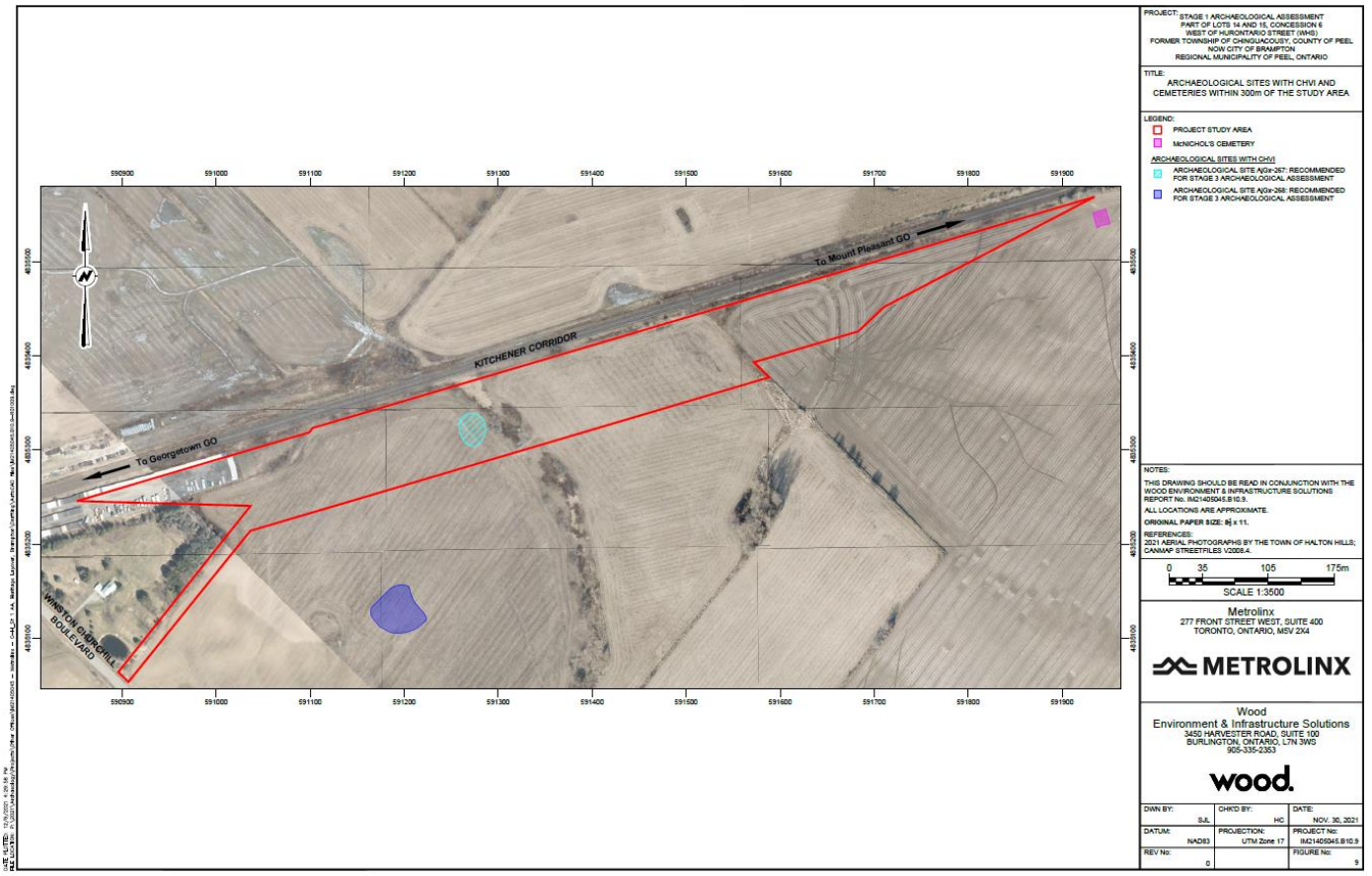

Figure 2. Stage 1 Archeological Study Area

As Metrolinx continues to undertake environmental due diligence for this project, additional archaeological assessment reports will be completed (including the recommended Stage 3 AA identified in the recommendations). Metrolinx acknowledges that Six Nations of the Grand River should be aware of and engaged regarding any future archaeology, and especially the discovery and preservation of Indigenous artifacts and sacred burial grounds.

Metrolinx will ensure invitations to participate will be extended to Six Nations of the Grand River for future Archaeological Assessments field studies, and resulting reports are provided to Six Nations of the Grand River in draft form, prior to or in concurrently with submission to the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI).

Natural Environment

The draft Natural Environment Report is currently being prepared to support the EPR and will be available for Six Nations of the Grand River to review in the upcoming weeks. This draft report is based on a desktop review of available information, and field studies are planned for Spring 2022.

Below summarizes the findings of the desktop review:

Aquatic Environment

No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review.

- Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area.
    - Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.
- A Heritage Heights Subwatershed Study that begun in 2021[1] identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch.
- A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low.
- There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat.
- The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022.

Terrestrial Environment

- Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site.
    - Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints.

[1] Currently in preparation at the time of this report, public release pending approval from the City of Brampton (Note: this subwatershed study is not part of the Heritage Road Layover project).

- Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area.
    - During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.).
- A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation.

Species At Risk

- Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area.
    - Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982.
- The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle.
    - Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting.
    - The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area.
- Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed as Special Concern and therefore would receive habitat protection under significant wildlife habitat if individual use is documented.

Impacts and Mitigations

The table presented in **Attachment 2** provides a summary of the Natural Environment potential impacts and mitigation strategies identified as part of the Draft EPR that may be of interest to Six Nations of the Grand River. Additional details of the impacts and mitigation strategies are outlined in the Draft EPR and the corresponding Natural Environment technical study. If Six Nations of the Grand River has any feedback about these potential impacts and/or mitigation strategies, Metrolinx would appreciate the opportunity to discuss further.

Cultural Heritage

A draft Cultural Heritage Report was prepared and shared with Six Nations of the Grand River on March 7, 2022. At this time, Metrolinx has not received feedback from Six Nations of the Grand River. Should you wish to provide comment, please do so by April 18, 2022, as noted in the initial email provided.
The draft Cultural Heritage Report identified a total of three known and potential heritage properties in the Study Area.

- CHR 1– former McNichol Cemetery, 10510 Heritage Road;
- CHR 2 – residential property at 10827 Winston Churchill Boulevard (residence identified to be more than 40 years old and with potential built heritage value).
- CHR 3 – residential property at 10746 Winston Churchill Boulevard (property contains a Victory style structure constructed during the mid-20th century with possible built heritage significance).

Based on the results of the draft Cultural Heritage Report, the following recommendations were made:

i) Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
ii) While no direct or indirect impacts were anticipated to CHR 1 from a cultural heritage perspective, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, it was advised to adhere to the guidance outlined in the Stage 1 Archaeological Assessment. The guidance included installation of protective fencing and appropriate buffers.

Upcoming Public Meeting

For your awareness, a virtual public meeting will be hosted on Metrolinx Engage (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/) between April 6 and April 20, 2022, with a focus on sharing information and receiving feedback from the general public and local stakeholders. We extend an open invitation to you and members of your community review the online meeting materials and provide feedback, however, this would not preclude any request from you to meet with Metrolinx directly.

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Jaimi O'Hara, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to

Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*.

Thank you for your time in reviewing this letter.

Yours Truly,

Simon Yale Strauss

Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc: Robbin Vanstone, Consultation Supervisor, Six Nations of the Grand River
Chief Mark Hill, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Heather Swan, Manager, Environmental Programs & Assessment, Indigenous Relations, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement of the TPAP and Public Meeting #2
Attachment 2: Natural Environment, Archaeology and Cultural Heritage Potential Impacts and Mitigative Strategies

Attachment 1

Notice of Commencement of the TPAP
and Public Meeting #2

10 Bay Street, Suite 600
Toronto, ON M5J 1E6

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Attachment 2

Natural Environment Potential Impacts and Mitigative Strategies

10 Bay Street, Suite 600
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Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Natural Environment					
Wildlife	•	-	Disturbance, displacement, or mortality of wildlife	• Prior to construction, field investigation of the Project Site for wildlife and wildlife habitat will be undertaken, as appropriate. • If wildlife is encountered within the construction site, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Migratory Breeding Birds and Nests	•	-	Disturbance or destruction of migratory bird nests.	• All works must comply with the MBCA, including timing windows for the nesting period (April 1st to August 31st in Ontario). • If activities are proposed to occur during the general nesting period a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Species at Risk – General	•	-	Habitat loss, disturbance and/or mortality to SAR.	• All requirements of the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA) will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP/MNRF. • If SAR is present and conservation strategies have been developed by MNRF/MECP, the commitments in the recovery strategy will be followed. • On-site personnel will be provided with information (e.g., factsheets) that address the existence of potential SAR on-site, the identification of the SAR species and the	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. • Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				procedure(s) to follow if an individual is encountered or injured.	
Species at Risk – Barn Swallow	•	-	Habitat loss, disturbance and/or mortality to Barn Swallow.	• Field surveys will be undertaken prior to construction to confirm barn swallow presence in the area. • Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the ESA will be met, including any registration, compensation, replacement structures and/or permitting requirements. • If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken to confirm that no Barn Swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Eastern Meadowlark	•	-	Habitat loss, disturbance and/or mortality to eastern meadowlark.	• Field surveys will be undertaken prior to construction to check for eastern meadowlark presence in the area. • If construction activities are scheduled during the nesting season for eastern meadowlark (April 1st to August 31st), a nest search will be undertaken to confirm that no eastern meadowlark are nesting in or near areas that may be affected by construction activities.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.
Species at Risk – Butternut	•	-	Habitat loss, disturbance or loss of butternut.	• Field surveys will be conducted by Wood biologists to visually search the Natural Environment Study Area for presence of butternut. If butternut is found, the location and general condition of any butternut observed will be recorded. However, a formal Butternut Health Assessment, completion of a Notice of Activity or authorizations under the ESA are not anticipated to be required.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts. Additional monitoring measures will be developed with the MECP, if required.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Aquatic Environment - Watercourses	•	-	Impacts to three watercourses in the Natural Environment Study Area, aquatic and riparian vegetation; erosion and sedimentation to watercourses from construction; risk of contamination to watercourses, as a result of spills.	• Shorelines or banks disturbed by construction activities will be immediately stabilized by any activity associated with the project to prevent erosion and/or sedimentation, through re-vegetation with native species suitable for the site in adherence with the Metrolinx Vegetation Guideline (2020). • An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to minimize the risk of sedimentation to the wetland or waterbody. • A Spill Prevention and Response Plan will be developed before work commences and implemented during construction to ensure procedures and policies are in place during construction to minimize impacts to wetlands or waterbodies. • In wetland areas where vernal pooling occurs, prior to dewatering isolated work areas, wildlife will be captured and relocated to suitable habitat outside of the work area. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF. • Operate, store, and maintain equipment, vehicles, and associated materials in a manner that prevents the entry of any deleterious substance from entering the natural environment. • Implement drip pans under equipment (e.g., generators, pumps, etc.) in operation within the work areas. • Any refuelling should be undertaken at least 30 m from any watercourse and any other surface drainage feature. • Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include alteration of activities to minimize impacts and enhance mitigation measures.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Control Plan, detailed drainage design and erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC.	
Aquatic Environment – Fish and Fish Habitat	•	-	Potential for direct, in-water impacts to fish and fish habitat.	• All requirements of the Fisheries Act and the ESA will be met. • In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including the Conservation Authority, MECP, MNDMRF and Fisheries and Oceans Canada (DFO). In-water works will be planned to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the MNRF.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to minimize impacts.
Vegetation Removal and Compensation Plans	•	-	Tree / Vegetation removal, injury and protection.	• As part of the Arborist Report, all trees within or adjacent to the Project Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR vegetation. SAR vegetation will be subject to permitting and approval	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				requirements under Applicable Law, prior to the commencement of construction. The Arborist Report will include, but not be limited to the individual identification of all trees within the Study Area including those that require removal or preservation, or trees that may be injured as a result of the Project. Trees to be identified within the Study Area will include those on Metrolinx property, trees on public and private lands, and boundary trees. Municipal by-laws will dictate the minimum DBH which requires inventory and additional requirements for tree inventories and tree protection plans. The Arborist Report will include all information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020). • If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Pruning of branches will be conducted through the implementation of proper arboricultural techniques. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable bylaws and	maintenance and alteration of activities to minimize impacts. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/ regulations, and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals. • Monitoring and management of trees/vegetation within the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management (IVM) Program within the Metrolinx Vegetation Guideline (2020).

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				regulations for tree removals outside of Metrolinx properties. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. Refer to Natural Environment commitment tables for additional details.	
Vegetation Removal and Compensation Plans – SAR Habitat	•	-	Disturbance, injury and/or removal of SAR vegetation, including Butternut.	• As part of the Arborist Report, all trees within or adjacent to the Project Site that will be removed or injured as part of the Project will be inventoried, including Butternut and any other SAR tree. • Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with MNRF Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to MECP to determine the next course of action.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Integrated Vegetation Management (IVM)	•	-	Footprint Impacts and potential for the establishment of invasive species and other incompatible species.	• An IVM Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the IVM Program. The Guideline's selection criteria will be used to assess the vegetation present as compatible or incompatible, and manage it, if necessary, in a way which meets safety needs in a timely manner, is sensitive to environmental conditions, and maximizes cost-effectiveness.	• The presence, density, and location of compatible and incompatible species will be monitored as per the frequency and methodology established in the Bi-Annual Monitoring Program within the Metrolinx Vegetation Guideline (2020). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring events that will be carried out via field, aerial, and high-rail vehicle or train surveys conducted by qualified specialists.
Tree Removal Strategy	•	-	Potential for the spread of Emerald Ash Borer, Agrilus planipennis (Fairmaire) associated with removal, handing and transport of ash trees.	• Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire) (2014), as amended	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				from time to time. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites.	maintenance and alteration of activities to minimize impacts.
Cultural Environment					
Archaeological Resources	•	-	Potential for site AjGx-267 (Heritage Layover H1) to be impacted by construction and operational activities. No impacts are anticipated to Site AjGx-267 (Heritage Layover H2).	• Develop and implement an Archaeological Risk Management Plan that addresses any recommendations resulting from Archaeological Assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources. The Archaeological Risk Management Plan shall be amended to incorporate any additional actions required resulting from subsequent Archaeological Assessment Reports. • All work shall be performed in accordance with Applicable Law, including but not limited to the *Ontario Heritage Act*, the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), formerly the Ministry of Tourism, Culture and Sport (MTCS) *Standards and Guidelines for Consultant Archaeologists* (2011), and the MHSTCI document, *Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario* (2011). • In the event that archaeological resources are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot should be protected from impact by employing a buffer in accordance with requirements of the MHSTCI. A professionally licensed archaeologist will be consulted to complete the assessment. If resources are confirmed to possess cultural heritage value/interest then they will be reported to the MHSTCI, and further	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Archaeological Assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx should be contacted and Applicable Law will be followed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. This will include completing all required Archaeological Assessments resulting from the Stage 1 AA (Stage 2, Stage 3 and Stage 4, as required) as early as possible, prior to the completion of design, and in advance of any ground disturbance. • For areas determined to have archaeological potential or contain archaeological resources that will be impacted by project activities, additional Archaeological Assessment will be conducted by a professionally licensed archaeologist prior to disturbance. • If human remains are encountered or suspected of being encountered during project work, all activities must cease immediately and the local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services must be contacted. Archaeological investigations of human remains will not proceed until police have confirmed the remains are not subject to forensic investigation. Once human remains have been cleared of police concern, the MHSTCI will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*. If the human remains are determined to be of Indigenous origin, Metrolinx should be contacted and all Applicable Law must be adhered to.	

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				• All Archaeological Assessment findings will be shared with Indigenous communities, as per Metrolinx's *Guide to Engaging with Indigenous Communities* (2020).	
CHR1 - McNichol Cemetery	-	-	No direct adverse impacts are anticipated to the McNichol Cemetery. However, the close proximity of the proposed work to the cemetery poses a potential risk for land disturbance.	• The proposed work should be planned in a manner that avoids the McNichol Cemetery. • Work in proximity to known cemeteries requires completion of an Archaeological Assessment prior to any proposed ground disturbance in accordance with the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (2011) and the *Funeral, Burial, and Cremation Services Act* and regulations under that Act.	• Long term protection of the cemetery must be ensured, and no development, including any soil disturbing activities, can take place within the cemetery limits. • Further Archaeological Assessment may identify the need for monitoring during construction.
CHR2 - Built Heritage Resource – 10827 Winston Churchill Boulevard	•	-	Indirect Adverse Impact. Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship	• The proposed work does not encroach on the property and should be planned in a manner that maximizes the buffer between the proposed access road/layover facility and the residential property. This property should be noted on project drawings as a "potential heritage property" to identify the heritage status of the property to project personnel. Selection of construction staging and laydown areas will follow Metrolinx 's selection procedures, which includes avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. • Post-construction landscaping should be planned in a manner that screens the layover facility and access road from the residential property. Options for vegetation screening will be explored during detailed design.	• None.
CHR3 - Built Heritage Resource – 10746 Winston Churchill Boulevard	-	-	None. The residence is located approximately 110 metres from the proposed work.	• None.	• None.
Socio-Economic and Land Use					
Property	•	•	Property acquisition – permanent and temporary.	• Specific property requirements will be confirmed during detailed design. Where access to property is required, ongoing consultation with affected landowners will help	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				identify appropriate site-specific mitigation measures. • Select staging/laydown areas in accordance with Metrolinx procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.	
All land uses and adjacent lands	•	-	Nuisance effects from construction activities.	• The Project will comply with regulated noise and vibration limits for construction activities. • Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Develop a Communications Protocol in accordance with the Project Agreement, which will indicate how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night, if any. • Develop a Complaints Protocol to respond to construction nuisance complaints.	• When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. • Number and resolution of complaints received.
All land uses and adjacent lands	•	•	Land use and access disruption.	• Provide temporary lighting and wayfinding signs and cues for navigation around the construction site.	• Number and resolution of complaints received.
Aesthetics / Visual Characteristics	•	•	Visual effects from construction / operations areas / activities.	• The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • Temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	• Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans and within specified areas.
Light Pollution	•	•	Light trespass, glare and light pollution effects.	• Develop a plan to reduce the effects of light pollution in accordance with the Project Agreement Comply with all local applicable municipal by-laws for lighting in areas near roadways regarding outdoor lighting for both permanent and temporary construction activities and incorporate industry best practices provided in ANSI/IES RP-8-18 –	• Number and resolution of complaints received.

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the Project Agreement. • The Constructor will perform the Works in such a way that any adverse effects of construction lighting are controlled or mitigated in such a way as to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. • Permanent lights will be installed for operations of the site.	
Hydrogeology					
Groundwater	•	–	Construction activities could expose groundwater and associated contamination	• Develop a Groundwater Management and Dewatering Plan to guide the handling, management, and disposal of groundwater encountered during the works. The Groundwater Management and Dewatering Plan will be overseen by a QP and will comply with *Ontario Regulations 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), *64/16* and *387/04*, as amended under the *Ontario Water Resources Act*. • The Groundwater Management and Dewatering Plan will describe the anticipated groundwater quantity and dewatering Zone of Influence that will be encountered during the works, and if approvals are needed for the water taking, such as a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the MECP. • The Groundwater Management and Dewatering Plan will describe the storage, transfer, and disposal and or treatment of the groundwater collected during the works, and approvals for the water disposal, and/or treatment if applicable, based on the quantity and quality. • The Groundwater Management and Dewatering Plan will be reviewed and approved by Metrolinx prior to construction.	• A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for Metrolinx review to document performance monitoring data/results and any corrective actions implemented during the previous month. • Upon completion of the work, the Constructor will submit a Groundwater Management and Dewatering Implementation Report to Metrolinx.
Stormwater Management					
Potential Impacts and Proposed Mitigation	•	–	The proposed construction activities pose a potential impact due to sediment	• Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and	• Turbidity levels within discharges from sites to be monitored visually. Turbidity levels will be monitored

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
Measures for Stormwater and Site Drainage			transport into adjacent natural areas including watercourses, wetlands and municipal drainage infrastructure. The proposed works may result in increases to impervious areas, with potential effects to water quantity and quality. In addition to the increases in impervious coverage, there may be alterations to the local drainage system, both overland (major drainage system) and storm sewers (minor drainage system).	erosion and sediment control drawings in accordance with the Ministry of the Environment, Conservation and Parks (MECP) *Stormwater Management Planning and Design Manual* (2003), the Greater Golden Horseshoe's *Erosion and Sediment Control Guideline for Urban Construction* (December, 2006), as amended from time to time, and the guidelines and regulatory requirements of CVC. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial and federal requirements, as amended, as well as the requirements of CVC. • A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements and American Railway Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (2019). • Infiltration requirements for municipalities will be determined as per the design guidelines and standards. • To offset the potential impacts to wetlands, the grades and drainage system on the periphery of the layover may need to be designed to result in minor local drainage diversions to the wetland features. An annual water budget for existing, future (without mitigation) and future (with mitigation) would have to be conducted. Input from a terrestrial biologist is required to review the annual water budget variations for existing and future conditions. • Develop and implement a Spill Prevention and Response Plan in accordance with the Project Agreement. • A hydraulic assessment of each crossing and any proposed culverts is required to determine proposed flood levels and associated creek bed and bank treatments to prevent scour and erosion	upstream and downstream of sites at watercourse crossings or adjacent to watercourses. Turbidity levels within discharges from sites and within receiving storm sewers will also be monitored visually to determine potential impacts from construction. • Grab samples for existing watercourses and/or wetlands, when runoff from the site discharges to a watercourse and/or wetland will be conducted for pre-construction, during construction, and post construction conditions until the site is considered stabilized. Grab samples for watercourses and wetlands will be taken for non-precipitation event and for precipitation events to obtain a reasonable understanding of the turbidity levels. Post-construction monitoring of wetland areas may be required depending on input from Conservation Authorities. • Monitoring will be conducted for potential oil spills and containment of spills to be conducted as per provincial requirements. • Functionality of stormwater quantity controls including peak flows and water levels for storm events within the design range. Monitoring would require local rainfall data. • Infiltration targets measured by flow monitoring on infiltrative Low Impact Development (LID) Best Management Practices (BMPs). • Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS)

Environmental Component	Project Phase		Potential Effect	Mitigation Measure(s)	Monitoring
	Construction	Operation			
				and facilitate fish passage. Where applicable, the regulatory model(s) will be obtained from CVC to assess the hydraulic impacts along regulated watercourses. • Any proposed culvert replacements will be sized to maintain or improve local flood levels and supported by hydrologic/hydraulic calculations and/or models. Creek bed and banks design will include geomorphological input for scour and erosion prevention, and creation of appropriate fish habitat.	removal as per the MECP *Stormwater Management Planning and Design Manual* (2003).

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Toronto, ON M5J 1E6

416.202.4967
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From:	Indigenous Relations
To:	Aaron Detlor
Cc:	Todd Williams; Dara Corrigan; Brian Poole; Clara Chan
Subject:	Heritage Road Layover Project – Report Package 1 Circulation_HCCC
Date:	April 6, 2022 10:13:36 AM
Attachments:	image001.png Attachment 2 - 2022-03-30_HRL_Draft Technical Studies Overview.pdf 2022-04-01_Package 1 Circulation- HCCC.pdf Attachment 1 - HCCC-Notice of Commencement and PIC.pdf

Dear Mr. Detlor,

Metrolinx continues to advance the Heritage Road Layover Project. Further to the Notice of Commencement shared with you on March 23rd, 2022, please find attached a letter sharing the Environmental Project Report (EPR) and supporting technical studies for this project.

In addition to the draft EPR, beginning April 6, draft technical reports will be submitted in multiple phases, at the following link for review:
[redacted]

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Thank you,

Christine

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

METROLINX

Ms. Tracey General, Office Manager
Haudenosaunee Confederacy Chiefs Council
[redacted]
[redacted]
Delivered by Email

Dear Ms. General,

RE: Heritage Road Layover Project – Report Package 1 Circulation
(Draft 75% EPR and Supporting Draft Technical Studies)

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of the Haudenosaunee Confederacy Chiefs Council. Metrolinx values its relationship with your community and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes your connection to the areas in which Metrolinx operates and will be constructing infrastructure.

Further to the Notice of Commencement and Public Information Centre #2 Letter circulated March 23, 2022 (Attachment 1) the purpose of this letter is to share the Environmental Project Report (EPR) and some supporting technical studies for the Heritage Road Layover Project.

Project Description
Metrolinx is proposing to install a new layover facility (Heritage Road Layover) to support the GO Expansion program along Kitchener Corridor. The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (Figure 1).

The layover facility will be used to provide overnight storage of trains required to support future service increases. Heritage Road Layover will be designed with four (4) tracks, with the capacity to store four (4) to eight (8) trains[1].

For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

[1] Four trains can be stored if consisting of a 12-car configuration (two locomotive, 12 coaches), or eight trains can be stored if consisting of two 6-car configuration (one locomotive, 6 coaches)



Figure 1. Project Location

Draft Environmental Project Report and Technical Studies

The enclosed draft EPR and ancillary Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

A breakdown of the components of the EPR was presented in the Notice of Commencement Letter (Attachment 1).

Technical Reports

As part of this submission, we have included the following draft technical reports, which are appendices in the EPR. In addition to the draft EPR, draft technical reports will be submitted in multiple phases starting April 5, and then in subsequent sequences, as identified in the table below.

Appendix Reference in EPR	Title	Proposed Circulation Date
A	Air Quality Baseline Conditions and Impact Assessment Report	Package 1 - this letter
B	Noise and Vibration Baseline Conditions and Impact Assessment Report*	Package 1 - this letter Package 2 – Updated report – July 2022
C	Natural Environment Existing Conditions and Impact Assessment Report*	Package 1 - this letter Package 2 – Updated report – July 2022
D	Tree Inventory	June 2022

E	Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report	Package 1 - this letter
F	Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment	(Previously circulated)
G	Stage 1 Archaeological Assessment Report	(Previously circulated)
H	Traffic and Transportation Existing Conditions and Impact Assessment	Mid-April 2022
* Report includes results from desktop studies only. A supplemental report will be circulated following the field study activities planned in Spring/Summer 2022.		

In addition to the draft technical reports that are part of the EPR, we are also circulating the following studies for review to engage with your Nation in other activities associated with the Project:

Title	Proposed Circulation Date
Phase I Environmental Site Assessment	Package 1 – this letter
Phase II Environmental Site Assessment	Package 2 – June 2022
Stage 3 Archaeological Assessment	Package 2 – June 2022
Stormwater Management Report	July 2022

A summary of the results of the technical reports included in Package 1 are presented in Attachment 2.

As the draft Stage 1 Archaeological Assessment (AA) and the Cultural Heritage Report were circulated in advance of this package and are summarized in Notice of Commencement and Public Information Centre #2 (Attachment 1).

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Joe de Laronde, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*.

Thank you for your time in reviewing this letter.

Yours Truly,

Simon Yale Strauss

Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc:

Todd Williams, Haudenosaunee Development Institute
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement and Public Information Centre #2
Attachment 2: Summary of Findings and Next Steps for Reports in Package 1

Attachment 2:

Summary of Findings and Next Steps for Reports in Package 1

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Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Natural Environment	Identify existing baseline environmental conditions and recommended mitigation measures within the Natural Environment Study Area	Aquatic Environment No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review. • Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area. o Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts. • A Heritage Heights Subwatershed Study that begun in 2021 identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch. • A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low. • There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat. • The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022. Terrestrial Environment • Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site. o Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints. • Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area. o During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.). • A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation. Species At Risk • Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area. o Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982. • The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle. o Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting. o The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area. • Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed	Due to number of recommendations and mitigations, please refer to Mitigation Table presented in the Notice of Commencement and Public Information Centre #2 Letter (Attachment 1)	Completed field studies in spring/summer 2022 including a ground truthing study to inform an ELC, a significant wildlife habitat assessment, a species at risk assessment, tree inventory, aquatic habitat and fish survey. An arborist report will be completed during detailed design. An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Air Quality	Establishing baseline conditions and potential air quality impacts to the surrounding area	• Key contaminants identified with the potential for air quality effects were: o Particulate matter less than 10 micron in diameter (PM10) associated with fugitive dusts; o Particulate matter less than 2 5 micron in diameter (PM2.5) as fugitive dust and equipment tailpipe emissions; and o Nitrogen dioxide (NO2) from equipment tailpipe. • There are potential air quality impacts relating to fugitive dust (PM10) if the Project construction is to be carried out without adequate control (worst-case scenario). However, even when dust control measures were inadequate, the exceedances over appropriate PM10 limits were infrequent. When typical dust control was in place during construction (e.g. water application), there were no exceedances over the applicable PM10 limits based on modelling. o During construction, the Site Preparation stage for construction was identified as the maximum emission scenario, with the most pieces of construction equipment that may operate simultaneously and therefore the highest number of fugitive dust sources. • The operational phase modelling considered emissions from vehicular traffic on Winston Churchill Boulevard due to service vehicles entering and existing the new Heritage Road Layover. Overall, the emissions from operations were anticipated to be incremental and below the respective air quality criteria.	• A comprehensive Air Quality and Dust Management Plan is required and will be implemented during the construction phase of the Project. • Air monitoring for PM10 with particular emphasis on the existing sensitive receptors west of the site will provide assurance that fugitive dust sources are being controlled and the potential for off-site effects minimized. • Once the Construction Plan and Schedule are better defined, an update to the Air Quality Impact Assessment will be considered to quantify the potential air quality effects more accurately in the vicinity of the Project.	N/A
Socio-Economic and Land Use Baseline Conditions and Impact Assessment	Evaluating the existing and future socio-economic and land use conditions of the Heritage Road Layover local and regional study areas, and assessed potential impacts associated with the proposed work	• Permanent changes in land use for properties within the Project footprint, and possible temporary changes for some properties in the surrounding vicinity; • Property ownership changes (through permanent or temporary property acquisition); • Nuisance effects (increased light, noise, dust and vibration) from construction and operations of the Project; •10827 Winston Churchill Boulevard, a residential rural property adjacent to the layover, will potentially be affected by construction and operation; • For visual aesthetics, there will be temporary nuisance effects from increased dust, as well as visual effects from the construction related activities; and • Some tree and vegetation removals will occur, and the site will be graded, resulting in alteration in construction and operation viewscapes.	•The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	N/A

Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Limited Phase I Environmental Site Assessment	Presenting the non intrusive assessment through desktop review and windshield survey to identify if there are any potentially contaminating activities that may contribute environmental impact to the Project footprint	Identified 1 on-Site and 4 off-Site potentially contaminating activites (PCAs) that could impact the soil, groundwater, surface water and sediment at the Site or surrounding areas; <u>On Project Site PCA:</u> -The potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents, due to the agricultural fields at the Project Site. Some of the potential contaminants may include metals and inorganics, and pesticides which could impact the soil, groundwater, surface water and sediment. <u>Off Project Site PCAs:</u> -Potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents may have been used in the agricultural fields surrounding the Project Site. Contaminants from the off-site application of chemicals are the same class of potential contaminants identified in the On Project Site PCA; -Operations from the existing rail line adjacent to the Project Site could present contamination to the soil, groundwater, surface water or sediment. Contaminants may include, metals and inorganics, petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), and pesticides; -The asphalt paved road to the west of the Project Site could have salt impacts from the use of de-icing the roadway. This could potentially affect the soil and groundwater from runoff; and -Based on historical records, there is the potential that a furnace oil tank is or was present at a residence to the west of the Project Site. Potential leaks from the possible furnace oil tank could be a source of PHCs or PAH contamination to the groundwater in the area.	The Limited Phase I ESA recommends a Phase II ESA be completed which includes field work (i.e. drilling; soil, groundwater, sediment and surface water sampling) to confirm the presence or absense of environmental contamination.	Completion of Phase II ESA An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Noise and Vibration Impact Assessment	Evaluating the noise and vibration impacts associated with the construction and the operational phase of Heritage Road Layover	<u>Construction</u> • In the absence any noise controls, under the predictable worst-case scenario for the construction of the Facility, assuming simultaneous operation of all equipment, noise levels are predicted to exceed the applicable Metrolinx Guideline limits at the nearest Representative Sensitive Receptor (RSR) 1, located approximately 50 m from the Project Site, during daytime (07:00-23:00) during all stages of construction and at RSR2 for Stages 2-5 simultaneous activities scenario of construction. • Noise levels are predicted to exceed the limits at all RSRs during the night-time (23:00-07:00) periods for all construction stages. With appropriate controls in place, the predicted sound modelling indicate that it is feasible to operate most construction equipment within applicable Ministry of Environment, Conservation and Parks guideline limits. • The construction vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages. <u>Operational</u> • In the worst-case scenario (four simultaneous idling trains), the Facility is expected to be in compliance with the applicable noise guideline limits at all RSRs during daytime and night-time periods. • The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of the closest RSR being at least 100 metres away from the tracks.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. • In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas. • Schedule major construction activities to take place during daytime hours, where possible.	Complete a one-month monitoring for noise and vibration at four identified residential dwellings in the vicinity of the Project Site to confirm baseline conditions.

From:	Indigenous Relations
To:	Lori-Jeanne Bolduc; Dominic Ste-Marie
Cc:	Clara Chan; Brian Poole; Dara Corrigan
Subject:	RE: Heritage Road Layover Project – Report Package 1 Circulation
Date:	April 5, 2022 3:52:42 PM
Attachments:	image001.png Attachment 1 - HWN-Notice of Commencement and PIC.pdf Attachment 2 - 2022-03-30_HRL_Draft Technical Studies Overview.pdf 2022-04-01_Package 1 Circulation-HWN.pdf

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Dear Lori-Jeanne and Dominic,

Metrolinx continues to advance the Heritage Road Layover Project. Further to the Notice of Commencement shared with you on March 23rd, 2022, please find attached a letter sharing the Environmental Project Report (EPR) and supporting technical studies for this project.

In addition to the draft EPR, draft technical reports will be submitted in multiple phases, at the following link for review:
[redacted]

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Thank you,

Christine

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

METROLINX

Grand Chief Rémy Vincent
Huron-Wendat Nation
[redacted]
Delivered by email

Dear Grand Chief Vincent,

RE: Heritage Road Layover Project – Report Package 1 Circulation
(Draft 75% EPR and Supporting Draft Technical Studies)

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of *Huron-Wendat Nation*. Metrolinx values its relationship with your community and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes your connection to the areas in which Metrolinx operates and will be constructing infrastructure.

Further to the Notice of Commencement and Public Information Centre #2 Letter circulated March 23, 2022 (Attachment 1) and the meeting that was held on March 24, 2022, the purpose of this letter is to share the Environmental Project Report (EPR) and some supporting technical studies for the Heritage Road Layover Project.

Project Description
Metrolinx is proposing to install a new layover facility (Heritage Road Layover) to support the GO Expansion program along Kitchener Corridor. The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (Figure 1).

The layover facility will be used to provide overnight storage of trains required to support future service increases. Heritage Road Layover will be designed with four (4) tracks, with the capacity to store four (4) to eight (8) trains[1].

For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

[1] Four trains can be stored if consisting of a 12-car configuration (two locomotive, 12 coaches), or eight trains can be stored if consisting of two 6-car configuration (one locomotive, 6 coaches)



Figure 1. Project Location

Draft Environmental Project Report and Technical Studies

The enclosed draft EPR and ancillary Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

A breakdown of the components of the EPR was presented in the Notice of Commencement Letter (Attachment 1).

Technical Reports

As part of this submission, we have included the following draft technical reports, which are appendices in the EPR. As discussed in the March 22, 2022 meeting with your Nation, in addition to the draft EPR, draft technical reports will be submitted in multiple phases starting April 5, and then in subsequent sequences, as identified in the table below.

Appendix Reference in EPR	Title	Proposed Circulation Date
A	Air Quality Baseline Conditions and Impact Assessment Report	Package 1 - this letter
B	Noise and Vibration Baseline Conditions and Impact Assessment Report*	Package 1 - this letter Package 2 – Updated report – July 2022
C	Natural Environment Existing Conditions and Impact Assessment Report*	Package 1 - this letter Package 2 – Updated report – July 2022
D	Tree Inventory	June 2022

E	Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report	Package 1 - this letter
F	Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment	(Previously circulated)
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H	Traffic and Transportation Existing Conditions and Impact Assessment	Mid-April 2022
* Report includes results from desktop studies only. A supplemental report will be circulated following the field study activities planned in Spring/Summer 2022.		

In addition to the draft technical reports that are part of the EPR, we are also circulating the following studies for review to engage with your Nation in other activities associated with the Project:

Title	Proposed Circulation Date
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Stage 3 Archaeological Assessment	Package 2 – June 2022
Stormwater Management Report	July 2022

A summary of the results of the technical reports included in Package 1 are presented in Attachment 2.

As the draft Stage 1 Archaeological Assessment (AA) and the Cultural Heritage Report were circulated in advance of this package and are summarized in Notice of Commencement and Public Information Centre #2 (Attachment 1).

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Joe de Laronde, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*.

Thank you for your time in reviewing this letter.

Yours Truly,



Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc:

Lori-Jeanne Bolduc, Huron-Wendat Nation
Dominic Ste-Marie, Huron-Wendat Nation
Mario Gros-Louis, Huron-Wendat Nation
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement and Public Information Centre #2
Attachment 2: Summary of Findings and Next Steps for Reports in Package 1

Attachment 2:

Summary of Findings and Next Steps for Reports in Package 1

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Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Natural Environment	Identify existing baseline environmental conditions and recommended mitigation measures within the Natural Environment Study Area	Aquatic Environment No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review. • Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area. o Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts. • A Heritage Heights Subwatershed Study that begun in 2021 identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch. • A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low. • There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat. • The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022. Terrestrial Environment • Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site. o Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints. • Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area. o During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.). • A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation. Species At Risk • Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area. o Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982. • The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle. o Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting. o The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area. • Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed	Due to number of recommendations and mitigations, please refer to Mitigation Table presented in the Notice of Commencement and Public Information Centre #2 Letter (Attachment 1)	Completed field studies in spring/summer 2022 including a ground truthing study to inform an ELC, a significant wildlife habitat assessment, a species at risk assessment, tree inventory, aquatic habitat and fish survey. An arborist report will be completed during detailed design. An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Air Quality	Establishing baseline conditions and potential air quality impacts to the surrounding area	• Key contaminants identified with the potential for air quality effects were: o Particulate matter less than 10 micron in diameter (PM10) associated with fugitive dusts; o Particulate matter less than 2 5 micron in diameter (PM2.5) as fugitive dust and equipment tailpipe emissions; and o Nitrogen dioxide (NO2) from equipment tailpipe. • There are potential air quality impacts relating to fugitive dust (PM10) if the Project construction is to be carried out without adequate control (worst-case scenario). However, even when dust control measures were inadequate, the exceedances over appropriate PM10 limits were infrequent. When typical dust control was in place during construction (e.g. water application), there were no exceedances over the applicable PM10 limits based on modelling. o During construction, the Site Preparation stage for construction was identified as the maximum emission scenario, with the most pieces of construction equipment that may operate simultaneously and therefore the highest number of fugitive dust sources. • The operational phase modelling considered emissions from vehicular traffic on Winston Churchill Boulevard due to service vehicles entering and existing the new Heritage Road Layover. Overall, the emissions from operations were anticipated to be incremental and below the respective air quality criteria.	• A comprehensive Air Quality and Dust Management Plan is required and will be implemented during the construction phase of the Project. • Air monitoring for PM10 with particular emphasis on the existing sensitive receptors west of the site will provide assurance that fugitive dust sources are being controlled and the potential for off-site effects minimized. • Once the Construction Plan and Schedule are better defined, an update to the Air Quality Impact Assessment will be considered to quantify the potential air quality effects more accurately in the vicinity of the Project.	N/A
Socio-Economic and Land Use Baseline Conditions and Impact Assessment	Evaluating the existing and future socio-economic and land use conditions of the Heritage Road Layover local and regional study areas, and assessed potential impacts associated with the proposed work	• Permanent changes in land use for properties within the Project footprint, and possible temporary changes for some properties in the surrounding vicinity; • Property ownership changes (through permanent or temporary property acquisition); • Nuisance effects (increased light, noise, dust and vibration) from construction and operations of the Project; •10827 Winston Churchill Boulevard, a residential rural property adjacent to the layover, will potentially be affected by construction and operation; • For visual aesthetics, there will be temporary nuisance effects from increased dust, as well as visual effects from the construction related activities; and • Some tree and vegetation removals will occur, and the site will be graded, resulting in alteration in construction and operation viewscapes.	•The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	N/A

Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Limited Phase I Environmental Site Assessment	Presenting the non intrusive assessment through desktop review and windshield survey to identify if there are any potentially contaminating activities that may contribute environmental impact to the Project footprint	Identified 1 on-Site and 4 off-Site potentially contaminating activites (PCAs) that could impact the soil, groundwater, surface water and sediment at the Site or surrounding areas; <u>On Project Site PCA:</u> -The potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents, due to the agricultural fields at the Project Site. Some of the potential contaminants may include metals and inorganics, and pesticides which could impact the soil, groundwater, surface water and sediment. <u>Off Project Site PCAs:</u> -Potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents may have been used in the agricultural fields surrounding the Project Site. Contaminants from the off-site application of chemicals are the same class of potential contaminants identified in the On Project Site PCA; -Operations from the existing rail line adjacent to the Project Site could present contamination to the soil, groundwater, surface water or sediment. Contaminants may include, metals and inorganics, petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), and pesticides; -The asphalt paved road to the west of the Project Site could have salt impacts from the use of de-icing the roadway. This could potentially affect the soil and groundwater from runoff; and -Based on historical records, there is the potential that a furnace oil tank is or was present at a residence to the west of the Project Site. Potential leaks from the possible furnace oil tank could be a source of PHCs or PAH contamination to the groundwater in the area.	The Limited Phase I ESA recommends a Phase II ESA be completed which includes field work (i.e. drilling; soil, groundwater, sediment and surface water sampling) to confirm the presence or absense of environmental contamination.	Completion of Phase II ESA An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Noise and Vibration Impact Assessment	Evaluating the noise and vibration impacts associated with the construction and the operational phase of Heritage Road Layover	<u>Construction</u> • In the absence any noise controls, under the predictable worst-case scenario for the construction of the Facility, assuming simultaneous operation of all equipment, noise levels are predicted to exceed the applicable Metrolinx Guideline limits at the nearest Representative Sensitive Receptor (RSR) 1, located approximately 50 m from the Project Site, during daytime (07:00-23:00) during all stages of construction and at RSR2 for Stages 2-5 simultaneous activities scenario of construction. • Noise levels are predicted to exceed the limits at all RSRs during the night-time (23:00-07:00) periods for all construction stages. With appropriate controls in place, the predicted sound modelling indicate that it is feasible to operate most construction equipment within applicable Ministry of Environment, Conservation and Parks guideline limits. • The construction vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages. <u>Operational</u> • In the worst-case scenario (four simultaneous idling trains), the Facility is expected to be in compliance with the applicable noise guideline limits at all RSRs during daytime and night-time periods. • The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of the closest RSR being at least 100 metres away from the tracks.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. • In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas. • Schedule major construction activities to take place during daytime hours, where possible.	Complete a one-month monitoring for noise and vibration at four identified residential dwellings in the vicinity of the Project Site to confirm baseline conditions.

From:	Indigenous Relations
To:	Mark LaForme
Cc:	Adam LaForme; Adrian Blake; Clara Chan; Brian Poole; Dara Corrigan
Subject:	RE: Heritage Road Layover Project – Report Package 1 Circulation
Date:	April 5, 2022 3:51:58 PM
Attachments:	image001.png Attachment 1 - MCFN-Notice of Commencement and PIC.pdf 2022-04-01_Package 1 Circulation-MCFN.pdf Attachment 2 - 2022-03-30_HRL_Draft Technical Studies Overview.pdf

Dear Mark,

Metrolinx continues to advance the Heritage Road Layover Project. Further to the Notice of Commencement shared with you on March 23rd, 2022, please find attached a letter sharing the Environmental Project Report (EPR) and supporting technical studies for this project.

In addition to the draft EPR, draft technical reports will be submitted in multiple phases, at the following link for review:
[redacted]

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Thank you,

Christine

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

METROLINX

Mark LaForme
Mississaugas of the Credit First Nation
[redacted]
[redacted]
Delivered by email

Dear Mr. LaForme,

RE: Heritage Road Layover Project – Report Package 1 Circulation
(Draft 75% EPR and Supporting Draft Technical Studies)

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of Mississaugas of the Credit First Nation. Metrolinx values its relationship with your community and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes your connection to the areas in which Metrolinx operates and will be constructing infrastructure.

Further to the Notice of Commencement and Public Information Centre #2 Letter circulated March 23, 2022 (Attachment 1) and the meeting that was held on March 24, 2022, the purpose of this letter is to share the Environmental Project Report (EPR) and some supporting technical studies for the Heritage Road Layover Project.

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Figure 1. Project Location

Draft Environmental Project Report and Technical Studies

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A breakdown of the components of the EPR was presented in the Notice of Commencement Letter (Attachment 1).

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Thank you for your time in reviewing this letter.

Yours Truly,



Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc:

Adam LaForme, Archaeological Operations Supervisor, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Adrian Blake, Field Archaeologist, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement and Public Information Centre #2
Attachment 2: Summary of Findings and Next Steps for Reports in Package 1

Attachment 2:

Summary of Findings and Next Steps for Reports in Package 1

METROLINX

Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
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Socio-Economic and Land Use Baseline Conditions and Impact Assessment	Evaluating the existing and future socio-economic and land use conditions of the Heritage Road Layover local and regional study areas, and assessed potential impacts associated with the proposed work	• Permanent changes in land use for properties within the Project footprint, and possible temporary changes for some properties in the surrounding vicinity; • Property ownership changes (through permanent or temporary property acquisition); • Nuisance effects (increased light, noise, dust and vibration) from construction and operations of the Project; •10827 Winston Churchill Boulevard, a residential rural property adjacent to the layover, will potentially be affected by construction and operation; • For visual aesthetics, there will be temporary nuisance effects from increased dust, as well as visual effects from the construction related activities; and • Some tree and vegetation removals will occur, and the site will be graded, resulting in alteration in construction and operation viewscapes.	•The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	N/A

Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Limited Phase I Environmental Site Assessment	Presenting the non intrusive assessment through desktop review and windshield survey to identify if there are any potentially contaminating activities that may contribute environmental impact to the Project footprint	Identified 1 on-Site and 4 off-Site potentially contaminating activites (PCAs) that could impact the soil, groundwater, surface water and sediment at the Site or surrounding areas; <u>On Project Site PCA:</u> -The potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents, due to the agricultural fields at the Project Site. Some of the potential contaminants may include metals and inorganics, and pesticides which could impact the soil, groundwater, surface water and sediment. <u>Off Project Site PCAs:</u> -Potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents may have been used in the agricultural fields surrounding the Project Site. Contaminants from the off-site application of chemicals are the same class of potential contaminants identified in the On Project Site PCA; -Operations from the existing rail line adjacent to the Project Site could present contamination to the soil, groundwater, surface water or sediment. Contaminants may include, metals and inorganics, petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), and pesticides; -The asphalt paved road to the west of the Project Site could have salt impacts from the use of de-icing the roadway. This could potentially affect the soil and groundwater from runoff; and -Based on historical records, there is the potential that a furnace oil tank is or was present at a residence to the west of the Project Site. Potential leaks from the possible furnace oil tank could be a source of PHCs or PAH contamination to the groundwater in the area.	The Limited Phase I ESA recommends a Phase II ESA be completed which includes field work (i.e. drilling; soil, groundwater, sediment and surface water sampling) to confirm the presence or absense of environmental contamination.	Completion of Phase II ESA An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Noise and Vibration Impact Assessment	Evaluating the noise and vibration impacts associated with the construction and the operational phase of Heritage Road Layover	<u>Construction</u> • In the absence any noise controls, under the predictable worst-case scenario for the construction of the Facility, assuming simultaneous operation of all equipment, noise levels are predicted to exceed the applicable Metrolinx Guideline limits at the nearest Representative Sensitive Receptor (RSR) 1, located approximately 50 m from the Project Site, during daytime (07:00-23:00) during all stages of construction and at RSR2 for Stages 2-5 simultaneous activities scenario of construction. • Noise levels are predicted to exceed the limits at all RSRs during the night-time (23:00-07:00) periods for all construction stages. With appropriate controls in place, the predicted sound modelling indicate that it is feasible to operate most construction equipment within applicable Ministry of Environment, Conservation and Parks guideline limits. • The construction vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages. <u>Operational</u> • In the worst-case scenario (four simultaneous idling trains), the Facility is expected to be in compliance with the applicable noise guideline limits at all RSRs during daytime and night-time periods. • The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of the closest RSR being at least 100 metres away from the tracks.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. • In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas. • Schedule major construction activities to take place during daytime hours, where possible.	Complete a one-month monitoring for noise and vibration at four identified residential dwellings in the vicinity of the Project Site to confirm baseline conditions.

From:	Indigenous Relations
To:	Lonny Bomberry
Cc:	[redacted] Dawn LaForme; Tanya Hill-Montour; rvanstone@sixnations.ca; Dawn Russell; Clara Chan; Brian Poole; Dara Corrigan
Subject:	RE: Heritage Road Layover Project – Report Package 1 Circulation
Date:	April 5, 2022 3:52:36 PM
Attachments:	image001.png Attachment 1 - SNGR-Notice of Commencement and PIC.pdf 2022-04-01_Package 1 Circulation- SNGR.pdf Attachment 2 - 2022-03-30_HRL_Draft Technical Studies Overview.pdf

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Dear Lonny and Team,

Metrolinx continues to advance the Heritage Road Layover Project. Further to the Notice of Commencement shared with you on March 23rd, 2022, please find attached a letter sharing the Environmental Project Report (EPR) and supporting technical studies for this project.

In addition to the draft EPR, draft technical reports will be submitted in multiple phases, at the following link for review:
[redacted]

If you require additional information or materials, or if you wish to discuss this project in more detail or set up a meeting, please feel free to contact our team at any time.

Thank you,

Christine

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

METROLINX

Chief Mark Hill
c/o Lonny Bomberry,
Director, Lands & Resources
Six Nations of the Grand River
[redacted]
[redacted]
Delivered by Email

Dear Mr. Bomberry,

RE: Heritage Road Layover Project – Report Package 1 Circulation
(Draft 75% EPR and Supporting Draft Technical Studies)

Metrolinx remains committed to meaningful consultation and engagement, especially where our projects have impacts to the Treaty and traditional lands of the Six Nations of the Grand River. Metrolinx values its relationship with your community and it is our wish to continue to work with your Nation as we move forward. Metrolinx recognizes your connection to the areas in which Metrolinx operates and will be constructing infrastructure.

Further to the Notice of Commencement and Public Information Centre #2 Letter circulated March 23, 2022 (Attachment 1) the purpose of this letter is to share the Environmental Project Report (EPR) and some supporting technical studies for the Heritage Road Layover Project.

Project Description
Metrolinx is proposing to install a new layover facility (Heritage Road Layover) to support the GO Expansion program along Kitchener Corridor. The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel (Figure 1).

The layover facility will be used to provide overnight storage of trains required to support future service increases. Heritage Road Layover will be designed with four (4) tracks, with the capacity to store four (4) to eight (8) trains[1].

For more information about this project please visit:
https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

[1] Four trains can be stored if consisting of a 12-car configuration (two locomotive, 12 coaches), or eight trains can be stored if consisting of two 6-car configuration (one locomotive, 6 coaches)



Figure 1. Project Location

Draft Environmental Project Report and Technical Studies

The enclosed draft EPR and ancillary Technical Studies reviewed the potential effects of the Project on the existing natural, physical, social, and cultural environments and presents possible mitigation measures to manage the potential effects arising from construction and post-construction operations. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts.

A breakdown of the components of the EPR was presented in the Notice of Commencement Letter (Attachment 1).

Technical Reports

As part of this submission, we have included the following draft technical reports, which are appendices in the EPR. In addition to the draft EPR, draft technical reports will be submitted in multiple phases starting April 5, and then in subsequent sequences, as identified in the table below.

Appendix Reference in EPR	Title	Proposed Circulation Date
A	Air Quality Baseline Conditions and Impact Assessment Report	Package 1 - this letter
B	Noise and Vibration Baseline Conditions and Impact Assessment Report*	Package 1 - this letter Package 2 – Updated report – July 2022
C	Natural Environment Existing Conditions and Impact Assessment Report*	Package 1 - this letter Package 2 – Updated report – July 2022
D	Tree Inventory	June 2022

E	Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report	Package 1 - this letter
F	Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment	(Previously circulated)
G	Stage 1 Archaeological Assessment Report	(Previously circulated)
H	Traffic and Transportation Existing Conditions and Impact Assessment	Mid-April 2022
* Report includes results from desktop studies only. A supplemental report will be circulated following the field study activities planned in Spring/Summer 2022.		

In addition to the draft technical reports that are part of the EPR, we are also circulating the following studies for review to engage with your Nation in other activities associated with the Project:

Title	Proposed Circulation Date
Phase I Environmental Site Assessment	Package 1 – this letter
Phase II Environmental Site Assessment	Package 2 – June 2022
Stage 3 Archaeological Assessment	Package 2 – June 2022
Stormwater Management Report	July 2022

A summary of the results of the technical reports included in Package 1 are presented in Attachment 2.

As the draft Stage 1 Archaeological Assessment (AA) and the Cultural Heritage Report were circulated in advance of this package and are summarized in Notice of Commencement and Public Information Centre #2 (Attachment 1).

Additional Information

If you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact Joe de Laronde, Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

Comments and information regarding the draft Environmental Project Report will be collected to assist in meeting the requirements of the *Environmental Assessment Act*, and may be included in study documentation. With the exception of personal information, all comments will become part of the public record. Kindly note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*.

Thank you for your time in reviewing this letter.

Yours Truly,

Simon Yale Strauss

Simon Strauss,
Manager, Environmental Programs and Assessment, Metrolinx

cc:

Chief Mark Hill, Six Nations of the Grand River
Dawn LaForme, Secretary/Receptionist, Six Nations of the Grand River
Dawn Russell, Administrative Assistant, Six Nations of the Grand River
Tanya Hill-Montour, Archaeological Coordinator, Six Nations of the Grand River
Robbin Vanstone, Consultation Supervisor, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment, Metrolinx
Brian Poole, Project Coordinator, Environmental Programs & Assessment, Metrolinx
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment, Metrolinx

Encl.
Attachment 1: Notice of Commencement and Public Information Centre #2
Attachment 2: Summary of Findings and Next Steps for Reports in Package 1

Attachment 2:

Summary of Findings and Next Steps for Reports in Package 1

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Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Natural Environment	Identify existing baseline environmental conditions and recommended mitigation measures within the Natural Environment Study Area	Aquatic Environment No Species at Risk (SAR) fish or other aquatic species, or critical habitat were identified through the background review. • Three watercourses run through the Heritage Road Layover site and five other watercourses run through the Natural Environment Study Area. o Two of the tree watercourses crossing the Heritage Road Layover site are anticipated to be encapsulated within concrete box culverts which are extensions to existing culverts crossing the CN right-of-way. As detailed design of Heritage Road Layover progresses, design solutions will be explored to further mitigate environmental impacts. • A Heritage Heights Subwatershed Study that begun in 2021 identified the watercourses south of Winston Churchill Boulevard and between Winston Churchill Boulevard and Heritage Road as headwaters of the Credit River West Branch. • A barrier is identified at Winston Churchill Boulevard which would prevent upstream migration of fish. Given the intermittent condition of the watercourses, and seasonality of fish utilization, the sensitivity should be considered low. • There is a dug pond along the eastern watercourse, approximately 200 m south of the rail corridor, that contains permanent water. This pond lies just at the edge of the study limits and supports permanent fish habitat. • The desktop review will be confirmed through fish and fish habitat studies planned in Spring 2022. Terrestrial Environment • Background reports suggest that the vegetation communities within the Study Area are sparse, with agricultural fields comprising the vast majority of the site. o Five Ecological Land Classifications (ELCs) were identified within the Study Area in the desktop study. A field survey will be conducted in Spring 2022 from accessible portions of the Study Area to inform ELC delineation and identify vegetation constraints. • Background reports suggest that a total of 33 wildlife species were documented, with 31 of those being birds, as well as one amphibian, and one mammal. The majority of the species observed are considered common and typical to the community types found within the study area. o During the future field surveys, Wood Ecologists will record incidental wildlife and document the presence of any of the specific habitat features (e.g., snag trees, rock piles, stick nests etc.). • A tree inventory will be conducted in Spring 2022 and an analysis will be completed to understand the requirements for tree removal, injury, and preservation. Species At Risk • Previous records have identified the potential for Butternut, Bobolink and Eastern Meadowlark to occur in the Study Area. o Several species of vegetation and two species of wildlife were identified in a search of the NHIC database. With the exception of Butternut (last observed in 2004), all of the species are considered historical with no records after 1982. • The Ontario Breeding Birds Atlas also lists three additional SAR: Grasshopper Sparrow, Eastern Wood-pewee, and Barn Swallow. Other SAR listed in background sources are the Monarch Butterfly and Snapping Turtle. o Based on background review, only the Barn Swallow has a 'High' occurrence potential in the Study Area as they are found foraging in a range of open habitats, including agricultural fields and meadows, and primarily utilize man-made structures (buildings, bridges, culverts, etc.) for nesting. o The Snapping Turtle has a 'Moderate' occurrence due to the presence of a dug pond on the southern end of the Study Area and a locally significant wetland situated north of the railway tracks beyond the Study Area. • Where Butternut or Barn Swallow is encountered, impacts will have to be registered and mitigated accordingly. Snapping Turtle is listed	Due to number of recommendations and mitigations, please refer to Mitigation Table presented in the Notice of Commencement and Public Information Centre #2 Letter (Attachment 1)	Completed field studies in spring/summer 2022 including a ground truthing study to inform an ELC, a significant wildlife habitat assessment, a species at risk assessment, tree inventory, aquatic habitat and fish survey. An arborist report will be completed during detailed design. An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Air Quality	Establishing baseline conditions and potential air quality impacts to the surrounding area	• Key contaminants identified with the potential for air quality effects were: o Particulate matter less than 10 micron in diameter (PM10) associated with fugitive dusts; o Particulate matter less than 2 5 micron in diameter (PM2.5) as fugitive dust and equipment tailpipe emissions; and o Nitrogen dioxide (NO2) from equipment tailpipe. • There are potential air quality impacts relating to fugitive dust (PM10) if the Project construction is to be carried out without adequate control (worst-case scenario). However, even when dust control measures were inadequate, the exceedances over appropriate PM10 limits were infrequent. When typical dust control was in place during construction (e.g. water application), there were no exceedances over the applicable PM10 limits based on modelling. o During construction, the Site Preparation stage for construction was identified as the maximum emission scenario, with the most pieces of construction equipment that may operate simultaneously and therefore the highest number of fugitive dust sources. • The operational phase modelling considered emissions from vehicular traffic on Winston Churchill Boulevard due to service vehicles entering and existing the new Heritage Road Layover. Overall, the emissions from operations were anticipated to be incremental and below the respective air quality criteria.	• A comprehensive Air Quality and Dust Management Plan is required and will be implemented during the construction phase of the Project. • Air monitoring for PM10 with particular emphasis on the existing sensitive receptors west of the site will provide assurance that fugitive dust sources are being controlled and the potential for off-site effects minimized. • Once the Construction Plan and Schedule are better defined, an update to the Air Quality Impact Assessment will be considered to quantify the potential air quality effects more accurately in the vicinity of the Project.	N/A
Socio-Economic and Land Use Baseline Conditions and Impact Assessment	Evaluating the existing and future socio-economic and land use conditions of the Heritage Road Layover local and regional study areas, and assessed potential impacts associated with the proposed work	• Permanent changes in land use for properties within the Project footprint, and possible temporary changes for some properties in the surrounding vicinity; • Property ownership changes (through permanent or temporary property acquisition); • Nuisance effects (increased light, noise, dust and vibration) from construction and operations of the Project; •10827 Winston Churchill Boulevard, a residential rural property adjacent to the layover, will potentially be affected by construction and operation; • For visual aesthetics, there will be temporary nuisance effects from increased dust, as well as visual effects from the construction related activities; and • Some tree and vegetation removals will occur, and the site will be graded, resulting in alteration in construction and operation viewscapes.	•The Project has been designed to minimize effects on existing land use and development due to the setback from the adjacent road. • temporary storage sites for equipment, staging / laydown areas, stockpiling of materials and other construction activities will be removed at the end of construction and no longer affect the viewscape. • A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas.	N/A

Technical Report Name	Purpose of Study	Findings	Recommendation and/or Mitigation Strategy	Future Field Studies Required (if applicable)
Limited Phase I Environmental Site Assessment	Presenting the non intrusive assessment through desktop review and windshield survey to identify if there are any potentially contaminating activities that may contribute environmental impact to the Project footprint	Identified 1 on-Site and 4 off-Site potentially contaminating activites (PCAs) that could impact the soil, groundwater, surface water and sediment at the Site or surrounding areas; <u>On Project Site PCA:</u> -The potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents, due to the agricultural fields at the Project Site. Some of the potential contaminants may include metals and inorganics, and pesticides which could impact the soil, groundwater, surface water and sediment. <u>Off Project Site PCAs:</u> -Potential historical use of pesticides, herbicides, fungicides and/or anti-fouling agents may have been used in the agricultural fields surrounding the Project Site. Contaminants from the off-site application of chemicals are the same class of potential contaminants identified in the On Project Site PCA; -Operations from the existing rail line adjacent to the Project Site could present contamination to the soil, groundwater, surface water or sediment. Contaminants may include, metals and inorganics, petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), and pesticides; -The asphalt paved road to the west of the Project Site could have salt impacts from the use of de-icing the roadway. This could potentially affect the soil and groundwater from runoff; and -Based on historical records, there is the potential that a furnace oil tank is or was present at a residence to the west of the Project Site. Potential leaks from the possible furnace oil tank could be a source of PHCs or PAH contamination to the groundwater in the area.	The Limited Phase I ESA recommends a Phase II ESA be completed which includes field work (i.e. drilling; soil, groundwater, sediment and surface water sampling) to confirm the presence or absense of environmental contamination.	Completion of Phase II ESA An invitation will be extended to your Nation when permission to enter has been secured for the identified study areas.
Noise and Vibration Impact Assessment	Evaluating the noise and vibration impacts associated with the construction and the operational phase of Heritage Road Layover	<u>Construction</u> • In the absence any noise controls, under the predictable worst-case scenario for the construction of the Facility, assuming simultaneous operation of all equipment, noise levels are predicted to exceed the applicable Metrolinx Guideline limits at the nearest Representative Sensitive Receptor (RSR) 1, located approximately 50 m from the Project Site, during daytime (07:00-23:00) during all stages of construction and at RSR2 for Stages 2-5 simultaneous activities scenario of construction. • Noise levels are predicted to exceed the limits at all RSRs during the night-time (23:00-07:00) periods for all construction stages. With appropriate controls in place, the predicted sound modelling indicate that it is feasible to operate most construction equipment within applicable Ministry of Environment, Conservation and Parks guideline limits. • The construction vibration levels, both in terms of public annoyance and building damage, are predicted to meet the applicable limits during all construction stages. <u>Operational</u> • In the worst-case scenario (four simultaneous idling trains), the Facility is expected to be in compliance with the applicable noise guideline limits at all RSRs during daytime and night-time periods. • The operational vibration impacts, related to the layover, are expected to be insignificant due to slow moving trains and the proximity of the closest RSR being at least 100 metres away from the tracks.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: • Major construction activities scheduled during daytime hours. • Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained. • Where possible, construction equipment will be turned off when not in use (e.g., a no idling policy). • Vehicles and equipment should be routinely maintained and serviced for proper operation. • In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly. Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include: • Operate vibration-generating equipment as far from sensitive receptors as possible. • Schedule vibration-generating activities so that they do not occur at the same time. • Avoid use of impact pile-drivers and vibratory rollers near sensitive areas. • Schedule major construction activities to take place during daytime hours, where possible.	Complete a one-month monitoring for noise and vibration at four identified residential dwellings in the vicinity of the Project Site to confirm baseline conditions.

Six Nations of the Grand River & Metrolinx Bi-Monthly Meeting

Heritage Road Layover

April 19, 2022

OBJECTIVES

- To continue conversations on the proposed Heritage Road Layover Project
- To understand how we can advance planning and study of project together

AGENDA

1. Project Recap
2. Request for Consultation
3. Heritage Road Layover Transit Project Assessment Process
4. Environmental Studies of Interest
5. Questions/Discussion

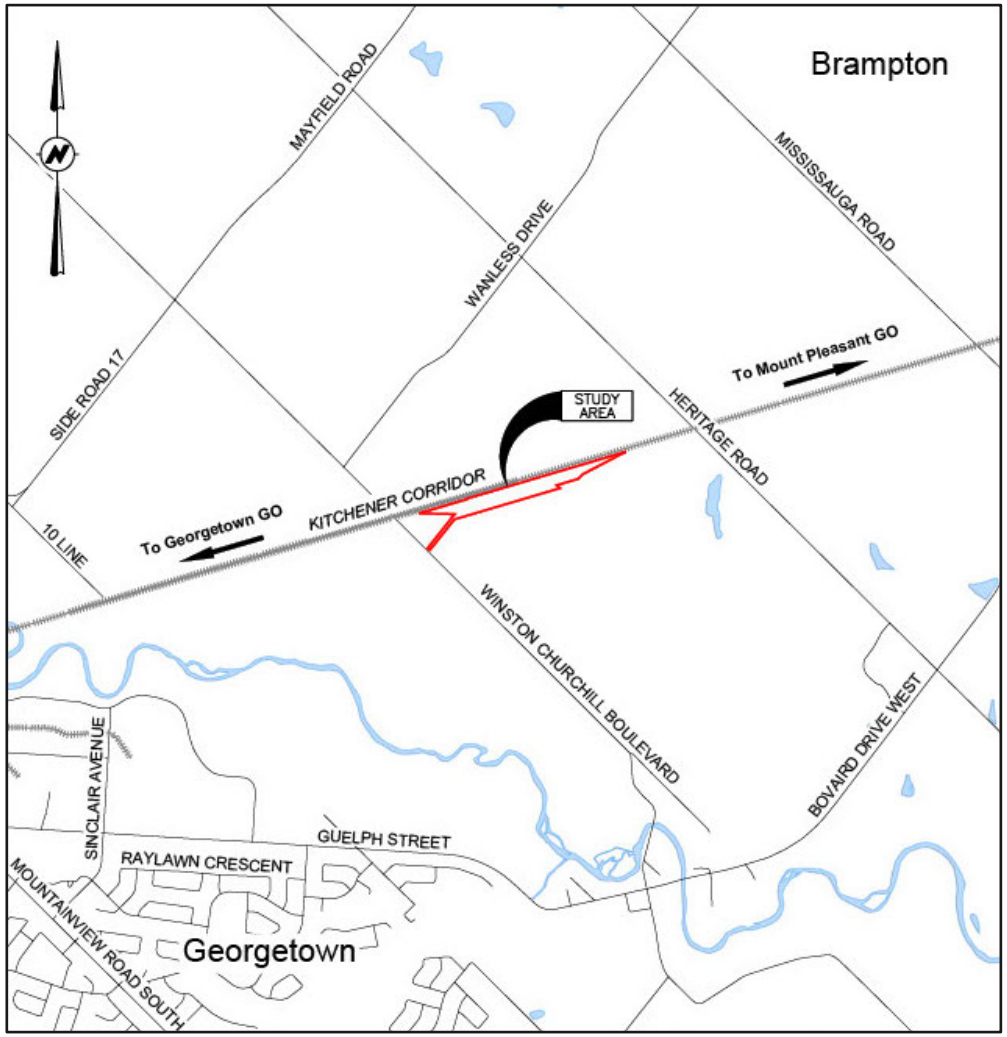
Recap of Proposed Project

WHAT IS A TRAIN LAYOVER AND HERITAGE ROAD LAYOVER DETAILS

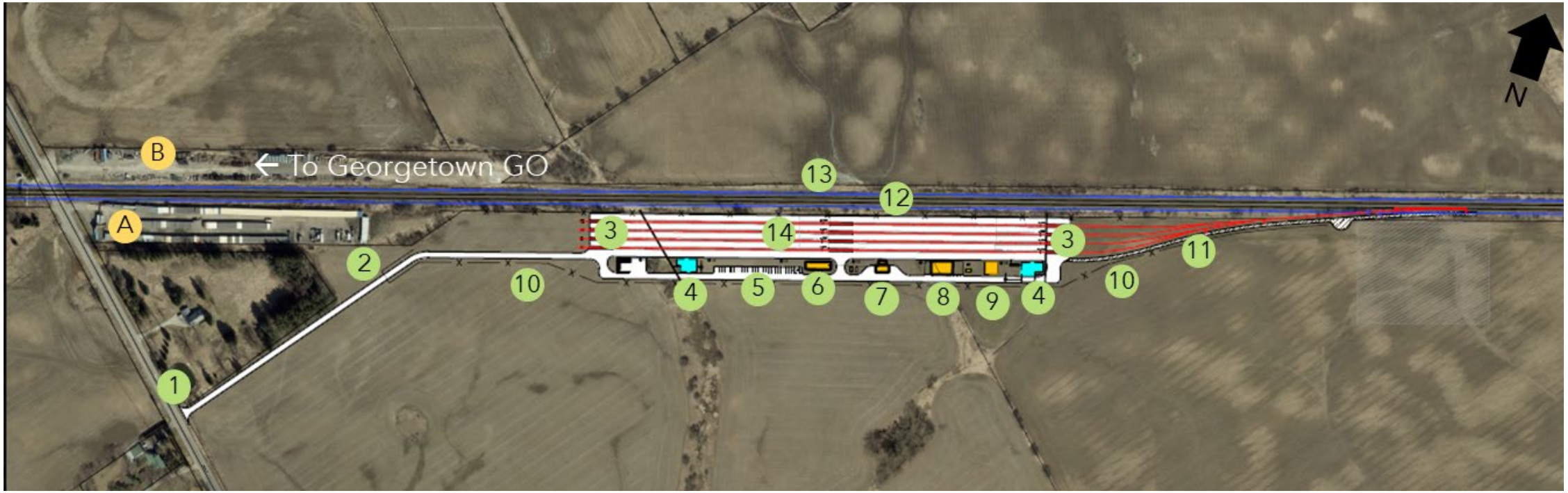
A train layover is a support facility that provides:

- Overnight storage for trains
- Access to trains for crews to perform inspection and light maintenance activities when trains not in service

- Heritage Road Layover is proposed within Halton Subdivision of the Kitchener Corridor between Mount Pleasant GO Station and Georgetown GO Station
- Between Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel



HERITAGE ROAD LAYOVER FACILITY DESIGN



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track
- Culvert extension(s) of existing conveyances across CN corridor.

Legend

1 Facility Entrance
2 Gate
3 Culvert
4 Infiltration Facility
5 Parking Area
6 Crew Building
7 Waste Building
8 Substation
9 Concrete Pad
10 Fence
11 Maintenance Road
12 Current Mainline Tracks
13 Future Mainline Tracks
14 Layover Tracks
A U-Need Storage
B CN Works Yard

NATURAL ENVIRONMENT – EXISTING CONDITIONS



Aquatic habitats and watercourses within the Study Area and surrounding areas

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation

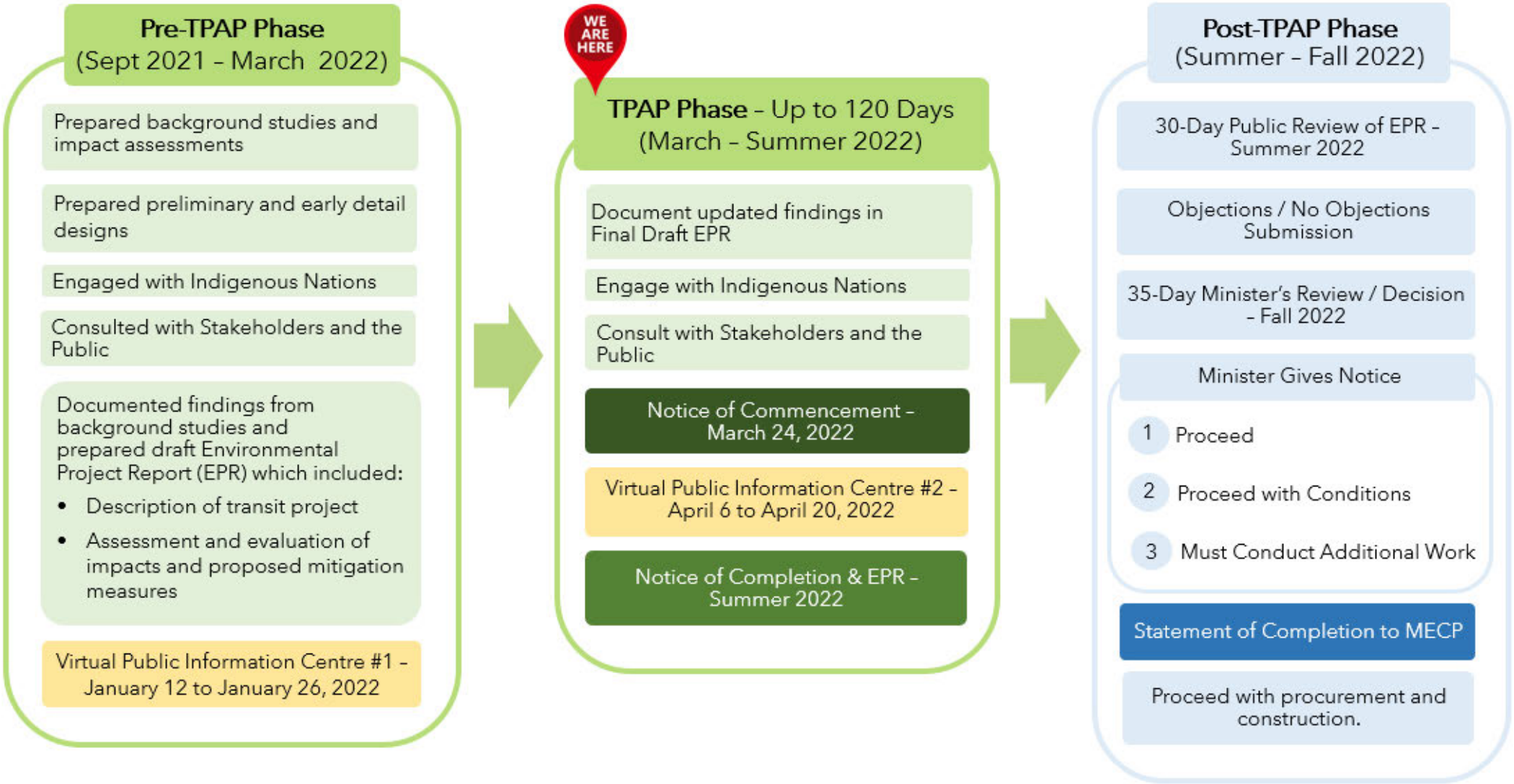
Consultation Request

POTENTIAL IMPACTS ON ABORIGINAL OR TREATY RIGHTS

- The Heritage Rd Layover falls within the hunting territory identified in the deed of July 19, 1701 (Albany Deed)
- We have identified the potential for adverse impacts on Aboriginal and/or Treaty Rights, including:
  - Impacts to Wildlife, including Species at Risk
  - Impacts to Watercourses
  - Vegetation Removal or Injury
  - Disturbance of Potential Archaeological Resources
- We proposed mitigation measures to minimize impacts on the above as a result of the Project, but are seeking further feedback from your Nation

Heritage Road Layover
Transit Project Assessment Process

HERITAGE ROAD LAYOVER TRANSIT PROJECT ASSESSMENT PROCESS (TPAP)



PREVIOUS COMMUNICATION TO DATE

Description	Date
Project Introduction Letter	January 7, 2022
Introductory Meeting with Nation	January 14, 2022
Circulation of Draft Stage 1 Archaeological Assessment Report	February 8, 2022 (Requested feedback by Mar 22)
Circulation of Draft Cultural Heritage Report	March 7, 2022 (Requested feedback by Apr 18)
Consultation Request Letter	March 21, 2022 (Requested feedback by Apr 21)
Circulation of EPR and Package 1 Technical Reports	April 5, 2022 (Requested feedback by May 18)

SIX NATIONS OF THE GRAND RIVER FEEDBACK AND THE TPAP

- Records of consultation and any feedback from your Nation will be documented within the Indigenous Nations Consultation section of the Environmental Project Report (EPR).
  - The Heritage Road Layover Project Team will work with your Nation to address questions and input received, and where practicable, include them into Project design considerations or future commitments.

- Invitations to participate will be extended to your Nation for field studies to be carried out in Spring 2022
  - Timelines of the field studies are subject to obtaining Permission to Enter

- Any feedback received through consultations with your Nation will be incorporated into the TPAP

Environmental Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

A number of technical studies were or are being completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. Results of these studies will also help determine if there are adverse impacts on Aboriginal and/or Treaty Rights. These studies include:



Archaeology



Natural Environment*



Tree Inventory Plan*



Cultural Heritage



Air Quality



Noise & Vibration*



Traffic & Transportation



Socio-Economic and
Land Use Characteristics

* Fieldwork is still to be completed for these studies and will be presented as part of the final Environmental Project Report (EPR) when it is made available for public review in 2022.

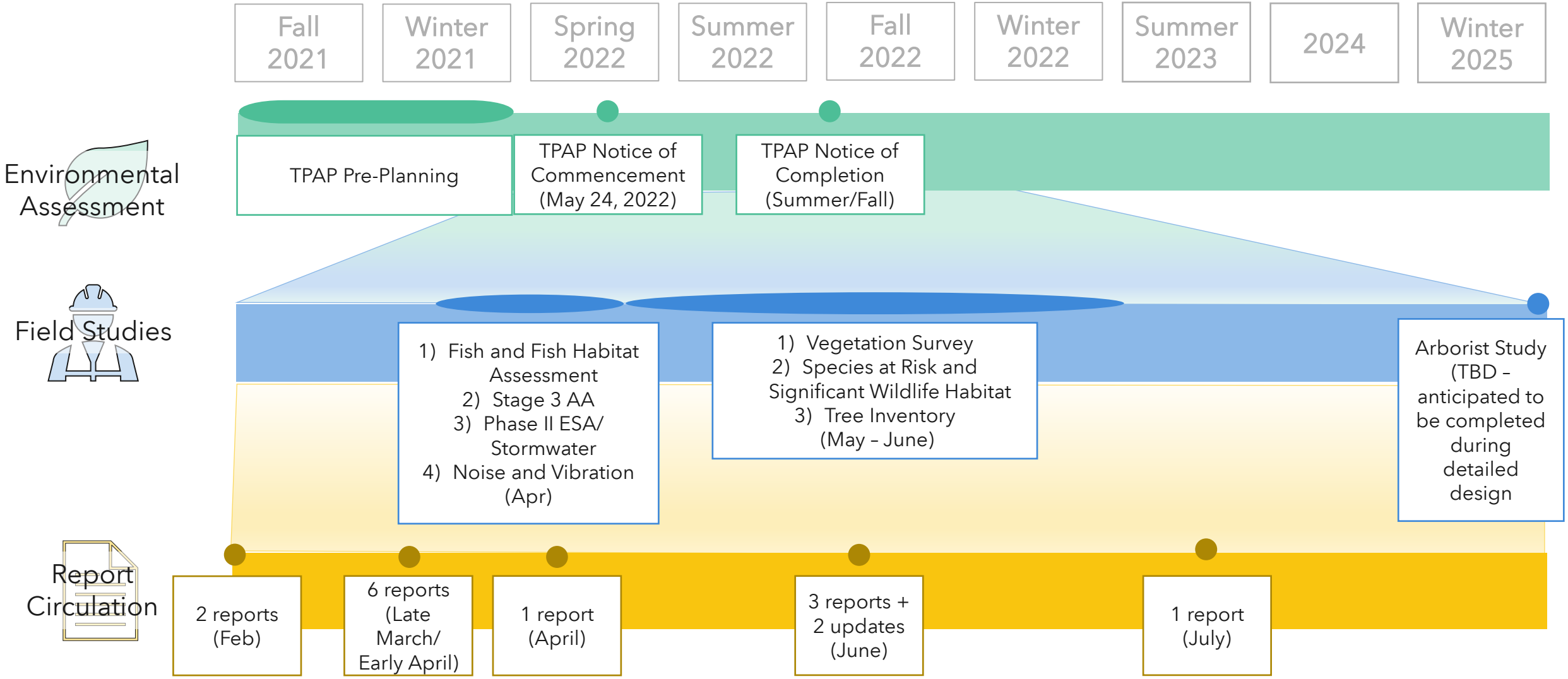
ENVIRONMENTAL STUDIES AND THE TPAP

- The findings of all of the desktop technical studies are presented within the Environmental Project Report (EPR)
  - Additional field studies will be completed during Spring/Summer 2022 which will be integrated into the EPR

- Metrolinx will be circulating the draft EPR and technical studies in the upcoming weeks
  - Will endeavor to circulate reports in bundles as they become available

PROPOSED FIELD STUDY AND REPORT SCHEDULE

Timelines are subject to change



PROPOSED FIELD STUDY AND REPORT CIRCULATION SCHEDULE

Technical Study	Associated Field Activities (Contingent on PTE)	Proposed Report Circulation Timeline
Already Circulated		
Stage 1 Archaeological Assessment	N/A	Circulated Feb 8, Requested feedback Mar 22
Cultural Heritage Report	N/A	Circulated to Nations Mar 7, Requested feedback Apr 18
75% Environmental Project Report	N/A	**Bundle 1** – Circulated April 5, Requested feedback May 18
Air Quality Report		
Socio-Economic and Land Use Report		
Phase I Environmental Site Assessment		
Natural Environment Report (desktop)	To be updated following field surveys (next slide)	
Noise and Vibration Report (desktop)	To be updated following field surveys (next slide)	

PROPOSED FIELD STUDY AND REPORT CIRCULATION SCHEDULE CONT'D

Technical Study	Associated Field Activities (Contingent on PTE)	Proposed Report Circulation Timeline
Upcoming Reports		
Updated Natural Environment Report	• Fish and Fish Habitat Assessment – Apr • Vegetation Survey – May/June • Species at Risk and Significant Wildlife Habitat – May/June	**Bundle 2** - Updated Report with Field Studies – July
Updated Noise and Vibration Report	April	
Traffic and Transportation Report	N/A	Mid-April
Stage 3 Archaeological Assessment	April	**Bundle 2** - June
Phase II Environmental Site Assessment	April	
Tree Inventory	May/June	
Stormwater Management Report	April	July
Arborist Report	TBD – anticipated to be completed during Detailed Design Phase	TBD – anticipated to be completed during Detailed Design Phase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Appendix A: Details on Technical Studies

TRANSIT PROJECT ASSESSMENT PROCESS (TPAP) STUDIES

Natural Environment

- Desktop review of aquatic and land environments
- Surveys of potential for species at risk (Butternut and barn swallow)
- Fish and fish habitat assessment
- Plant inventory

Archaeological Assessment

- Stage 1 and 2 AAs were previously completed.
  - One Indigenous lithic artifact was identified in a second study area, approximately 110-130 m south of the Heritage Road Layover footprint.
- A new Stage 1 AA was completed. Recommendation to complete a Stage 3 for the Heritage Road Layover project area.
- Field work for Stage 3 AA will be carried out in spring 2022 by licensed professional archaeologists

Cultural Heritage

- Create an inventory of built heritage resources and cultural heritage landscapes
- Built heritage resources include historic buildings, artifacts, structures, and natural features that are culturally significant to the study area
- Complete a preliminary impact assessment for any identified heritage properties

Tree Inventory

- Classify trees per the Metrolinx Vegetation Guidelines and any impact to tree canopy during construction and operations
- Develop tree compensation strategy for any trees removed for this project
- As necessary, a Tree Protection Zone will be established during the construction process

NATURAL ENVIRONMENT EXAMPLE MITIGATION AND MONITORING MEASURES

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the Endangered Species Act (ESA) and Species at Risk Act (SARA) will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An Erosion and Sediment Control Plan and a Spill Prevention and Response Plan will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the restricted construction activity timing windows and appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• Vegetation removal shall be kept to a minimum and limited to within the construction area.	

ARCHAEOLOGY - POTENTIAL IMPACTS, EXAMPLE MITIGATION AND MONITORING MEASURES

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Completion of Stage 3 Archaeological Assessment • All Archaeological Assessment findings will be shared with Indigenous Nations, as per Metrolinx procedures. • If archaeological materials are encountered or suspected of being encountered during construction, all work will cease. The location of the findspot will be protected from impact, and an assessment will be completed. • If final limits of the Project footprint are altered and fall outside of the assessed study area, additional Archaeological Assessments (ie. Stage 2, 3, 4 as required) will be conducted prior to construction activities. • If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately. The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • Further Archaeological Assessment may identify the need for monitoring during construction.

CULTURAL HERITAGE – POTENTIAL IMPACTS AND MITIGATION MEASURES

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No adverse impacts anticipated.	• Proposed work should be planned in a manner that avoids the cemetery and should be clearly demarked on project drawings
CHR2 (Private property)	Isolation from its surrounding environment, context, or a significant relationship.	• Proposed work should be planned to maximize the buffer between the access road/layover facility and the residential property. The property and should be clearly demarked on project drawings as a "potential heritage property" • Post-construction landscaping should be planned to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.



CHR1: Rail crossing near McNichol Cemetery



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

TREE INVENTORY – NOT YET COMPLETED

Study Overview and Example Mitigation and Monitoring Measures

A Tree Inventory Report with recommendations for specific tree removal and tree injury will be completed in spring 2022 after field studies are carried out by an I.S.A Certified Arborist. The report will also be completed with regard to the Metrolinx Vegetation Guideline (2020), Ontario Forestry Act R.S.O. 1990, the Endangered Species Act, and other regulations, municipal by-laws and best management practices as applicable.

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Tree / Vegetation removal, injury and protection	• If a tree requires removal or injury, compensation and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adherence to all applicable bylaws and regulations for tree removals outside of Metrolinx properties. • Tree Protection Zone (TPZ) fencing will be established to protect and prevent tree injuries in accordance with local by-law requirements. • Prior to the undertaking of tree removals, a Tree Removal Strategy, building upon the considerations and elements set out in the Metrolinx Vegetation Guideline (2020), will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. • Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk (SAR), and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.	• On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The success of vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020). The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. • Monitoring requirements will be undertaken in accordance with conditions of permits and approvals.

From: Indigenous Relations
To: Aaron Detlor
Cc: [redacted]; EPA.IR; Simon Strauss; Clara Chan
Subject: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date: May 19, 2022 4:49:45 PM
Attachments: image001.png
Heritage Road Layover- Invitation for Participation in 2022 Fieldwork_HCCC.pdf
2022-05-19 Site Visitor Permit Form [BLANK].docx

Dear Mr. Detlor,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th - Aug 12th)
- Natural Environmental Fieldwork
    - Confirmation Ecological Land Classification and Plant List Collection (June 9th - 10th)*
    - Significant Wildlife Habitat and SAR Habitat Assessment (June 9th - 10th)*
    - Tree Inventory (June 9th - 10th)*
    - Phase II ESA (June 13th - June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th - Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement.

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

[redacted]

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

Personal Track Safety Training:

- Metrolinx Personal Track Safety (PTS) training, organized by Metrolinx's Safety Division, is currently only offered in a virtual setting and includes a test at the completion of the training. It is a full day in length. The training is available at https://www.metrolinx.com/en/projectsandprograms/constructionanddevelopment/personal-track-safety-program.aspx.
- [redacted].
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

Site Visitor Permit:
The SVP can be found attached and includes the following requirements:

1. Name and signature(s) of the fieldwork visitor(s) who will be participating in monitoring
2. If you are choosing to use the SVP method, the form is required by May 26, 2022 to secure access to the rail corridor.

Personal Protection Equipment:
There are specific PPE requirements for entering the rail corridor. The required PPE includes;

a. Basic PPE including;

    a. CSA Type 2 Hard Hat with foam insert (bump caps)
    b. High visibility reflective vest
    c. CSA approved eye protection
    d. CSA approved 6" laced safety shoes
    e. Appropriate clothing for weather conditions
b. In addition to the basic PPE listed above, Class 3 PPE is required including:
    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)

[redacted]

METROLINX

May 19, 2022

Ms. Tracey General, Office Manager
Haudenosaunee Confederacy Chiefs Council
[redacted]

Delivered by Email

Dear Ms. General,

RE: Heritage Road Layover – Summer 2022 TPAP Field Studies

Metrolinx and its consultant, *Wood,* will be undertaking fields studies associated with the Heritage Road Layover as part of the Transit Project Assessment Process (TPAP). The field studies will take place within the construction footprint between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel (Figure 1). The field studies are anticipated to be conducted between ***June 9 and August 12, 2022***.

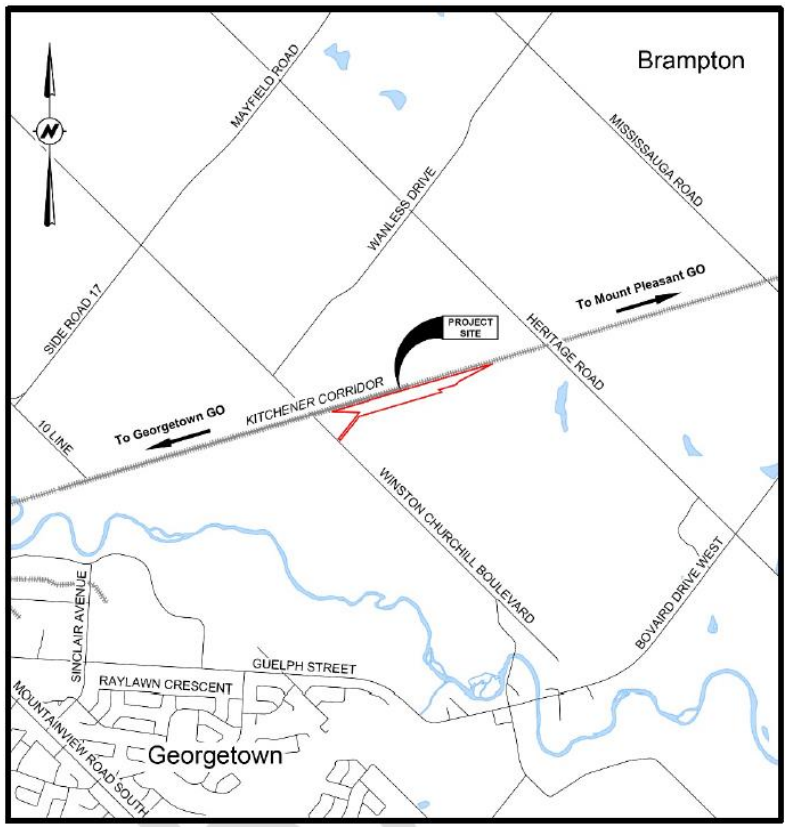

Figure 1. Project Location

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Please note draft technical studies previously circulated to your Nation, as outlined below, were limited to a desktop review. The planned field studies serve to confirm anticipated conditions based on the information gleaned from the draft technical studies. The previous relevant reports were shared with you as follows:

- Stage 1 Archaeological Assessment (AA) - February 8th, 2022
- 75% Environmental Project Report, including the draft Natural Environment and Noise and Vibration draft reports - April 5th, 2022

Invitation to Participate in Fieldwork

Metrolinx would like to confirm any interest the Haudenosaunee Confederacy Chiefs Council may have in participating in the upcoming fieldwork. The field study, timelines and study area maps are outlined in the Table 1, below. Should your Nation wish to participate in any field investigations, please let us know by June 1, 2022. Upon receipt of your interest in participating, Metrolinx will work to coordinate your Nation's involvement. An overview of the different field activities is discussed in the sections below.

Table 1. Overview of planned field investigations for the Heritage Road Layover.

Field Study	**Anticipated Start Date***	**Anticipated End Date**	**Duration**	**Study Area**
Natural Environment-Confirmation Ecological Land Classification and Plant List Collection	June 9, 2022	June 10, 2022	2 days	See Figure 2
Natural Environment-Significant Wildlife Habitat and SAR Habitat Assessment	June 9, 2022	June 10, 2022	2 days	See Figure 2
Tree Inventory and Arborist	June 9, 2022	June 10, 2022	2 days	See Figure 2
Phase II Environmental Site Assessment (ESA)	June 13, 2022	June 28, 2022	5 days (June 13-15, 21 and 28)	See Figure 5
Natural Environment-Fish & Fish Habitat Assessment	July 4, 2022	--	1 day	See Figure 2

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Noise and Vibration-Baseline Monitoring	July 4, 2022	August 8, 2022	5 weeks (including weekends)	See Figure 4
Stage 3 Archaeological Assessment	July 25, 2022	August 12, 2022	11 days (scheduling 15 to account for weather)	See Figure 3

*****Subject to PTE Access and other scheduling requirements

Natural Environment Fieldwork and Tree Inventory Summary

The Natural Environment field study will involve an aquatic and terrestrial survey. A fish and fish habitat assessment will be performed upstream and downstream of the three watercourses crossing the Project study area (see Figure 2). A Confirmational Ecological Land Classification and Vascular Plant Survey, a non-invasive visual survey (no samples will be taken), will be completed within the 120 m study area (see Figure 2). During this study period, any incidental observations of any wildlife will also be recorded.

In addition to the studies supporting the natural environment technical report, a separate Tree Inventory will be completed, which will include a review (including size, health, and location) of all trees within 5 m of the project footprint that are greater than or equal to 10 cm DBH (diameter at breast height) and affixing a pre-numbered aluminum tag which will aid in documentation and follow-up work.

Stage 3 Archeological Assessment Summary

The previous Stage 2 Archaeological Assessment (Archeoworks, 2017) and the result of the Stage 1 AA, recommended that a Stage 3 site-specific assessment be completed for site AjGx-267 that lies within the Project Site (see Figure 5). The purpose of the Stage 3 work is to assess the cultural heritage value or interest of the archaeological site to determine whether it has been sufficiently documented or if further measures are required to protect or document the site fully. The Stage 3 AA will be conducted to define the site extent, gather a representative sample of artifacts and aid in the determination of whether further studies are required (i.e., Stage 4, development of mitigation strategy). The Stage 3 AA will establish a site datum at the center of the site (or the centers of any localities or concentrations identified from the Stage 2 AA previously completed for the site by others and reviewed as part of the Draft Stage 1 AA circulated to your Nation), followed by excavation completed in small sections, called “test units”. A thorough photographic record of on-site investigations will be maintained. The findings of the report, including documentation of the methodology and results of excavation and laboratory analysis,

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together with an artifact inventory, all necessary cartographic and photographic documentation will be prepared in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries licensing requirements.

Noise and Vibration Summary

A noise and vibration assessment will be completed to identify current noise and vibrational conditions encountered at four representative sensitive receptors within a 500 m radius to Heritage Road Layover. These four representative sensitive receptors were considered to be the potential "worst case" receptors that are currently known in the area for noise and vibration impacts. The study will identify current conditions to confirm baseline conditions used as part of the noise and vibrational modelling in the technical studies. In this assessment, the work will include:

- Set-up of equipment on site for the duration of up to five weeks to gather a total of 1 month's data (no data can be gathered during heavy precipitation events).
    - Equipment will be comprised of:
        1. One sound level meter enclosed in an environmental case with a tripod assembly outside at each location (Full duration).
        2. One vibration monitor, a geophone will be attached to this which will be inserted into the ground outside at each location (Installed for a single day within the monitoring period).
- The sound level meter will be kept on each property and the technical advisor (Wood) will access the Property once every week for checkup and equipment maintenance.
- The vibration monitor will be kept at each location for 8 hours (one day). The vibration monitor will be placed at the property of interest and then leave it for 8hrs and then come back to remove, no checkups in between.

Phase II ESA Summary

Subsurface drilling will be completed within the Heritage Road Layover footprint to evaluate the potential environmental contamination in soil and/or groundwater, per areas of potential environmental concern outlined in the draft Phase I Environmental Site Assessment (ESA) (desktop study) that was circulated as part of the Environmental Project Report (April 5, 2022). Concurrently with the Phase II ESA activities, geotechnical samples will be collected to identify subsurface conditions, such as soil characteristics, which will inform the design of Heritage Road Layover.

Engagement

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Regardless of whether or not your Nation participates in the fieldwork, Metrolinx will inform you of discovery and preservation of Indigenous artifacts and sacred burial grounds.

If your Nation wishes to participate in the upcoming field studies, you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact the undersigned at IndigenousRelations@metrolinx.com.

Yours Truly,



Jaimi O'Hara
Senior Manager, Indigenous Relations Office
Metrolinx

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1. Thank you for your time in reviewing these assessments.

cc: Indigenous Relations Office, Metrolinx
Environmental Programs and Assessment Indigenous Relations Team, Metrolinx
Simon Strauss, Manger, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment Metrolinx

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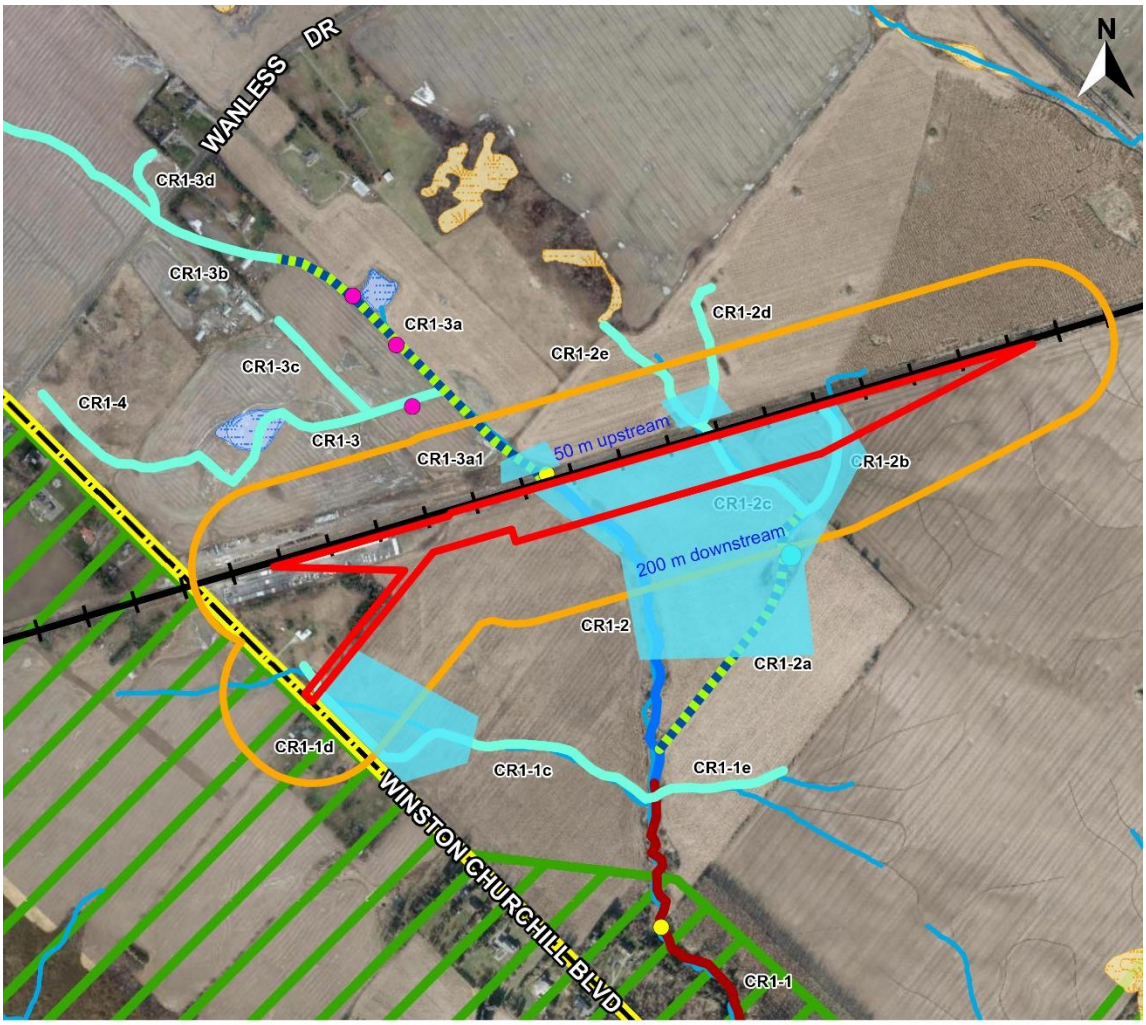

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Approximate Aquatic Field Work Location

Figure 2. Natural Environment terrestrial and aquatic survey study areas.

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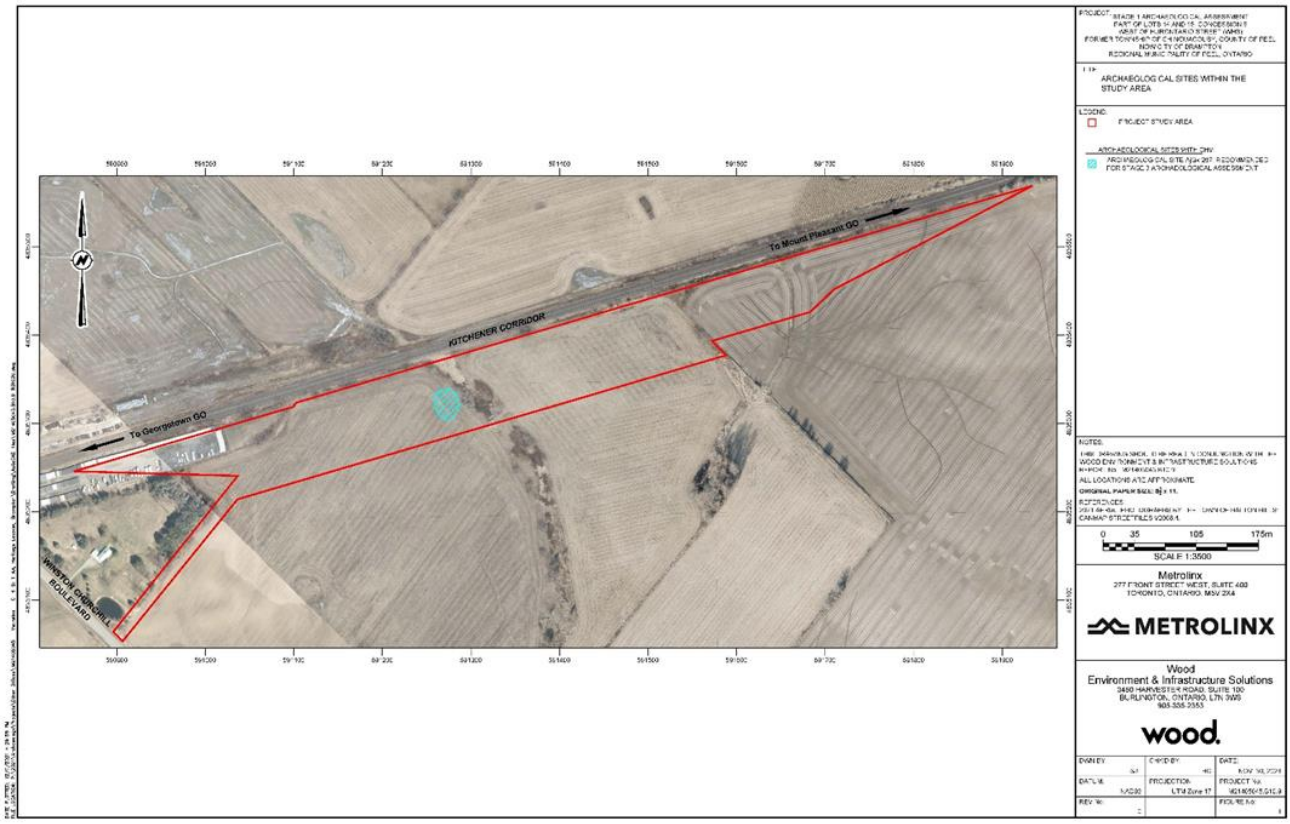

Figure 3. Stage 3 AA study area.

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Figure 4. Noise and Vibration 500 m Study area.

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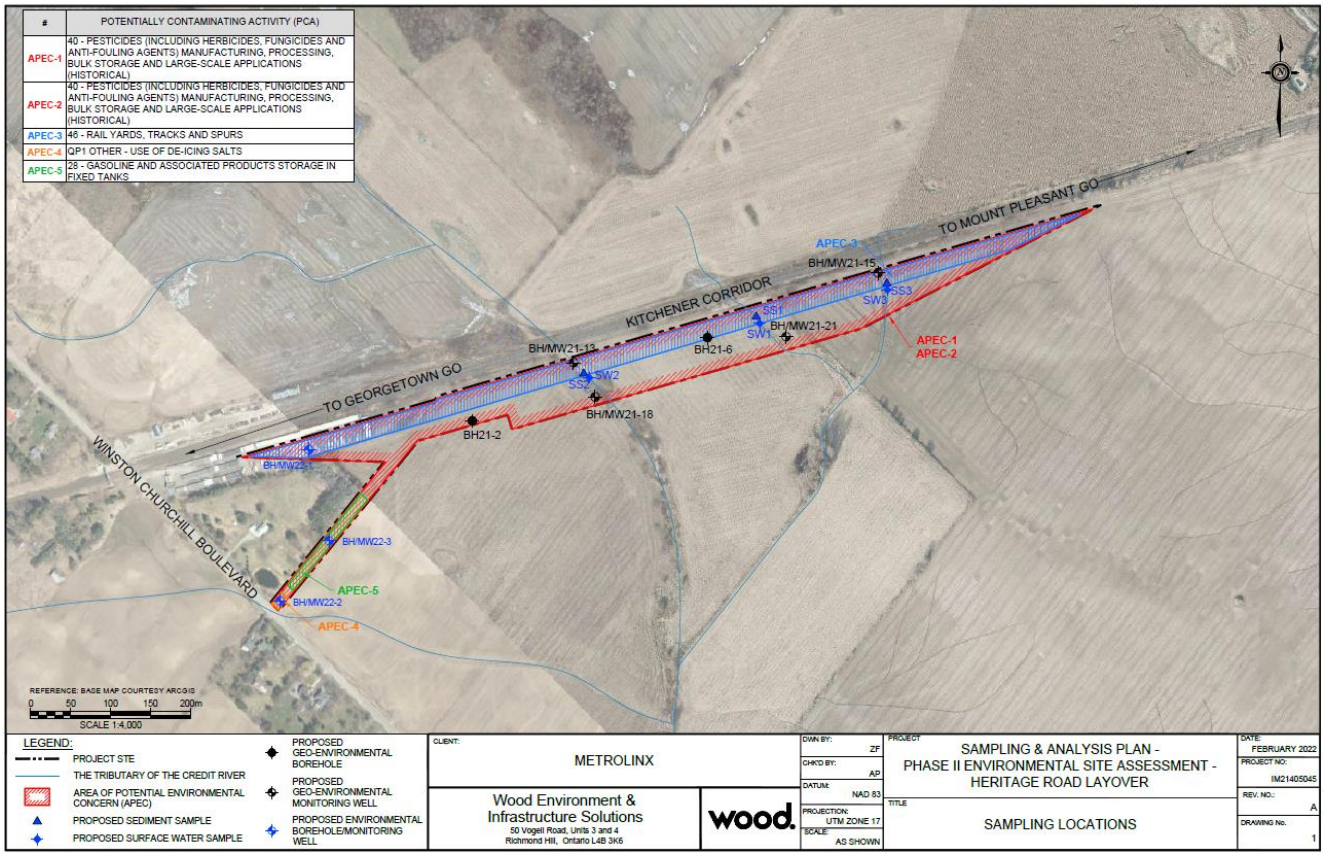

Figure 5. Phase II ESA study are and sampling locations.

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From: Indigenous Relations
To: Aaron Detlor
Cc: [redacted]
Subject: RE: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date: May 31, 2022 1:58:00 PM
Attachments: image002.png
image003.png

Dear Mr. Detlor,

We are following up regarding the previous email regarding the Heritage Road Layover Project, natural environment fieldwork occurring on June 9th/10th within the Metrolinx rail corridor.

If you would like to participate in fieldwork monitoring, could you let us know as soon as possible and we will coordinate your involvement.

Thanks,
Christine

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 416.312.2747

From: Janice Williams [redacted]
Sent: June-15-22 7:07 PM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Aaron Detlor [redacted] Jake Linklater [redacted] Todd Williams [redacted] Tracey General [redacted] Sharann Martin [redacted] Owen Greene [redacted]; Brian Doolittle [redacted] EPA.IR <EPA.IR@metrolinx.com>; Simon Strauss [redacted] Clara Chan <[redacted]
Subject: Fwd: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

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Sge:no/Hello Jaima O'Hara,

Thank you for notifying HDI on the invitation to participate in the fieldwork. [redacted] HDI will begin sending monitors in the field to ensure our Haudenosaunee rights are not being infringed. However, this does not mean HDI constitutes consent or agreement to the project. Again we are only sending our monitors out to provide quality assurance and due diligence.

HDI Environmental and Archaeology programs would like to have monitors present for this project between now and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork

    - Phase II ESA (June 13th – June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

My colleague Sharann Martin will follow up with you on the stage 3 Archaeological Assessment and I will follow-up on the Natural Environmental Fieldwork.

Nya:weh/Thanks,

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
[redacted]

The content of this email is confidential and intended for the recipient specified in message only. It is strictly forbidden to share any part of this message with any third party, without a written consent of the sender. If you received this message by mistake, please reply to this message and follow with its deletion, so that we can ensure such a mistake does not occur in the future.

---------- Forwarded message ---------
From: **Tracey General** [redacted]
Date: Fri, May 20, 2022 at 8:56 AM
Subject: Fwd: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
To: [redacted] Janice Williams [redacted] Kahsenniyo Williams [redacted]

---------- Forwarded message ---------
From: **Indigenous Relations** <IndigenousRelations@metrolinx.com>
Date: Thu, May 19, 2022 at 4:49 PM
Subject: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
To: Aaron Detlor [redacted]
Cc: [redacted] EPA.IR <EPA.IR@metrolinx.com>, Simon Strauss <Simon.Strauss@metrolinx.com>, Clara Chan <Clara.Chan@metrolinx.com>

Dear Mr. Detlor,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
    - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
    - Significant Wildlife Habitat and SAR Habitat Assessment (June 9th – 10th)*
    - Tree Inventory (June 9th – 10th)*
    - Phase II ESA (June 13th – June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement.

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

[redacted]

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

Personal Track Safety Training:

- Metrolinx Personal Track Safety (PTS) training, organized by Metrolinx's Safety Division, is currently only offered in a virtual setting and includes a test at the completion of the training. It is a full day in length. The training is available at https://www.metrolinx.com/en/projectsandprograms/constructionanddevelopment/personal-track-safety-program.aspx.
- [redacted]
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

Site Visitor Permit:
The SVP can be found attached and includes the following requirements:

1. Name and signature(s) of the fieldwork visitor(s) who will be participating in monitoring
2. If you are choosing to use the SVP method, the form is required by May 26, 2022 to secure access to the rail corridor.

Personal Protection Equipment:
There are specific PPE requirements for entering the rail corridor. The required PPE includes;

a. Basic PPE including;

    a. CSA Type 2 Hard Hat with foam insert (bump caps)
    b. High visibility reflective vest

c. CSA approved eye protection
d. CSA approved 6" laced safety shoes
e. Appropriate clothing for weather conditions

b. In addition to the basic PPE listed above, Class 3 PPE is required including:

a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
b. Must be CSA approved colours (orange, fluorescent yellow)

[redacted]

This e-mail is intended only for the person or entity to which it is addressed. If you received this in error, please contact the sender and delete all copies of the e-mail together with any attachments.

From: Clara Chan
To: Sharann Martin; Popkin, Peter
Cc: Todd Williams; Owen Greene; Jake Linklater; Indigenous Relations
Subject: RE: Heritage Road Layover - Metrolinx
Date: July 15, 2022 3:35:28 PM

Good afternoon Sharann,

Very nice to meet you, Sharann! I'm the Environmental Project Manager on the file from Metrolinx. Unfortunately, Wood's archaeologist will be unavailable for a meeting today. Peter will be available on Monday, July 18 any time between 12:00 and 2:00 pm if that works. Otherwise, if you can propose an alternative time, that would be much appreciated.

In advance of our chat, the dropbox link: [redacted] includes the Stage 1 AA completed for Metrolinx as part of project, and other reports previously completed by others as part of due diligence that Metrolinx has on file.

Please let me know if you have any questions or concerns, or issues opening up the provided dropbox link.

Thank you,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
[redacted]

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

METROLINX

From: Sharann Martin [redacted]
Sent: July-14-22 5:09 PM
To: Popkin, Peter <peter.popkin@woodplc.com>
Cc: Todd Williams [redacted] Owen Greene [redacted]; Jake Linklater [redacted]; Clara Chan [redacted]
Subject: Heritage Road Layover - Metrolinx

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Good afternoon Peter,

I hope this email finds you well.
We've recently [redacted] it is my understanding that you are the Project Manager for the archaeological component.
Would we be able to have a chat tomorrow sometime so that I can get an overview of this particular project, previous work done, and the future scope of work?
I see that the Stage 3 assessment at Heritage Road and Winston Churchill Boulevard in Brampton is expected to commence soon (July 25-26). We will need deployment information for this, as well as the previous Stage 1-2 report and any other information that you may have.

I look forward to hearing from you soon.

Thank you,

Sharann Martin
Archaeology Logistics Coordinator
Haudenosaunee Development Institute
[redacted]

From: Indigenous Relations
Sent: August 3, 2022 10:49 AM
To: Janice Williams [redacted]
Cc: Felker, Bob [redacted]; Jake Linklater [redacted]>; Clara Chan [redacted]; Brian Poole [redacted]; Todd Williams [redacted] Bhardwaj, Anmol [redacted]>
Subject: RE: Metrolinx Heritage Road Layover: Environmental Field Work

Hi Raechelle,

I hope all is well. The project team for the Heritage Road Layover has asked me to pass along the following information regarding the Phase II ESA – Groundwater Sampling fieldwork, as provided by our Consultant. At this time, the equipment needed for the Noise and Vibration monitoring has not yet been delivered, so the start date for this work has not been confirmed. Once we have a better idea of the anticipated start date for the Noise and Vibration monitoring we will update you asap.

Heritage Road Layover Project

Start Date: Thursday August 4th - 5th 2022 (please note that there are thunderstorms predicted for Wednesday evening and into Thursday morning, and will be monitored if needed to postpone)
Duration: 2 Days, 8:00am – 4:00pm

Start Time: 8:00 am Thursday August 4th
Meeting Location Address: 10510 Heritage Road, City of Brampton. The site access is through an old driveway on the west side of Heritage Road located across the street (roughly) from 10525 Heritage Road. There is a lock on the access gate but Wood staff have a key – see screenshot below.
Required PPE: Hard hat, safety glasses, protective gloves, high visibility vest, and safety boots. Sun screen and face mask recommended (for if social distancing cannot be adhered to).

Contact Info – Phase II ESA/Geotechnical	Metrolinx Contact Info for Thursday
Consultant: Wood Field Director: Ryan Phillips Cell Phone: [redacted]	Clara Chan, Environmental PM Cell Phone: [redacted] (if cannot reach, please contact Dara at ([redacted] – Clara may be driving)
Contact Info – Environmental Planner (Thursday)	
Consultant: Wood	

Field Director: Bob Felker Cell Phone: [redacted]	

Phase II ESA/Geotechnical Assessment: Drilling and soil sampling has been completed already, with groundwater sampling planned for August 4-5, 2022 based on the recovery observed in the field, for groundwater sampling and the rising/falling head tests.

COVID-19 Prevention Policy: Please see attached pdfs for distribution to everyone who will be attending site.

Finally if you wish to review the desktop studies prior to tomorrow, I've included the link here for ease of reference:
[redacted]

Thank you,
Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Senior Advisor, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
[redacted]

From: Janice Williams [redacted]>
Sent: July 21, 2022 5:29 PM
To: Clara Chan [redacted]
Cc: Felker, Bob [redacted]; Jake Linklater [redacted]; Todd Williams [redacted] Indigenous Relations <IndigenousRelations@metrolinx.com>; Bhardwaj, Anmol [redacted]
Subject: Re: Metrolinx Heritage Road Layover: Environmental Field Work

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Hello Clara,

Sadly I am already scheduled for a meeting on Tuesday July 26th at that time. Could we meet Thursday July 28th?

Kind regards,

Raechelle Williams

HDI Environmental Supervisor
Haudenosaunee Development Institute
[redacted]

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On Thu, Jul 21, 2022 at 11:21 AM Clara Chan <[redacted] wrote:

> Hi Janice,
>
> Would it be possible to virtually meet on Tuesday at 2:30 pm?
>
> I will be on site for the Stage 3 archaeology at Heritage Road on Monday.
>
> Thanks,
> Clara
>
> ---
>
> **From:** Janice Williams [redacted]
> **Sent:** Thursday, July 21, 2022 4:58:10 PM
> **To:** Clara Chan [redacted]
> **Cc:** Felker, Bob [redacted] Jake Linklater [redacted]com>; Todd Williams [redacted] Indigenous Relations <IndigenousRelations@metrolinx.com>; Bhardwaj, Anmol [redacted]
> **Subject:** Re: Metrolinx Heritage Road Layover: Environmental Field Work
>
> EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
> EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.
>
> Sge:no/Hello Clara,
>
> I was wondering if we could meet virtually on Monday and talk more about the project. I am available any time that is convenient for you on Monday.
>
> Nya:weh/Thanks,
>
> Raechelle Williams
> HDI Environmental Supervisor
> Haudenosaunee Development Institute
> [redacted]

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On Tue, Jul 19, 2022 at 12:55 PM Clara Chan <[redacted] wrote:

> Hi Raechelle,
>
> We received an update from our environmental/geotechnical team regarding the scheduled field activities, including the noise and vibration response that Anmol from Wood sent. The team has wrapped up soil drilling, and due to slower groundwater recovery observed in the field, they will wait until the week of August 1 before they complete their groundwater sampling and rising/falling head tests.
>
> For the proposed noise and vibration activities, we are still confirming Permit to Enter (PTE) access for two of the addresses, negotiation are still on-going. I hope to provide you with further details when they become available.
>
> We will send you an email in the near future to provide you with both of the above noted field studies.
>
> Please let us know if you have any questions or concerns in advance of this.
>
> Kind regards,
>
> Clara
>
> Clara Chan
>
> Project Manager, Environmental Programs & Assessment
>
> Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
>
> [redacted]
>
> [redacted]

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.



From: Janice Williams [redacted]>
Sent: July-19-22 5:20 PM
To: Clara Chan [redacted]
Cc: Felker, Bob [redacted]; Jake Linklater [redacted]; Todd Williams [redacted]; Indigenous Relations <IndigenousRelations@metrolinx.com>
Subject: Re: Metrolinx Heritage Road Layover: Environmental Field Work

You don't often get email from [redacted] Learn why this is important

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Sge:no/Hello Clara,

I am just following up on the status of work so I can arrange to have my monitors present.

Nya:weh/Thanks,

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
[redacted]



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On Mon, Jul 18, 2022 at 10:47 AM Janice Williams [redacted] > wrote:

> Morning Clara,
>
> Nya:weh/Thanks, for responding back to my email and I look forward to working along with you.
>
> My monitors have completed their PTS Training and are ready to attend the project areas.
>
> Nya:weh/Thanks,

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
[redacted]



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On Mon, Jul 18, 2022 at 7:40 AM Clara Chan [redacted] > wrote:

> Sge:no/Hello Raechelle,
>
> It's a pleasure meeting you. I am the Environmental Project Manager for the Heritage Road Layover file. I'll connect with the Wood project team and let you

know the date, time, and location so we can arrange for your monitors to observe activities on Site.

Would your team require a site visitor permit, or have they undergone PTS training?

Let me know if there is anything else I can be of assistance.

Kind regards,

Clara

Clara Chan

Project Manager, Environmental Programs & Assessment

Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3

T: 416-202-793| C: 647-262-8958

E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

From: Janice Williams [redacted]
Sent: July-18-22 1:27 PM
To: Felker, Bob [redacted]>
Cc: Clara Chan <Clara.Chan@metrolinx.com>; Jake Linklater [redacted]>; Todd Williams [redacted]>
Subject: Metrolinx Heritage Road Layover: Environmental Field Work

You don't often get email from [redacted]. Learn why this is important

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Sge:no/Hello Bob,

My name is Raechelle Williams, and I am Haudenosaunee Development Institute (HDI) Environmental Supervisor. I have received an email regarding Metrolinx projects on the Heritage Road Layover. I want to follow-up on when you will be out on site again for the Geotechnical Field Studies. I want to arrange a schedule to have a monitor from HDI Environmental team. I understand this work is anticipated from July 11-29, 2022, between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel. Within Project Site.

Again, can you please let me know the date, time, and location on when your team will be in the field. That way I will make sure to have a monitor present.

Nya:weh/Thanks,

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
[redacted]

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From: Clara Chan
To: Sharann Martin
Cc: [redacted] Felker, Bob; Brian Poole; Dara Corrigan
Subject: Stage 3 Archaeology Activities CANCELLED for Thursday, August 4
Date: August 3, 2022 8:04:02 PM
Attachments: image001.jpg
Importance: High

Good evening Sharann,

Sorry for the very late message. I'm not sure if our Consultant reached out to HDI directly, but I just wanted to follow up to say that due to anticipated severe weather tomorrow, Wood had cancelled activities for tomorrow. Work will resume as per usual timing for Friday, August 5.

If you can respond to confirm receipt of this message, it would be greatly appreciated.

Kind regards,
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

From:	Indigenous Relations
To:	Dara Corrigan
Subject:	FW: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date:	May 19, 2022 4:43:22 PM
Attachments:	image001.png Heritage Road Layover- Invitation for Participation in 2022 Fieldwork_HWN.pdf

---

From: Indigenous Relations
Sent: May-19-22 4:41 PM
To: Dominic Ste-Marie [redacted]; 'Marie-Sophie Gendron' [redacted]
Cc: Lori-Jeanne Bolduc [redacted]; Isabelle Lechasseur [redacted] Jean-Francois Richard [redacted] EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

Dear Dominic and Marie-Sophie,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
    - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
    - Significant Wildlife Habitat and SAR Habitat Assessment (June 9th – 10th)*
    - Tree Inventory (June 9th – 10th)*
    - Phase II ESA (June 13th – June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement. [redacted]

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and

require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

Personal Track Safety Training:

- Metrolinx Personal Track Safety (PTS) training, organized by Metrolinx's Safety Division, is currently only offered in a virtual setting and includes a test at the completion of the training. It is a full day in length. The training is available at https://www.metrolinx.com/en/projectsandprograms/constructionanddevelopment/personal-track-safety-program.aspx.
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

Site Visitor Permit:
The SVP can be found attached and includes the following requirements:

1. Name and signature(s) of the fieldwork visitor(s) who will be participating in monitoring

2. If you are choosing to use the SVP method, the form is required by May 26, 2022 to secure access to the rail corridor.

<u>Personal Protection Equipment:</u>

There are specific PPE requirements for entering the rail corridor. The required PPE includes;

a. Basic PPE including;
    a. CSA Type 2 Hard Hat with foam insert (bump caps)
    b. High visibility reflective vest
    c. CSA approved eye protection
    d. CSA approved 6" laced safety shoes
    e. Appropriate clothing for weather conditions
b. In addition to the basic PPE listed above, Class 3 PPE is required including:
    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)

METROLINX

May 19, 2022

Grand Chief Rémy Vincent
Huron-Wendat Nation
[redacted]
[redacted]
Delivered by email

Dear Grand Chief Vincent,

RE: Heritage Road Layover – Summer 2022 TPAP Field Studies

Metrolinx and its consultant, *Wood,* will be undertaking fields studies associated with the Heritage Road Layover as part of the Transit Project Assessment Process (TPAP). The field studies will take place within the construction footprint between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel (Figure 1). The field studies are anticipated to be conducted between ***June 9 and August 12, 2022***.

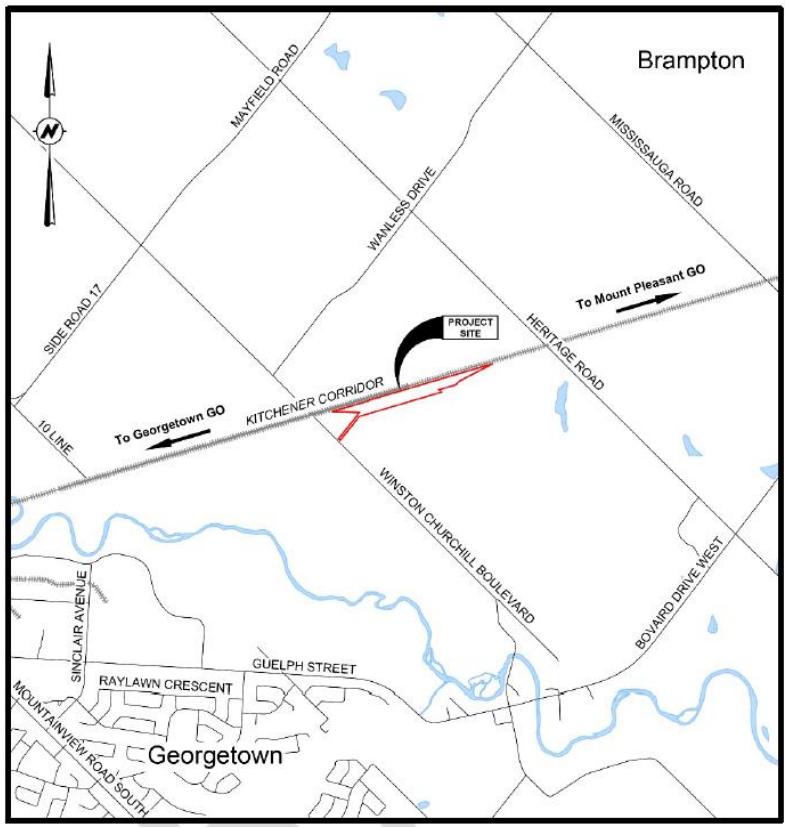

Figure 1. Project Location

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Please note draft technical studies previously circulated to your Nation, as outlined below, were limited to a desktop review. The planned field studies serve to confirm anticipated conditions based on the information gleaned from the draft technical studies. The previous relevant reports were shared with you as follows:

- Stage 1 Archaeological Assessment (AA) - February 8th, 2022
- 75% Environmental Project Report, including the draft Natural Environment and Noise and Vibration draft reports - April 5th, 2022

Invitation to Participate in Fieldwork

Metrolinx would like to confirm any interest the Huron-Wendat Nation may have in participating in the upcoming fieldwork. The field study, timelines and study area maps are outlined in the Table 1, below. Should your Nation wish to participate in any field investigations, please let us know by June 1, 2022. Upon receipt of your interest in participating, Metrolinx will work to coordinate your Nation's involvement. An overview of the different field activities is discussed in the sections below.

Table 1. Overview of planned field investigations for the Heritage Road Layover.

Field Study	**Anticipated Start Date***	**Anticipated End Date**	**Duration**	**Study Area**
Natural Environment-Confirmation Ecological Land Classification and Plant List Collection	June 9, 2022	June 10, 2022	2 days	See Figure 2
Natural Environment-Significant Wildlife Habitat and SAR Habitat Assessment	June 9, 2022	June 10, 2022	2 days	See Figure 2
Tree Inventory and Arborist	June 9, 2022	June 10, 2022	2 days	See Figure 2
Phase II Environmental Site Assessment (ESA)	June 13, 2022	June 28, 2022	5 days (June 13-15, 21 and 28)	See Figure 5
Natural Environment-Fish & Fish Habitat Assessment	July 4, 2022	--	1 day	See Figure 2

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Noise and Vibration-Baseline Monitoring	July 4, 2022	August 8, 2022	5 weeks (including weekends)	See Figure 4
Stage 3 Archaeological Assessment	July 25, 2022	August 12, 2022	11 days (scheduling 15 to account for weather)	See Figure 3

*****Subject to PTE Access and other scheduling requirements

Natural Environment Fieldwork and Tree Inventory Summary

The Natural Environment field study will involve an aquatic and terrestrial survey. A fish and fish habitat assessment will be performed upstream and downstream of the three watercourses crossing the Project study area (see Figure 2). A Confirmational Ecological Land Classification and Vascular Plant Survey, a non-invasive visual survey (no samples will be taken), will be completed within the 120 m study area (see Figure 2). During this study period, any incidental observations of any wildlife will also be recorded.

In addition to the studies supporting the natural environment technical report, a separate Tree Inventory will be completed, which will include a review (including size, health, and location) of all trees within 5 m of the project footprint that are greater than or equal to 10 cm DBH (diameter at breast height) and affixing a pre-numbered aluminum tag which will aid in documentation and follow-up work.

Stage 3 Archeological Assessment Summary

The previous Stage 2 Archaeological Assessment (Archeoworks, 2017) and the result of the Stage 1 AA, recommended that a Stage 3 site-specific assessment be completed for site AjGx-267 that lies within the Project Site (see Figure 5). The purpose of the Stage 3 work is to assess the cultural heritage value or interest of the archaeological site to determine whether it has been sufficiently documented or if further measures are required to protect or document the site fully. The Stage 3 AA will be conducted to define the site extent, gather a representative sample of artifacts and aid in the determination of whether further studies are required (i.e., Stage 4, development of mitigation strategy). The Stage 3 AA will establish a site datum at the center of the site (or the centers of any localities or concentrations identified from the Stage 2 AA previously completed for the site by others and reviewed as part of the Draft Stage 1 AA circulated to your Nation), followed by excavation completed in small sections, called “test units”. A thorough photographic record of on-site investigations will be maintained. The findings of the report, including documentation of the methodology and results of excavation and laboratory analysis,

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together with an artifact inventory, all necessary cartographic and photographic documentation will be prepared in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries licensing requirements.

Noise and Vibration Summary

A noise and vibration assessment will be completed to identify current noise and vibrational conditions encountered at four representative sensitive receptors within a 500 m radius to Heritage Road Layover. These four representative sensitive receptors were considered to be the potential "worst case" receptors that are currently known in the area for noise and vibration impacts. The study will identify current conditions to confirm baseline conditions used as part of the noise and vibrational modelling in the technical studies. In this assessment, the work will include:

- Set-up of equipment on site for the duration of up to five weeks to gather a total of 1 month's data (no data can be gathered during heavy precipitation events).
    - Equipment will be comprised of:
        1. One sound level meter enclosed in an environmental case with a tripod assembly outside at each location (Full duration).
        2. One vibration monitor, a geophone will be attached to this which will be inserted into the ground outside at each location (Installed for a single day within the monitoring period).
- The sound level meter will be kept on each property and the technical advisor (Wood) will access the Property once every week for checkup and equipment maintenance.
- The vibration monitor will be kept at each location for 8 hours (one day). The vibration monitor will be placed at the property of interest and then leave it for 8hrs and then come back to remove, no checkups in between.

Phase II ESA Summary

Subsurface drilling will be completed within the Heritage Road Layover footprint to evaluate the potential environmental contamination in soil and/or groundwater, per areas of potential environmental concern outlined in the draft Phase I Environmental Site Assessment (ESA) (desktop study) that was circulated as part of the Environmental Project Report (April 5, 2022). Concurrently with the Phase II ESA activities, geotechnical samples will be collected to identify subsurface conditions, such as soil characteristics, which will inform the design of Heritage Road Layover.

Engagement

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Regardless of whether or not your Nation participates in the fieldwork, Metrolinx will inform you of discovery and preservation of Indigenous artifacts and sacred burial grounds.

If your Nation wishes to participate in the upcoming field studies, you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact the undersigned at IndigenousRelations@metrolinx.com.

Yours Truly,



Jaimi O'Hara
Senior Manager, Indigenous Relations Office
Metrolinx

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1. Thank you for your time in reviewing these assessments.

cc: Lori-Jeanne Bolduc, Huron-Wendat Nation
Dominic Ste-Marie, Huron-Wendat Nation
Marie-Sophie Gendron, Huron-Wendat Nation
Isabelle Lechasseur, Huron-Wendat Nation
Jean-Francois Richard, Huron-Wendat Nation
Indigenous Relations Office, Metrolinx
Environmental Programs and Assessment Indigenous Relations Team, Metrolinx
Simon Strauss, Manger, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment Metrolinx

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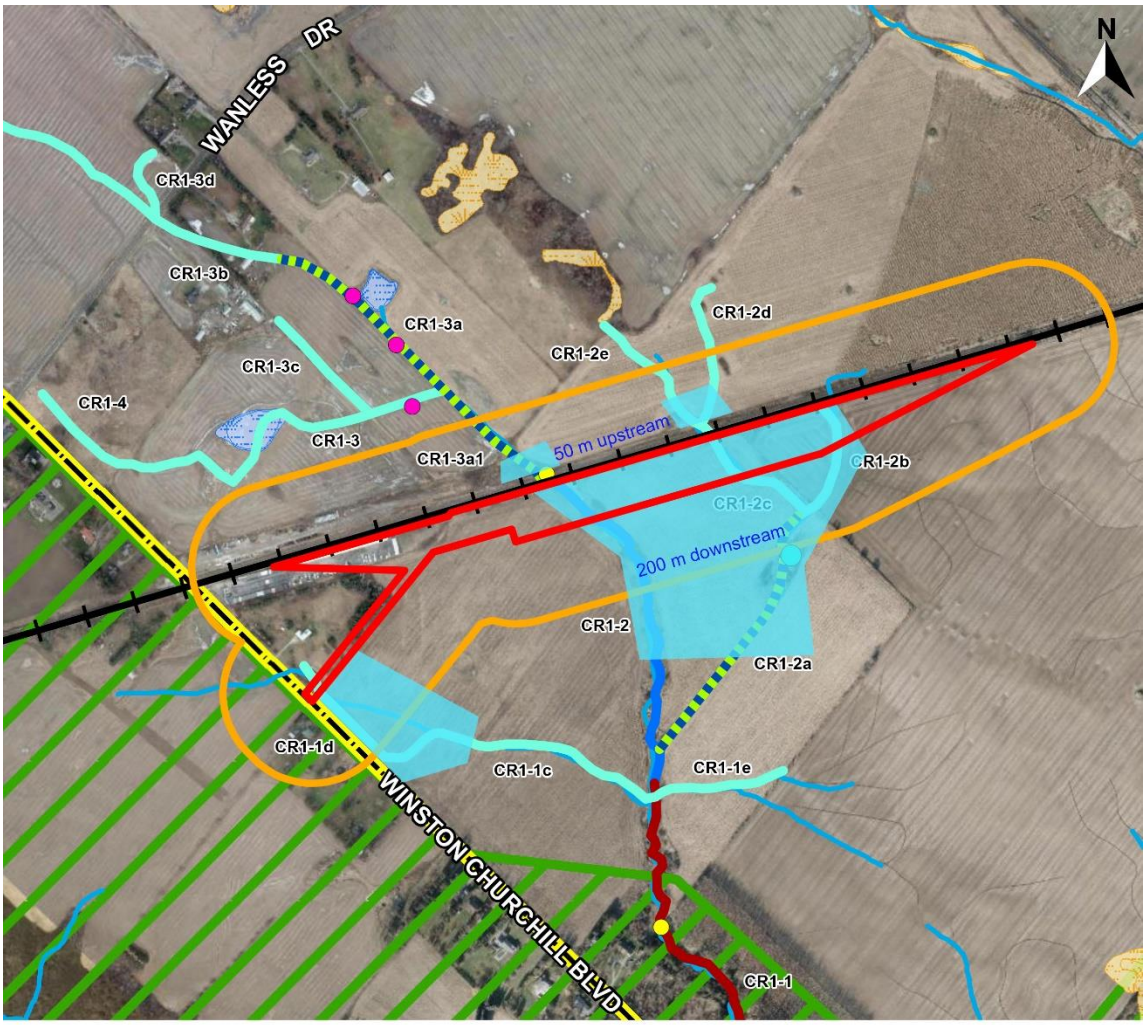

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
- Watercourse
- Dug Pond
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Approximate Aquatic Field Work Location

Figure 2. Natural Environment terrestrial and aquatic survey study areas.

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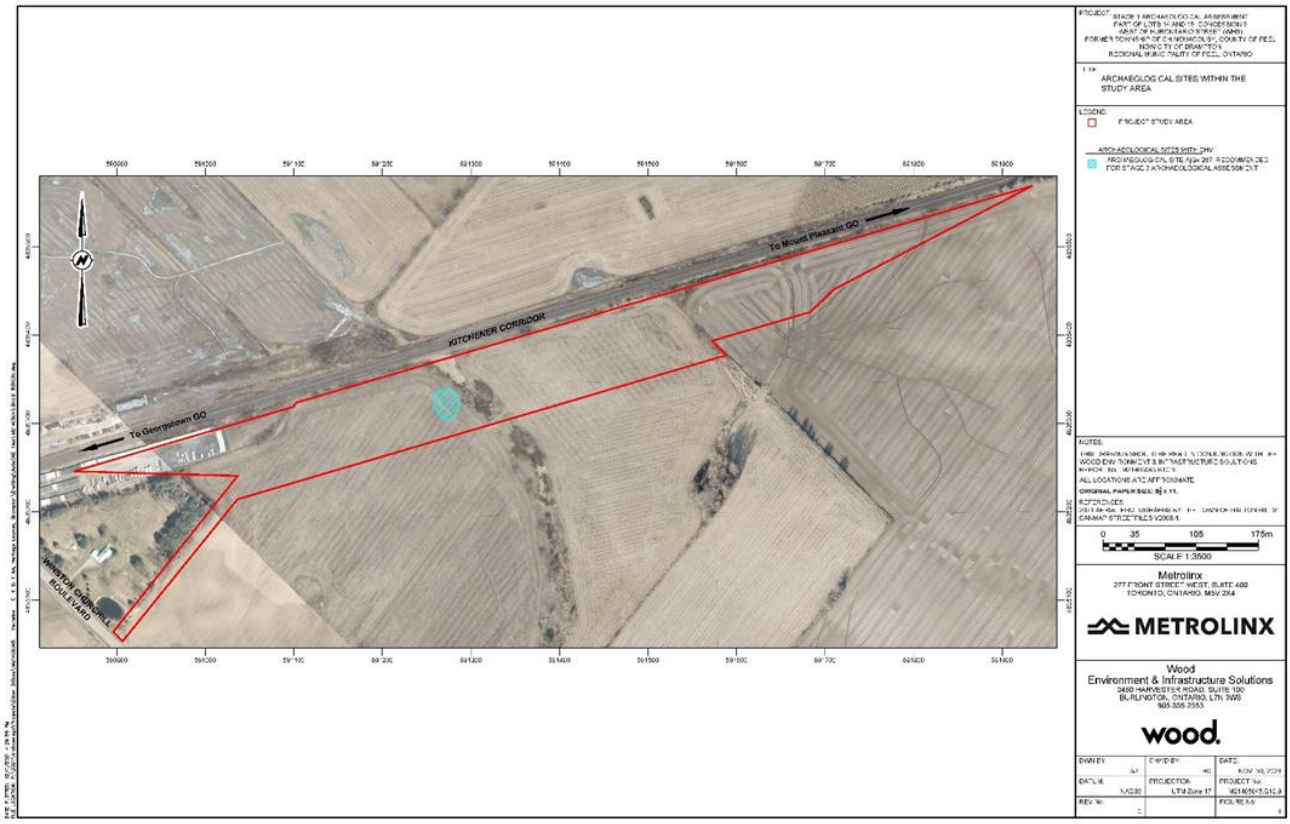

Figure 3. Stage 3 AA study area.

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Figure 4. Noise and Vibration 500 m Study area.

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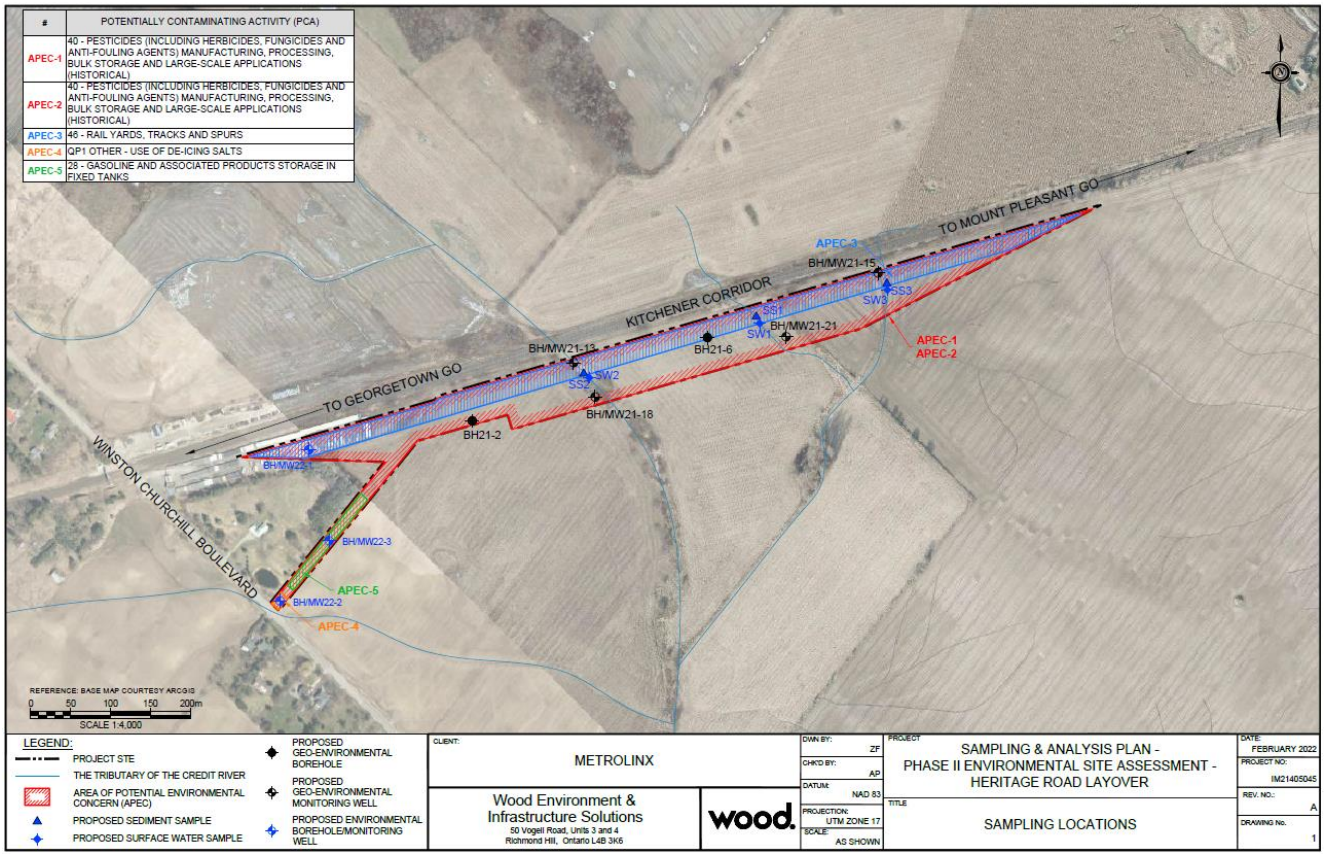

Figure 5. Phase II ESA study are and sampling locations.

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From: Indigenous Relations
Sent: June 23, 2022 10:58 AM
To: Dominic Ste-Marie <[redacted]
Cc: Marie-Sophie Gendron [redacted]
Subject: FW: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

Hi Dominic,

Thank you for meeting with us this morning, it was great to see you. As mentioned please find the fieldwork invite we discussed. If you need anything else please reach out.

Regards,
Christine

From: Indigenous Relations
Sent: May 19, 2022 4:41 PM
To: Dominic Ste-Marie [redacted] Marie-Sophie Gendron [redacted]
Cc: Lori-Jeanne Bolduc <[redacted] Isabelle Lechasseur [redacted]; Jean-Francois Richard <[redacted]; [redacted]; EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

Dear Dominic and Marie-Sophie,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork

activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
    - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
    - Significant Wildlife Habitat and SAR Habitat Assessment (June 9th – 10th)*
    - Tree Inventory (June 9th – 10th)*
    - Phase II ESA (June 13th – June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement.[redacted]

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

Personal Track Safety Training:

- Metrolinx Personal Track Safety (PTS) training, organized by Metrolinx's Safety Division, is currently only offered in a virtual setting and includes a test at the completion of the training. It is a full day in length. The training is available at https://www.metrolinx.com/en/projectsandprograms/constructionanddevelopment/personal-track-safety-program.aspx.
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

Site Visitor Permit:

The SVP can be found attached and includes the following requirements:

1. Name and signature(s) of the fieldwork visitor(s) who will be participating in monitoring
2. If you are choosing to use the SVP method, the form is required by May 26, 2022 to secure access to the rail corridor.

Personal Protection Equipment:

There are specific PPE requirements for entering the rail corridor. The required PPE includes;

a. Basic PPE including;
    a. CSA Type 2 Hard Hat with foam insert (bump caps)
    b. High visibility reflective vest
    c. CSA approved eye protection
    d. CSA approved 6" laced safety shoes
    e. Appropriate clothing for weather conditions
b. In addition to the basic PPE listed above, Class 3 PPE is required including:
    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)

From: Clara Chan
To: Marie-Sophie Gendron; Indigenous Relat ons
Cc: Jean-Franco s Richard; Isabelle Lechasseur; Dom nic Ste-Marie; Dara Corr gan; jordan.downey@woodp c.com; peter.popkin@woodplc.com; bob.felker@woodplc.com; EPA.IR; A exandra Clarke; Talha Asif; Ionico Daniel (Archaeolog cal F eld Technician)
Subject: RE: Heritage Road Layover: Archaeology and Natural Environment Fie dwork Invitation to Participate
Date: July 29 2022 2:42:16 PM
Attachments: image003.jpg
image009.png
image010.jpg
image011.jpg
image012.png
image013 ng
image001.jpg

Hi Marie-Sophie

Thank you for confirming. I have been advised by our Consultant (Wood) that they will be meeting at 7 am at the location outlined in the push-pin in the figure below.

At this time it has not been identified that we will be encroaching the rail corridor so only standard PPE is required. If there are any anticipated requirements to expand the archaeological extent and enter into the rail corridor protected area we will let you know.

a) Basic PPE including;
a. CSA Type 2 Hard Hat with foam insert (bump caps)
b. High visibility reflective vest
c. CSA approved eye protection
d. CSA approved 6" laced safety shoes
e. Appropriate clothing for weather conditions

If there are any questions or concerns please do not hesitate to let us know.

Kind regards
Clara

Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

I sometimes send emails outside of working hours. Please do not feel obligated to respond outside of your working hours.

From: Marie-Sophie Gendron [redacted]
Sent: July-29-22 12 06 PM
To: Clara Chan <Clara.Chan@metrolinx.com>; Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Jean-Francois Richard [redacted]; Isabelle Lechasseur [redacted] Dominic Ste-Marie [redacted]; Dara Corrigan [redacted]; [redacted] EPA.IR <EPA.IR@metrolinx.com>; Alexandra Clarke <Alexandra.Clarke@metrolinx.com>; Talha Asif [redacted]; Ionico Daniel (Archaeological Field Technician) [redacted]
Subject: RE Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

You don't often get email from marie-sophie gendron@wendake ca. Learn why this is important

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Good morning Clara

Our field representative Jean-Louis Vincent Savard [redacted] should be joining the team on Tuesday Aug. 2nd

Tiawenhk inenh chia entïio !
Marie-Sophie

De : Clara Chan <Clara.Chan@metrolinx.com>
Envoyé : 28 juillet 2022 16 12
À : Marie-Sophie Gendron [redacted]; Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc : Jean-Francois Richard [redacted] Isabelle Lechasseur [redacted] Dominic Ste-Marie [redacted] >; Dara Corrigan [redacted]; [redacted] EPA.IR <EPA.IR@metrolinx.com>; Alexandra Clarke <Alexandra.Clarke@metrolinx.com>; Talha Asif [redacted] Ionico Daniel (Archaeological Field Technician) [redacted]
Objet : RE Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

Hi Marie-Sophie

Hope this email finds you well! Apologies for not reaching out to you earlier. I m the environmental project manager from Metrolinx that is overseeing the activities for Heritage Road Layover.
The project details for the archaeology studies are outlined below. If you can advise when your team will be present for the Work we can confirm with the field director when they plan on starting for the day of Huron-Wendat Nation s arrival.

Please let us know if you have any questions and we can arrange to have a quick briefing to discuss the project.

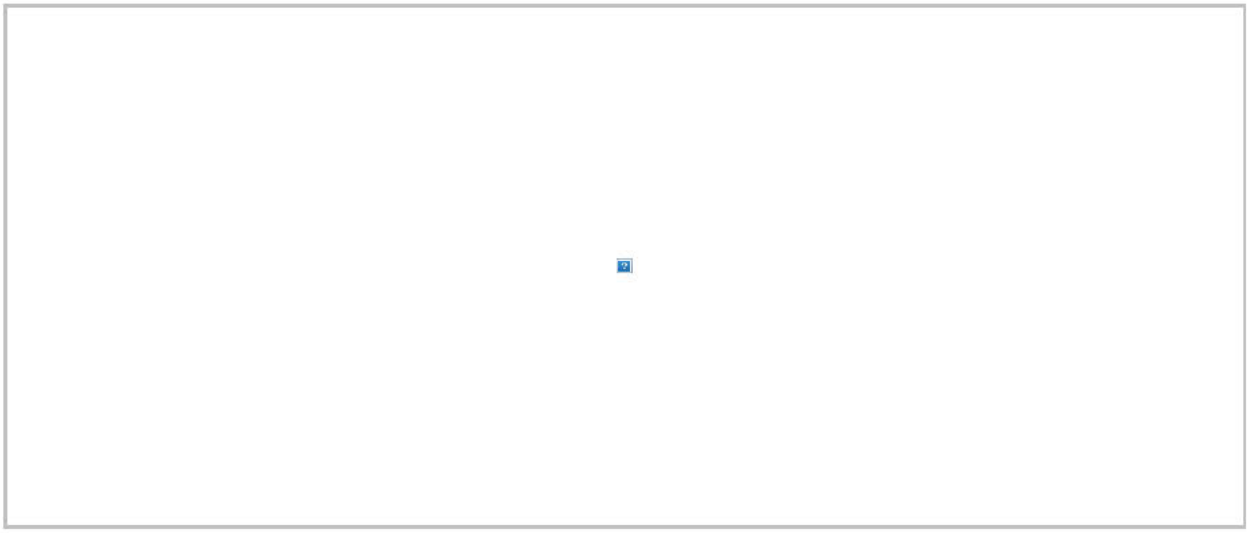
Thanks
Clara

Heritage Road Layover Project
Start Date Monday 25 July 2022
Duration three weeks
Start Time 7/8 am (to be confirmed by the field director with the team at the end of each day)
Meeting Location Address 10510 Heritage Road City of Brampton. The site access is through an old driveway on the west side of Heritage Road located across the street (roughly) from 10525 Heritage Road.

There is a lock on the access gate but Wood staff have a key – see screenshot below.
Required PPE Hard hat safety glasses protective gloves high visibility vest and safety boots. Sun screen and face mask recommended (for if social distancing cannot be adhered to).

Primary Contact Info (Archaeology Field Director)	Acting Archaeology Field Director (for Friday July 29)
Consultant Wood	Consultant Wood
Field Director Jordan Downey (P308)	Field Director Daniel A. Ionico
Cell Phone Jordan Downey [redacted]	Cell Phone [redacted]

Assessment Stage 3 Archaeological Assessment – Unit Excavation. CSP was completed during the Stage 2 AA so is not required at the start of the Stage 3
Borden Number AjGx-267 – Heritage Layover H1 Site
Site Description Scatter of Euro-Canadian artifacts (n 31) dating to the mid 19th century (approximately 30 m x 35 m)
Size of Field Crew Two Wood archaeologists will mobilize on Monday 25 July to orient themselves to the site and to lay in the Stage 3 grid. A crew of 4-5 Wood archaeologists will mobilize to site Tuesday 26 of July and for the remainder of the excavation.
COVID-19 Prevention Policy Please see attached pdfs for distribution to everyone who will be attending site.



Clara Chan
Project Manager, Environmental Programs & Assessment
Metrolinx | 10 Bay Street | Toronto | Ontario | M5J 2W3
T: 416-202-7931 C: 647-262-8958
E: Clara.Chan@metrolinx.com

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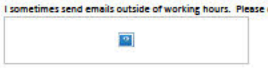

From: Marie-Sophie Gendron <Marie-Sophie.Gendron@wendake.ca>
Sent: July-28-22 4 03 PM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Jean-Francois Richard [redacted] sabelle Lechasseur [redacted] Dominic Ste-Marie [redacted] ; Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigar [redacted]
Subject: RE Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

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Good afternoon Marilyn

I asked Jean-Louis to complete the visitor pass since we did not have the time yet to have him do the Personal Track Safety Training. I should be able to send it to you tomorrow morning.

In the meantime I did not receive any details from the consultant about the project is it normal?

Tiawenhk inenh!
Marie-Sophie



De : Indigenous Relations <IndigenousRelations@metrolinx.com>
Envoyé : 27 juillet 2022 15 52
À : Marie-Sophie Gendron <Marie-Sophie.Gendron@wendake.ca>
Cc : Jean-Francois Richard [redacted] Isabelle Lechasseur [redacted] Dominic Ste-Marie [redacted] Clara Chan <Clara.Chan@metrolinx.com>; Dara Corrigan [redacted]
Objet : RE Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

Hi Marie-Sophie

Thank you for the email! Yes the work will continue until August 5.
I have let the project team know of your interest. The project s consultant will be reaching out to coordinate.
Have any of your monitors been able to complete the Personal Track Safety Training?

Thank you!
Marilyn

From: Marie-Sophie Gendron [redacted]
Sent: July 27 2022 10 38 AM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>
Cc: Jean-Francois Richard [redacted] Isabelle Lechasseur [redacted] Dominic Ste-Marie [redacted]
Subject: RE Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

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Good morning Marilyn

I hope this email finds you doing well. I am sorry for my late response on this matter. Do you know if the fieldwork will continue next week? I think it was estimated to take 11 days for the Stage 3 correct me if I am wrong. If so we will be able to send a field representative next week! I would be able to confirm the name and contact information of our field representative tomorrow!

Tiawenhk inenh chia entïio !
Marie-Sophie

De : Indigenous Relations <IndigenousRelations@metrolinx.com>
Envoyé : 14 juillet 2022 16 16
À : Dominic Ste-Marie [redacted]
Cc : Marie-Sophie Gendron [redacted]
Objet : RE Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

Hi Dominic and Marie-Sophie

I hope you re both doing well. I wanted to follow up with you about whether you are interested in participating in the Stage 3 AA fieldwork listed below which will be taking place starting July 25. If you would like to participate please let me know and return the [redacted] nd SVP form (unless your monitor attending has taken the Personal Track Safety Training we discussed at our last meeting?).

Let me know if you have any questions.

Thank you!
Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Senior Advisor, Indigenous Relations
10 Bay Street, Su te 600 | Toronto | Ontario | M5J 2W3
C 437-688-5342

From: Indigenous Relations
Sent: June 23 2022 10 58 AM
To: Dominic Ste-Marie [redacted]
Cc: Marie-Sophie Gendron [redacted]
Subject: FW Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

Hi Dominic

Thank you for meeting with us this morning it was great to see you. As mentioned please find the fieldwork invite we discussed. If you need anything else please reach out.

Regards
Christine

From: Indigenous Relations
Sent: May 19 2022 4 41 PM
To: Dominic Ste-Marie [redacted] ; Marie-Sophie Gendron [redacted]
Cc: Lori-Jeanne Bolduc [redacted] ; Isabelle Lechasseu [redacted] Jean-Francois Richard <[redacted] ; EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover Archaeology and Natural Environment Fieldwork Invitation to Participate

Dear Dominic and Marie-Sophie,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
  - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
  - Significant Wildlife Habitat and SAR Habitat Assessment (June 9th – 10th)*
  - Tree Inventory (June 9th – 10th)*
  - Phase II ESA (June 13th – June 28th)

- Fish & Fish Habitat Assessment (July 4th)
- Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

f you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement [redacted]

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Su te 600 | Toronto | Ontario | M5J 2W3
T 416.202.5617 C 416-356-9715

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

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From:	Indigenous Relations
To:	Abby LaForme; Adam LaForme
Cc:	Adrian Blake; Field Coordinator; EPA.IR; Simon Strauss; Clara Chan
Subject:	Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date:	May 19, 2022 4:28:52 PM
Attachments:	Heritage Road Layover- Invitation for Participation in 2022 Fieldwork_MCFN.pdf [redacted]

Dear Abby, Adam and Team,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
    - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
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    - Tree Inventory (June 9th – 10th)*
    - Phase II ESA (June 13th – June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement.

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

[redacted]

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Natural Environment Fieldwork Training, Permit & PPE Requirements

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- [redacted]
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

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    b. High visibility reflective vest
    c. CSA approved eye protection
    d. CSA approved 6" laced safety shoes
    e. Appropriate clothing for weather conditions
b. In addition to the basic PPE listed above, Class 3 PPE is required including:
    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)

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May 19, 2022

Mark LaForme Mississaugas of the Credit First Nation

[redacted]

Delivered by email

Dear Mr. LaForme,

RE: Heritage Road Layover – Summer 2022 TPAP Field Studies

Metrolinx and its consultant, *Wood,* will be undertaking fields studies associated with the Heritage Road Layover as part of the Transit Project Assessment Process (TPAP). The field studies will take place within the construction footprint between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel (Figure 1). The field studies are anticipated to be conducted between ***June 9 and August 12, 2022***.

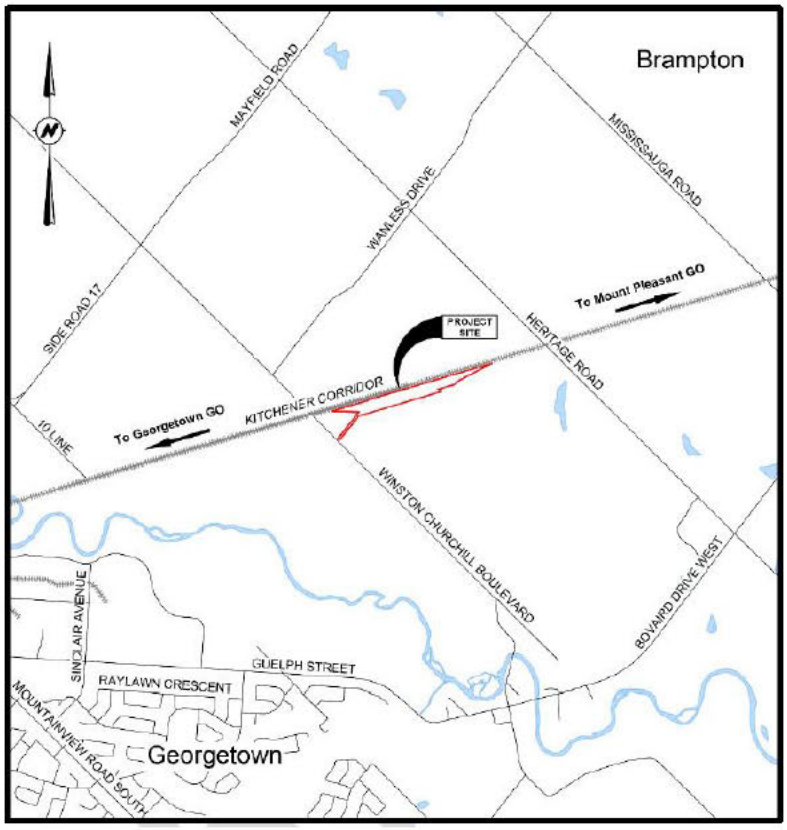

Figure 1. Project Location

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Toronto, ON M5J 2N8

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Please note draft technical studies previously circulated to your Nation, as outlined below, were limited to a desktop review. The planned field studies serve to confirm anticipated conditions based on the information gleaned from the draft technical studies. The previous relevant reports were shared with you as follows:

- Stage 1 Archaeological Assessment (AA) - February 8th, 2022
- 75% Environmental Project Report, including the draft Natural Environment and Noise and Vibration draft reports - April 5th, 2022

Invitation to Participate in Fieldwork

Metrolinx would like to confirm any interest the Mississaugas of the Credit First Nation may have in participating in the upcoming fieldwork. The field study, timelines and study area maps are outlined in the Table 1, below. Should your Nation wish to participate in any field investigations, please let us know by June 1, 2022. Upon receipt of your interest in participating, Metrolinx will work to coordinate your Nation's involvement. An overview of the different field activities is discussed in the sections below.

Table 1. Overview of planned field investigations for the Heritage Road Layover.

Field Study	Anticipated Start Date*	Anticipated End Date	Duration	Study Area
Natural Environment- Confirmation Ecological Land Classification and Plant List Collection	June 9, 2022	June 10, 2022	2 days	See Figure 2
Natural Environment- Significant Wildlife Habitat and SAR Habitat Assessment	June 9, 2022	June 10, 2022	2 days	See Figure 2
Tree Inventory and Arborist	June 9, 2022	June 10, 2022	2 days	See Figure 2
Phase II Environmental Site Assessment (ESA)	June 13, 2022	June 28, 2022	5 days (June 13-15, 21 and 28)	See Figure 5
Natural Environment- Fish & Fish Habitat Assessment	July 4, 2022	--	1 day	See Figure 2

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Noise and Vibration-Baseline Monitoring	July 4, 2022	August 8, 2022	5 weeks (including weekends)	See Figure 4
Stage 3 Archaeological Assessment	July 25, 2022	August 12, 2022	11 days (scheduling 15 to account for weather)	See Figure 3

*****Subject to PTE Access and other scheduling requirements

Natural Environment Fieldwork and Tree Inventory Summary

The Natural Environment field study will involve an aquatic and terrestrial survey. A fish and fish habitat assessment will be performed upstream and downstream of the three watercourses crossing the Project study area (see Figure 2). A Confirmational Ecological Land Classification and Vascular Plant Survey, a non-invasive visual survey (no samples will be taken), will be completed within the 120 m study area (see Figure 2). During this study period, any incidental observations of any wildlife will also be recorded.

In addition to the studies supporting the natural environment technical report, a separate Tree Inventory will be completed, which will include a review (including size, health, and location) of all trees within 5 m of the project footprint that are greater than or equal to 10 cm DBH (diameter at breast height) and affixing a pre-numbered aluminum tag which will aid in documentation and follow-up work.

Stage 3 Archeological Assessment Summary

The previous Stage 2 Archaeological Assessment (Archeoworks, 2017) and the result of the Stage 1 AA, recommended that a Stage 3 site-specific assessment be completed for site AjGx-267 that lies within the Project Site (see Figure 5). The purpose of the Stage 3 work is to assess the cultural heritage value or interest of the archaeological site to determine whether it has been sufficiently documented or if further measures are required to protect or document the site fully. The Stage 3 AA will be conducted to define the site extent, gather a representative sample of artifacts and aid in the determination of whether further studies are required (i.e., Stage 4, development of mitigation strategy). The Stage 3 AA will establish a site datum at the center of the site (or the centers of any localities or concentrations identified from the Stage 2 AA previously completed for the site by others and reviewed as part of the Draft Stage 1 AA circulated to your Nation), followed by excavation completed in small sections, called “test units”. A thorough photographic record of on-site investigations will be maintained. The findings of the report, including documentation of the methodology and results of excavation and laboratory analysis,

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together with an artifact inventory, all necessary cartographic and photographic documentation will be prepared in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries licensing requirements.

Noise and Vibration Summary

A noise and vibration assessment will be completed to identify current noise and vibrational conditions encountered at four representative sensitive receptors within a 500 m radius to Heritage Road Layover. These four representative sensitive receptors were considered to be the potential "worst case" receptors that are currently known in the area for noise and vibration impacts. The study will identify current conditions to confirm baseline conditions used as part of the noise and vibrational modelling in the technical studies. In this assessment, the work will include:

- Set-up of equipment on site for the duration of up to five weeks to gather a total of 1 month's data (no data can be gathered during heavy precipitation events).
    - Equipment will be comprised of:
        1. One sound level meter enclosed in an environmental case with a tripod assembly outside at each location (Full duration).
        2. One vibration monitor, a geophone will be attached to this which will be inserted into the ground outside at each location (Installed for a single day within the monitoring period).
- The sound level meter will be kept on each property and the technical advisor (Wood) will access the Property once every week for checkup and equipment maintenance.
- The vibration monitor will be kept at each location for 8 hours (one day). The vibration monitor will be placed at the property of interest and then leave it for 8hrs and then come back to remove, no checkups in between.

Phase II ESA Summary

Subsurface drilling will be completed within the Heritage Road Layover footprint to evaluate the potential environmental contamination in soil and/or groundwater, per areas of potential environmental concern outlined in the draft Phase I Environmental Site Assessment (ESA) (desktop study) that was circulated as part of the Environmental Project Report (April 5, 2022). Concurrently with the Phase II ESA activities, geotechnical samples will be collected to identify subsurface conditions, such as soil characteristics, which will inform the design of Heritage Road Layover.

Engagement

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416.202.4967
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Regardless of whether or not your Nation participates in the fieldwork, Metrolinx will inform you of discovery and preservation of Indigenous artifacts and sacred burial grounds.

If your Nation wishes to participate in the upcoming field studies, you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact the undersigned at IndigenousRelations@metrolinx.com.

Yours Truly,



Jaimi O'Hara
Senior Manager, Indigenous Relations Office
Metrolinx

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1. Thank you for your time in reviewing these assessments.

cc: Adam LaForme, Archaeological Operations Supervisor, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Abby LaForme, Consultation Coordinator (A), Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
[redacted]
Adrian Blake, Field Archaeologist, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Mariah Sault, Fieldwork Coordinator, Department of Consultation & Accommodation, Mississaugas of the Credit First Nation
Indigenous Relations Office, Metrolinx
Environmental Programs and Assessment Indigenous Relations Team, Metrolinx
Simon Strauss, Manger, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment Metrolinx

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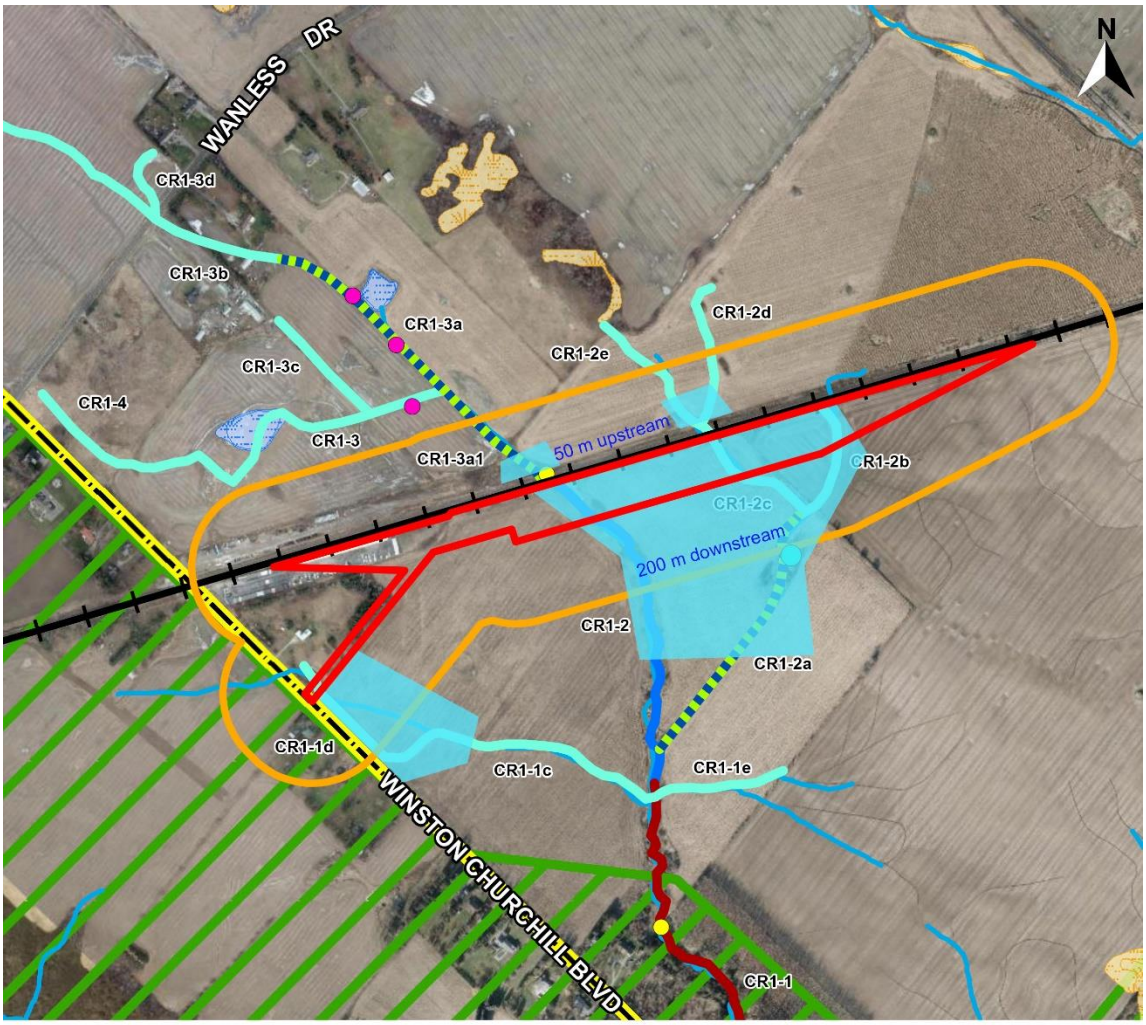

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Waterbody
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- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Approximate Aquatic Field Work Location

Figure 2. Natural Environment terrestrial and aquatic survey study areas.

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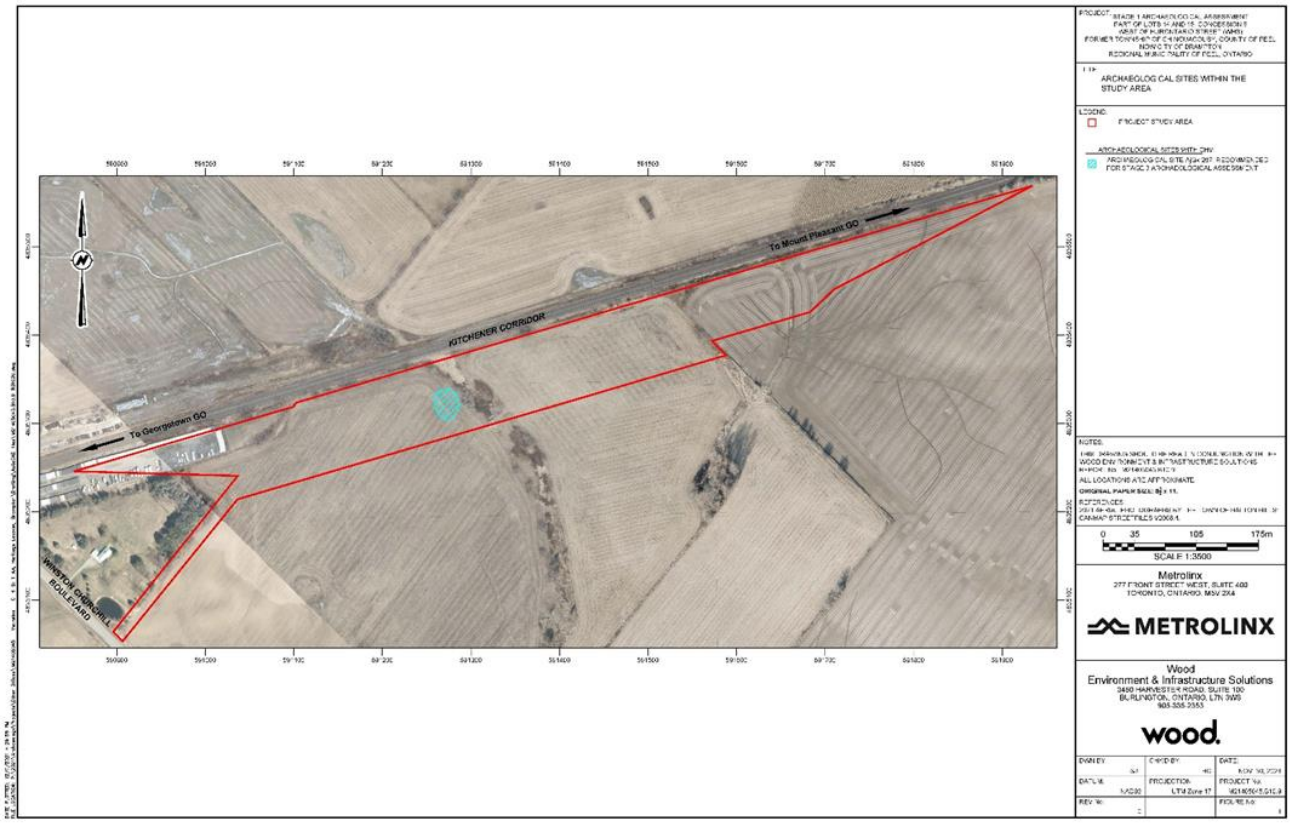

Figure 3. Stage 3 AA study area.

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Figure 4. Noise and Vibration 500 m Study area.

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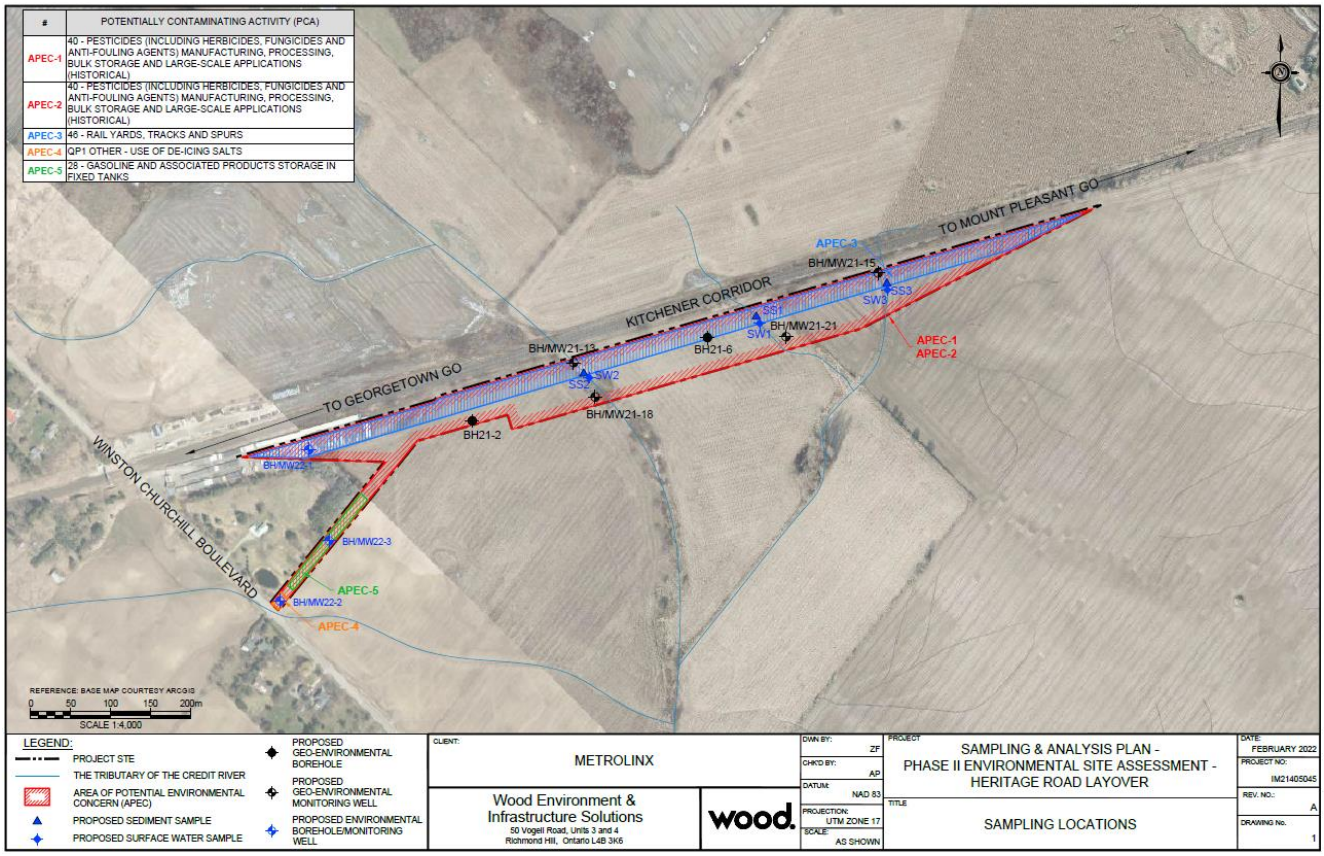

Figure 5. Phase II ESA study are and sampling locations.

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From:	Indigenous Relations
To:	Lonny Bomberry
Cc:	Dawn LaForme; Dawn Russell; [redacted] Tayler Hill; Tanya Hill-Montour; [redacted] EPA.IR; Simon Strauss; Clara Chan
Subject:	Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date:	May 19, 2022 4:32:50 PM
Attachments:	image001.png Heritage Road Layover- Invitation for Participation in 2022 Fieldwork_SNGR.pdf

---

Dear Lonny and Team,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
    - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
    - Significant Wildlife Habitat and SAR Habitat Assessment (June 9th – 10th)*
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    - Phase II ESA (June 13th – June 28th)
    - Fish & Fish Habitat Assessment (July 4th)
    - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement.

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3

T: 416.202.5617 C: 416-356-9715

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

Personal Track Safety Training:

- Metrolinx Personal Track Safety (PTS) training, organized by Metrolinx's Safety Division, is currently only offered in a virtual setting and includes a test at the completion of the training. It is a full day in length. The training is available at https://www.metrolinx.com/en/projectsandprograms/constructionanddevelopment/personal-track-safety-program.aspx.
- [redacted]
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

Site Visitor Permit:
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1. Name and signature(s) of the fieldwork visitor(s) who will be participating in monitoring
2. If you are choosing to use the SVP method, the form is required by May 26, 2022 to secure access to the rail corridor.

Personal Protection Equipment:
There are specific PPE requirements for entering the rail corridor. The required PPE includes;

a. Basic PPE including;
    a. CSA Type 2 Hard Hat with foam insert (bump caps)
    b. High visibility reflective vest
    c. CSA approved eye protection

d. CSA approved 6" laced safety shoes
e. Appropriate clothing for weather conditions

b. In addition to the basic PPE listed above, Class 3 PPE is required including:
    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)

[redacted]

METROLINX

May 19, 2022

Chief Mark Hill
c/o Lonny Bomberry, Director, Lands & Resources
Six Nations of the Grand River
[redacted]
[redacted]
Delivered by Email

Dear Mr. Bomberry,

RE: Heritage Road Layover – Summer 2022 TPAP Field Studies

Metrolinx and its consultant, *Wood,* will be undertaking fields studies associated with the Heritage Road Layover as part of the Transit Project Assessment Process (TPAP). The field studies will take place within the construction footprint between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel (Figure 1). The field studies are anticipated to be conducted between ***June 9 and August 12, 2022***.

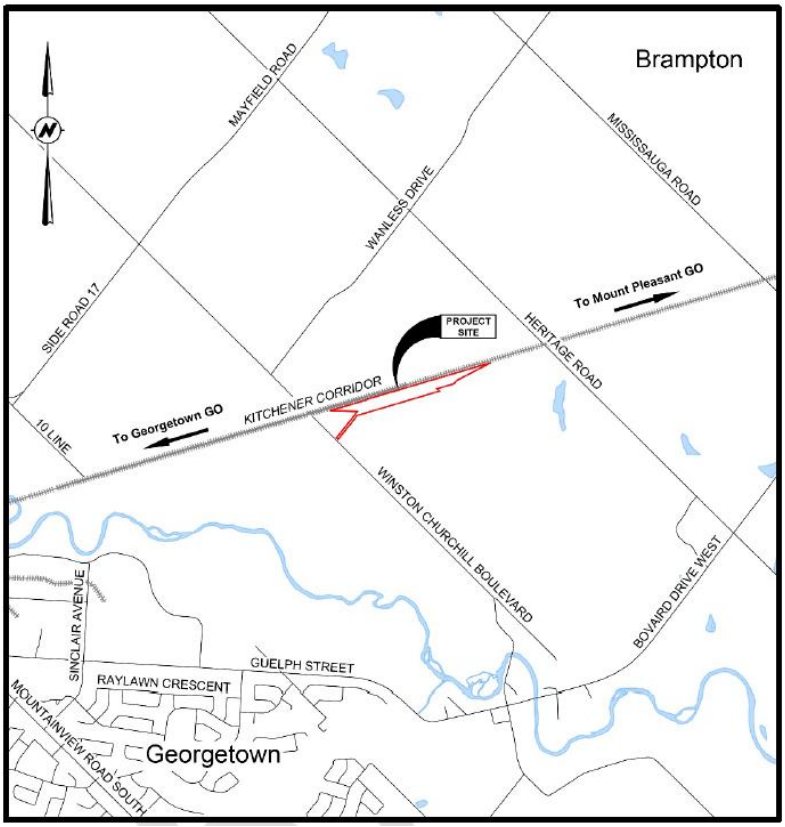

Figure 1. Project Location

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Please note draft technical studies previously circulated to your Nation, as outlined below, were limited to a desktop review. The planned field studies serve to confirm anticipated conditions based on the information gleaned from the draft technical studies. The previous relevant reports were shared with you as follows:

- Stage 1 Archaeological Assessment (AA) - February 8th, 2022
- 75% Environmental Project Report, including the draft Natural Environment and Noise and Vibration draft reports - April 5th, 2022

Invitation to Participate in Fieldwork

Metrolinx would like to confirm any interest the Six Nations of the Grand River may have in participating in the upcoming fieldwork. The field study, timelines and study area maps are outlined in the Table 1, below. Should your Nation wish to participate in any field investigations, please let us know by June 1, 2022. Upon receipt of your interest in participating, Metrolinx will work to coordinate your Nation's involvement. An overview of the different field activities is discussed in the sections below.

Table 1. Overview of planned field investigations for the Heritage Road Layover.

Field Study	**Anticipated Start Date***	**Anticipated End Date**	**Duration**	**Study Area**
Natural Environment-Confirmation Ecological Land Classification and Plant List Collection	June 9, 2022	June 10, 2022	2 days	See Figure 2
Natural Environment-Significant Wildlife Habitat and SAR Habitat Assessment	June 9, 2022	June 10, 2022	2 days	See Figure 2
Tree Inventory and Arborist	June 9, 2022	June 10, 2022	2 days	See Figure 2
Phase II Environmental Site Assessment (ESA)	June 13, 2022	June 28, 2022	5 days (June 13-15, 21 and 28)	See Figure 5
Natural Environment-Fish & Fish Habitat Assessment	July 4, 2022	--	1 day	See Figure 2

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Noise and Vibration-Baseline Monitoring	July 4, 2022	August 8, 2022	5 weeks (including weekends)	See Figure 4
Stage 3 Archaeological Assessment	July 25, 2022	August 12, 2022	11 days (scheduling 15 to account for weather)	See Figure 3

*****Subject to PTE Access and other scheduling requirements

Natural Environment Fieldwork and Tree Inventory Summary

The Natural Environment field study will involve an aquatic and terrestrial survey. A fish and fish habitat assessment will be performed upstream and downstream of the three watercourses crossing the Project study area (see Figure 2). A Confirmational Ecological Land Classification and Vascular Plant Survey, a non-invasive visual survey (no samples will be taken), will be completed within the 120 m study area (see Figure 2). During this study period, any incidental observations of any wildlife will also be recorded.

In addition to the studies supporting the natural environment technical report, a separate Tree Inventory will be completed, which will include a review (including size, health, and location) of all trees within 5 m of the project footprint that are greater than or equal to 10 cm DBH (diameter at breast height) and affixing a pre-numbered aluminum tag which will aid in documentation and follow-up work.

Stage 3 Archeological Assessment Summary

The previous Stage 2 Archaeological Assessment (Archeoworks, 2017) and the result of the Stage 1 AA, recommended that a Stage 3 site-specific assessment be completed for site AjGx-267 that lies within the Project Site (see Figure 5). The purpose of the Stage 3 work is to assess the cultural heritage value or interest of the archaeological site to determine whether it has been sufficiently documented or if further measures are required to protect or document the site fully. The Stage 3 AA will be conducted to define the site extent, gather a representative sample of artifacts and aid in the determination of whether further studies are required (i.e., Stage 4, development of mitigation strategy). The Stage 3 AA will establish a site datum at the center of the site (or the centers of any localities or concentrations identified from the Stage 2 AA previously completed for the site by others and reviewed as part of the Draft Stage 1 AA circulated to your Nation), followed by excavation completed in small sections, called “test units”. A thorough photographic record of on-site investigations will be maintained. The findings of the report, including documentation of the methodology and results of excavation and laboratory analysis,

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together with an artifact inventory, all necessary cartographic and photographic documentation will be prepared in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries licensing requirements.

Noise and Vibration Summary

A noise and vibration assessment will be completed to identify current noise and vibrational conditions encountered at four representative sensitive receptors within a 500 m radius to Heritage Road Layover. These four representative sensitive receptors were considered to be the potential "worst case" receptors that are currently known in the area for noise and vibration impacts. The study will identify current conditions to confirm baseline conditions used as part of the noise and vibrational modelling in the technical studies. In this assessment, the work will include:

- Set-up of equipment on site for the duration of up to five weeks to gather a total of 1 month's data (no data can be gathered during heavy precipitation events).
    - Equipment will be comprised of:
        1. One sound level meter enclosed in an environmental case with a tripod assembly outside at each location (Full duration).
        2. One vibration monitor, a geophone will be attached to this which will be inserted into the ground outside at each location (Installed for a single day within the monitoring period).
- The sound level meter will be kept on each property and the technical advisor (Wood) will access the Property once every week for checkup and equipment maintenance.
- The vibration monitor will be kept at each location for 8 hours (one day). The vibration monitor will be placed at the property of interest and then leave it for 8hrs and then come back to remove, no checkups in between.

Phase II ESA Summary

Subsurface drilling will be completed within the Heritage Road Layover footprint to evaluate the potential environmental contamination in soil and/or groundwater, per areas of potential environmental concern outlined in the draft Phase I Environmental Site Assessment (ESA) (desktop study) that was circulated as part of the Environmental Project Report (April 5, 2022). Concurrently with the Phase II ESA activities, geotechnical samples will be collected to identify subsurface conditions, such as soil characteristics, which will inform the design of Heritage Road Layover.

Engagement

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Regardless of whether or not your Nation participates in the fieldwork, Metrolinx will inform you of discovery and preservation of Indigenous artifacts and sacred burial grounds.

If your Nation wishes to participate in the upcoming field studies, you require additional information or materials, or if you wish to discuss this project in more detail or set up an in-person meeting, please contact the undersigned at IndigenousRelations@metrolinx.com.

Yours Truly,



Jaimi O'Hara
Senior Manager, Indigenous Relations Office
Metrolinx

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the *Freedom of Information and Protection of Privacy Act*, except where information is provided to Metrolinx in confidence, pursuant to section 15.1. Thank you for your time in reviewing these assessments.

cc: Chief Mark Hill, Six Nations of the Grand River
Dawn LaForme, Secretary/Receptionist, Six Nations of the Grand River
Dawn Russell, Administrative Assistant, Six Nations of the Grand River
Tanya Hill-Montour, Archaeological Coordinator, Six Nations of the Grand River
Robbin Vanstone, Consultation Supervisor, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Environmental Programs and Assessment Indigenous Relations Team, Metrolinx
Simon Strauss, Manger, Environmental Programs & Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs & Assessment Metrolinx

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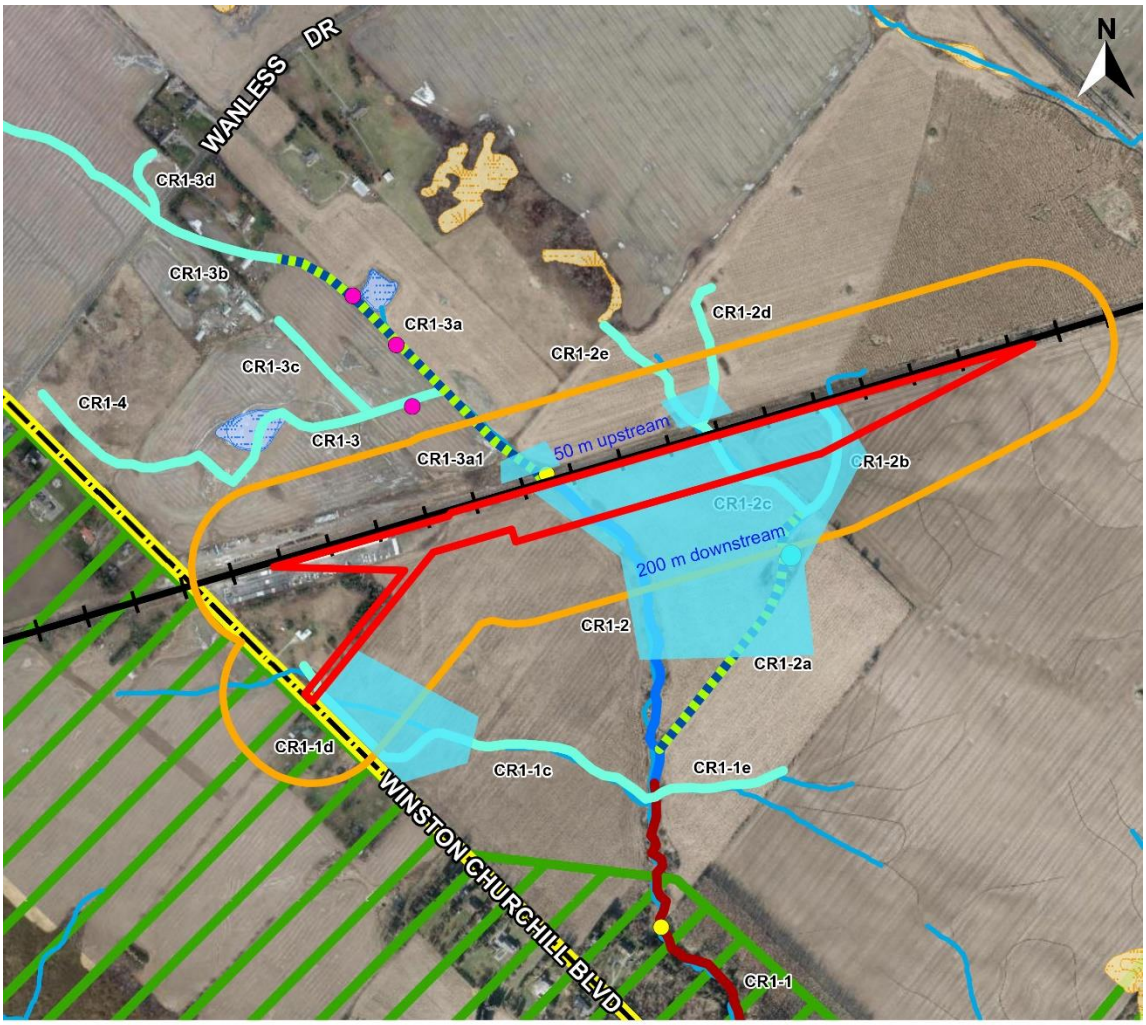

LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
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Figure 2. Natural Environment terrestrial and aquatic survey study areas.

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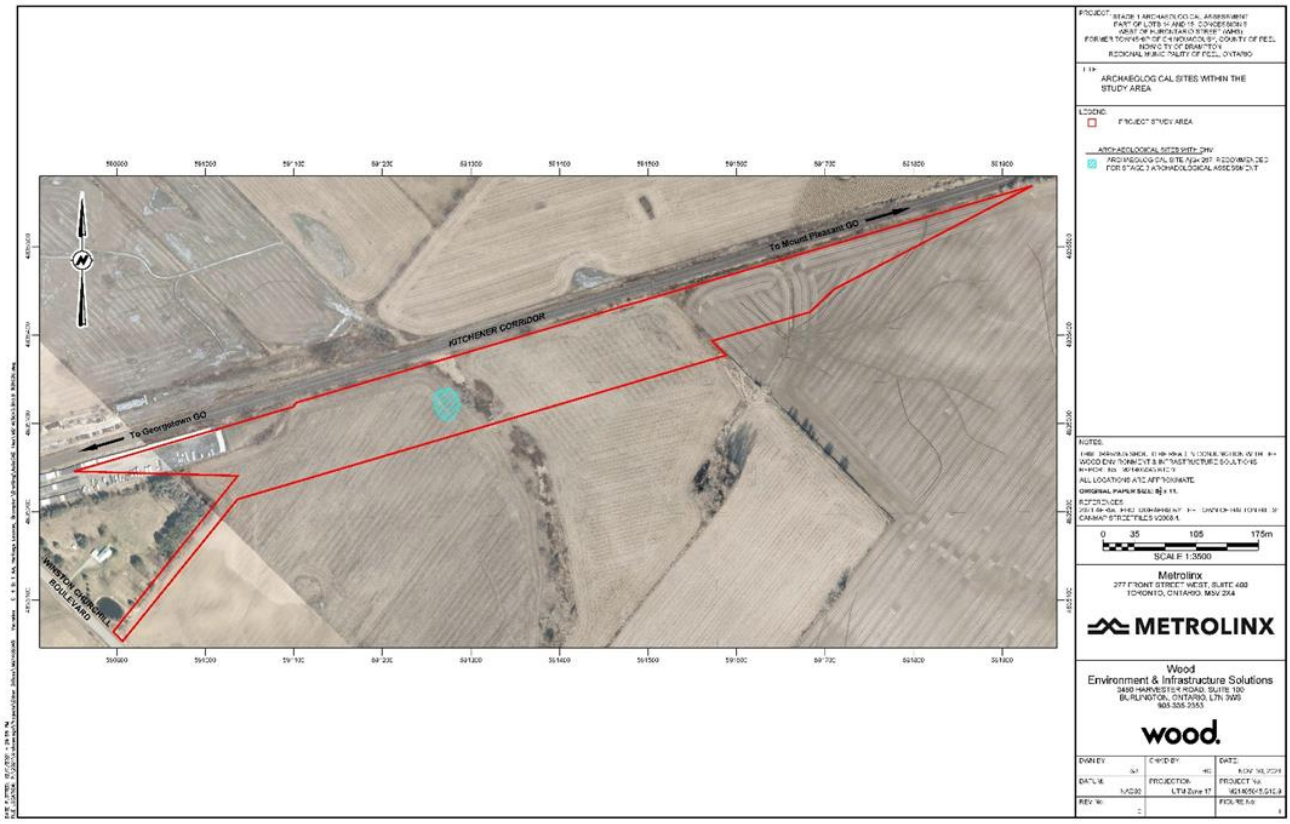

Figure 3. Stage 3 AA study area.

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Figure 4. Noise and Vibration 500 m Study area.

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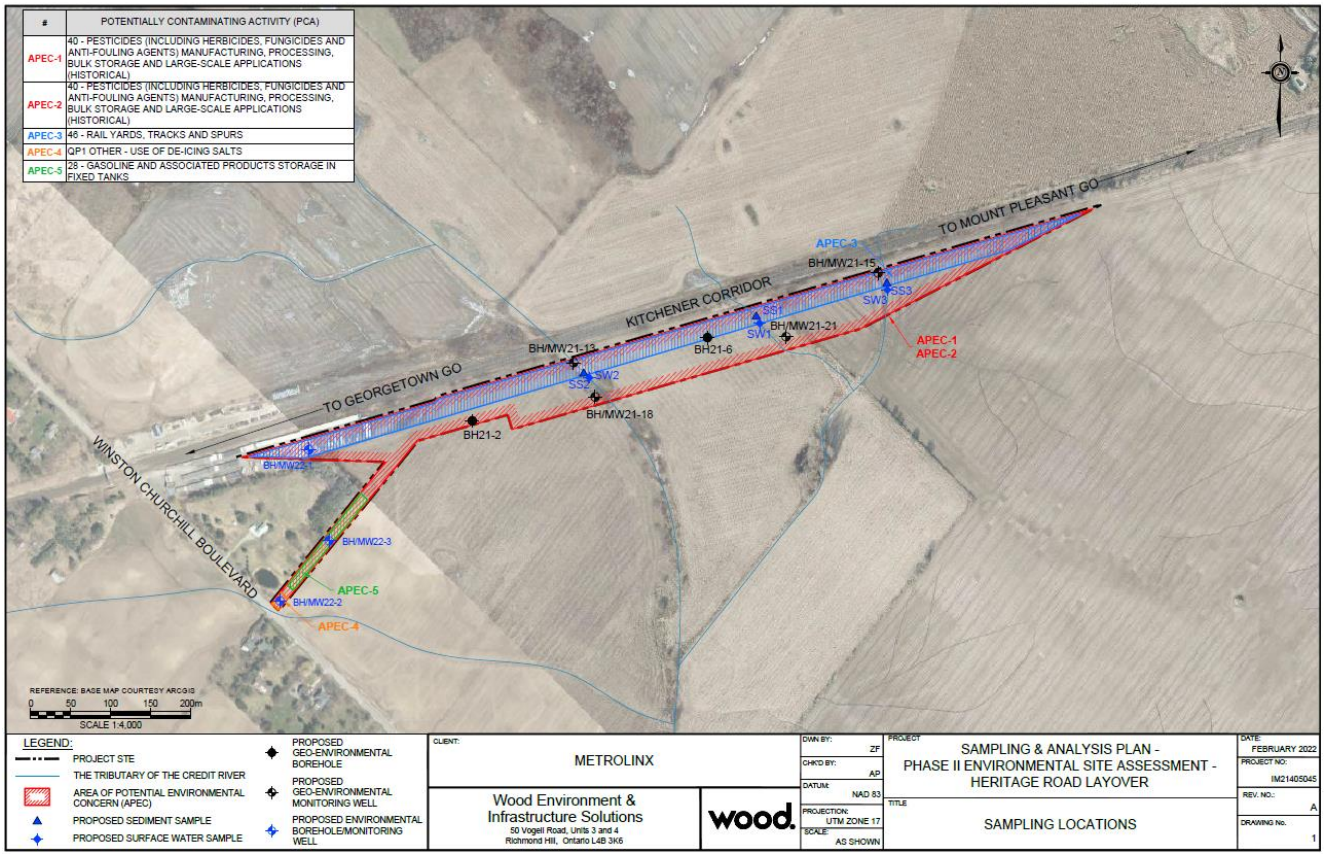

Figure 5. Phase II ESA study are and sampling locations.

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From: Indigenous Relations
To: Adam LaForme; Abby LaForme; Field Coordinator
Cc: Adrian Blake; Simon Strauss; Clara Chan
Subject: RE: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date: May 26, 2022 12:59:00 PM
Attachments: image001.png
image002.png

Good afternoon Adam,

Thank you for the quick response regarding the FLR participation on the environmental works planned for June. We will let our contractors know to connect with your field coordinator for scheduling and FLR's once everything is confirmed.

Have a wonderful day!

Jordon MacArthur

Jordon MacArthur
Senior Advisor, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617

From: Adam LaForme [redacted]
Sent: May 26, 2022 12:25 PM
To: Indigenous Relations <IndigenousRelations@metrolinx.com>; Abby LaForme [redacted]; Field Coordinator [redacted]
Cc: Adrian Blake [redacted]; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Good Morning ,

MCFN appreciates the invitation to participate on the Heritage Road Layover Project. Unfortunately we will not have any FLRs available to participate in the Natural Environmental Fieldwork. We will have FLRs available to participate in the Stage 3 Archaeological Assessment.

Please have the Consultant Archaeologist contact our @Field Coordinator for scheduling and deployment of FLRs.

Thank you,

Adam LaForme (he/him)
Archaeological Operations Supervisor

Mississaugas of the Credit First Nation (MCFN)
Department of Consultation and Accomodation (DOCA)
[redacted]

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: May 19, 2022 4:52 PM
To: Abby LaForme [redacted]; Adam LaForme [redacted]
Cc: Adrian Blake [redacted]; Field Coordinator [redacted]; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: RE: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

Apologies, the SVP form was not attached.

Thanks
Jaimi

From: Indigenous Relations
Sent: May-19-22 4:29 PM
To: 'Abby LaForme' [redacted]; 'Adam LaForme' [redacted]
Cc: 'Adrian Blake' [redacted] 'Field Coordinator' [redacted] EPA.IR <EPA.IR@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

Dear Abby, Adam and Team,

Metrolinx continues to progress the Heritage Road Layover Project. Please find attached a letter inviting your participation in a number of upcoming fieldwork activities which are scheduled to take place for this project between June 9 and August 12, 2022. These works include:

th th

Stage 3 Archaeological Assessment (Jul 25 – Aug 12)

- Natural Environmental Fieldwork
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  - Phase II ESA (June 13th – June 28th)
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  - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

If you would like to participate, please let us know by June 2, 2022 and we will coordinate your involvement.

Please note that the Natural Environment Fieldwork occurring on June 9th/10th (Ecological Land Classification and Plant List, Significant Habitat and SAR Habitat Assessment and Tree Inventory) are occurring within the Metrolinx rail corridor and require specific training and/or permit in order to participate, as well as specific PPE requirements outlined below. They are time sensitive. More details can be found below the signature line.

[redacted]

Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Natural Environment Fieldwork Training, Permit & PPE Requirements

The Natural Environment fieldwork scheduled for June 9 and 10 is occurring within the Metrolinx rail right of way and will require either Personal Tract Safety (PTS) Training or a Site Visitors Permit (SVP), as well as has specific PPE requirements outlined below.

<u>Personal Track Safety Training:</u>

- Metrolinx Personal Track Safety (PTS) training, organized by Metrolinx's Safety Division, is currently only offered in a virtual setting and includes a test at the

completion of the training. It is a full day in length. The training is available at https://www.metrolinx.com/en/projectsandprograms/constructionanddevelopment/personal-track-safety-program.aspx.

- [redacted]
- Please let us know if the monitor(s) attending on behalf of your Nation have successfully completed this training. If the PTS training has not been completed, Metrolinx requires a valid Site Visitor Permit – details on how to obtain this can be found below.

Site Visitor Permit:
The SVP can be found attached and includes the following requirements:

1. Name and signature(s) of the fieldwork visitor(s) who will be participating in monitoring
2. If you are choosing to use the SVP method, the form is required by May 26, 2022 to secure access to the rail corridor.

Personal Protection Equipment:
There are specific PPE requirements for entering the rail corridor. The required PPE includes;

a. Basic PPE including;
    a. CSA Type 2 Hard Hat with foam insert (bump caps)
    b. High visibility reflective vest
    c. CSA approved eye protection
    d. CSA approved 6" laced safety shoes
    e. Appropriate clothing for weather conditions
b. In addition to the basic PPE listed above, Class 3 PPE is required including:
    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)
    [redacted]

This e-mail is intended only for the person or entity to which it is addressed. If you received this in error, please contact the sender and delete all copies of the e-mail together with any attachments.

From: Indigenous Relations
To: Tanya Hill-Montour
Subject: FW: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate
Date: June 13, 2022 11:19:00 AM
Attachments: image001.png
Heritage Road Layover- Invitation for Participation in 2022 Fieldwork_SNGR.pdf

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Hi Tanya,

Jaimi asked me to bring this to the top of your inbox. The dates for the Heritage Road Layover environmental fieldwork are as follows:

- Stage 3 Archaeological Assessment (Jul 25th – Aug 12th)
- Natural Environmental Fieldwork
  - Confirmation Ecological Land Classification and Plant List Collection (June 9th – 10th)*
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  - Tree Inventory (June 9th – 10th)*
  - Phase II ESA (June 13th – June 28th)
  - Fish & Fish Habitat Assessment (July 4th)
  - Noise & Vibration Baseline Monitoring (July 4th – Aug 8th)

Let us know what you are interested in participating in.
Thanks!

Marilyn

From: Indigenous Relations
Sent: May 19, 2022 4:33 PM
To: Lonny Bomberry [redacted]
Cc: Dawn LaForme [redacted]; Dawn Russell [redacted]; Tayler Hill [redacted] Tanya Hill-Montour [redacted]; [redacted]; EPA.IR <EPA.IR@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: Heritage Road Layover: Archaeology and Natural Environment Fieldwork Invitation to Participate

Dear Lonny and Team,

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Let me know if you have any questions or if you would like to discuss further.

Thank you,
Jaimi

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
T: 416.202.5617 C: 416-356-9715

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- [redacted]
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    d. CSA approved 6" laced safety shoes
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    a. High-visibility material jacket (which includes reflective arm bands) and full-length pants (which includes reflective stripes/bands)
    b. Must be CSA approved colours (orange, fluorescent yellow)

[redacted]

From: Indigenous Relations
Sent: June 13, 2022 3:32 PM
To: 'Aaron Detlor' <[redacted]>
Cc: [redacted]>
Subject: RE: Heritage Road Layover - Draft Cultural Heritage Report

Dear Mr. Detlor,

Please find attached a letter in response to correspondence received from the Haudenosaunee Development Institute (HDI) on behalf of the Haudenosaunee Confederacy Chiefs Council (HCCC), in reply to the Heritage Road Layover Project Introduction, Draft Cultural Heritage Report, and Stage 1 Archaeological Assessment.

Please feel free to reach out if you have any questions or concerns.

Sincerely,

Christine Parris (she/her)
Community Relations Specialist, Indigenous Relations
Metrolinx
20 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
[redacted]

METROLINX

June 13, 2022

[redacted]
Haudenosaunee Development Institute
Delivered Via Email: [redacted]

Re: Heritage Road Layover Project- Introduction response received on January 7, 2022
Re: Heritage Road Layover - Stage 1 Archaeological Assessment for Review response received on February 9, 2022
Re: Heritage Road Layover - Draft Cultural Heritage Report response received on March 10, 2022

Dear [redacted],

In response to correspondence received on January 7, 2022, February 9, 2022 and March 10, 2022 from the Haudenosaunee Development Institute (HDI) on behalf of the Haudenosaunee Confederacy Chiefs Council (HCCC), in reply to the Project Introduction, Stage 1 Archaeological Assessment (AA) and Cultural Heritage Report (CHR) for the Heritage Road Layover Project (the "**Project**"), we are providing the following information and clarifications.

The Project

The Heritage Road Layover facility is proposed to accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor. The layover will provide additional train storage capacity which is required to achieve the proposed level of service (two-way all-day service to Mount Pleasant GO Station, with an opportunity to expand to two-way all-day service at Georgetown GO Station) and alleviate congestion on the corridor.

The Heritage Road Layover facility is on the Halton Subdivision portion of the Kitchener Corridor between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel (Figure 1). The project limits are predominantly within an agricultural landscape dominated by row cropped fields.

The layover facility will be designed with four (4) tracks. Each track has the capacity to accommodate one (1) train, comprised of two (2) locomotives and 12 passenger coaches, or alternatively two (2) trains with one (1) locomotive and six (6) passenger coaches.

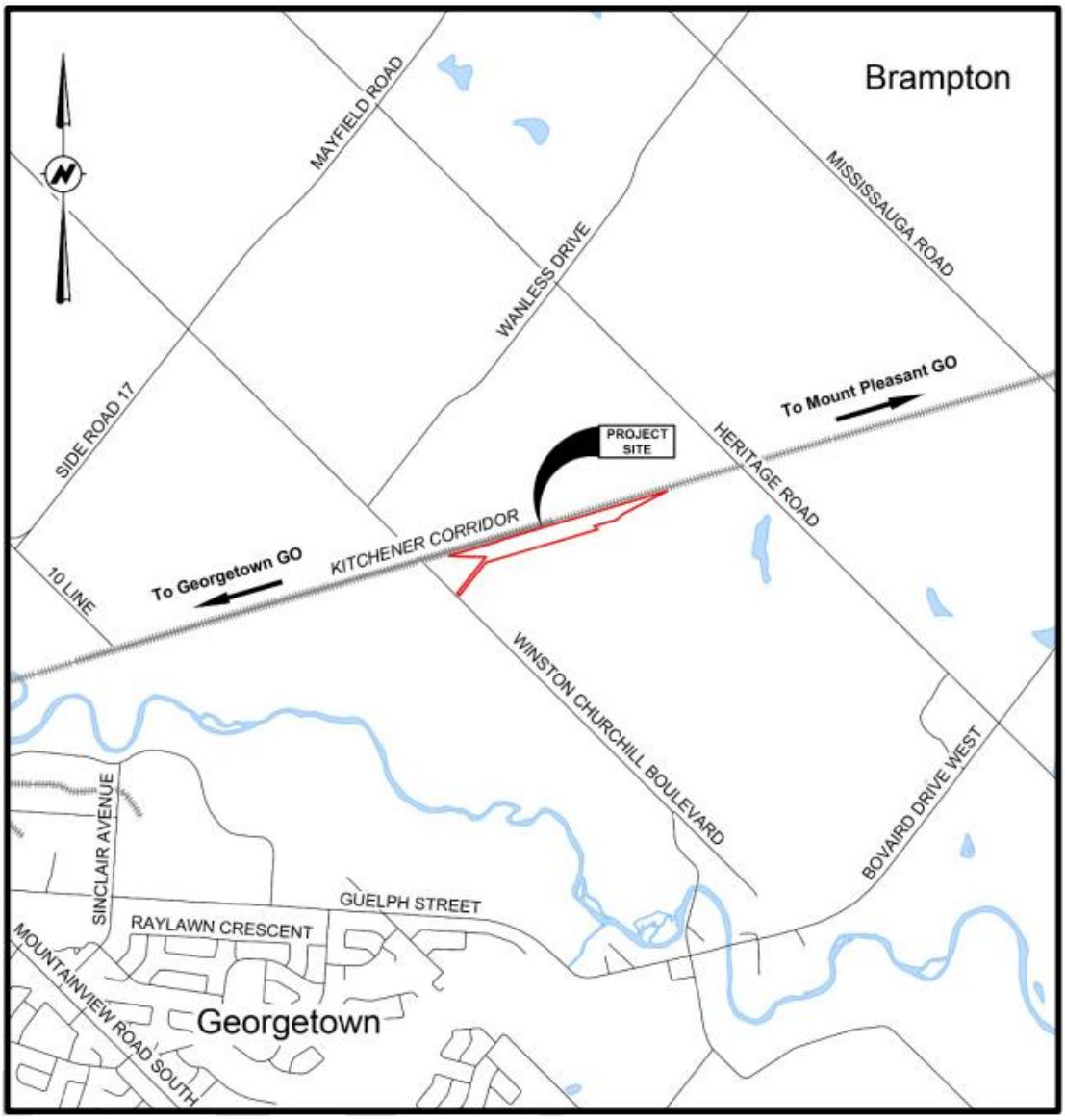

Figure 1. Project Location

Project Engagement

Metrolinx has provided communications, project information, and draft technical reports to HCCC/HDI for the Project. Please see the below summary of communications sent and feedback received.

Communications to HCCC/HDI	Response Status	**Feedback** (summary of response received from HCCC/HDI)
January 7, 2022 - Metrolinx provided an introduction letter to Heritage Road Layover project.	Response received on January 7, 2022	HCCC/HDI's response objected to the approval of the project on the basis that: • [redacted] • the regulatory EA review process is inconsistent with their rights • the regulatory timelines in which to provide comments and/or objection were too stringent HCCC/HDI requested an extension of the regulatory deadlines for engagement.
February 8, 2022 - Metrolinx provided the draft Stage 1 AA report for review.	Response received on February 9, 2022	
March 7, 2022 - Metrolinx provided the draft Cultural Heritage Report for review.	Response received on March 10, 2022	
March 21, 2022, follow-up on May 6, 2022 and June 1, 2022 - Metrolinx shared the positive Duty to Consult notification and requested comments or questions regarding the project.	No response received.	
March 23, 2022 – Metrolinx provided a copy of the Notice of Commencement.	No response received.	
April 6, 2022 - Metrolinx provided the draft Environmental Project Report and supporting technical studies for review.	No response received.	
May 19, 2022 - Metrolinx provided an invitation to participate in Summer 2022 fieldwork between June 9 and August 12, 2022.	No response received.	

Summary of Details – Draft Stage 1 AA and Cultural Heritage Report

We have summarized some technical details from the draft Stage 1 AA and Cultural Heritage report relating to impacts identified and their associated mitigation measures and future commitments.

Archaeology

The Stage 1 AA included a gap analysis of the archeological work previously completed, and gathered additional information associated with the Site. The Stage 1 AA confirmed archeological potential of the Site. The report included the following recommendations for next steps:

- A Stage 3 AA site-specific assessment is recommended for the registered archaeological site AjGx-267 located within the Site extent (light blue area in Figure 2).
- Archaeological Site AjGx-268 (located to the south of Heritage Road Layover, within 300 m of the current study area) is not anticipated to be impacted by the Project (dark blue area in Figure 2). If the current Study Area boundaries remain unchanged, no further archaeological assessment of the Site AjGx-268 is required as part of this Project.
- The former unmarked historical-period cemetery, McNichol's Cemetery, located east of the Heritage Road Layover's archaeological study area is recommended to have a buffer zone established and the perimeter be fenced (pink area in Figure 2).

Cultural Heritage

The Cultural Heritage Report identified a total of three known and potential heritage properties in the Study Area (Figure 3).

1. CHR 1– former McNichol cemetery, 10510 Heritage Road.
2. CHR 2 – residential property at 10827 Winston Churchill Boulevard (residence identified to be more than 40 years old and with potential built heritage value).
3. CHR 3 – residential property at 10746 Winston Churchill Boulevard (property contains a Victory style structure constructed during the mid-20th century with possible built heritage significance).

Based on the results of the preliminary impact assessment, the following recommendations were made:

1. Indirect adverse impacts were anticipated to CHR 2 with the introduction of the new access road, and accordingly, options for vegetation screening will be explored during detailed design.
2. While no direct or indirect impacts were anticipated to CHR 1 from a cultural heritage perspective, the close proximity of the proposed work to the cemetery poses a risk for land disturbance. To mitigate this risk, it was advised to adhere to the guidance outlined in the Stage 1 Archaeological Assessment (circulated to HCCC/HDI on February 8, 2022). The guidance included installation of protective fencing and appropriate buffers.
3. No impacts anticipated to CHR 3.

Framework Agreement for Engagement between MX and HCCC/HDI

Metrolinx understands HCCC/HDI's concerns [redacted]
Through meetings with HCCC/HDI on November 26, 2021 and December 10, 2021, the parties agreed to begin discussions [redacted].

Commitments for Future Work

As described in Sections 7.9 of the Environmental Project Report (EPR), Metrolinx formally commits to meaningful engagement with Indigenous Nations, respecting potential impacts and mitigation measures throughout future planning and design stages of the Project. Metrolinx will be sharing reporting and design information at all future stages of project development with Indigenous Nations.

Metrolinx respectfully requests that HCCC/HDI advise it of any negative project impacts it has identified based on the materials provided by Metrolinx to date, or otherwise, that should be considered as the Heritage Road Layover project continues.

The EPR and Technical Reports are available at the following link:
[redacted]

Should you have any questions, please do not hesitate to contact us the undersigned at indigenousrelations@metrolinx.com.

Sincerely,

Jaimi O'Hara

Jaimi O'Hara
Manager, Indigenous Relations Office
Metrolinx

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the Freedom of Information and Protection of Privacy Act, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

cc:

Indigenous Relations Office, Metrolinx
Environmental Programs and Assessment Indigenous Relations team, Metrolinx
Simon Strauss, Manager, Environmental Programs & Assessment
Clara Chan, Project Manager, Environmental Programs & Assessment
Brian Poole, Project Coordinator, Environmental Programs & Assessment
Dara Corrigan, Junior Project Coordinator, Environmental Programs & Assessment

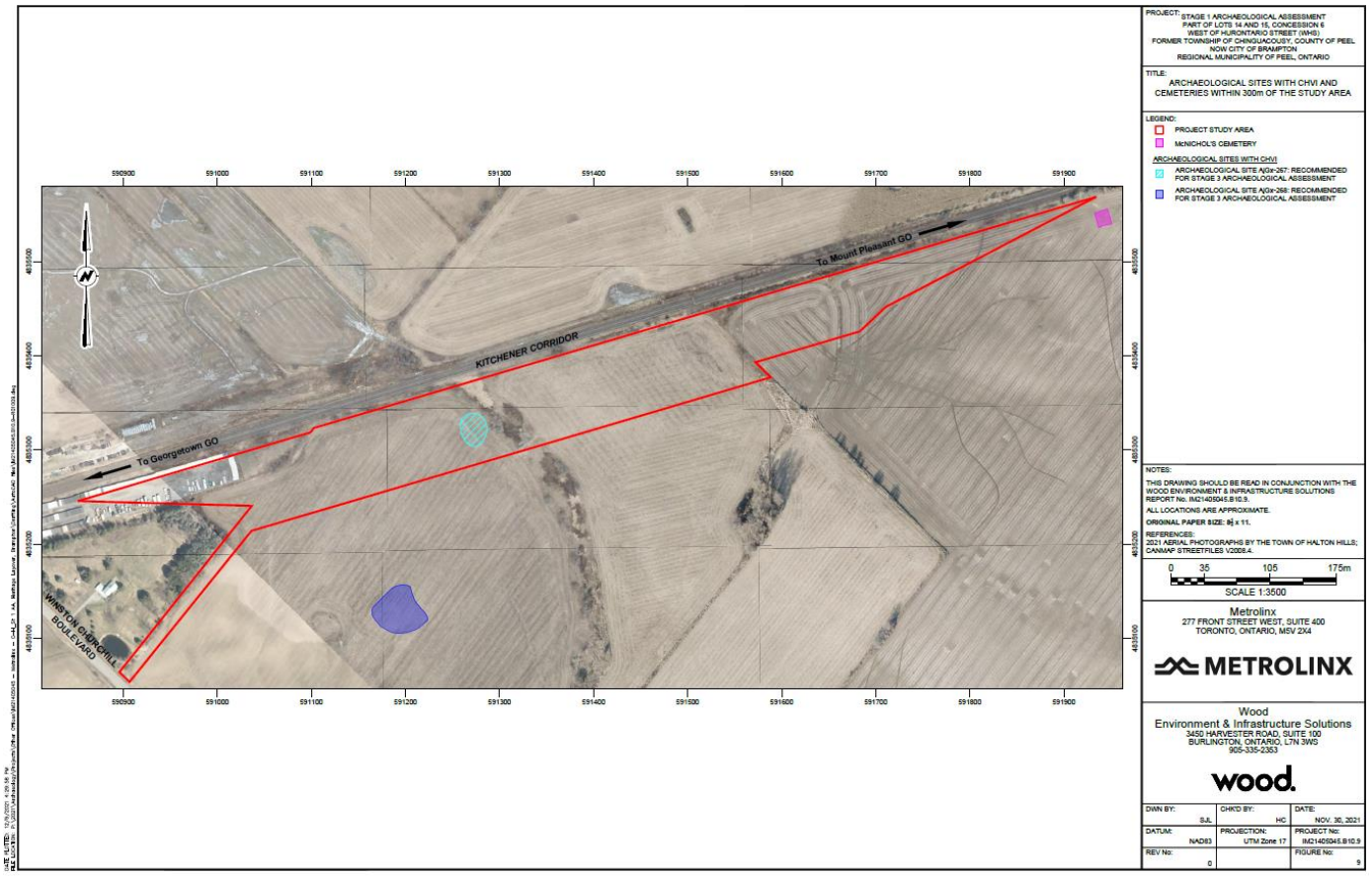

Figure 2. Stage 1 Archeological Study Area

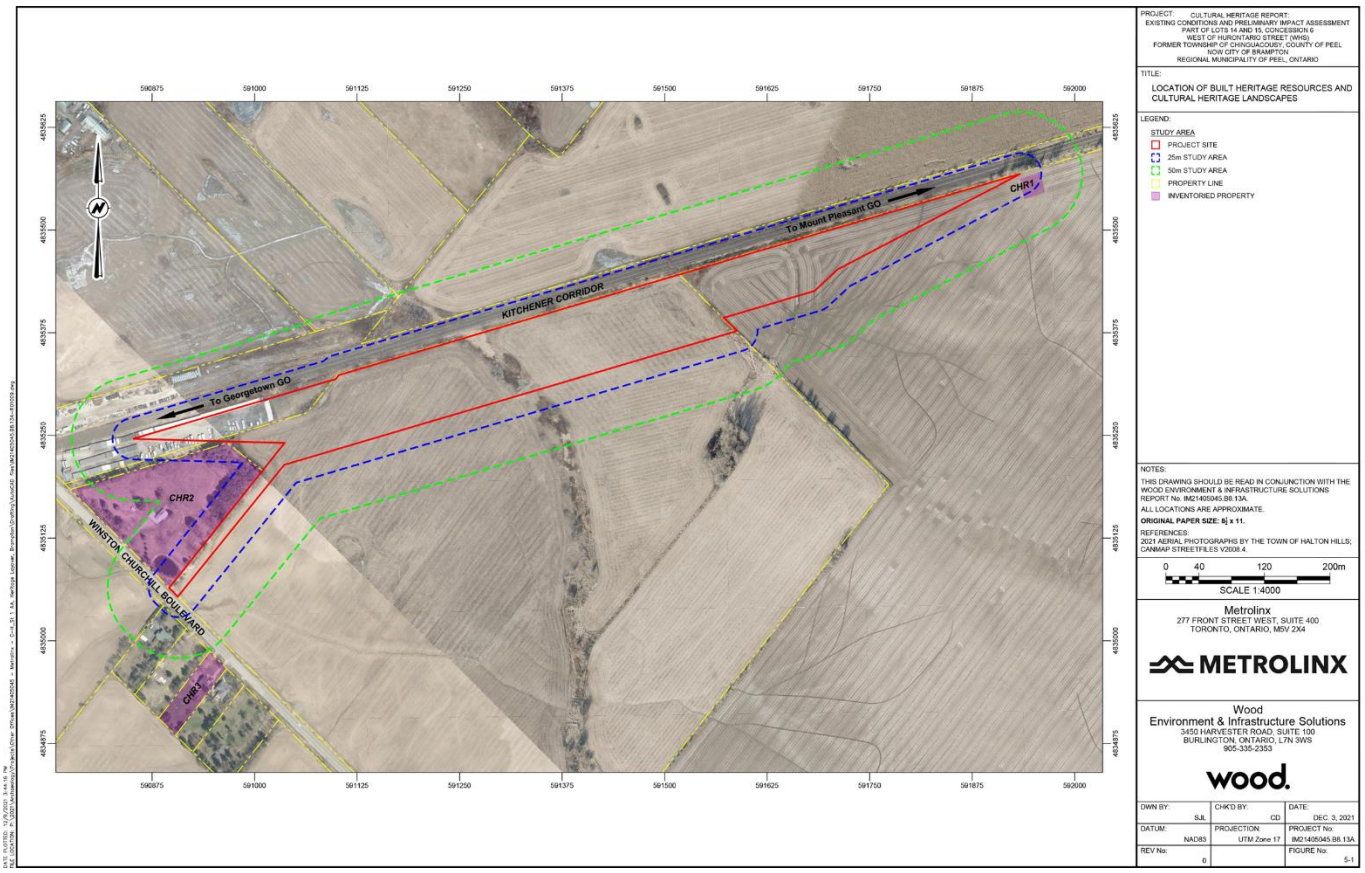

Figure 3. Cultural Heritage Report Study Area and Location of Known and Potential Built Heritage Resources and Cultural Heritage Landscapes

From: Indigenous Relations
To: Aaron Detlor
Cc: [redacted] EPA.IR
Subject: Heritage Road Layover Notice of Issue
Date: July 18, 2022 4:33:55 PM
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf
image001.png

Dear Mr. Detlor,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We are of the opinion that additional information from Indigenous communities and Nations is required to identify if existing aboriginal or treaty rights are to be impacted. This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

Best regards,
Jordon

Jordon MacArthur *(she/her)*
Senior Advisor, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3

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July 18, 2022

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON, M4V 1P5

Attention: Kathleen O'Neill Carter, Director, Environmental Assessment Branch
c/o Jordan Hughes, Project Officer, Environmental Assessment Services

By Email: [redacted]

Dear Ms. O'Neill:

Notice of Issue - Heritage Road Layover Project

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* for the Heritage Road Layover (project) located in the City of Brampton.

Metrolinx is of the opinion that additional information from Indigenous Nations is required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted.

Under subsection 10(1) of Ontario Regulation 231/08, if a Notice of Issue is given, the 120-day TPAP consultation period stops running and will resume when the above-noted determination has been addressed and a Notice of Resumption has been provided to both the Director of the Environmental Assessment Branch and the Regional Director.

A copy of this Notice of Issue will also be posted today on the project's website, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover.

If you have any questions, or need further information about the project, please don't hesitate to contact me.

Sincerely,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay Street | Toronto | Ontario | M5J 2R8

From:	Indigenous Relations
To:	Dominic Ste-Marie; Lori-Jeanne Bolduc
Cc:	[redacted]; EPA.IR
Subject:	Heritage Road Layover Notice of Issue
Date:	July 18, 2022 4:33:28 PM
Attachments:	2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf image001.png

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Dear Dominic and Lori-Jeanne,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We are of the opinion that additional information from Indigenous communities and Nations is required to identify if existing aboriginal or treaty rights are to be impacted. This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate all of the feedback on the project received to date, and look forward to continuing to work with your Nation on this and other projects.

Best regards,
Jordon

Jordon MacArthur *(she/her)*
Senior Advisor, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3

METROLINX

July 18, 2022

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON, M4V 1P5

Attention: Kathleen O'Neill Carter, Director, Environmental Assessment Branch
c/o Jordan Hughes, Project Officer, Environmental Assessment Services

By Email: [redacted]

Dear Ms. O'Neill:

Notice of Issue - Heritage Road Layover Project

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* for the Heritage Road Layover (project) located in the City of Brampton.

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If you have any questions, or need further information about the project, please don't hesitate to contact me.

Sincerely,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay Street | Toronto | Ontario | M5J 2R8

From:	Indigenous Relations
To:	Abby LaForme
Cc:	Adam LaForme; Mark LaForme; Adrian Blake; EPA.IR
Subject:	Heritage Road Layover Notice of Issue
Date:	July 18, 2022 4:33:38 PM
Attachments:	2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf image001.png

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Dear Abby and Team,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We are of the opinion that additional information from Indigenous communities and Nations is required to identify if existing aboriginal or treaty rights are to be impacted. This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate all of the feedback on the project received to date, and look forward to continuing to work with your Nation on this and other projects.

Best regards,
Jordon

Jordon MacArthur *(she/her)*
Senior Advisor, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3

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July 18, 2022

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON, M4V 1P5

Attention: Kathleen O'Neill Carter, Director, Environmental Assessment Branch
c/o Jordan Hughes, Project Officer, Environmental Assessment Services

By Email: [redacted]

Dear Ms. O'Neill:

Notice of Issue - Heritage Road Layover Project

Metrolinx is currently following the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 *Transit Projects and Metrolinx Undertakings* for the Heritage Road Layover (project) located in the City of Brampton.

Metrolinx is of the opinion that additional information from Indigenous Nations is required to identify if existing Aboriginal and/or treaty rights, as recognized and affirmed in section 35 of the *Constitution Act, 1982*, are impacted.

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A copy of this Notice of Issue will also be posted today on the project's website, https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover.

If you have any questions, or need further information about the project, please don't hesitate to contact me.

Sincerely,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay Street | Toronto | Ontario | M5J 2R8

From: Indigenous Relations
To: Lonny Bomberry
Cc: [redacted]
EPA.IR; [redacted]
Subject: Heritage Road Layover Notice of Issue
Date: July 18, 2022 4:33:44 PM
Attachments: 2022-07-18-Heritage Road Layover - Notice of Issue Letter.pdf
image001.png

Dear Lonny and Team,

As described in the attached Notice of Issue, Metrolinx has decided to pause the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project. We are of the opinion that additional information from Indigenous communities and Nations is required to identify if existing aboriginal or treaty rights are to be impacted. This Notice of Issue will be posted today on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate all of the feedback on the project received to date, and look forward to meeting with your Nation on July 22 to further discuss the project methodology and our findings.

Best regards,
Jordon

Jordon MacArthur *(she/her)*
Senior Advisor, Indigenous Relations
Metrolinx
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3

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July 18, 2022

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON, M4V 1P5

Attention: Kathleen O'Neill Carter, Director, Environmental Assessment Branch
c/o Jordan Hughes, Project Officer, Environmental Assessment Services

By Email: [redacted]

Dear Ms. O'Neill:

Notice of Issue - Heritage Road Layover Project

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If you have any questions, or need further information about the project, please don't hesitate to contact me.

Sincerely,

Simon Yale Strauss

Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay Street | Toronto | Ontario | M5J 2R8

Workshop with Six Nations of the Grand River

July 22, 2022

Welcome to the Heritage Road Layover!





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Agenda

Introductions

Project Overview

Transit Project Assessment Process (TPAP) Overview

TPAP Studies

Discussion Period

Closing Remarks

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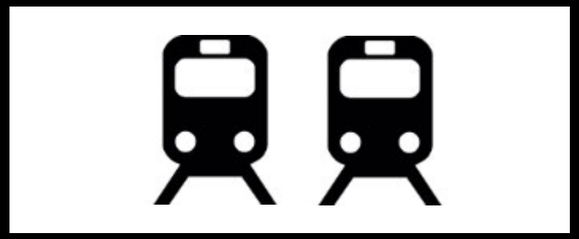
Introductions

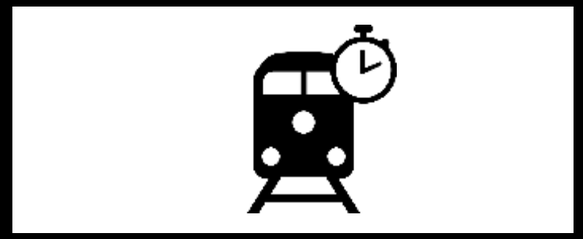
- Six Nations of the Grand River
- Metrolinx:
  - Heritage Road Layover Team
  - Environmental Programs and Assessment Indigenous Relations team
- Wood:
  - Bob Felker, Senior Environmental Planner
  - Michael Godard, Senior Fisheries Biologist

The Right Investment At The Right Time; GO Rail Expansion Will Enable:



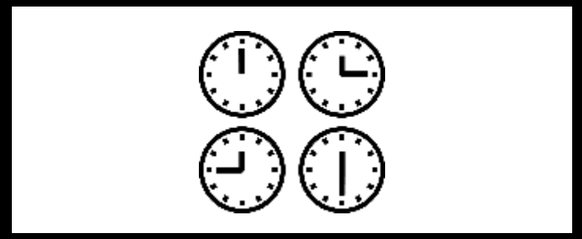
MORE TRIPS

6000 weekly trips
2x as many rush-hour options. **3x** as many off-peak options



FASTER TRAVEL

Electric trains **accelerate and decelerate faster.**
Introduction of **additional express** services.



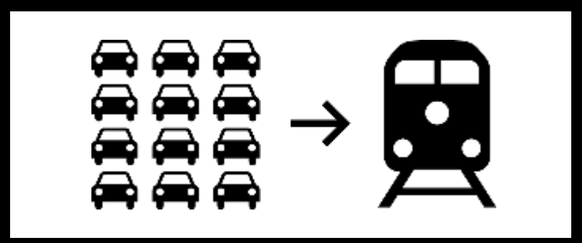
HIGH FREQUENCY

No need to check a schedule with service **every 15 minutes** or better, in both directions, all day



MORE CAPACITY

Doubling regional commuter capacity equivalent to **nine highways the size of the 401**



REDUCED CONGESTION

More trains = reduced congestion across the **region, taking close to 145,000 car trips per day, off the road**



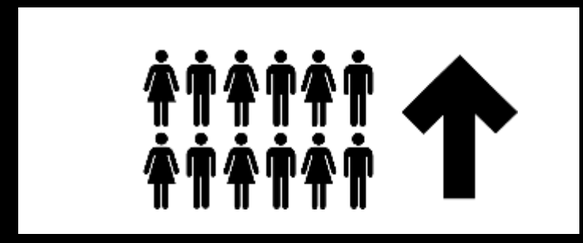
CREATE JOBS

An estimated **8,300 annual jobs** created for the first 12 years of delivery will be created over the lifecycle of the program



SAVES TAXPAYERS MONEY

All operating costs covered with fare box revenue. **GO Rail revenues will exceed 110%** of operating costs over the next 60 years



INCREASED RIDERSHIP

More options and faster trains will increase peak and off-peak service. **By 2055, annual ridership will exceed 200 million.**

What is a Train Layover?

A train layover is a support facility that provides:

- Overnight storage for trains when not in service;
- Mid-day storage for trains when less trains are required due to lower passenger capacity;
- Access to trains for inspection and light maintenance activities

Layover facilities are strategically located throughout the rail network to accommodate service expansion.

To accommodate the planned growth and service improvements on the Kitchener GO Rail Corridor, construction of a train layover (Heritage Road Layover) is proposed. This would reduce congestion along the corridor.



Example of a GO Train layover facility

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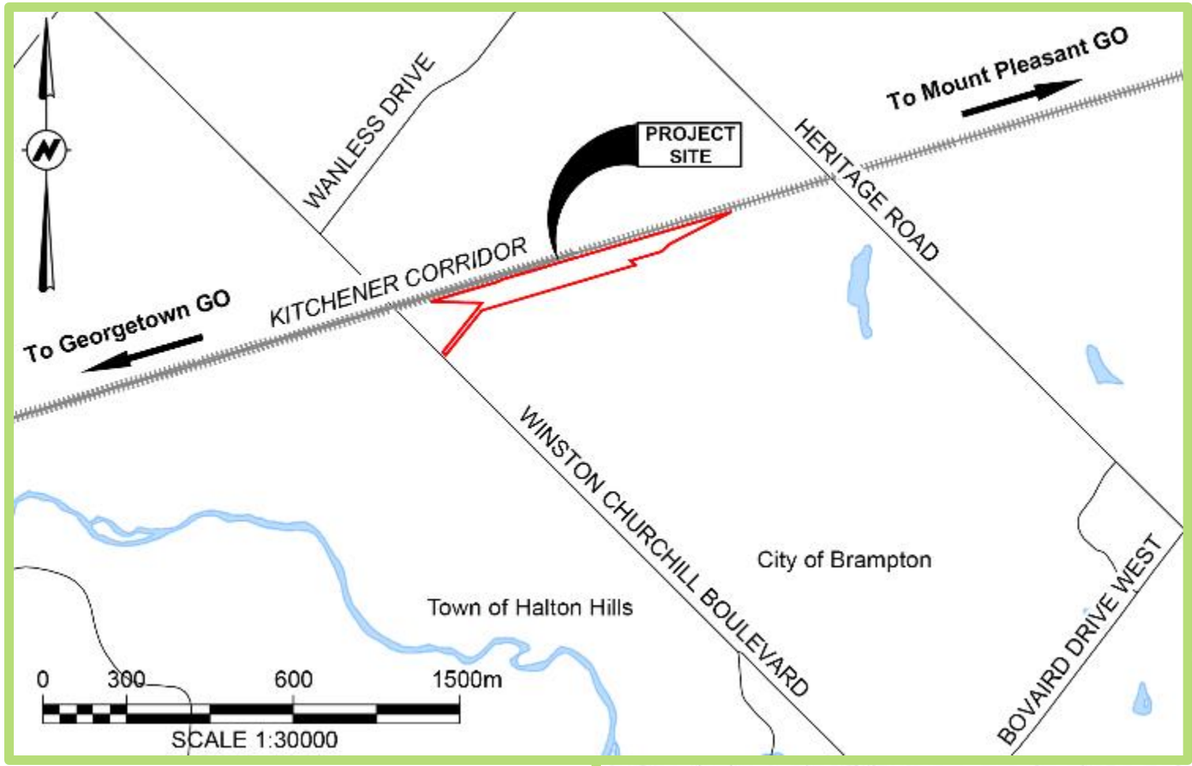
Heritage Road Layover – Project Overview



- The layover will be strategically located within the Halton Subdivision of the Kitchener Corridor (shown on the image on the left) between Mount Pleasant GO Station and Georgetown GO Station (shown on the image below).
- Between Mount Pleasant GO Station and Georgetown GO Station, Heritage Road (Mile 20.14) and Winston Churchill Boulevard (Mile 21.15) in the City of Brampton, Regional Municipality of Peel.
- Surrounding areas are planned for development as identified in the Heritage Heights Secondary Plan (adopted by City of Brampton council on April 6, 2022).
- Various upgrades to the existing road and highway network are planned in concert with the planned growth.



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Heritage Road Layover – Existing Surroundings

- Current neighbouring land uses are primarily agricultural and rural residential, with nearby self-storage business on the south end of the tracks, and CN Works Yard on the north side of the tracks
- Site is within the Heritage Heights Subwatershed, which drains to the Credit River



Surrounding agricultural lands



U-Need Storage self-storage facility



CN Works Yard

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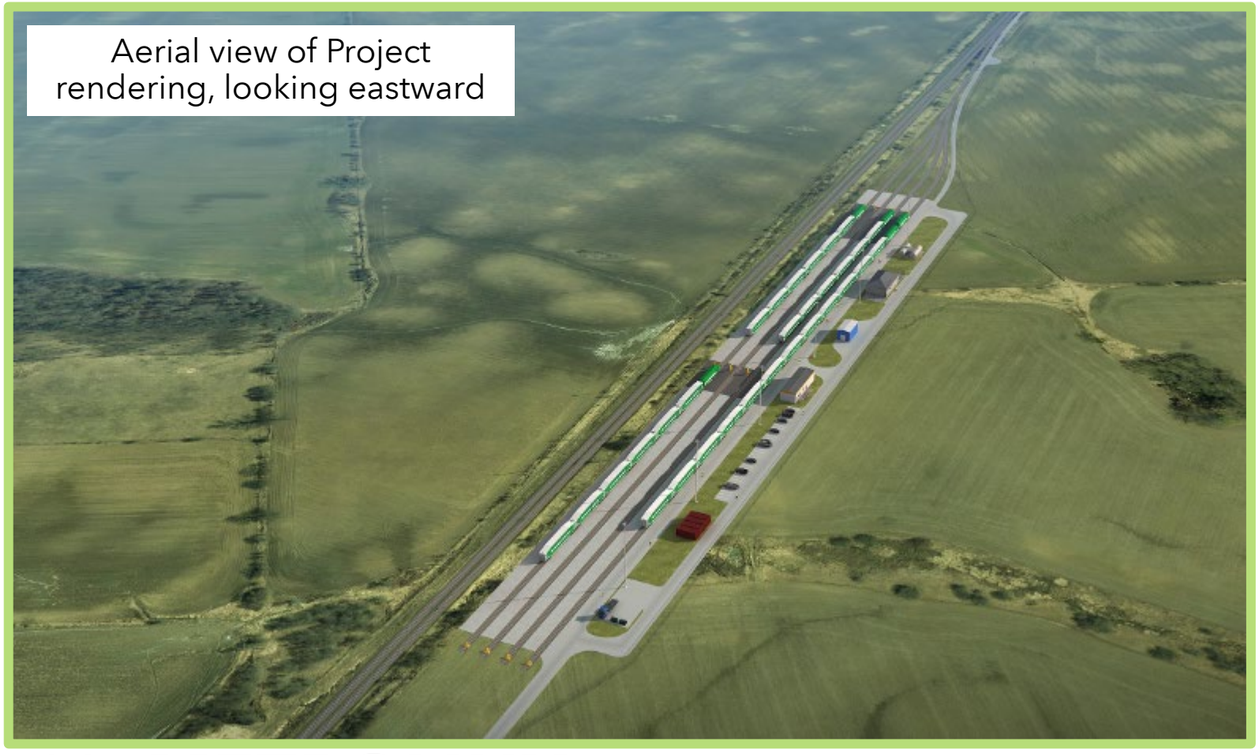
Heritage Road Layover - Renderings







Aerial view of Project Site and surrounding landscapes

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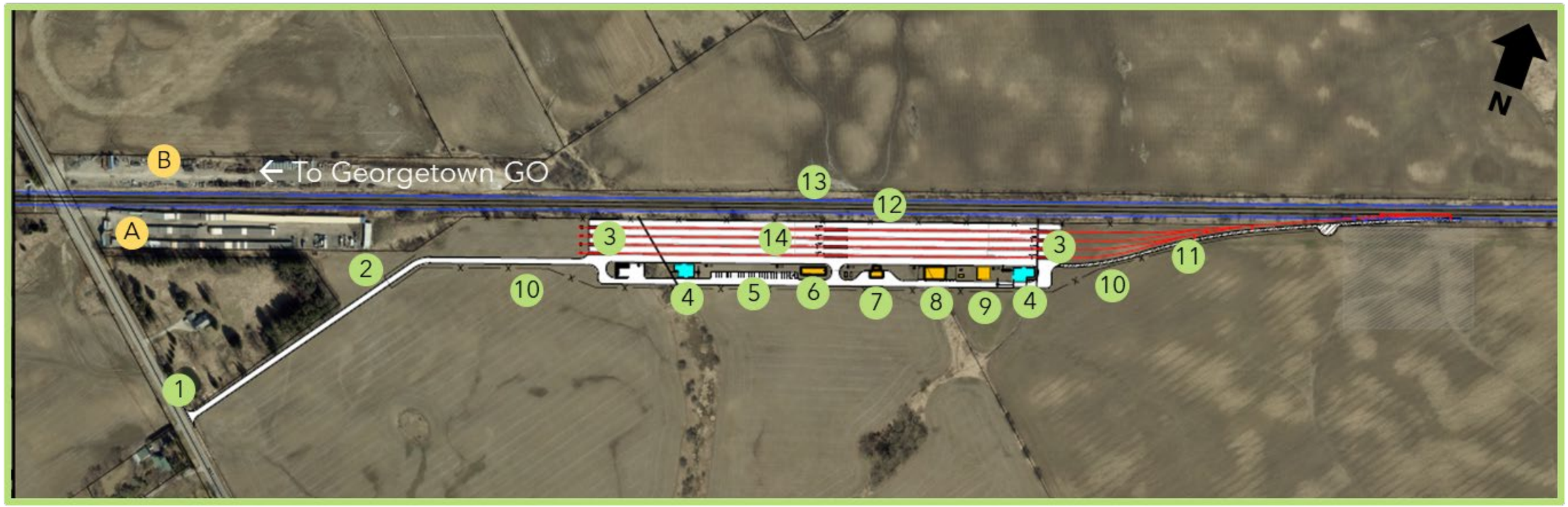
Heritage Layover - Facility Design



Design Elements

- Four layover tracks for maximum storage of four GO Trains (two locomotives, 12 coaches per train or 8 trains with 1 locomotive and 6 cars)
- Access road entrance from Winston Churchill Blvd.
- Connection to Kitchener Corridor (CN) mainline track

Legend

1. Facility Entrance
2. Gate
3. Culvert
4. Infiltration Facility
5. Parking Area
6. Crew Building
7. Waste Building
8. Substation
9. Concrete Pad
10. Fence
11. Maintenance Road
12. Current Mainline Tracks
13. Future Mainline Tracks
14. Layover Tracks

A. U-Need Storage

B. CN Works Yard

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Transit Project Assessment Process (TPAP) Studies

A number of technical studies were completed under the TPAP to ensure that natural, social, cultural, and economic environments are protected and any potential adverse effects from proposed infrastructure are either avoided, mitigated, or minimized. These studies are:

- Air Quality
- Archaeology
- Natural Environment
- Noise & Vibration
- Cultural Heritage
- Tree Inventory Plan
- Traffic & Transportation
- Socio-Economic and Land Use Characteristics

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Heritage Road Layover Field Work and Reports

The following field work is scheduled to be completed on the Project Site in Summer 2022:

Study	Field Dates
Topographical Survey	May 24 – May 30, 2022 (5 days) - Completed
Confirmation Ecological Land Classification and Plant List Collection	June 9 – 10, 2022 (2 days) – Completed (on-site only)
Significant Wildlife Habitat and Species of Risk (SAR) Habitat Assessment	
Tree Inventory	
Fish & Fish Habitat Assessment	July 4, 2022 (1 day) – Completed
Phase II ESA	July 11 – July 15, 2022 (4 to 5 days) – Completed
Geotechnical Study and Groundwater Monitoring	July 11 – August 5, 2022 (4 weeks) – In progress
Stage 3 Archaeological Assessment	July 25 – August 12, 2022 (3 weeks)

Reports in preparation:

Natural Environment – Desktop findings included in EPR, an update to the report to include field findings when completed will be provided as a memo

Tree Inventory Plan – To be Completed

Stormwater Management – To be Completed

Stage 3 Archaeological Assessment Report – To be Completed

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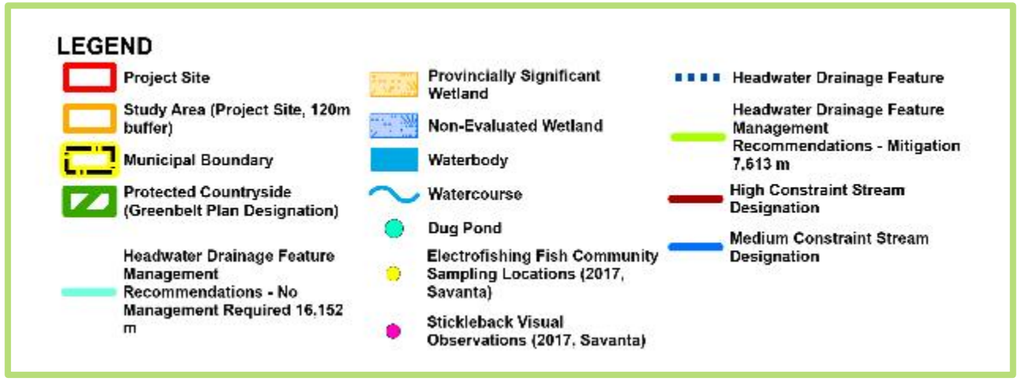
Natural Environment

Study Highlights



Aquatic habitats and watercourses within the Study Area and surrounding areas

- The purpose of the study was to identify existing conditions for wildlife and landscape features within the project study area and assess potential impacts and recommend avoidance, mitigation, monitoring, and/or compensation measures.
- Based on a desktop review of policies and previous studies relating to the aquatic and land environments.



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Natural Environment

Terrestrial Studies – June 9 and 10, 2022

- Ecological Land Classification (ELC) and Plant List Collection of species previously identified
- List of vascular plants observed during the field investigations collected
- Significant Wildlife Habitat (SWH) and Species at Risk (SAR) Habitat were assessed.
  - **No SAR or SWH observed within the Project Site and CN Corridor**
- Wildlife exclusion fencing will be installed during construction of Project



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Tree Inventory

Field Investigations Overview

- Conducted on June 9 and 10, 2022
- Tree species, size (all trees ≥10 cm DBH), condition, arborist recommendation, ownership (shared/boundary), and location were recorded within the Study Area
    - Total of 136 trees recorded
- Where applicable, trees were affixed with a pre-numbered aluminum tag for ease of documentation and follow-up works.
- All trees included as part of this assessment were inspected visually from the ground
- The Tree Inventory report will document the methods and results of the field investigations as well as identify impacts on trees within the Project Study Area



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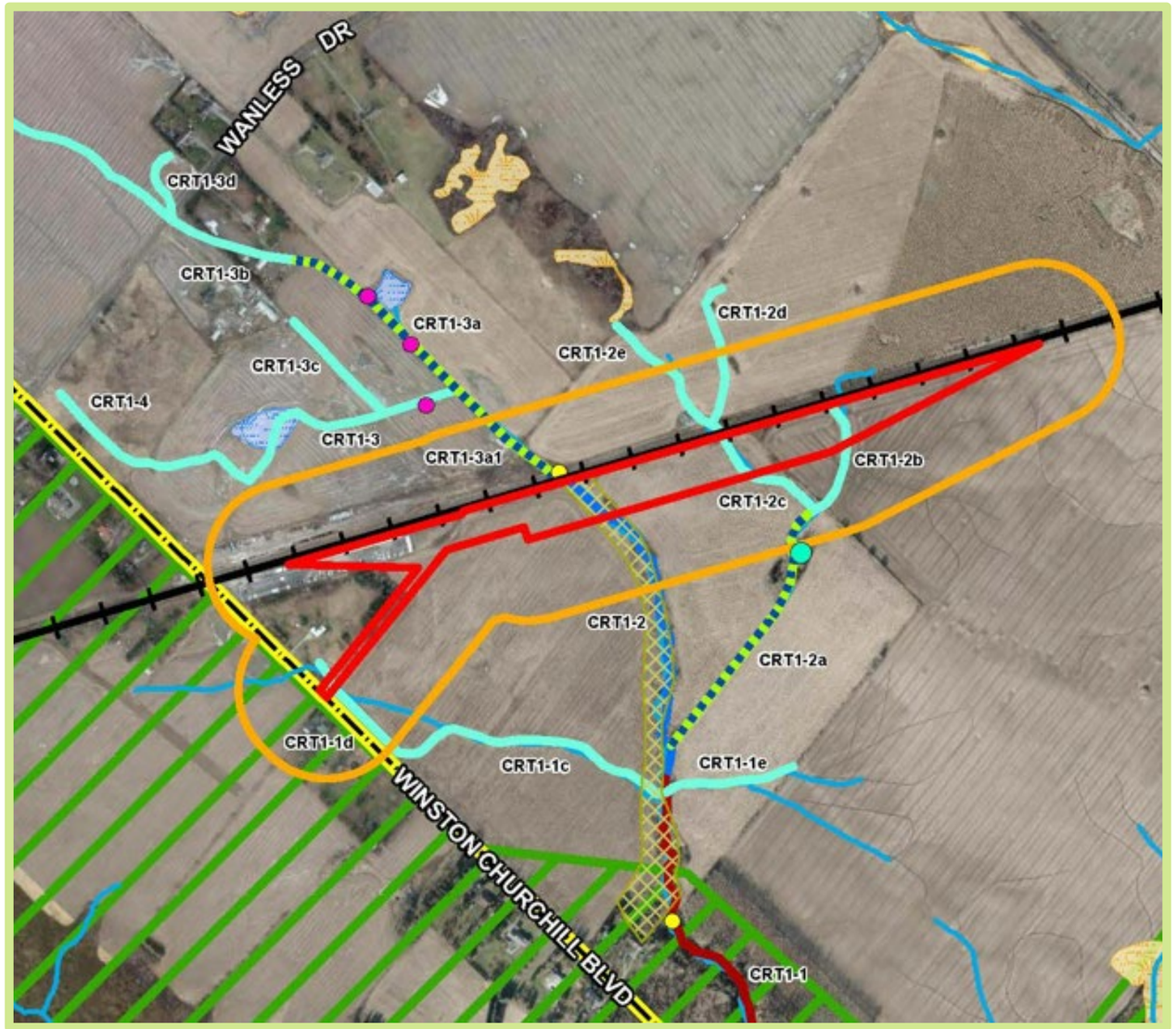
Natural Environment

Aquatic Study – July 4, 2022

- Fish and Fish Habitat Assessment completed on the three watercourses within the area
- Area of investigation was 50m upstream and 200m downstream where Permission to Enter (PTE) allows
  - Currently no access granted to evaluate downstream components of CR1-2,-2b, -2c, nor upstream and downstream of CR1-1d
- Existing habitat conditions documented and mapped
  - Watercourses dry during Site Visit

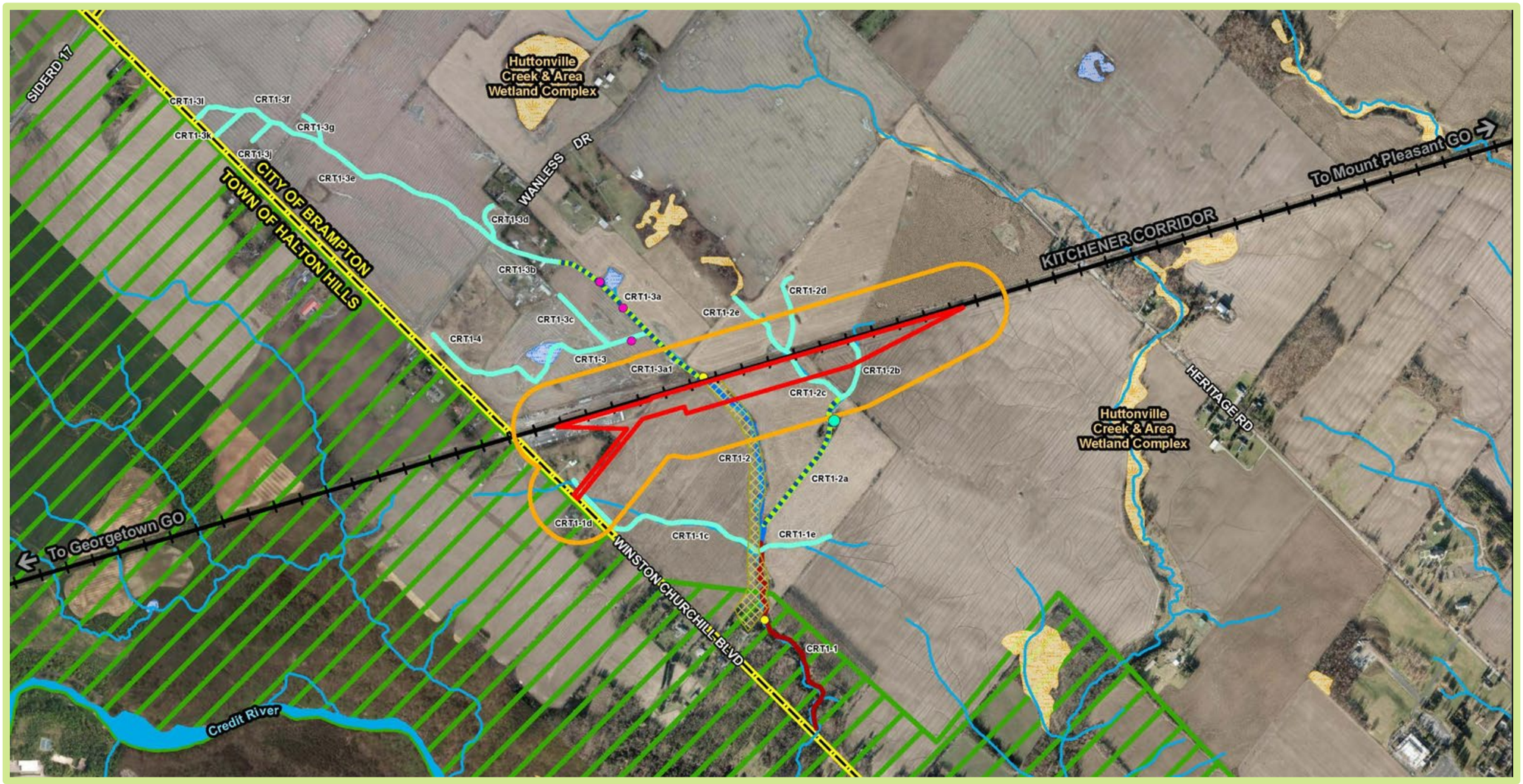


LEGEND

- Project Site
- Study Area (Project Site, 120m buffer)
- Municipal Boundary
- Protected Countryside (Greenbelt Plan Designation)
- Provincially Significant Wetland
- Non-Evaluated Wetland
- Locally Significant Riparian Wetland (0.5 -2 ha)
- Waterbody
- Watercourse
- Dug Pond
- Headwater Drainage Feature
- Headwater Drainage Feature Management Recommendations - Mitigation 7,613 m
- Headwater Drainage Feature Management Recommendations - No Management Required 16,152 m
- High Constraint Stream Designation
- Medium Constraint Stream Designation
- Electrofishing Fish Community Sampling Locations (2017, Savanta)
- Stickleback Visual Observations (2017, Savanta)

Natural Environment

Aquatic Study – Regional Context



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LEGEND

- Project Site
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- Stickleback Visual Observations (2017, Savanta)

Natural Environment

Aquatic Study Photos





Natural Environment

Aquatic Study Photos





Natural Environment

Aquatic Study Photos





Natural Environment

Mitigation and Monitoring Measures

Environmental Components	Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Migratory Breeding Birds and nests	Disturbance or destruction of migratory bird nests.	• If activities are proposed to occur during the general nesting period (between March and September), a **breeding bird and nest survey** will be undertaken prior to required activities.	• Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife	Disturbance, displacement or mortality of wildlife.	• If wildlife is encountered, measures will be implemented to **avoid destruction, injury, or interference with the species, and/or its habitat**.	• **On-site inspection** will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required.
Species at Risk (SAR)	Habitat loss, disturbance and/or mortality to potential SAR.	• All requirements of the **Endangered Species Act (ESA) and Species at Risk Act (SARA)** will be met.	
Watercourses	Erosion and sedimentation to watercourses from construction.	• An **Erosion and Sediment Control Plan and a Spill Prevention and Response Plan** will be prepared prior to and implemented during construction.	
Fish and Fish Habitat	Potential for direct, in-water impacts to fish and fish habitat.	• In the event that in-water and/or near water construction works are required, the **restricted construction activity timing windows and appropriate mitigation measures will be followed**, as identified in Applicable Law and through consultation with the relevant authorities.	
Vegetation	Permanent loss of vegetation or wetlands due to construction.	• **Vegetation removal shall be kept to a minimum** and limited to within the construction area.	

Stage 1 Archaeological Assessment

Study Purpose and Area

The Stage 1 Archaeological Assessment report summarized existing archaeological information and recommended a Stage 3 Archeological Assessment to be completed on a portion of the Project Site by licensed professional archaeologists.



Location of previous archaeological studies within the Study Area for the Heritage Road Layover

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wood.

Stage 1 Archaeological Assessment

Study Results

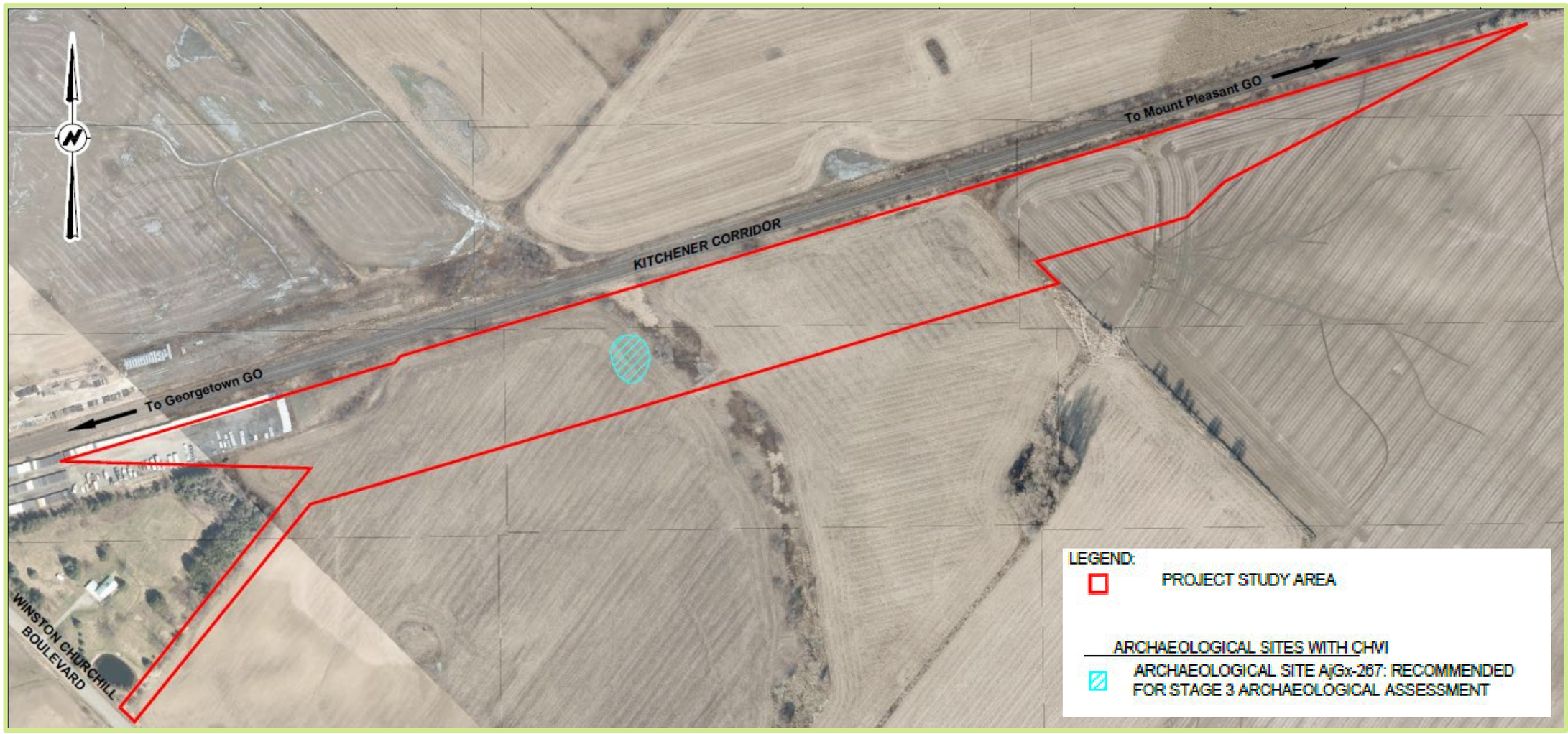
- Site AjGx-267, a Euro-Canadian archaeological site was recommended for a Stage 3 AA

Potential Effects	Proposed Mitigation Measures	Proposed Monitoring Measures
Potential for the disturbance of unassessed or documented archaeological resources	• Shared with Indigenous Nations for review and comment. • **If archaeological materials are encountered or suspected of being encountered during construction, all work will cease.** The location of the findspot will be protected from impact as the assessment will be completed by a professionally licensed archaeologist. • If final limits of the Project Site are altered and fall outside of the assessed study area, additional Archaeological Assessments (i.e., Stage 2, 3, 4 as required) will be conducted by a professionally licensed archaeologist prior to disturbance and prior to construction activities. • **If human remains are encountered or suspected of being encountered during project work, all activities will cease immediately.** The local police/coroner as well as the Bereavement Authority of Ontario on behalf of the Ministry of Government and Consumer Services will be contacted.	• Performance of the work will occur within land previously subject to an Archaeological Assessment. • Any site personnel responsible for carrying out or overseeing land-disturbing activities will be informed of their responsibilities in the event that an archaeological resource is encountered. • **Further Archaeological Assessment may identify the need for monitoring during construction**.

Stage 3 Archaeological Assessment

Study Purpose and Area

- Site AjGx-267, a Euro-Canadian archaeological site was recommended for further examination and field work is scheduled from July 25, 2022 to August 12, 2022



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Stage 3 Archaeological Assessment

Study Field Investigations

- Fieldwork for the Stage 3 AA will be conducted on Euro-Canadian archaeological site AjGx-267 as follows:
    1. Hand excavation of twenty-eight 1 m² units at the site
        - Twenty units will be excavated at 10 m intervals throughout the site area
        - Eight test units will be excavated in areas of relatively high artifact yields or other areas of interest
    2. Topsoil fills and the top 5 cm of subsoil from all units excavated will be screened through 6 mm mesh in order to facilitate artifact recovery, and the subsoil surface will be carefully trowelled in order to identify subsurface cultural features.
    3. Artifacts will be recovered, recorded and catalogued by provenience.
    4. If any features are encountered, they will be recorded, covered in geotextile fabric, and backfilled by hand.
- Afterwards, artifacts will be processed and analyzed in the laboratory
- A Stage 3 report will be prepared for the site and it will contain recommendations regarding the need for Stage 4 mitigation, if required, based on the cultural heritage value or interest of the site

Cultural Heritage

Study Purpose and Study Area



Location of cultural heritage resources with proximity to the Project Site

- Establish the historical context of the Study Area
- Identify known and potential built heritage resources and cultural heritage landscapes through information gathering and fieldwork
- Create an inventory of built heritage resources and cultural heritage landscapes
- Conduct a preliminary impact assessment

Cultural Heritage

Study Results

- Three (3) cultural heritage resources identified:

Property	Potential Effects	Proposed Mitigation Measures
CHR1 (McNichol Cemetery)	No impacts anticipated.	• **Proposed work planned in a manner that avoids the cemetery** and should be clearly demarked on project drawings
CHR2 (Private property)	Indirect impacts due to: • New access road • Construction of the layover facility May result in the isolation of the property from the surrounding rural context	• Proposed work planned to **maximize the buffer between the access road/layover facility and the residential property**. The property and should be clearly demarked on project drawings as a "potential heritage property" • **Post-construction landscaping recommended** to screen the layover facility and access road from the residential property.
CHR3 (Private Property)	No adverse impacts anticipated since it is not within proximity of the layover.	• Not applicable for the Project as the location of property is more than 100 m from the Project Site.

- City of Brampton is currently in the process of pursuing a heritage designation for the McNichol Cemetery
  - Grave memorials were relocated during the 1970s and bases were moved off the land in the mid-2000s.
  - Burials remain in situ.

Cultural Heritage

Study Results



CHR1: McNichol Cemetery with fencing



CHR2: Private residence on Winston Churchill Blvd.



CHR3: Private residence on Winston Churchill Blvd.

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Air Quality

Study Purpose

- Determines the **potential air quality impacts generated as part of construction and operation of the Project** and
- Develops mitigation strategies for any potential issues identified within the report
- Air quality monitoring stations in similar surrounding land uses and close to the Project Site established baseline air concentrations

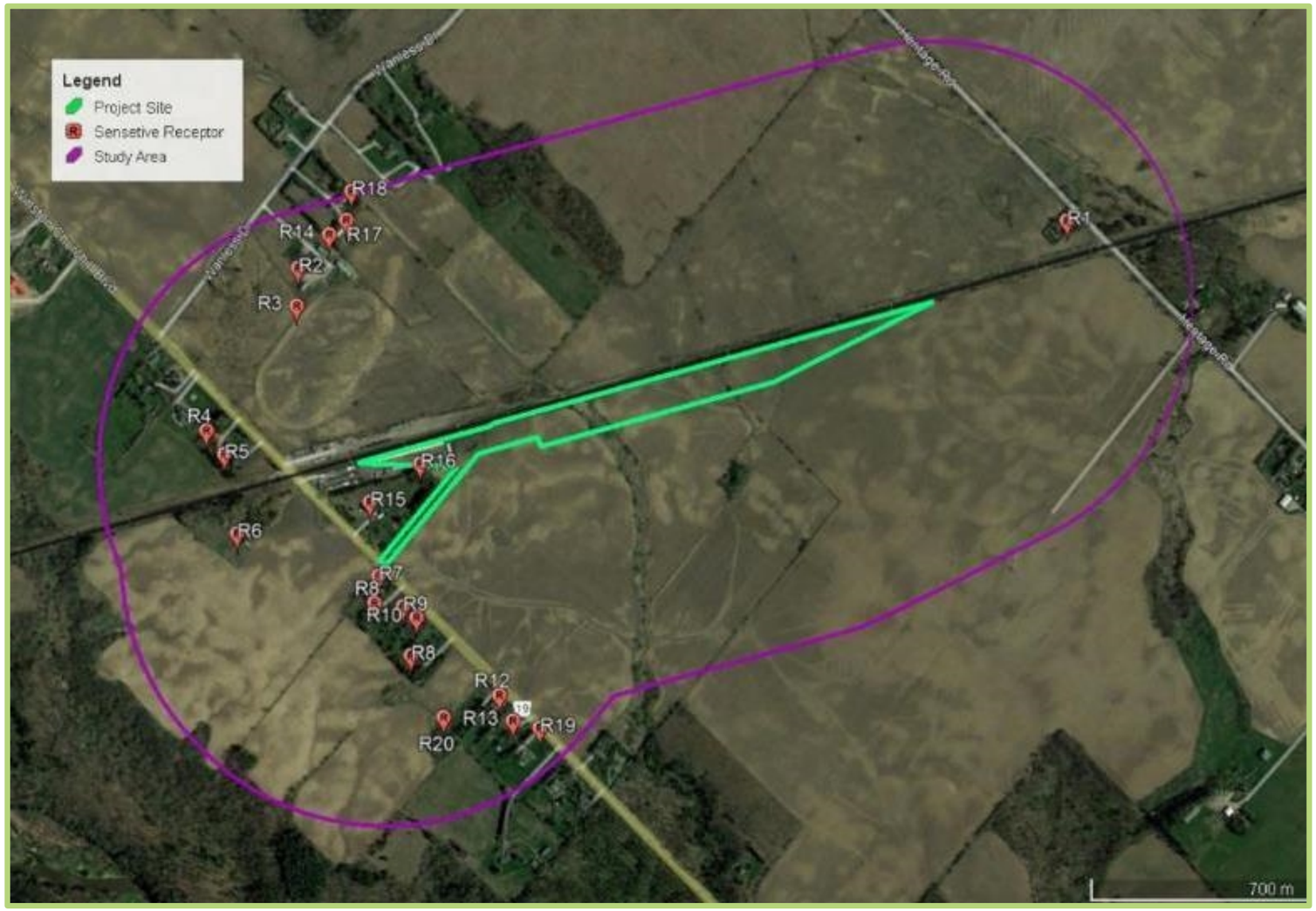
- Considered contaminants include:
  - Particulate matter
  - Criteria air contaminants (nitrogen dioxide, carbon monoxide, sulphur dioxide)
  - Volatile Organic Compounds (VOCs)
  - Odorous contaminants

- Sources of air pollution in the area include:
  - Traffic on local arterials and railroads
  - Residential, institutional, and commercial heating
  - Transboundary sources

Air Quality

Study Area

- 20 sensitive receptors (all residential homes) which were examined within the 500 m Study Area of the Project:



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Air Quality

Study Results

- The key contaminants identified with the potential for air quality effects were PM10, PM2.5, and NO2 associated with fugitive dusts and equipment tailpipe emissions
- Potential effects limited to 130 metres surrounding construction activities, with proper mitigation and monitoring
- Continuous monitoring for dust effects (PM10) is recommended
- Air quality will improve in the Study Area due to an anticipated increased use of cleaner fuels and electrical vehicles

Project Phase	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction	• Construction Air Quality Management Plan (AQMP) • Communications Protocol • Complaints Protocol • Dust prevention and control methodologies	• Weekly Air Quality Monitoring Plans • Monitor placement should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks (MECP) Operations Manual for Air Quality Monitoring in Ontario (2018).
Operations	• Air Quality Management Plan (AQMP) • Unnecessary train / engine / propulsion system idling will be minimized	• On-site inspections • Annual testing of emission compliance for train propulsion and auxiliary power units • Air Sampling and Monitoring Plan

Noise and Vibration

Study Purpose and Study Area



Location of four sensitive receptors for baseline condition monitoring

- Reviews construction and stationary sources of sound that will be produced from the Project
- Construction phase was modelled based on construction activities within five construction stages and assumed equipment that will likely be utilized for the Project
- Operations phase was monitored on stationary noise and vibration sources for the layover-built scenario
- Major sources of existing noise include:
    - Rail traffic from CN freight, VIA Rail, GO trains
    - Road traffic
- Study Area extends 500 m from Project Site
- Baseline conditions at four identified representative sensitive receptors to be measured for a total of one month
    - RSR1 is immediately adjacent to the proposed Project

Noise and Vibration

Study Results

- During construction, noise increases are anticipated to be temporary in nature and considered short-term nuisance to nearby residents
- Noise levels are predicted to exceed the applicable Metrolinx Guideline limits at:
    - RSR1 during daytime (07:00-23:00) during all stages of construction
    - RSR2 for Stages 2-5 simultaneous activities scenario of construction
    - All RSRs during the night-time (23:00-07:00) periods for all construction stages
- Operational vibration impacts expected to be insignificant due to slow moving trains and the proximity of the closest RSR being at least 100 metres away from the tracks

Project Phase	Proposed Mitigation Measures	Proposed Monitoring Measures
Construction	• Major construction activities to be scheduled during daytime hours • Noise mitigation measures installed and properly maintained • Where possible, construction equipment will be turned off when not in use • Operate vibration-generating equipment as far from sensitive receptors as possible • No overlap between vibration-generating activities	• Construction activities will be monitored by a qualified Environmental Inspector

Next Steps

- Field studies on-going
    - Geotechnical Study and Groundwater Monitoring - July 11 – August 5, 2022 (4 weeks) – In progress
    - Stage 3 Archaeological Assessment - July 25 – August 12, 2022 (3 weeks)
- Notice of Resumption and Notice of Completion
    - 30 Day Public and Stakeholder Review of Environmental Project Report
- 35 Day Minister's Review and Decision with Notice to Proceed or Revise
- Continued consultation with Six Nations of the Grand River through design and construction

Thank you for your engagement!





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wood.

Discussion and Questions

From: Jaimi O'Hara <[redacted]>
Sent: July 21, 2022 4:51 PM
To: Jake Linklater <[redacted]>
Cc: David Ayotte [redacted]>; Indigenous Relations <IndigenousRelations@metrolinx.com>
Subject: Documents for Review - Heritage Road Layover
Importance: High

Hi Jake,

As per your recent conversation with David, in recognition of our new relationship [redacted], we wanted to re-share the environmental documents that were previously shared with HDI in support of the Heritage Road Layover TPAP.

Metrolinx circulated the draft Stage 1 AA on February 8, and the draft Cultural Heritage Report on March 7, 2022. On April 5, 2022 the Environmental Project Report (EPR) and associated documents were shared.Specifically, the material shared included:

- Draft EPR;
  - Draft Air Quality Baseline Conditions and Impact Assessment Report;
  - Draft Noise and Vibration Baseline Conditions and Impact Assessment Report;
  - Draft Natural Environment: Existing Conditions and Impact Assessment Report;
  - Draft Socio-Economic and Land Use Baseline Conditions and Impact Assessment Report;
  - Draft Traffic and Transportation: Existing Conditions and Impact Assessment; and
  - Draft Phase I Environmental Site Assessment.
  - Draft Natural Environment: Existing Conditions and Impact Assessment Report;
  - Draft Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment; and
  - Draft Stage 1 Archaeological Assessment Report.

All of the reports listed above can be found at the following link:
[redacted]

The Tree Inventory, Terrestrial and Aquatic Fish and Fish Habitat Survey referred to in the

EPR are under development based on the findings of the recently completed technical studies. We will circulate these studies as they become available.

As David indicated, Metrolinx has issued a pause for the TPAP. We expect it to resume in early August and we are committed to work with you and HDI to integrate your feedback, if any, into the design phase of the project.

As I previously mentioned, I am heading out on vacation between July 22 and Aug 2. However, anyone in the Indigenous Relations Office will be happy to assist should you have any questions, or you can always reach out to David directly.

Thank you so much,
Jaimi

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: August-05-22 3:20 PM
To: Lonny Bomberry [redacted]
Cc: [redacted] Dawn Russell [redacted] Tanya Hill-Montour [redacted] EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: Heritage Road Layover Workshop

Dear Lonny and Team,

Please see attached the letter addressing comments and concerns raised during the heritage Road layover Workshop July 29th, 2022.

Please let us know if you have any concerns arising from the letter and answerers therein by August 12, 2022.

Thank you and I hope you have an enjoyable weekend,

Jordon

Jordon MacArthur *(she/her)*
Senior Advisor, Indigenous Relations
Metrolinx
97 Front St| Toronto | Ontario | M5J 2W3

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Friday, August 5, 2022

Chief Mark Hill
c/o Lonny Bomberry, Director, Lands & Resources
Six Nations of the Grand River
[redacted]

Delivered by Email

Dear Mr. Bomberry,

RE: Responses to Outstanding Inquiries Relating to Heritage Road Layover Six Nations of the Grand River Workshop (July 22, 2022)

Metrolinx held a workshop with representatives of Six Nations of the Grand River to discuss the details of the Heritage Road Layover project on July 22, 2022. The intention of the workshop was to summarize the following:

- The proposed location and design of Heritage Road Layover;
- The methodology and results of technical studies that make up the Environmental Project Report (EPR), which support the filing of the Transit Project Assessment Process (TPAP);
- Proposed environmental mitigation strategies; and
- Potential project-related aspects or areas of concern from Six Nations of the Grand River.

During the workshop, Six Nations of the Grand River provided project-specific feedback, as well as concerns to broader Metrolinx processes. While the intent of this response is to address project-specific queries and concerns, Metrolinx commits to working with Indigenous communities and Nations in the development of corporate strategies which will enable engagement at earlier stages of the project lifecycle. A summary of the workshop is presented in Appendix A.

Heritage Road Layover Project Feedback and Commitments to Future Work

Metrolinx and our consultant (Wood) shared an overview of the approach of the natural environment studies completed for the Transit Project Assessment Process (TPAP) during the workshop. The approach was as follows:

- A desktop review of existing and publicly available information prepared by others (e.g. consultants, industry, government, etc.) included in the EPR.
- Spring 2022 field studies (i.e. confirmation of ecological land classification, plant and tree inventory, species at risk and significant wildlife habitat assessment, and fish and fish habitat assessments) were unable to be completed due to site access constraints during the preparation of the EPR. As such, completion of these studies in summer 2022 are included as a commitment and included in an erratum to the EPR following the 30-day public comment period.

- Field studies were completed in June and July 2022 as part of an environmental commitment identified in the EPR. The scope of work included two days (June 9 and 10, 2022) to complete ecological land classification, plant list collection, significant wildlife and species at risk habitat assessment and tree inventory, and another day was allocated to complete a fish and fish habitat assessment (July 4, 2022).

Six Nations of the Grand River expressed concern that the field studies were completed during a short window within the summer season; the studies would not accurately reflect the environmental observations encountered throughout the year. Six Nations of the Grand River strongly encouraged the completion of a multi-seasonal assessment. Further, Six Nations of the Grand River was also concerned that previous studies relied upon by Metrolinx and Wood as part of the desktop natural environment technical study were out of date (earliest completed in 2012).

Following the workshop, Metrolinx and Wood internally reviewed the studies and secondary resources evaluated in the Natural Environment Report included in the TPAP. These were:

- Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) database (Ontario Ministry of Natural Resources and Forestry, 2019) (17NJ9035, 17NJ135);
- Land Information Ontario (LIO) and Ontario GeoHub (Ontario Ministry of Natural Resources and Forestry, 2019);
- Atlas of the Breeding Birds of Ontario (Cadman, Sutherland, Beck, Lepage, & Couturier, 2007; Grid ID 17NJ93);
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2019; Grid ID 17NJ93);
- Ontario Butterfly Atlas (MacNaughton, 2019; Grid ID 17NJ93);
- iNaturalist (17 December 2021);
- Heritage Heights Subwatershed Study Phase 1: Subwatershed Characterization and Integration Report (Wood, 2021); and
- Heritage Heights Subwatershed Study Phase 2: Subwatershed Impact Assessment (Wood, 2021).

While some of the information utilized in the desktop survey is more than 10 years old (Atlas of the Breeding Birds of Ontario, 2007), most of the material was updated within the last 5 years. Specifically, the Heritage Heights Subwatershed Study Phases 1 and 2 completed for the City of Brampton by Wood in 2021 covered a 10-year study period which spanned across various seasons. The Heritage Heights Subwatershed Studies have not been made public, however the City of Brampton had provided authorization for the Wood team completing the Heritage Road Layover TPAP to review this information to incorporate into the Natural Environment Report. Material reviewed included:

- Ecological land classification (ELC) vegetation communities surveys completed in 2012, 2017 and 2021
- Snake hibernacula and turtle basking surveys completed in 2017 through 2018;
- *Anuran* monitoring stations with amphibians (frogs and toads) observed in 2017 through 2018;

- Amphibian road crossing survey in 2008 through 2009;
- Breeding bird surveys completed in 2017 (grassland and woodland species);
- Winter wildlife studies completed in 2008 through 2011;
- Electrofishing fish community sampling in 2017;
- Headwater drainage features and watercourses evaluation in 2019; and
- Fish habitat survey in 2021.

An extract of the findings related to the Heritage Heights Subwatershed Studies in the vicinity of the Heritage Road Layover are outlined in Appendix B.

The information gleaned from the above-noted field studies in the Heritage Heights Subwatershed Study suggested that there were very limited amphibian, reptilian or wildlife species observed within the Heritage Road Layover Project Site and 120 m Study Area.

The information gleaned from the above-noted field studies in the Heritage Heights Subwatershed Study suggested that there was limited to no reptilian or wildlife species observed within the Heritage Road Layover study area.

In the field studies completed in June and July of 2022 found no evidence of significant wildlife habitat or species at risk presence at the Heritage Road Layover site. The original scope of work for natural environment studies had recommended fish and fish habitat studies during the spring freshet. However, as mentioned previously, these studies could not be completed due to site access restrictions. As such, Metrolinx will include a commitment in the EPR to complete the fish and fish habitat study in the spring of 2023 in advance of construction activities to confirm observations identified in the 2017 electrofishing survey.

Additional outstanding questions that Six Nations of the Grand River raised during the workshop are presented in Appendix C with responses.

Next Steps

As mentioned in the July 22 workshop, as the original Notice of Completion date for the TPAP was also July 22, Metrolinx paused the TPAP to provide time between the workshop and the Notice of Completion for Six Nations of the Grand River to review and provide input. Metrolinx is intending to issue a Notice of Resumption on August 15, 2022 to resume the TPAP, followed by a Notice of Completion on August 18, 2022. Both of these Notices will be shared with Six Nations of the Grand River on the respective days. Metrolinx recognizes that some of our commitments outlined in the TPAP (including the future commitment discussed above) will occur following the TPAP. Metrolinx will continue to engage with Six Nations of the Grand River to address concerns or queries during development of detailed design and throughout construction.

Please let us know if you have any concerns with this field study approach by providing us with a written response by **August 12, 2022.**

If you require additional information or materials, or if you wish to discuss this field study or the Project in more detail or set up a meeting, please contact Jaimi O'Hara, Senior Manager of Metrolinx's Indigenous Relations Office at IndigenousRelations@metrolinx.com.

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Thank you for your time in reviewing this letter.

Kind regards,

Jaimi O'Hara

Jaimi O'Hara
Manager, Indigenous Relations
Metrolinx

Please note that any information you provide to Metrolinx, or its delegates, will be subject to the Freedom of Information and Protection of Privacy Act, except where information is provided to Metrolinx in confidence, pursuant to section 15.1.

cc: Dawn LaForme, Secretary/Receptionist, Six Nations of the Grand River
Dawn Russell, Administrative Assistant, Six Nations of the Grand River
Tanya Hill-Montour, Archaeological Coordinator, Six Nations of the Grand River
Robbin Vanstone, Consultation Supervisor, Six Nations of the Grand River
Indigenous Relations Office, Metrolinx
Environmental Programs and Assessment Indigenous Relations team, Metrolinx
Simon Strauss, Manager, Environmental Programs and Assessment, Metrolinx
Clara Chan, Project Manager, Environmental Programs and Assessment, Metrolinx

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Appendix A

Heritage Road Layover Six Nations of the Grand River Workshop Notes

Please note meeting minutes are not included as part of the record of consultation as these discussions are sensitive and confidential. The information shared within these meetings often comprises of traditional knowledge which is not to be disseminated with the broader public.

10 Bay Street
Toronto, ON M5J 2N8
416.202.4967
metrolinx.com

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Appendix B

Summary of Heritage Heights Subwatershed Study Findings - Terrestrial and Aquatic Studies

Note that the City has not yet released this to public therefore subsequent pages were removed

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Toronto, ON M5J 2N8
416.202.4967
metrolinx.com

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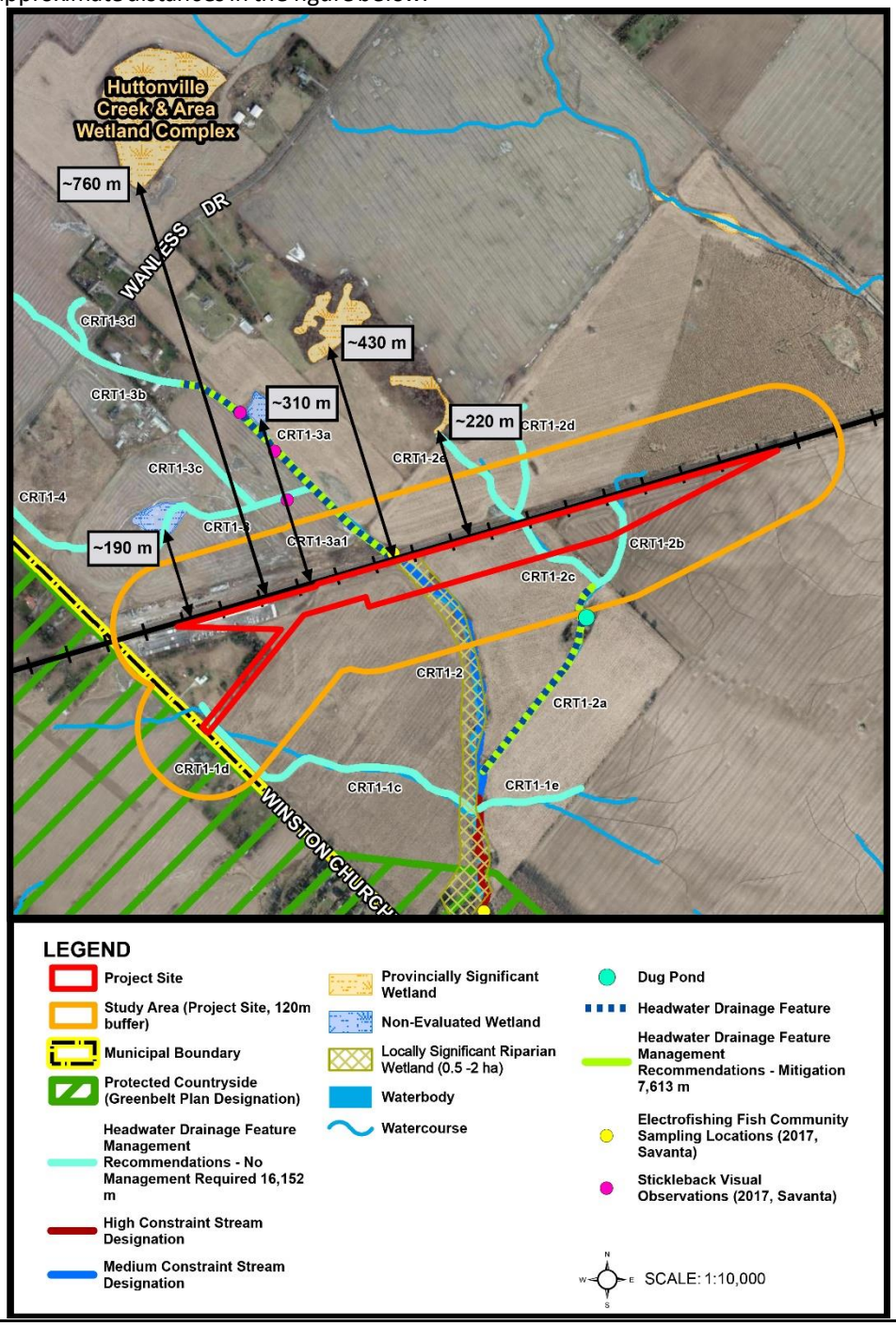
Appendix C

Supplemental Questions to Six Nations of the Grand River Workshop

Q: What is the length of the Project Site?
A: The current planned length of the of Heritage Road Layover is approximately 900 m in length. A proposed service road which connects the layover at the western end to Winston Churchill Boulevard is approximately an additional 275 m in length. The total proposed area of the footprint is approximately 5 hectares, or 50,000 m^2.

Q: What is the exact distance of the wetland North of the Heritage Road Layover project site?
Please see approximate distances in the figure below:



10 Bay Street
Toronto, ON M5J 2N8
416.202.4967
metrolinx.com

Q: What is the length of time for the construction of the Heritage Road layover? How would noise and vibration exceedances compared to the noise and vibration guideline limits be addressed from construction? A: Construction of the Heritage Road Layover project is anticipated to begin mid- to late-2023 and wrap up in the winter of 2025. There are five stages of construction including site preparation; construction of rail tracks; construction of access road; construction of layover area, parking lot, and service areas; and final site preparation activities. Construction works will vary over the course of the period, with the largest amount of noise anticipated to be generated from X, Y, Z activities. Wood modeled the Zone of Influence (ZOI) for each construction stage, and the worst case, assuming all stages occurring simultaneously, which provided the largest potential ZOI. The modeling predicted the largest single stage ZOI was for site preparation, followed in descending order by; final site preparation activities, access road construction, rail racks construction, and construction of layover area, parking lot, and service areas. The vibration levels are expected to meet the applicable limits during all construction stages. The duration and period of these activities will be determined at a later date, following award of construction.

10 Bay Street
Toronto, ON M5J 2N8
416.202.4967
metrolinx.com

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: August-10-22 2:02 PM
To: Lonny Bomberry [redacted]>
Cc: [redacted].ca; Dawn Russell [redacted]ca>; Tanya Hill-Montour [redacted]>; EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>; Simon Strauss <Simon.Strauss@metrolinx.com>
Subject: RE: Heritage Road Layover Workshop

Good afternoon Lonny and Team,

We just wanted to reach out again to see if we should anticipate any comments or concerns from the Workshop letter sent August 5th? Metrolinx appreciates that this has been a tight turnaround, and just would like to know if we might head anything by Friday August 12th, as indicated in the previous email?

Please let us know if we can provide anything further.

Thank you for your time and attention to this,

Jordon

Jordon MacArthur *(she/her)*
Senior Advisor, Indigenous Relations
Metrolinx
97 Front St| Toronto | Ontario | M5J 2W3

METROLINX

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: August 16, 2022 12:45 PM
To: Aaron Detlor [redacted]>
Cc: Tracey General [redacted]; EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: (Update): Heritage Road Layover Notice of Resumption

Dear Mr. Detlor,

As described in the attached Notice of Resumption, Metrolinx has decided to continue the regulated 120-day period of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project, following the Notice of Issue (dated July 18, 2022) that paused the process.

We are of the opinion that the additional engagement and information from Indigenous communities and Nations during the pause have helped us address their comments, questions and concerns in order to shape the studies supporting the TPAP, and provide considerations relating to detailed design and future construction associated with the Project with the Nation's perspective in mind.

This Notice of Resumption will be posted on August 16, 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate all of the feedback on the Project received to date, as well as your involvement in our field studies. We look forward to continuing to work with your Nation on this and other Projects.

Further, please expect the Notice of Completion to be formally circulated on August 18, 2022.

Make today great,

Christine Parris (she/her)
Community Relations Engagement Specialist, Indigenous Relations Office
Metrolinx
C: 416.312.2747

METROLINX

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: August 16, 2022 12:45 PM
To: Dominic Ste-Marie [redacted]>; Lori-Jeanne Bolduc <[redacted]>
Cc: [redacted]; EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: (Update): Heritage Road Layover Notice of Resumption

Dear Dominic and Lori-Jeanne,

As described in the attached Notice of Resumption, Metrolinx has decided to continue the regulated 120-day period of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project, following the Notice of Issue (dated July 18, 2022) that paused the process.

We are of the opinion that the additional engagement and information from Indigenous communities and Nations during the pause have helped us address their comments, questions and concerns in order to shape the studies supporting the TPAP, and provide considerations relating to detailed design and future construction associated with the Project with the Nation's perspective in mind.

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Further, please expect the Notice of Completion to be formally circulated on August 18, 2022.

Make today great,

Christine Parris (she/her)
Community Relations Engagement Specialist, Indigenous Relations Office
Metrolinx
C: 416.312.2747

METROLINX

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: August 16, 2022 12:45 PM
To: Abby LaForme [redacted]
Cc: Adam LaForme [redacted]; [redacted]; EPA.IR <EPA.IR@metrolinx.com>; Clara Chan <Clara.Chan@metrolinx.com>
Subject: (Update): Heritage Road Layover Notice of Resumption

Dear Abby and Team,

As described in the attached Notice of Resumption, Metrolinx has decided to continue the regulated 120-day period of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project, following the Notice of Issue (dated July 18, 2022) that paused the process.

We are of the opinion that the additional engagement and information from Indigenous communities and Nations during the pause have helped us address their comments, questions and concerns in order to shape the studies supporting the TPAP, and provide considerations relating to detailed design and future construction associated with the Project with the Nation's perspective in mind.

This Notice of Resumption will be posted on August 16, 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We appreciate all of the feedback on the Project received to date, and look forward to continuing to work with your Nation on this and other Projects.

Further, please expect the Notice of Completion to be formally circulated on August 18, 2022.

Make today great,

Christine Parris (she/her)
Community Relations Engagement Specialist, Indigenous Relations Office
Metrolinx
C: 416.312.2747

METROLINX

From: Indigenous Relations <IndigenousRelations@metrolinx.com>
Sent: August 16, 2022 12:45 PM
To: Lonny Bomberry [redacted]
Cc: [redacted]; Tanya Hill-Montour [redacted]; [redacted] Dawn Russell [redacted]; EPA.IR <EPA.IR@metrolinx.com>; [redacted]; Clara Chan <Clara.Chan@metrolinx.com>
Subject: (Update): Heritage Road Layover Notice of Resumption

Dear Lonny and Team,

As described in the attached Notice of Resumption, Metrolinx has decided to continue the regulated 120-day period of the Transit Project Assessment Process (TPAP) for the Heritage Road Layover Project, following the Notice of Issue (dated July 18, 2022) that paused the process.

We are of the opinion that the additional engagement and information from Indigenous communities and Nations during the pause have helped us address their comments, questions and concerns in order to shape the studies supporting the TPAP, and provide considerations relating to detailed design and future construction associated with the Project with the Nation's perspective in mind.

This Notice of Resumption will be posted on August 16, 2022 on the project's website (https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover).

We thank you for meeting with us on July 22, 2022 to discuss your concerns, provide insight to our findings and the additional feedback on the Project received to date. We look forward to continuing to work with you on this and other Metrolinx Projects.

Further, please expect the Notice of Completion to be formally circulated on August 18, 2022.

Make today great,

Christine Parris (she/her)
Community Relations Engagement Specialist, Indigenous Relations Office
Metrolinx
C: 416.312.2747

From:	Indigenous Relations
To:	Aaron Detlor
Cc:	Tracey General; Clara Chan; Brian Poole; Dara Corrigan; EPA.IR
Subject:	Heritage Road Layover: Notice of Completion
Date:	Thursday, August 18, 2022 4:47:20 PM
Attachments:	image001.png 2022-08-03_Heritage Road Layover Notice_Completion - Final.pdf

Dear Mr. Detlor,

In accordance with the Transit Projects Assessment Process (TPAP), Ontario Regulation 231/08 (Transit Projects and Metrolinx Undertakings) Metrolinx will be issuing the Notice of Completion for the Heritage Road Layover project TPAP on August 18, 2022.

The Final Environmental Project Report (EPR) will be available online as of tomorrow at the following link: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

The 30-day public review period will begin tomorrow, August 19, 2022 and will continue until September 19, 2022.

In order to ensure comments and feedback are considered by the Minister, any additional feedback or comments on the EPR or the project as a whole by September 19, 2022.

Once the 30-day public review is completed, the questions, feedback and responses will be provided to the Minister of Environment, Conservation and Parks for final review. The Minister has a 35-day review period before issuing a Statement of Completion.

If you have any questions or concerns, please do not hesitate to contact our office.

Thank you for your time and assistance,

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Senior Advisor, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

Notice of Completion of Environmental Project Report GO Expansion: Heritage Road Layover Project Transit Project Assessment Process

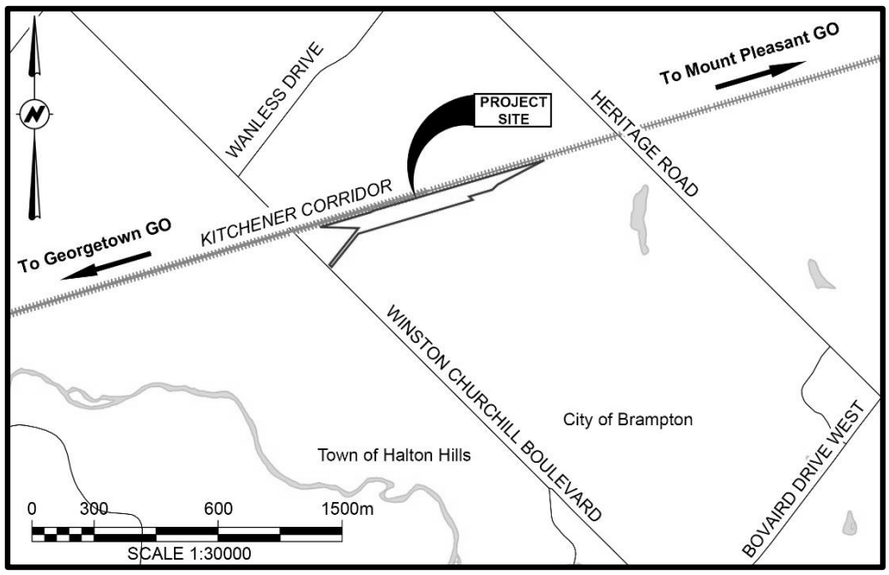
Metrolinx has completed an Environmental Project Report (EPR) in accordance with the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 for the Heritage Road Layover Project. As part of the GO Expansion Program, Metrolinx is building a transit service that will improve how residents and customers move throughout the region. GO Expansion will offer more service with faster trains, more stations, and seamless connections to a regional rapid transit network to create better, faster, and easier travel within the region and broader Greater Toronto and Hamilton Area.

The Project

Metrolinx is proposing to construct a new layover, Heritage Road Layover (the Project), between Georgetown GO Station and Mount Pleasant GO Station. The layover will provide additional storage capacity to support the planned service expansion to implement two-way, all-day service along the Kitchener Corridor from Union GO Station to Kitchener GO Station.

Project Location

The Project Site is adjacent to the Canadian National Railway (CN) within the Halton Subdivision portion of the Kitchener Corridor. The Project Site is between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel.



30-Day Public Review: August 19, 2022 to September 19, 2022

The environmental impact of the transit project was assessed and an Environmental Project Report (EPR) was prepared in accordance with the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings (made under the Environmental Assessment Act).

The EPR for the Heritage Road Layover project is now available for a 30-day public review period starting **August 19, 2022** on the project website: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. If you have any project-related questions, or would like to provide input, interested persons are encouraged to review the document(s) and provide comments by **September 19, 2022** to:

Attn: Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx |10 Bay Street |Toronto | Ontario | M5J 2W3

Tel: 416-202-7500 (Peel Region); 416-938-9930 (Halton Region)
e-mail: peel@metrolinx.com (Peel Region); haltonregion@metrolinx.com (Halton Region)

There are circumstances where the Minister of the Environment, Conservation and Parks has the authority to require further consideration of the transit project or impose conditions on it. These include if the Minister is of the opinion that:

- The transit project may have a negative impact on a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest; or
- The transit project may have a negative impact on a constitutionally protected Aboriginal or treaty right.

Before exercising the authority referred to above, the Minister is required to consider any written objections to the transit project that he or she may receive within 30 days of first publishing the Notice of Completion. If you have discussed your issues with the proponent(s) and you object to the project, you can provide a written submission to the Minister of the Environment, Conservation and Parks by no later than **September 19, 2022**, to the email provided below.

All submissions must clearly indicate that an objection is being submitted and describe any negative impacts to matters of provincial importance (natural/cultural environment) or Aboriginal rights.

Ministry of the Environment, Conservation & Parks
Environmental Assessment Branch
Attn: Jordan Hughes
Project Officer
135 St, Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5
Tel:437-770-6953
Email: jordan.hughes@ontario.ca

Comments and information regarding this project are being collected to assist in meeting the requirements of the *Environmental Assessment Act*. All personal information included in a submission, (such as name, address, telephone number and property location) is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Senior Privacy Officer for Metrolinx at 416-202-5941.

Pour plus de renseignements, veuillez appeller le 416 874-5900 ou le 1 888 GET-ON-GO (438-6646).

This Notice was first issued on August 18, 2022.

From:	Indigenous Relations
To:	Dominic Ste-Marie; Lori-Jeanne Bolduc
Cc:	mario.groslouis@cnhw.qc.ca; Clara Chan; Brian Poole; Dara Corrigan; EPA.IR
Subject:	Heritage Road Layover: Notice of Completion
Date:	Thursday, August 18, 2022 4:47:26 PM
Attachments:	image001.png 2022-08-03_Heritage Road Layover Notice_Completion - Final.pdf

Dear Dominic and Lori-Jeanne,

In accordance with the Transit Projects Assessment Process (TPAP), Ontario Regulation 231/08 (Transit Projects and Metrolinx Undertakings) Metrolinx will be issuing the Notice of Completion for the Heritage Road Layover project TPAP on August 18, 2022.

The Final Environmental Project Report (EPR) will be available online as of tomorrow at the following link: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

The 30-day public review period will begin tomorrow, August 19, 2022 and will continue until September 19, 2022.

In order to ensure comments and feedback are considered by the Minister, any additional feedback or comments on the EPR or the project as a whole by September 19, 2022.

Once the 30-day public review is completed, the questions, feedback and responses will be provided to the Minister of Environment, Conservation and Parks for final review. The Minister has a 35-day review period before issuing a Statement of Completion.

If you have any questions or concerns, please do not hesitate to contact our office.

Thank you for your time and assistance,

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Senior Advisor, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

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The Project

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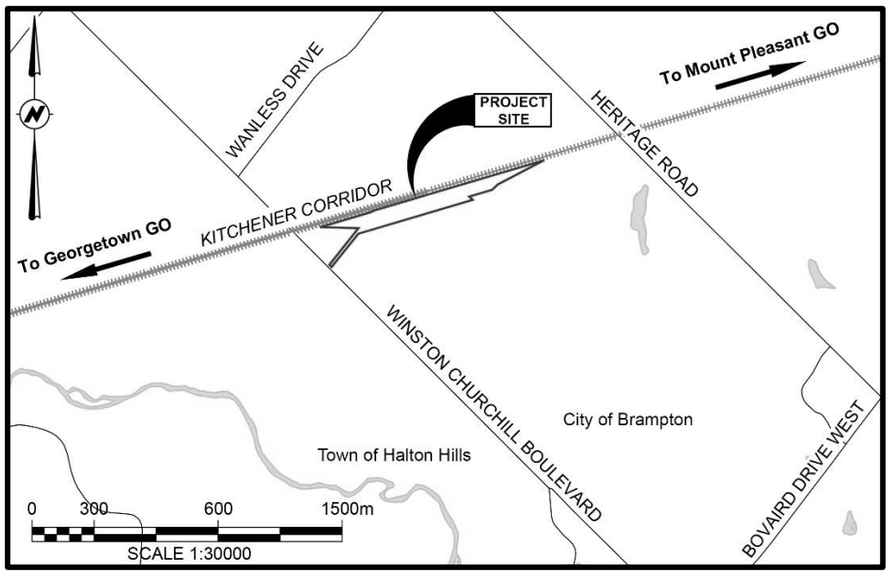
Project Location

The Project Site is adjacent to the Canadian National Railway (CN) within the Halton Subdivision portion of the Kitchener Corridor. The Project Site is between Heritage Road and Winston Churchill Boulevard in the City of Brampton, Regional Municipality of Peel.



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The environmental impact of the transit project was assessed and an Environmental Project Report (EPR) was prepared in accordance with the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings (made under the Environmental Assessment Act).

The EPR for the Heritage Road Layover project is now available for a 30-day public review period starting **August 19, 2022** on the project website: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. If you have any project-related questions, or would like to provide input, interested persons are encouraged to review the document(s) and provide comments by **September 19, 2022** to:

Attn: Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx |10 Bay Street |Toronto | Ontario | M5J 2W3

Tel: 416-202-7500 (Peel Region); 416-938-9930 (Halton Region)
e-mail: peel@metrolinx.com (Peel Region); haltonregion@metrolinx.com (Halton Region)

There are circumstances where the Minister of the Environment, Conservation and Parks has the authority to require further consideration of the transit project or impose conditions on it. These include if the Minister is of the opinion that:

- The transit project may have a negative impact on a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest; or
- The transit project may have a negative impact on a constitutionally protected Aboriginal or treaty right.

Before exercising the authority referred to above, the Minister is required to consider any written objections to the transit project that he or she may receive within 30 days of first publishing the Notice of Completion. If you have discussed your issues with the proponent(s) and you object to the project, you can provide a written submission to the Minister of the Environment, Conservation and Parks by no later than **September 19, 2022**, to the email provided below.

All submissions must clearly indicate that an objection is being submitted and describe any negative impacts to matters of provincial importance (natural/cultural environment) or Aboriginal rights.

Ministry of the Environment, Conservation & Parks
Environmental Assessment Branch
Attn: Jordan Hughes
Project Officer
135 St, Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5
Tel:437-770-6953
Email: jordan.hughes@ontario.ca

Comments and information regarding this project are being collected to assist in meeting the requirements of the *Environmental Assessment Act*. All personal information included in a submission, (such as name, address, telephone number and property location) is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Senior Privacy Officer for Metrolinx at 416-202-5941.

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This Notice was first issued on August 18, 2022.

From:	Indigenous Relations
To:	Mark LaForme
Cc:	Abby LaForme; Clara Chan; Brian Poole; Dara Corrigan; EPA.IR
Subject:	Heritage Road Layover: Notice of Completion
Date:	Thursday, August 18, 2022 4:47:33 PM
Attachments:	image001.png 2022-08-03_Heritage Road Layover Notice_Completion - Final.pdf

Dear Mark,

In accordance with the Transit Projects Assessment Process (TPAP), Ontario Regulation 231/08 (Transit Projects and Metrolinx Undertakings) Metrolinx will be issuing the Notice of Completion for the Heritage Road Layover project TPAP on August 18, 2022.

The Final Environmental Project Report (EPR) will be available online as of tomorrow at the following link: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover/

The 30-day public review period will begin tomorrow, August 19, 2022 and will continue until September 19, 2022.

In order to ensure comments and feedback are considered by the Minister, any additional feedback or comments on the EPR or the project as a whole by September 19, 2022.

Once the 30-day public review is completed, the questions, feedback and responses will be provided to the Minister of Environment, Conservation and Parks for final review. The Minister has a 35-day review period before issuing a Statement of Completion.

If you have any questions or concerns, please do not hesitate to contact our office.

Thank you for your time and assistance,

Marilyn

Marilyn Stoyle, M.Ed *(she/her)*
Senior Advisor, Indigenous Relations
10 Bay Street, Suite 600 | Toronto | Ontario | M5J 2W3
C: 437-688-5342

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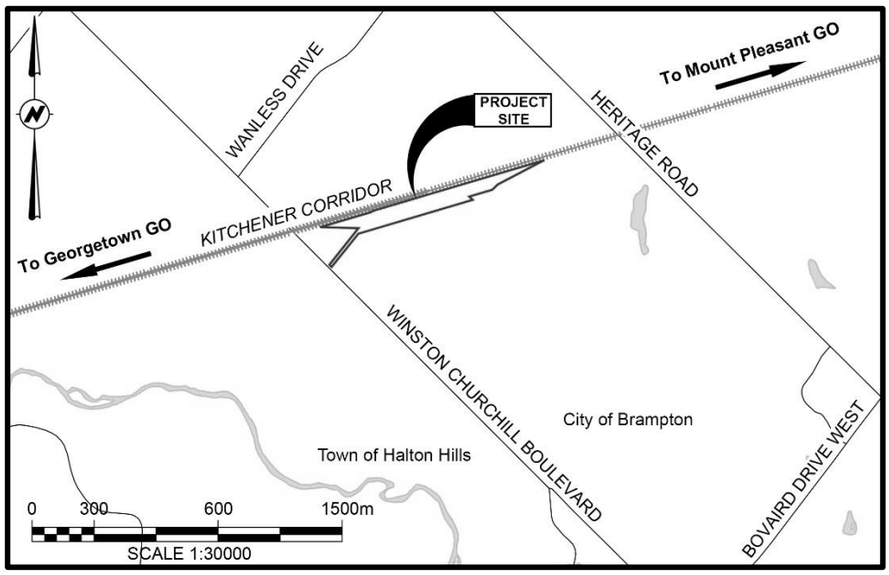

30-Day Public Review: August 19, 2022 to September 19, 2022

The environmental impact of the transit project was assessed and an Environmental Project Report (EPR) was prepared in accordance with the Transit Project Assessment Process (TPAP) as prescribed in Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings (made under the Environmental Assessment Act).

The EPR for the Heritage Road Layover project is now available for a 30-day public review period starting **August 19, 2022** on the project website: https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover. If you have any project-related questions, or would like to provide input, interested persons are encouraged to review the document(s) and provide comments by **September 19, 2022** to:

Attn: Simon Strauss
Manager, Environmental Programs and Assessment
Metrolinx |10 Bay Street |Toronto | Ontario | M5J 2W3

Tel: 416-202-7500 (Peel Region); 416-938-9930 (Halton Region)
e-mail: peel@metrolinx.com (Peel Region); haltonregion@metrolinx.com (Halton Region)

There are circumstances where the Minister of the Environment, Conservation and Parks has the authority to require further consideration of the transit project or impose conditions on it. These include if the Minister is of the opinion that:

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Before exercising the authority referred to above, the Minister is required to consider any written objections to the transit project that he or she may receive within 30 days of first publishing the Notice of Completion. If you have discussed your issues with the proponent(s) and you object to the project, you can provide a written submission to the Minister of the Environment, Conservation and Parks by no later than **September 19, 2022**, to the email provided below.

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Environmental Assessment Branch
Attn: Jordan Hughes
Project Officer
135 St, Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5
Tel:437-770-6953
Email: jordan.hughes@ontario.ca

Comments and information regarding this project are being collected to assist in meeting the requirements of the *Environmental Assessment Act*. All personal information included in a submission, (such as name, address, telephone number and property location) is collected, maintained and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in s. 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Senior Privacy Officer for Metrolinx at 416-202-5941.

Pour plus de renseignements, veuillez appeller le 416 874-5900 ou le 1 888 GET-ON-GO (438-6646).

This Notice was first issued on August 18, 2022.

From: Indigenous Relations
To: Lonny Bomberry
Cc: Clara Chan; Brian Poole; Dara Corrigan; [redacted]; dawnrussel[redacted]; [redacted]; [redacted]; Tanya Hill-Montour; [redacted]; EPA.IR
Subject: Heritage Road Layover: Notice of Completion
Date: Thursday, August 18, 2022 4:47:29 PM
Attachments: image001.png
2022-08-03_Heritage Road Layover Notice_Completion - Final.pdf

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Dear Lonny and Team,

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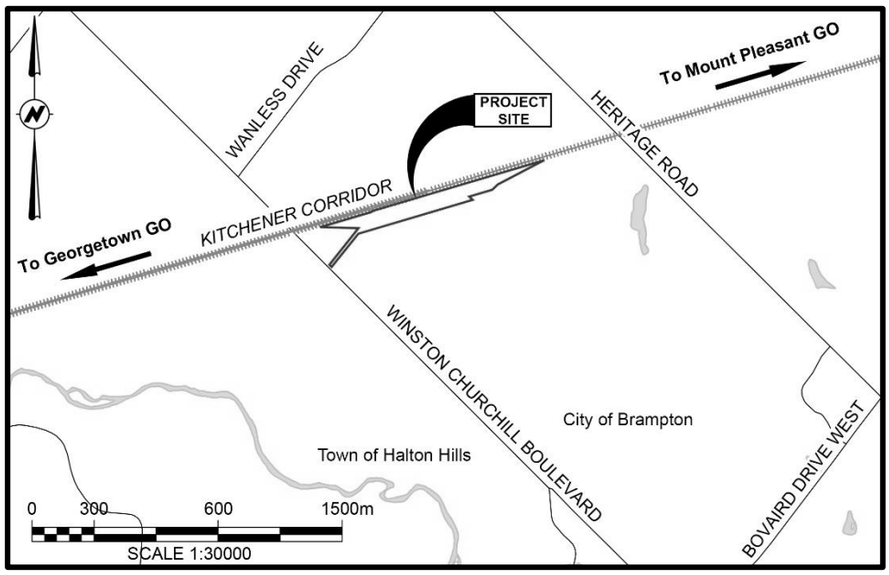

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Environmental Assessment Branch
Attn: Jordan Hughes
Project Officer
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Tel:437-770-6953
Email: jordan.hughes@ontario.ca

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This Notice was first issued on August 18, 2022.

[redacted]

[redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

METROLINX

From: Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Sent: September-19-22 5:26 PM
To: Clara Chan <Clara.Chan@metrolinx.com>
Subject: Heritage Road Layover EPR

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.

EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Hi Clara,

A heads up that an objection was received for the Heritage Road project.

We can discuss further tomorrow, but it would be greatly appreciated if Metrolinx could provide their objection response to the Ministry by Thursday September 22.

Thanks,

Jordan Hughes | Project Officer
Environmental Assessment Services | Environmental Assessment Branch
Ministry of the Environment, Conservation & Parks
135 St. Clair Avenue West, 1st Floor, Toronto, ON M4V 1P5
☎: 437-770-6953 / ✉: *jordan.hughes@ontario.ca*

If you have any accommodation needs or require communication supports or alternate formats, please let me know.
Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: [redacted]
Sent: September-19-22 4:34 PM
To: peel@metrolinx.com; haltonregion@metrolinx.com; Hughes, Jordan (MECP) <Jordan.Hughes@ontario.ca>
Cc: [redacted]
Subject: Heritage Road Layover EPR

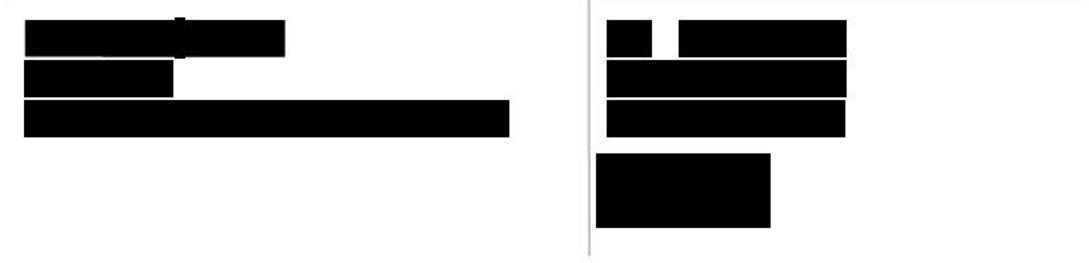
CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Please see the attached correspondence of [redacted]

Best regards,

[redacted]





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[redacted]

September 19, 2022

Delivered By Email (peel@metrolinx.com; haltonregion@metrolinx.com; and jordan.hughes@ontario.ca)

Metrolinx
Attn: Simon Strauss
Manager, Environmental Programs and Assessment
10 Bay St
Toronto, ON M5J 2W3

Ministry of the Environment, Conservation & Parks
Environmental Assessment Branch
Attn: Jordan Hughes
Project Officer
135 St. Clair Avenue W, 1st Floor
Toronto, ON M4V 1P5

Dear Mr. Strauss and Ms. Hughes:

Re: Haudenosaunee Development Institute Objection to GO Expansion Heritage Road Layover Project Transit Project Assessment Process

We are counsel to the Haudenosaunee Development Institute (the "**HDI**"). The Haudenosaunee Confederacy Chiefs' Council ("**HCCC**") has delegated engagement on the above-noted Heritage Road Layover Project (the "**Project**") to HDI and has tasked HDI with advancing and protecting Haudenosaunee rights and interests in relation thereto.

We write further to the final Environmental Project Report ("**EPR**") and Notice of Completion of EPR in respect of the Project to advise Metrolinx and the Minister of Environment, Conservation & Parks ("**MECP**" or the "**Minister**") of HDI's concerns with and formal objection to the Project.

HDI objects to the Project on the basis that to date, Metrolinx and the Minister have not attempted to obtain the Haudenosaunee's free, prior and informed consent on the Project; there has been no engagement between the Minister and HDI on this Project; and the Project will otherwise impair or interfere with Haudenosaunee interests and rights.

Specifically, the Project will seriously impair the exercise of established (as opposed to asserted but unproven) Haudenosaunee rights agreed to and recorded by the Haudenosaunee and the Crown, including in the Nanfan Treaty of 1701 (the "**Nanfan Treaty**"). As such, the Crown (*i.e.,*

[redacted]

Metrolinx and the Minister)[1] has a constitutional duty to meaningfully engage and accommodate the Haudenosaunee's rights and interests on the deep end of the engagement spectrum. Given that the Haudenosaunee have established treaty rights in the subject area, the Crown is further required to obtain the Haudenosaunee's consent with respect to the Project or justify any infringements. Engagement must begin from the premise that the Haudenosaunee are entitled to the rights guaranteed by the Nanfan Treaty.

As described further below, the Project will have a negative impact on the existing aboriginal and treaty rights of the Haudenosaunee, as recognized and affirmed in section 35 of the *Constitution Act, 1982*. Therefore, HDI asks that the Minister:

1) acknowledge that Metrolinx has failed to adequately discharge its duty to meaningfully engage with the Haudenosaunee in respect of the Project;

2) acknowledge that Metrolinx has failed to either obtain consent of the Haudenosaunee to proceed with the Project or justify any infringements on Haudenosaunee rights as a result of the Project;

3) find that further consideration of the Project is required; and

4) issue a notice under s. 12(1)(b) of Ontario Regulation 231/08 (the "**Transit Regulation**") in respect of the Project, requiring Metrolinx to discharge its duty to engage with the Haudenosaunee in respect of the Project, including obtaining the free, prior and informed consent of the Haudenosaunee before proceeding with the Project (or in the absence of that consent, justifying the infringement of established Haudenosaunee rights when contemplating conduct that might adversely affect those rights).

A. THE HAUDENOSAUNEE DEVELOPMENT INSTITUTE AND ITS PROCESSES

As we believe you are aware, the Haudenosaunee Confederacy is a confederacy of Indigenous Nations formed in time immemorial, long before European contact in North America. It is comprised of, among others, the Mohawk, Oneida, Onondaga, Cayuga, Seneca, and Tuscarora Peoples. The Haudenosaunee Confederacy has for many centuries had a representative government comprised of, *inter alia*, Chiefs and Clan Mothers. References to the "**Haudenosaunee**" herein should be understood to refer to citizens of the Haudenosaunee Confederacy.

[1] For greater clarity, the Minister represents a Crown Ministry responsible for administering, *inter alia*, the *Environmental Assessment Act,* R.S.O. 1990, c. E. 18, and its regulations, including the *Transit Projects and Metrolinx Undertakings*, O. Reg. 231/08 (the "**Transit Regulation**"). Metrolinx is a Crown agency of Ontario established under the *Metrolinx Act, 2006*, S.O. 2006, c. 16 (the "***Metrolinx Act***"). Throughout this letter, unless otherwise indicated, the "**Crown**" should be understood to refer to Metrolinx and/or the Minister.

The HCCC is the council of chiefs of the Haudenosaunee Confederacy that have been continuously holding Council at Ohsweken for over 230 years. The HCCC is empowered by the Haudenosaunee to advance the collective treaty rights and interests of the Haudenosaunee.

The HDI was established in 2007 and acts pursuant to delegated authority from the HCCC to administer and facilitate engagement with the HCCC in respect of Haudenosaunee lands.

The process for proponents of development, including private developers and government institutions, to engage with the HCCC is an open and well-known one. Applications are reviewed by HDI on behalf of the HCCC with a view to facilitating and advancing the goals of reconciliation consistent with the treaty-based relationship between the Crown and the Haudenosaunee.

Engagement is a formal process commenced by application to HDI. The scope of engagement required is ascertained in the execution of a comprehensive engagement agreement between a project proponent and HDI. Upon satisfaction that Haudenosaunee principles, rights, and interests have been properly addressed in the implementation of the project at issue, HDI's engagement process concludes with the granting of consent by the HCCC, which may include conditions such as compensation for infringement of rights or Haudenosaunee employment opportunities.

B. THE HAUDENOSAUNEE INTEREST IN THE PROJECT

As part of its GO Expansion Program, Metrolinx seeks to add a new layover to accommodate increased service by providing additional train storage and maintenance along the Kitchener Corridor. The Project is subject to the Transit Regulation and the Transit Project Assessment Process ("**TPAP**"), as set out therein.

The Project falls within the territory described in the Nanfan Treaty. The Haudenosaunee are a party to, and a beneficiary of, the Nanfan Treaty. Treaty instruments such as the Mitchell Map of 1755 (appended hereto as **Appendix "A"**) demonstrate the Haudenosaunee interest in the Project area.

In accordance with the Nanfan Treaty, the Crown pledged to protect the right of the Haudenosaunee to free and undisturbed use and occupation of the subject lands. While the written record of the Nanfan Treaty explicitly refers to "hunting", the Haudenosaunee perspective is that "hunting" applies to resource management and regulation more generally. In particular, the scope of the land under the Nanfan Treaty required the establishment of numerous autonomous encampments and settlements, which were supported by hunting, fishing, horticulture, and other activities.

C. THE PROJECT TRIGGERS THE DUTY TO MEANINGFULLY ENGAGE AND ACCOMMODATE

The duty to meaningfully engage and accommodate arises where the Crown has knowledge (real or constructive) of the potential existence of rights recognized and affirmed by section 35 of the *Constitution Act, 1867* and contemplates conduct that might adversely affect it.[2] Crown knowledge of a credible albeit unproven claim is sufficient to trigger the duty.[3]

The duty to engage with the Haudenosaunee is grounded in the treaty relationship between the Crown and the Haudenosaunee, recognized and affirmed in the Canadian legal context by subsection 35(1) of the *Constitution Act, 1982*.[4] The Haudenosaunee legal framework, which significantly predates the arrival of the Canadian common law in North America, recognizes and affirms the treaty-based relationship by way of the Haudenosaunee constitution—referred to in Mohawk as the *Kaianere'ko:wa*.

In the context of development projects on Haudenosaunee lands, the duty persists throughout the lifetime of a project. Therefore, each time the Crown makes a decision in respect of a project that may affect Haudenosaunee rights, the Crown must discharge its duty.

In the context of established (as opposed to merely asserted) rights, the Crown is required to justify any infringement of established Haudenosaunee rights (including those affirmed by the Nanfan Treaty) when it contemplates conduct that might adversely affect those rights.[5] The scope and nature of the duties owed to the Haudenosaunee are also informed by the concepts of honour, reconciliation, and fair dealing underlying treaty agreements and the treaty-based relationship between the Haudenosaunee and the Crown.[6]

D. THE CROWN HAS FAILED TO OBTAIN THE FREE, PRIOR, AND INFORMED CONSENT OF OR OTHERWISE MEANINGFULLY ENGAGE WITH THE HAUDENOSAUNEE IN RESPECT OF THE PROJECT

Neither Metrolinx nor the Minister have meaningfully engaged with the Haudenosaunee in respect of the Heritage Road Layover Project. Given the insufficiency of Crown engagement (discussed below), the Haudenosaunee cannot provide their free, prior and informed consent to the Project. Therefore, the Minister should not allow Metrolinx to proceed with the Project unless and until meaningful engagement has occurred.

As a government ministry, the MECP is bound to uphold the honour of the Crown and fulfill constitutional obligations by justifying any infringements on Haudenosaunee rights.

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[2] *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at para 35 ["***Haida Nation***"].
[3] *Haida Nation* at para 37.
[4] See e.g., *Tsilqot'in Nation v British Columbia*, 2014 SCC 44 at paras 78 *et seq* [***Tsilhqot'in***].
[5] *Id*.
[6] See e.g., *Canada (Attorney General) v Long Plain First Nation*, 2015 FCA 177 at para 104.

Further, the United Nations Declaration on the Rights of Indigenous Peoples[7] (the "**Declaration**" or "**UNDRIP**") recognizes that "free and informed consent" is required prior to carrying out development on Haudenosaunee lands. Following the coming into force of the *United Nations Declaration on the Rights of Indigenous Peoples Act*[8] in June 2021, the Declaration now has application in Canadian law. In particular, we draw your attention to Articles 26 and 32 of the Declaration, which provide that:

> 26. 1. Indigenous peoples have the **right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used** or acquired. 2. Indigenous peoples have the **right to own, use, develop and control the lands, territories and resources that they possess** by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired. 3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned. (*emphasis added*)
>
> 32. 1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources. 2. States **shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.** 3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact. (*emphasis added*)

The Project will affect the Haudenosaunee and their treaty rights. The Crown must therefore consult and cooperate with the Haudenosaunee to obtain the Haudenosaunee's free, prior and informed consent prior to approval.

The Minister is responsible for administering, *inter alia*, the *Environmental Assessment Act,* R.S.O. 1990 c. E. 18, and its regulations, including the Transit Regulation. The Minister exercising executive power authorized by the *Environmental Assessment Act* and the Transit Regulation constitutes Crown action. As such, the Minister is bound by UNDRIP and must take all measures necessary to ensure that the laws of Canada (including Ontario) are consistent with the articles enumerated in UNDRIP. Therefore, the Project cannot proceed unless and until Metrolinx and/or the Minister obtains the free, prior and informed consent of the Haudenosaunee.

The concept of obtaining the free, prior and informed consent of Indigenous peoples did not originate with UNDRIP. In 2014, the Supreme Court of Canada held that once Aboriginal title is established, subsection 35(1) of the *Constitution Act, 1982* permits incursions on it only with the

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[7] *United Nations Declaration on the Rights of Indigenous Peoples*, A/RES/61/295.
[8] *United Nations Declaration on the Rights of Indigenous Peoples Act*, SC 2021 c 14.

consent of the Aboriginal group or if they are justified by a compelling and substantial public purpose and are not inconsistent with the Crown's fiduciary duty.[9] The Courts have also held that treaty rights, like the Haudenosaunee rights at issue in respect of the Project, are akin to Aboriginal rights stemming from Aboriginal title.[10]

The onus is on the Crown to justify any infringement of Haudenosaunee rights on the basis of a compelling and substantial purpose and to establish that incursions are consistent with the Crown's fiduciary duty.[11] Neither Metrolinx nor the Minister have ever provided the Haudenosaunee with such a justification. As a result, and absent the Haudenosaunee's free, prior and informed consent, the Minister cannot issue a notice allowing Metrolinx to proceed with the Project.

1. Metrolinx's efforts do not constitute meaningful engagement

To date, the only party to engage with HDI has been Metrolinx (albeit not in a particularly meaningful way). Metrolinx has said it welcomes any requests for a meeting to discuss the Project and the potential involvement of HDI. However, these "discussions" have been unproductive, and the Project and environmental assessment (TPAP) process have continued to plow ahead.

To the extent the Minister seeks to rely upon Metrolinx's "efforts" to engage with HDI, those efforts—predominantly consisting of invitations to participate in a process in which HDI never agreed to participate (given its failure to address Haudenosaunee concerns)—fall far short of the bar for engagement repeatedly set forth by the Courts, and even further from the engagement HDI submits is necessary to advance the goals of reconciliation.

HDI's concerns with the Metrolinx's failure to engage are not trivial; the Project (and approval thereof) will have real and lasting impacts on the treaty rights of the Haudenosaunee, including both procedural and substantive rights. Allowing Metrolinx to proceed with the Project absent meaningful engagement will set a dangerous precedent. It may embolden Metrolinx—and the Minister—to disregard the requirement(s) to obtain such consent set out in *UNDRIP* in respect of future projects.

The Project will infringe and otherwise interfere with Haudenosaunee rights and interests. Therefore, the Project may not proceed absent the free, prior and informed consent of the Haudenosaunee. At no point has Metrolinx sought (nor has the HCCC provided) the consent of the Haudenosaunee. There can be no meaningful engagement without this required consent.

2. The Crown breached its duty to engage by not conducting or providing a preliminary assessment

A necessary step in the Crown's fulfilment of its engagement obligations is conducting and disclosing the results of a preliminary assessment of the strength of the case supporting the existence of the rights and the seriousness of the potentially adverse effect upon the rights by a

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[9] *Tsilhqot'in* at para 2.
[10] *Tsilhqot'in* at para 132; *R v Badger*, [1996] 1 SCR 771 (SCC) at para 82.
[11] *Tsilhqot'in* at paras 18 and 77; *R v Sparrow* (1990), 1 SCR 1075 (SCC) at paras 59 and 62.

particular development project. This is a requirement of constitutional stature, and informs the content and scope of the Crown's duty to engage.

In respect of the Project, the Haudenosaunee have never been provided the Crown's assessment (or advised if an assessment was carried out). The Crown's failure to conduct or disclose a preliminary assessment demonstrates a failure by the Crown to discharge its duty to meaningfully engage in good faith with the Haudenosaunee. This failure has not been remedied. Unless and until the Crown discloses its preliminary assessment to HDI, its engagement obligations remain outstanding and unfulfilled.

3. If the Minister is relying on Metrolinx to meaningfully engage, HDI was/is unaware

If the Minister seeks to rely on any alleged engagement efforts of Metrolinx, then such a delegation was never made known to HDI, and is therefore improper.

While the Minister may rely on a proponent such as Metrolinx to fulfill the procedural aspects of the Crown's duty, such a reliance must be made clear to the affected Indigenous group. The Haudenosaunee have never been informed that Metrolinx is responsible for discharging the Crown's duty in respect of the Project. The failure of Metrolinx and the Minister to inform HDI whether Metrolinx has been delegated aspects of the Crown's engagement obligations precludes meaningful engagement and constitutes a breach of its duties.[12]

4. The TPAP is inadequate to fulfill the Crown's duty to meaningfully engage

To the extent the Crown intends to rely on the TPAP to fulfill its constitutional duty to meaningfully engage and accommodate the Haudenosaunee, such process is inadequate.

According to the MECP's website, the TPAP is a "proponent-driven, self-assessment process and does not require that a transit project be approved by the [Minister] before proceeding."[13] Such a process creates an inherent conflict of interest that fails to uphold the Honour of the Crown or the Crown's treaty relationship with the Haudenosaunee.

Moreover, the requirements to engage with Indigenous groups under the TPAP are minimal. For example, the TPAP provides that the proponent must "consult" with Indigenous Nations who may have an interest in the transit project, but that "consultation shall be conducted in the way the proponent considers appropriate" beyond some minor prescribed requirements.[14] Furthermore, the TPAP makes no provision for the obligation to justify infringements or obtain consent, where established rights are concerned.

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[12] *Saugeen* at para 61.
[13] Accessible online at the following link: <https://www.ontario.ca/page/guide-environmental-assessment-requirements-transit-projects>.
[14] Transit Regulation s. 8(3).

5. The Crown has failed to deal with affected Indigenous Nations in an even-handed manner

From the outset, Metrolinx has been or should have been aware that the Project falls within the asserted traditional and treaty territories of multiple Indigenous groups, including the Haudenosaunee. This is clear both from:

- the Heritage Road Layover Project website,[15] where "***Metrolinx acknowledges that it operates on the traditional territory of Indigenous Peoples including*** the Anishnabeg, ***the Haudenosaunee*** and the Wendat peoples." [*emphasis added*]; and

- the final EPR, in which Metrolinx acknowledged that the HCCC is an Indigenous community identified as potentially being interested in the Project through consultation with the Special Project Officer, Environmental Assessment Branch of the MECP.[16]

However, on the Project website, Metrolinx only acknowledges that "…the Heritage Layover Project is proposed on lands covered by Treaty 19, 1818 with the Mississaugas of the Credit First Nation." Metrolinx fails to acknowledge that the Project is on lands also covered by the Nanfan Treaty between the Haudenosaunee and the Crown.

As a result, Metrolinx appears to have watered down the Haudenosaunee rights at issue from treaty *and* traditional territorial rights to just traditional territorial rights. Metrolinx fails to correct this in the Final EPR, where it states that "…the Study Area is situated on the ***Treaty Lands and Traditional Territory*** of the Mississaugas of the Credit First Nation and the ***traditional territory*** of the Huron-Wendat, ***Haudenosaunee***, as well as the Métis."[17] (*emphasis added*)

This suggests that Metrolinx has failed to take an even-handed approach to Indigenous engagement with respect to the Project. This is especially troublesome given that Metrolinx has explicitly acknowledged that certain other transit projects were occurring within Nanfan Treaty territory.[18]

This is contrary to the approach the Courts have endorsed where a proponent is dealing with overlapping indigenous rights. The Courts have held that "[w]here overlap between established and/or asserted Indigenous rights arise, the Crown has a fiduciary duty to deal with the affected Indigenous Nations in an even-handed manner. The Crown cannot run roughshod over one Indigenous Nation's rights in favour of another."[19]

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[15] Accessible online at the following link: <https://www.metrolinxengage.com/en/content/kitchener-corridor-heritage-road-layover>.
[16] *See* Heritage Road Layover Final EPR at pg 142.
[17] *See* Heritage Road Layover Final EPR at pg 39.
[18] For example, Metrolinx's website for the Dundas Bus Rapid Transit project indicates that "the Dundas Bus Rapid Transit Project is proposed on lands covered by … the Fort Albany/Nanfan Treaty of 1701 with the Haudenosaunee."
[19] *Cook v British Columbia*, 2007 BCSC 1722 at para 162.

Metrolinx appears to have favoured the asserted rights of the Mississaugas of the Credit First Nation to the exclusion of the established treaty rights and interests of the Haudenosaunee. HDI is in the dark about how the Haudenosaunee's established rights may be further impacted, and potentially derogated, by Metrolinx's consultation with other Indigenous communities (in respect of this Project or others) concerning Haudenosaunee treaty territory.

E. THE PROJECT WILL NEGATIVELY IMPACT THE HAUDENOSAUNEE AND THEIR TREATY RIGHTS

Allowing Metrolinx to proceed with the Project absent the consent of the Haudenosaunee (or any kind of meaningful engagement) will have the direct impact of eroding the Haudenosaunee's treaty rights, which are comprised of procedural rights (e.g., the ability to provide—or withhold—free, prior and informed consent and to be meaningfully engaged in respect of a project) and substantive rights (e.g., hunting, fishing, trapping, and harvesting rights).

The Crown has not complied with its procedural obligations owed to the Haudenosaunee in respect of the Project. As discussed above, the Haudenosaunee have not provided their free, prior and informed consent for the Project. Nor have the Minister or Metrolinx asked for this consent. Both Metrolinx and the Minister have failed at every step to meaningfully engage with the Haudenosaunee regarding the Project.

If the Minister issues a notice allowing Metrolinx to proceed with the Project without the consent of, or any kind of meaningful engagement with, the Haudenosaunee (on a project that will impact the Haudenosaunee and their treaty lands), it will set a dangerous precedent. Metrolinx may be more likely to engage in the same surface-level discussions with the Haudenosaunee in respect of future projects, telling the Minister that they have made efforts, they consider those efforts to have been conducted in a way *they* consider to be appropriate, and then having their projects approved without any further process or meaningful engagement with the Haudenosaunee.

Further, regardless of the required consent and duty to meaningfully engage, the Project stands to directly impact the Haudenosaunee's substantive rights, including but not limited to, hunting, harvesting and trapping in the subject area.

If the Minister allows Metrolinx to proceed with the Project, the Haudenosaunee's opportunity to make use of their treaty land will be lost. The Haudenosaunee also stand to lose the ability to seek further involvement with the Project, given the Minister will have essentially rubber-stamped Metrolinx's course of conduct and failure to engage.

F. NEXT STEPS

In accordance with the Transit Regulation and principles of procedural fairness, HDI expects this letter will be provided in its original form to the Minister (including any and all appendices, attachments, and/or linked documents). For further clarity, this letter in its entirety should be considered HDI's objection to the Heritage Road Layover Project.

Moreover, if the Minister receives a comment on HDI's objection in connection with the TPAP, HDI expects that it will be provided with a copy of the comment and provided an opportunity to respond.

HDI has repeatedly articulated its willingness to engage in a broader meeting to discuss Metrolinx's current approach to meaningful engagement with the Haudenosaunee. To date preliminary conversations have not yielded a comprehensive engagement agreement.

HDI welcomes the opportunity to work together with Metrolinx and the Minister to understand the negative impacts of this Project (and other ongoing and future transit projects in Haudenosaunee treaty territory) on the existing aboriginal and treaty rights of the Haudenosaunee, to accomplish meaningful engagement in respect of this Project (and future transit projects), and to advance the goals of reconciliation.

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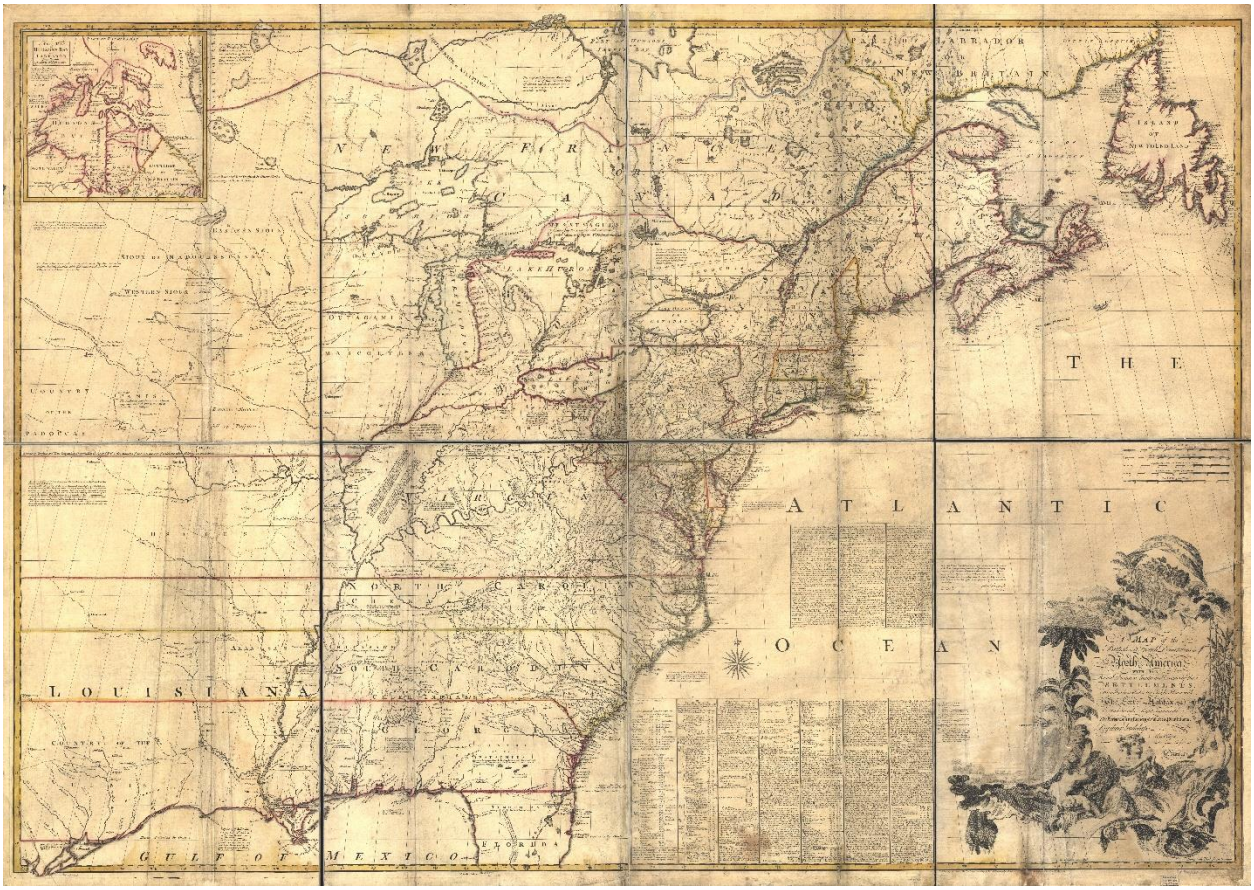
Appendix "A" – Mitchell Map of 1755 (link)



Proposal: Heritage Road Layover Project
Proponent: Metrolinx

Indigenous community or Nation	Summary of Comments	Proponent's Response
Haudenosaunee Development Institute	As described further below, the Project will have a negative impact on the existing aboriginal and treaty rights of the Haudenosaunee, as recognized and affirmed in section 35 of the *Constitution Act, 1982*. Therefore, HDI asks that the Minister: 1) acknowledge that Metrolinx has failed to adequately discharge its duty to meaningfully engage with the Haudenosaunee in respect of the Project; 2) acknowledge that Metrolinx has failed to either obtain consent of the Haudenosaunee to proceed with the Project or justify any infringements on Haudenosaunee rights as a result of the Project; 3) find that further consideration of the Project is required; and 4) issue a notice under s. 12(1)(b) of Ontario Regulation 231/08 (the "**Transit Regulation**") in respect of the Project, requiring Metrolinx to discharge its duty to engage with the Haudenosaunee in respect of the Project, including obtaining the free, prior and informed consent of the Haudenosaunee before proceeding with the Project (or in the absence of that consent, justifying the infringement of established Haudenosaunee rights when contemplating conduct that might adversely affect those rights).	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.
	THE HAUDENOSAUNEE DEVELOPMENT INSTITUTE AND ITS PROCESSES Engagement is a formal process commenced by application to HDI. The scope of engagement required is ascertained in the execution of a comprehensive engagement agreement between a project proponent and HDI. Upon satisfaction that Haudenosaunee principles, rights, and interests have been properly addressed in the implementation of the project at issue, HDI's engagement process concludes with the granting of consent by the HCCC, which may include conditions such as compensation for infringement of rights or Haudenosaunee employment opportunities.	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.
	THE HAUDENOSAUNEE INTEREST IN THE PROJECT … In accordance with the Nanfan Treaty, the Crown pledged to protect the right of the Haudenosaunee to free and undisturbed use and occupation of the subject lands. While the written record of the Nanfan Treaty explicitly refers to "hunting", the Haudenosaunee perspective is that "hunting" applies to resource management and regulation more generally. In particular, the scope of the land under the Nanfan Treaty required the establishment of numerous autonomous encampments and settlements, which were supported by hunting, fishing, horticulture, and other activities.	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.
	THE PROJECT TRIGGERS THE DUTY TO MEANINGFULLY ENGAGE AND ACCOMMODATE …In the context of established (as opposed to merely asserted) rights, the Crown is required to justify any infringement of established Haudenosaunee rights (including those affirmed by the Nanfan Treaty) when it contemplates conduct that might adversely affect those rights.[5] The scope and nature of the duties owed to the Haudenosaunee are also informed by the concepts	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.

Indigenous community or Nation	Summary of Comments	Proponent's Response
	of honour, reconciliation, and fair dealing underlying treaty agreements and the treaty-based relationship between the Haudenosaunee and the Crown.[6]	
	THE CROWN HAS FAILED TO OBTAIN THE FREE, PRIOR, AND INFORMED CONSENT OF OR OTHERWISE MEANINGFULLY ENGAGE WITH THE HAUDENOSAUNEE IN RESPECT OF THE PROJECT Neither Metrolinx nor the Minister have meaningfully engaged with the Haudenosaunee in respect of the Heritage Road Layover Project. Given the insufficiency of Crown engagement (discussed below), the Haudenosaunee cannot provide their free, prior and informed consent to the Project. Therefore, the Minister should not allow Metrolinx to proceed with the Project unless and until meaningful engagement has occurred. As a government ministry, the MECP is bound to uphold the honour of the Crown and fulfill constitutional obligations by justifying any infringements on Haudenosaunee rights.	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.
	…Further, the United Nations Declaration on the Rights of Indigenous Peoples[7] (the "**Declaration**" or "**UNDRIP**") recognizes that "free and informed consent" is required prior to carrying out development on Haudenosaunee lands. Following the coming into force of the *United Nations Declaration on the Rights of Indigenous Peoples Act*[8] in June 2021, the Declaration now has application in Canadian law. In particular, we draw your attention to Articles 26 and 32 of the Declaration, which provide that: 26. 1. Indigenous peoples have the **right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used** or acquired. 2. Indigenous peoples have the **right to own, use, develop and control the lands, territories and resources that they possess** by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired. 3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned. (*emphasis added*) 32. 1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources. 2. States **shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.** 3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact. (*emphasis added*) … The onus is on the Crown to justify any infringement of Haudenosaunee rights on the basis of a compelling and substantial purpose and to establish that incursions are consistent with the Crown's fiduciary duty.[11] Neither Metrolinx nor the Minister have ever provided the Haudenosaunee with such a justification. As a result, and absent the Haudenosaunee's free, prior and informed consent,	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.

Indigenous community or Nation	Summary of Comments	Proponent's Response
	the Minister cannot issue a notice allowing Metrolinx to proceed with the Project.	
	Metrolinx's efforts do not constitute meaningful engagement To date, the only party to engage with HDI has been Metrolinx (albeit not in a particularly meaningful way). Metrolinx has said it welcomes any requests for a meeting to discuss the Project and the potential involvement of HDI. However, these "discussions" have been unproductive, and the Project and environmental assessment (TPAP) process have continued to plow ahead. To the extent the Minister seeks to rely upon Metrolinx's "efforts" to engage with HDI, those efforts—predominantly consisting of invitations to participate in a process in which HDI never agreed to participate (given its failure to address Haudenosaunee concerns)—fall far short of the bar for engagement repeatedly set forth by the Courts, and even further from the engagement HDI submits is necessary to advance the goals of reconciliation. ... Therefore, the Project may not proceed absent the free, prior and informed consent of the Haudenosaunee. At no point has Metrolinx sought (nor has the HCCC provided) the consent of the Haudenosaunee. There can be no meaningful engagement without this required consent.	Metrolinx is committed to ongoing dialogue and continued engagement with HCCC/HDI with respect to their Rights and interests. Below describes the Project interactions to date: January 7, 2022 - Metrolinx provided an introduction letter to Heritage Road Layover project. February 8, 2022 - Metrolinx provided the draft Stage 1 AA report for review. March 7, 2022 - Metrolinx provided the draft Cultural Heritage Report for review. March 21, 2022, follow-up on May 6, 2022 and June 1, 2022 - Metrolinx shared the positive Duty to Consult notification and requested comments or questions regarding the project. March 23, 2022 – Metrolinx provided a copy of the Notice of Commencement. April 6, 2022 - Metrolinx provided the draft Environmental Project Report and supporting technical studies for review. May 19, 2022 - Metrolinx provided an invitation to participate in Summer 2022 fieldwork between June 9 and August 12, 2022. June 13, 2022 - Metrolinx provided response to Objection notice, dated March 10, 2022, described above. Metrolinx provided details of the communications up to June 13, 2022, and summary of the technical studies with associated recommendations as an outcome of the impact assessment. Metrolinx mentions on-going activities to establish a framework agreement and commitments to continued engagement with HCCC/HDI as the project progresses July 15, 19, 20, 22, 2022, August 3, 22, 2022 - Coordination of field monitors for Stage 3 AA, Phase II ESA (groundwater and sediment sampling) activities July 19, 2022 – Metrolinx provided a copy of the Notice of Issue and the rationale to why the Transit Project Assessment Process (TPAP) for the Project was paused. July 22, 2022 - Re-circulation reports previously shared with HDI/HCCC (EPR and associated technical reports) August 17, 2022 – Metrolinx provided a copy of the Notice of Resumption and the rationale to resume the regulated 120-day period of the Project TPAP. August 18, 2022

Indigenous community or Nation	Summary of Comments	Proponent's Response
		– Metrolinx provided a copy of the Notice of Completion and circulated a link to the Final EPR and technical reports for review. Provided notification that the 30-day public review period was between August 19, 2022 and September 19, 2022.
	The Crown breached its duty to engage by not conducting or providing a preliminary assessment …In respect of the Project, the Haudenosaunee have never been provided the Crown's assessment (or advised if an assessment was carried out). The Crown's failure to conduct or disclose a preliminary assessment demonstrates a failure by the Crown to discharge its duty to meaningfully engage in good faith with the Haudenosaunee. This failure has not been remedied. Unless and until the Crown discloses its preliminary assessment to HDI, its engagement obligations remain outstanding and unfulfilled.	These are the same issues that have been raised by HDI in their Judicial Review material filed with the Court for a hearing scheduled for November 2022. Therefore, it is inappropriate to respond to these specific concerns when the same issues are presently before the Court with the same parties.
	If the Minister is relying on Metrolinx to meaningfully engage, HDI was/is unaware …If the Minister seeks to rely on any alleged engagement efforts of Metrolinx, then such a delegation was never made known to HDI, and is therefore improper. While the Minister may rely on a proponent such as Metrolinx to fulfill the procedural aspects of the Crown's duty, such a reliance must be made clear to the affected Indigenous group. The Haudenosaunee have never been informed that Metrolinx is responsible for discharging the Crown's duty in respect of the Project. The failure of Metrolinx and the Minister to inform HDI whether Metrolinx has been delegated aspects of the Crown's engagement obligations precludes meaningful engagement and constitutes a breach of its duties.	We are not in the position to comment.
	The TPAP is inadequate to fulfill the Crown's duty to meaningfully engage To the extent the Crown intends to rely on the TPAP to fulfill its constitutional duty to meaningfully engage and accommodate the Haudenosaunee, such process is inadequate. … Moreover, the requirements to engage with Indigenous groups under the TPAP are minimal. … Furthermore, the TPAP makes no provision for the obligation to justify infringements or obtain consent, where established rights are concerned.	The TPAP is only one part of the Duty to Consult. Consultation does not begin or end with the TPAP. Any concerns with the process should be submitted to the relevant regulatory approval body, MECP.
	The Crown has failed to deal with affected Indigenous Nations in an even-handed manner … However, on the Project website, Metrolinx only acknowledges that "…the Heritage Layover Project is proposed on lands covered by Treaty 19, 1818 with the Mississaugas of the Credit First Nation." Metrolinx fails to acknowledge that the Project is on lands also covered by the Nanfan Treaty between the Haudenosaunee and the Crown. As a result, Metrolinx appears to have watered down the Haudenosaunee rights at issue from treaty *and* traditional territorial rights to just traditional territorial rights. Metrolinx fails to correct this in the Final EPR, where it states that "…the Study Area is situated on the ***Treaty Lands and Traditional Territory*** of the Mississaugas of the Credit First Nation and the ***traditional territory*** of the Huron-Wendat, ***Haudenosaunee***, as well as the Métis."[17] (*emphasis added*)	The Project itself has been advised to include HCCC's participation as set out by MECP and public information that suggests otherwise should not be relied upon. Our engagement has included consulting with all Rights holders in the Project area, which includes HCCC. Attempts to engage did occur in advance of and during the TPAP process.

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	This suggests that Metrolinx has failed to take an even-handed approach to Indigenous engagement with respect to the Project. This is especially troublesome given that Metrolinx has explicitly acknowledged that certain other transit projects were occurring within Nanfan Treaty territory.[18] … Metrolinx appears to have favoured the asserted rights of the Mississaugas of the Credit First Nation to the exclusion of the established treaty rights and interests of the Haudenosaunee. HDI is in the dark about how the Haudenosaunee's established rights may be further impacted, and potentially derogated, by Metrolinx's consultation with other Indigenous communities (in respect of this Project or others) concerning Haudenosaunee treaty territory.	
	THE PROJECT WILL NEGATIVELY IMPACT THE HAUDENOSAUNEE AND THEIR TREATY RIGHTS … The Crown has not complied with its procedural obligations owed to the Haudenosaunee in respect of the Project. As discussed above, the Haudenosaunee have not provided their free, prior and informed consent for the Project. Nor have the Minister or Metrolinx asked for this consent. Both Metrolinx and the Minister have failed at every step to meaningfully engage with the Haudenosaunee regarding the Project…	We have always been open to hearing how this Project will directly impact specific Rights. The general assertions made fail to provide us with the necessary information needed to meaningfully consult. If HCCC/HDI raises specific concerns associated with their Rights now or in the future, we will work with them to meaningfully consult, but until they do so, we are in a position where we are unable to ascertain what specific rights may be affected by this project's development.