# GO Rail Network Electrification Final Environmental Project Report Addendum

Final Errata to Environmental Project Report Addendum

17-May-2021

Prepared by:





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### Authorization

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#### **REVISION HISTORY**

Revision	Date	Purpose of Submittal	Comments
00	17-May-2021	Final submission to Metrolinx.	N/A

This submission was completed and reviewed in accordance with the Quality Assurance Process for this project.

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### Introduction

This Errata documents revisions to the GO Rail Network Electrification Environmental Project Report (EPR) Addendum (February 2021); the specific additions have been identified in <a href="mailto:yellow">yellow</a> and removals have been identified in <a href="mailto:strikethrough">strikethrough</a> in the sections that follow.

This Errata was prepared to incorporate comments provided on the EPR Addendum by Metrolinx, the City of Toronto, the Ministry of Environment, Conservation and Parks (MECP), the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) and Indigenous Nations during the 30-day public review which commenced February 23<sup>rd</sup>, 2020 and ended March 24<sup>th</sup>, 2021. In addition, updates were made to incorporate a summary of attendance and public comments received as part of the Don Fleet Junction Update public meeting. The final version of the EPR Addendum will be updated to include these additions/revisions for use during the future stages of the design/project.

It is acknowledged that additional revisions to address MECP comments on the Union Station Rail Corridor (USRC) Noise and Vibration Assessment Report, provided as EPR Addendum Appendix G1 have been undertaken and are captioned under separate cover.





### **Executive Summary**

No revisions required.

### 1. Introduction

Section 1.4.4 Significance of the Proposed Changes has been revised as follows:

In accordance with *Section 15 of O. Reg. 231/08*, Metrolinx assessed the significance of the proposed changes to the GO Rail Network Electrification Project that are inconsistent with the approved 2017 EPR. Based on this assessment, Metrolinx determined that the changes are considered *significant* for the following reasons:

- The potential environmental effects and proposed mitigation/monitoring measures associated with the revised OCS Impact/Vegetation Clearance Zones (along each rail corridor to be electrified) require review and updates in order to reflect the latest GO Expansion infrastructure plans;
- The proposed utility bridges required at the Lower Sherbourne Street USRC Bridge (Subway),
  Parliament Street USRC Bridge (Subway) and Cherry Street USRC Bridge (Subway) related to
  eliminating Hydro One conflicts necessitate the preparation of Heritage Impact Assessment (HIA)
  studies, as these structures are designated were identified by Metrolinx as Provincial Heritage
  Properties (PHP) under the Ontario Heritage Act, section 25.2 Ontario Regulation 9/06; and
- The assumed train service levels were significantly revised since the 2017 EPR to align with the
  currently proposed GO Expansion service levels; therefore a fulsome update of the noise,
  vibration, and air quality impact assessment studies is required in order to ensure that potential
  effects are articulated accurately and that mitigation and monitoring measures are reviewed and
  updated accordingly.

### 2. Update to Detailed Project Description

No revisions required.

### 3. Baseline Conditions

<u>Section 3.5.3.7 OCS: Section BR-7 – Aurora Station to East Gwillimbury Station has been revised as follows:</u>

Ten (10) Built Heritage Resources (BHRs) were identified within the EPR Addendum study area, as summarized in **Table 3-21** below.





TABLE 3-21: SECTION BR-7 - SUMMARY OF BUILT HERTIAGE RESOURCES

Ref. Number	Rail Corridor	Property Type	Location	Ownership	Level of Heritage Recognition
BR-05	Barrie Corridor	Residence	365 Cotter Street, Newmarket Nearest Crossroads: Prospect St and Water St	Private	Potential BHR - Identified during field review
BR-06	Barrie Corridor	Residence	359 Cotter Street, Newmarket Nearest Crossroads: Prospect St and Water St	Private	Potential BHR - Identified during field review
BR-07	Barrie Corridor	Residence	353 Cotter Street, Newmarket Nearest Crossroads: Prospect St and Water St	Private	Potential BHR - Listed on a Municipal Heritage Register
BR-08	Barrie Corridor	Residence	349 Cotter Street, Newmarket Nearest Crossroads: Prospect St and Water St	Private	Potential BHR - Identified during field review
BR-09	Barrie Corridor	Residence	341 Cotter Street, Newmarket Nearest Crossroads: Prospect St and Water St	Private	Potential BHR - Identified during field review
BR-12	Barrie Corridor	Various	115-117 Main Street South, Newmarket Nearest Crossroads: Main St S and Queen St	Private	Known BHR - Designated under Part IV of the Ontario Heritage Act (By-law 1988- 143)
BR-13	Barrie Corridor	Commercial	450-474 Davis Drive East, Newmarket	Municipal	Known BHR - Designated under Part IV of the Ontario Heritage Act (By-law 1987-



Ref. Number	Rail Corridor	Property Type	Location	Ownership	Level of Heritage Recognition
			Nearest Crossroads: Main St N and Davis Dr E		110; 2017-42); Formerly designated under the Heritage Railway Station Protection Act: 1 November 1992
BR-14	Barrie Corridor	GO Station	465 Davis Drive East, Newmarket Nearest Crossroads: Main St N and Davis Dr E	Town of Newmarket	Known BHR; MHC determined that this property met Ontario Regulation 9/06 (MHC Decision Form: 11 January 2017); Listed on a Municipal Heritage Register; Metrolinx Provincial Heritage Property (of local significance) (Conditional) <sup>1</sup>
BR-15	Barrie Corridor	Residence	91 Franklin Street, Newmarket Nearest Crossroads: Main St N and Davis Dr E	Private	Known BHR; MHC determined that this property met Ontario Regulation 9/06 (MHC Decision Form: 23 June 2017); Metrolinx Provincial Heritage Property (of local significance) (Conditional)
BR-16	Barrie Corridor	Residence	95 Franklin Street, Newmarket Nearest Crossroads: Main St N and Davis Dr E	Private	Potential BHR – Identified during field review

A Conditional Heritage Property is a Metrolinx-owned property or a property which may be acquired identified as having potential CHVI.

# <u>Section 3.5.8.11 OCS: Section BR-12 – Barrie South Station to Allandale Waterfront Station has been revised as follows:</u>

This section of the rail corridor is located in close proximity to Kempenfelt Bay in Barrie, which lies on the western edge of Lake Simcoe. Beyond Little Avenue, views to the waterfront from the rail ROW open across Lakeshore Drive. The rail corridor is lined on both sides with single-family residential development that is screened with vegetation along both sides of the corridor and large parks and open space along the waterfront. At the closest point, a residential dwelling is located approximately 20 metres from the rail ROW. Since the proposed track upgrades are to occur within the existing Metrolinx rail ROW, the existing visual baseline conditions are classified as *Negligible* (see **Figure 3-21**).





**FIGURE 3-21**: AERIAL VIEW OF PROPOSED INFRASTRUCTURE NEAR KEMPENFELT BAY (LOOKING WEST)<sup>56</sup>

This section is primarily located within a *Residential* area; however, residential dwellings are more than 20 metres from the rail corridor. The proposed track upgrades are to occur within the existing Metrolinx rail ROW, suggesting the existing conditions will be minimally impacted. Based on this, the existing visual baseline conditions are classified as *Negligible*.

Allandale Station Park (also known as Southshore Park) extends around Kempenfelt Bay in the vicinity of Allandale GO Station. Users of this park have a clear view of the rail corridor and Allandale GO Station, including the existing storage yard. The views from the park towards the Allandale GO Station are not anticipated to change as the proposed track upgrades are proposed within the existing Metrolinx rail ROW, resulting in no vertical disturbances. Thus, the existing visual baseline conditions are classified as *Negligible* (see **Figure 3-22**).

<sup>&</sup>lt;sup>56</sup> New and upgraded track infrastructure from the NT&F TPAP is depicted in orange; Metrolinx-owned property is depicted in red.







FIGURE 3-22: AERIAL VIEW OF ALLANDALE WATERFRONT AREA (LOOKING SOUTH)57,68

The Allandale Waterfront GO Station is the Barrie Corridor's terminus station. Located here is a small parking lot, as well as a drop-off and pick-up areas for both buses and cars immediately in front of the station. On the other side of the station driveway is the Allandale Station building, a heritage easement designated under the Heritage Railway Stations Protection Act. a known built heritage resource with Part IV Designation under the OHA (By-law 2009-114), designated under the Heritage Railway Stations Protection Act and Ontario Heritage Trust Conservation Easement.

Although, the site is recognized for its cultural relevance, the track upgrades are proposed to occur within the existing Metrolinx rail ROW. The views to and from the old station building and surrounding areas are not anticipated to change; therefore, the existing visual baseline conditions are classified as *Negligible*.

# 4. Impact Assessment

Section 4.2.3.3.1 Potential Effects and Mitigation Measures has been revised as follows: Heritage Impact Assessment Reports (HIAs)

<sup>58-</sup>Note to draft: figure to be revised in final version of report.



<sup>&</sup>lt;sup>57</sup> New and upgraded track infrastructure from the NT&F TPAP is depicted in orange; Metrolinx-owned property is depicted in red.



In August 2020, Metrolinx subsequently carried out Heritage Impact Assessments (HIA) for each of the three (3) USRC bridges as follows:

- Heritage Impact Assessment Lower Sherbourne Street USRC Bridge, Toronto (ASI, April 2021)
- Heritage Impact Assessment Parliament Street USRC Bridge, Toronto (ASI, April 2021)
- Heritage Impact Assessment Cherry Street USRC Bridge, Toronto (ASI, April 2021)

The purpose of these HIAs is to assess the potential impacts to each of the three (3) USRC Bridges related to the Project and to recommend appropriate mitigation measures to reduce or eliminate impacts while still enabling the addition of the Hydro One utility bridges. The HIAs are contained respectively in **Appendix C3**, **Appendix C4**, and **Appendix C5**, and contain further information on these built heritage resources and present assessments specific to each structure.

The Lower Sherbourne Street Bridge (Structure 564), the Parliament Street Bridge (Structure 552), and the Cherry Street Bridge (Structure 508) are all located along the USRC between Mile 0.75 to Mile 1.25 in the City of Toronto. The subway bridges carry the USRC over the streets in an east-west orientation, approximately one to two kilometers east of Union Station. The three (3) USRC bridges are each a four-span steel plate girder structure with three riveted steel girder bents and cast-in-place concrete abutments, which were constructed in the late 1920s as part of the Waterfront Viaduct grade separation project. The cast-in-place concrete abutments, wingwalls, and deck fascia feature decorative panel moulding, which is part of the aesthetic of several railway USRC bridges. The three (3) USRC bridges have been classified as PHPs for their significant historical, design, and contextual values (see Figure 4-2 to Figure 4-4).

#### Section 4.2.3.4.1 Potential Effects and Mitigation Measures has been revised as follows:

As part of the USRC East Enhancements project, a Stage 1 Archaeological Assessment was completed in November 2018 by AECOM which confirmed through a visual inspection, analysis of historical sources and digital environmental data, that a small area within the USRC is recommended for a Stage 2 Archaeological Assessment as there is the potential of deeply buried intact archaeological resources. The Parliament Street to Cherry Street working area, south of the rail tracks contains this small area where a 'Stage 2 monitoring is requested if construction reaches a depth of 76m above sea level (ASL)' (see pink shading in Figure 4 5). The proposed relocation of Hydro One transmission lines to an underground transmission corridor is expected to reach depths of approximately 76m at some locations. Therefore, the exact locations and depth of excavation will be confirmed prior to construction of the underground utility corridor.

Additionally, the City of Toronto has identified a potential archaeological resource located within the USRC Hydro One Conflicts study area, known as the Knapp's Roller Boat. The Knapp's Roller Boat is an unusual ship, remembered for its innovative design (which appears as a cylinder) and was built in the late 1800's. In 1923, the roller boat was buried beside the former Polson Ironworks site at the east end of Toronto Harbour (i.e., located west of Lower Sherbourne Street, under the Gardiner Expressway). However, since the proposed relocation of Hydro One transmission lines to an underground transmission corridor is not expected to impact the Knapp's Roller Boat, no impacts to this archaeological resource is anticipated.

Based on this review, the Esplanade Transmission Station to Don Fleet JCT working area was assessed as part of the USRC East Enhancements project, is largely disturbed, and retains limited archaeological potential. Therefore, the proposed works to relocate transmission infrastructure using utility bridges and an underground corridor is not deemed to require further archaeological assessment, however, Stage 2 monitoring may be required, should the depth of excavation reach 76m ASL.





#### Mitigation Measures

Listed below are recommended courses of action for archaeological assessment within the USRC Hydro One conflicts study area:

- The Metrolinx USRC Hydro One conflicts study area does not require further archaeological assessment:
- Should the proposed construction of the underground transmission corridor reach a depth of 76m ASL, Stage 2 Monitoring will be required; and
- Should the proposed work extend beyond the current study area or should changes to the project design or temporary workspace requirements result in the inclusion of previously un-surveyed lands, these lands should be subject to a Stage 2 Archaeological Assessment.

Additionally, the following mitigation measures and monitoring commitments are recommended in the event of potential disturbance of unassessed (i.e., Knapp's Roller Boat) or undocumented archaeological resources:

- 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 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 Archaeological Assessment (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

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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.

- All Archaeological Assessment findings will be shared with Indigenous Nations & organizations, as per Metrolinx's Guide to Engaging with Indigenous Communities (2020).
- 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.
- The Waterfront Toronto: Archaeological Conservation and Management Strategy shall be consulted prior to construction and all work shall be performed in accordance with applicable strategies.

#### Section 4.2.3.12 Traffic has been revised as follows:

The following mitigation measures are recommended to ensure safe movement of vehicles and pedestrians during construction of the proposed infrastructure within the USRC:

- 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 adjusted as necessary during the construction period.
- Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.
- Partial or full road closures may be required as a result of construction staging for the utility bridge installations at Lower Sherbourne Street, Parliament Street and Cherry Street. Clearly delineated, and appropriately signed route options, with clearly marked detours will be provided during construction, where required;
- Ensure that the public is notified in advance of any potential service disruptions.
- Consult with local transit agencies to establish a suitable mitigation strategy to be implemented.
- Traffic impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.





Additionally, it is anticipated that sightlines on southbound traffic may be impacted by the installation of the utility bridges. Therefore, a sightline analysis will be reviewed by the Contractor and will take into account City of Toronto Guidelines. The Contractor will be responsible for completing a photometric analysis to ensure safe traffic movements. Depending on the results of the analysis, additional mitigation measures may be proposed to minimize potential traffic impacts (e.g. installation of additional signage or advance warning signals/lights).

As the Hydro One transmission cables generate heat, this will help prevent ice buildup for roadways passing underneath. The utility bridges will be designed in a way to prevent/minimize ice accretion and water build up, where possible.

For potential impacts and mitigation measures related to the Lower Don Trail, please refer to Section 4.2.3.5 above.

A summary of mitigation and monitoring commitments for this section is included in **Table 4-136.** 

#### Section 4.8.8 Noise and Vibration has been revised as follows:

The potential noise and vibration impacts of trains and associated equipment and facilities are assessed in all corridors and corridor segments, which are part of the GO Expansion Program. The assessed equipment activities include running or idling of GO Transit trains in revenue and non-revenue service along corridors, at stations and in layover or train storage facilities. The operational noise and vibration assessments for each corridor are detailed in Sections 4.2.2, 4.3.7, 4.4.7, 4.5.7, 4.6.7 and 4.7.7 along with mitigation recommendations specific to each corridor.

Environmental noise may cause annoyance, disturb sleep and other activities, and affect human health. If operations are projected to cause a 5-dB increase or greater in the average energy equivalent noise (referred to as "Leq") relative to the existing noise level or the MECP objective of 55 dBA for daytime and 50 dBA for night-time, whichever is higher, then mitigation is required. The following mitigation measures related to noise barriers will be implemented on all corridors:

- Deploy the noise barriers defined in the Noise and Vibration Modelling Reports within Appendix
   G.
- Maintain noise barriers so as to ensure their continued effectiveness in noise reduction.
- If deviating from the assessments made in the Noise and Vibration Modelling Reports, comply
  with the noise impact and assessment criteria in the Metrolinx Guide for Noise and Vibration
  Assessment (2020).

The following mitigation measures will help address noise at the source:

• Deploy vehicle and track technology and related maintenance measures to maintain compliance with the noise and vibration exposure criteria defined below.

The following criteria will be used to determine the effectiveness of noise mitigation measures:

- Meet the following long-term day-time/ night-time maximum noise exposure objectives at all noise sensitive receptors across the system, where background noise levels allow their realization:
  - o 10-year objective: 70/60 dBA





20-year objective: 60/50 dBA

o 25-year objective: 55/50 dBA

- Meet the airborne noise exposure criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).
- Meet the ground-borne (vibration induced) noise exposure criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).
- Meet any additional future criteria or guidance developed by regulatory agencies, as applicable.

The following monitoring recommendations will be implemented to ensure that noise mitigation measures continue to be operationally effective:

- Measure and document the Leq (16-hour) and Leq (8-hour) noise levels, under predictable worst-case conditions, at locations where new noise mitigation barriers have been provided per the 2020 noise and vibration studies and per the Metrolinx Enhanced Mitigation Program. Outdoor measurements will be carried out in accordance with MECP requirements and US FTA Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018). The primary purpose of these measurements is to ascertain the effectiveness of the implemented mitigation measure(s).
- Assess the condition and performance of locomotives, coaches, DMUs and EMUs with respect to noise emissions as part of maintenance to ensure continued compliance with manufacturer specifications.
- Assess the condition and performance of the rail tracks and switches with respect to noise as part of maintenance to ensure continued compliance with manufacturer specifications.

Vibration can cause annoyance, interfere with human activity and affect human health. It may also cause building damage. A change in vibration levels may occur where there are changes in track alignment, addition of new track, and changes to or addition of special track work. Vibration levels may also change with changes in rail vehicle specifications and operating conditions. The following vibration mitigation measures will be implemented on all corridors:

Deploy mitigation recommended in the Noise and Vibration Modelling Reports within Appendix
 G. Review and update the vibration assessment during the design of new infrastructure at representative receptor locations to ensure compliance with the vibration exposure criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).

The following mitigation measures will help address vibration at the source:

• Deploy vehicle and track technology and related maintenance measures to maintain compliance with the noise and vibration exposure criteria defined below.

The following criteria will be used to determine the effectiveness of vibration mitigation measures:

 Meet the ground-borne vibration criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).





The following monitoring recommendations will be implemented to ensure that vibration mitigation measures continue to be operationally effective:

- Measure and document the vibration impacts, under predictable worst-case conditions, of each
  distinct type of GO Transit train consist operating in the corridor of interest at locations where the
  2020 noise and vibration studies recommends mitigation of vibration impacts. Measurements will
  be carried out at or near representative vibration sensitive receptors in accordance with MECP
  requirements and US FTA Report No. 0123, Transit Noise and Vibration Impact Assessment
  Manual (2018). The primary purpose of these measurements is to ascertain the effectiveness of
  the implemented mitigation measure(s).
- Assess the condition and performance of locomotives, coaches, DMUs and EMUs with respect to vibration levels as part of maintenance to ensure continued compliance with manufacturer specifications
- Assess the condition and performance of the rail tracks and switches with respect to vibration levels as part of maintenance to ensure continued compliance with manufacturer specifications

In addition to the commitments outlined above, the following measures will be undertaken with respect to switch heaters, switches and crossovers:

- Noise impacts due to switch heaters on the rail network (USRC, LSW, LSE, BR & SV corridors) will be re-visited during the detail design stage where more details will be available to allow more refined analysis of the switch heaters noise impacts. Metrolinx will investigate the feasibility of noise control measures when levels exceed 45 dBA in urban areas and 40 dBA in rural areas.
  - Metrolinx will ensure that the reference noise level of natural gas and electricity powered switch heaters are correctly and accurately measured. Metrolinx will also ensure that the assessment is based for a predictable worst-case scenario of switch heater operation. The assessment will use the applicable noise exposure criteria in the MECP document, NPC-300.
- During detailed design Metrolinx will undertake measurements at regular intervals to confirm the noise levels at crossovers and switches at a representative location on the GO rail network.
  - Metrolinx will carry out measurement of noise and vibration at 100, 200 and 300 m plus one additional measurement beyond 300 m (in each direction) from representative switches/crossovers and GO Transit trains. This will provide a more extensive data base for future assessments. The assessment criteria for these devices are those of the MOEE/GO Protocol for Noise and Vibration Assessment (1995).

<u>Section 4.10 Summary of Mitigation and Monitoring Commitments, Table 4-127 has been revised as follows:</u>



### Table 4-127: SUMMARY OF ARCHAEOLOGICAL MITIGATION AND MONITORING COMMITMENTS

Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
OCS/ Underground Transmission Corridor	Excavate soil     Install OCS foundations at an approximate depth of 5m     Excavation for the proposed Hydro One transmission corridor reaching a depth of 76m ASL     Erect poles     Install wiring     Tree removals	Archaeological Resources	<ul> <li>Potential for the disturbance/displacement of unassessed or documented archaeological resources.</li> <li>Archaeological potential at the following locations along the rail corridors:         <ul> <li>Barrie Rail Corridor - Potential for the disturbance of unassessed or documented deeply buried archaeological resources within a 200 metre radius of Allandale site (BcGw-69) near Historic Allandale Station and new Allandale Waterfront GO Station</li> </ul> </li> <li>Archaeological potential at the following locations within the USRC Hydro One Conflicts study area:         <ul> <li>Within the area indicated in Figure 4-5 below a depth of 76m ASL.</li> <li>The Knapp's Roller Boat.</li> </ul> </li> </ul>	Stage 2 Test Pit Survey will be undertaken during detailed design at the following site prior to construction:  Lakeshore West Rail Corridor (Walkers Line Layover) Barrie Rail Corridor - Potential for the disturbance of unassessed or documented deeply buried archaeological resources within a 200 meter radius of Allandale Station and new Allandale Waterfront GO Station  The Constructor will 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 MTCI 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 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 Archa	<ul> <li>Stage 2 Test Pit Survey will be undertaken during detailed design at the following site prior to construction:         <ul> <li>Lakeshore West Rail Corridor (Walkers Line Layover)</li> <li>Barrie Rail Corridor - Potential for the disturbance of unassessed or documented deeply buried archaeological resources within a 200 metre radius of Allandale site (BcGw-69) near Historic Allandale Station and new Allandale Waterfront GO Station</li> </ul> </li> <li>Engage with Indigenous Nations &amp; organizations per the S&amp;G and any consultation agreements</li> <li>Performance of the work will occur within land previously subject to an Archaeological Assessment.</li> <li>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.</li> <li>Further Archaeological Assessment may identify the need for monitoring during construction.</li> <li>Should the proposed construction of the USRC Hydro One underground transmission corridor reach a depth of 76m ASL, Stage 2 Monitoring will be required</li> </ul>
			Potential to impact cemetery located in proximity to the Project footprint.	<ul> <li>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.</li> </ul>	Further Archaeological Assessment may identify the need for monitoring during construction.

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Operation/ Maintenance	Operation of OCS	No potential effects associated with operation of the OCS	None Required	None Required
of OCS	Tree Pruning/ Maintenance			

#### \*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, consult with the appropriate regulatory agencies





Section 4.10 Summary of Mitigation and Monitoring Commitments, Table 4-130 has been revised as follows:



### TABLE 4-130: SUMMARY OF NOISE AND VIBRATION MITIGATION AND MONITORING COMMITMENTS

Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
Increased Train Service	Operation of increased train service under the GO Expansion Program	Operational Noise (Trains)	Environmental noise may cause annoyance, disturb sleep and other activities, and affect human health.  If operations are projected to cause a 5-dB increase or greater in the average energy equivalent noise (referred to as "Leq") relative to the existing noise level or the MECP objective of 55 dBA for daytime and 50 dBA for night-time, whichever is higher, then mitigation is required.	Mitigation per TPAP Study Report (Noise Barriers):  Deploy the noise barriers defined in the Noise and Vibration Study Reports GO Rail Network Electrification Project, 2020 (RWDI).  Maintain noise barriers so as to ensure their continued effectiveness in noise reduction.  If deviating from the assessments made in the Noise and Vibration Study Reports GO Rail Network Electrification Project, 2020 (RWDI), comply with the noise impact and assessment criteria in the Metrolinx Guide for Noise and Vibration Assessment (2020).  Mitigation at the Source:  Deploy vehicle and track technology and related maintenance measures to maintain compliance with the noise and vibration exposure criteria defined below.  Mitigation Criteria:  Met the following long-term day-time/ night-time maximum noise exposure objectives at all noise sensitive receptors across the system, where background noise levels allow their realization:  10-year objective: 70/60 dBA  20-year objective: 55/50 dBA  Meet the airborne noise exposure criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).  Meet the ground-borne (vibration induced) noise exposure criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).  Meet any additional future criteria or guidance developed by regulatory agencies, as applicable.  Additional Commitments:  Noise impacts due to switch heaters on the rail network (USRC, LSW, LSE, BR & SV corridors) will be re-visited during the detail design stage where more details will be available to allow more refined analysis of the switch heaters on see impacts. Metrolinx will investigate the realbility of noise control measures when levels exceed 45 dBA in urban areas and 40 dBA in rural areas.  Metrolinx will ensure that the reference noise level of natural gas and electricity powered switch heaters are correctly and accurately measured. Metrolinx will assessment that the assessment is based for a predictable worst-case scenario of switch heater operation. The assessment limits are presentative locati	Measure and document the Leq (16-hour) and Leq (8-hour) noise levels, under predictable worst-case conditions, at locations where new noise mitigation barriers have been provided per the 2020 noise and vibration studies and per the Metrolinx Enhanced Mitigation Program. Outdoor measurements will be carried out in accordance with MECP requirements and US FTA Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018). The primary purpose of these measurements is to ascertain the effectiveness of the implemented mitigation measure(s).  Assess the condition and performance of locomotives, coaches, DMUs and EMUs with respect to noise emissions as part of maintenance to ensure continued compliance with manufacturer specifications.  Assess the condition and performance of the rail tracks and switches with respect to noise as part of maintenance to ensure continued compliance with manufacturer specifications.
		Operational Vibration (Trains)	Vibration can cause annoyance, interfere with human activity and affect human health. It may also cause building damage.	Mitigation per TPAP Study Report:     Deploy mitigation recommended in the GO Expansion Noise and Vibration Study Report (RWDI).     Review and update the vibration assessment during the design of new infrastructure at representative	Measure and document the vibration impacts, under predictable worst-case conditions, of each distinct type of GO Transit train consist operating in the corridor of interest at locations where the 2020 noise and vibration studies



Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
			A change in vibration levels may occur where there are changes in track alignment, addition of new track, and changes to or addition of special track work.  Vibration levels may also change with changes in rail vehicle specifications and operating conditions.	receptor locations to ensure compliance with the vibration exposure criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).  Mitigation at the Source:  Deploy vehicle and track technology and related maintenance measures to maintain compliance with the noise and vibration exposure criteria defined below.  Mitigation Criteria:  Meet the ground-borne vibration criteria in the MOEE/GO Protocol for Noise and Vibration Assessment (1995).	recommends mitigation of vibration impacts. Measurements will be carried out at or near representative vibration sensitive receptors in accordance with MECP requirements and US FTA Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018). The primary purpose of these measurements is to ascertain the effectiveness of the implemented mitigation measure(s).  Assess the condition and performance of locomotives, coaches, DMUs and EMUs with respect to vibration levels as part of maintenance to ensure continued compliance with manufacturer specifications  Assess the condition and performance of the rail tracks and switches with respect to vibration levels as part of maintenance to ensure continued compliance with manufacturer specifications
Construction activities including the preparation and installation of OCS support foundation structure and the OCS wiring	Site preparation and construction of the infrastructure     Auguring of holes or excavation with an excavator     Install OCS foundations at an approximate depth of 5m     Erect poles     Install wiring via work truck along corridors     Tree removals	Construction and Maintenance- related Noise	Environmental noise may cause annoyance, disturb sleep and other activities, and affect human health.  The severity of the noise effects resulting from construction projects varies, depending on:  Scale, location and complexity of the project  Construction methods, processes and equipment deployed  Total duration of construction near sensitive noise receptors  Construction activity periods (days, hours, time period)  Number and proximity of noise-sensitive sites to construction area(s)	Prior to commencement of construction, develop and submit a detailed Construction Noise Management Plan.  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.  The Construction Noise Management Plan will include the temporary/permanent noise barriers indicated in the applicable noise and vibration construction impact assessment report (2020), where additional work sites are identified which were not assessed as part of the applicable noise and vibration construction impact assessment report (2020), or where construction activities at any given site differ from those considered in this report, conduct modelling to evaluate the need for additional noise barriers	The Construction Noise Management Plan will incorporate the following requirements related to monitoring of noise and noise related complaints:  • Monitor noise where the Construction Noise Management Plan indicates 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 weekly 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.
		Construction and Maintenance-related Vibration	Exposure to vibration may result in public annoyance and complaints. Vibration may also cause damage to buildings and other structures.	<ul> <li>Adhere to the following vibration exposure limits:</li> <li>Vibration, as a human irritant, is assessed in terms of its average level. Vibration velocity should not exceed 0.14 mm/s or current conditions (whichever is higher) by more than 25%.</li> <li>As a threat to buildings, vibration is assessed in terms of its peak value. The Zone Of Influence for vibration shall be the area where structures are expected to experience vibration peak particle velocities that exceed 5 mm/s. Vibration velocity should be limited to 8-22 mm/s, depending on vibration frequency. These limits are prescribed by the most current versions of the <i>Toronto Municipal Code Chapter 591</i>, <i>Noise</i> (2020) and <i>Chapter 363</i>, <i>Vibration</i> (2019) for typical structures (not building with special needs).</li> </ul>	The Construction Vibration Management Plan will incorporate the following requirements related to monitoring of vibration and vibration related complaints:  • Monitor vibration continuously at structures where the Construction Vibration Management Plan indicates that structures are deemed to be within the Zone Of Influence for construction



Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
				<ul> <li>Adhere to the ground-borne (vibration induced) noise exposure criteria in the US FTA Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018).</li> <li>Develop and implement a detailed Construction Vibration Management Plan for Metrolinx review and approval with minimum requirements outlined below:         <ul> <li>Complete a detailed construction related vibration assessment prior to the commencement of construction that includes assessment of the vibration Zone Of Influence. The Zone Of Influence for vibration shall be established by using the methodology and input data provided in Section 7.2 of the US FTA Report No. 0123 (2018), Transit Noise and Vibration Impact Assessment Manual (2018).</li> <li>Complete pre-construction condition surveys for properties within the vibration Zone Of Influence of the planned work to establish their condition and establish a baseline prior to any work beginning.</li> <li>Identify any heritage structures and other sensitive structures, buildings or infrastructure vulnerable to vibration damage, assess requirements and, if necessary, develop mitigation measures.</li> <li>Identify buildings, where vibration sensitive activities such as sound recording or medical image processing take place, assess requirements and, if necessary, develop mitigation measures.</li> <li>Establish a 15-metre setback distance between the construction vibration source and nearby buildings, where possible, to minimize impacts. If this is not possible, then monitor the vibration levels associated with the activity.</li> <li>Select construction/maintenance methods and equipment with the least vibration impacts.</li> <li>In the presence of persistent complaints and subject to the results of a field investigation, identify alternative vibration control measures, where reasonably available.</li> </ul> </li> </ul>	related vibration or at additional structures as requested by Metrolinx.  The type of Vibration Monitoring Program that is established is based on the vibration Zone Of Influence, the project location, duration, presence of night-time activity, and receptor proximity. The monitoring types include:  Type 1: Monitoring continuously throughout the project (for receptors within the Zone Of Influence).  Type 2: Monitoring during most impactful phases of the project only (for receptors outside of the Zone Of Influence but within 50 m of the boundary of the construction site).  Type 3: Monitoring in response to complaints only (for receptors outside of the Zone Of Influence and beyond 50 m of the boundary of the construction site).  Establish a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.
USRC Hydro One Conflicts	Relocation of circuits to an underground utility corridor, utilizing utility bridges: Install surface troughs Install cable banks Install utility bridges  New Don Fleet Junction: Remove Hydro Tower #10A Excavate soil Install BPEX foundations Erect BPEX structures Install wiring Tree removals Install Durisol® walls	Construction Noise	Environmental noise may cause annoyance, disturb sleep and other activities, and affect human health.  The severity of the noise effects resulting from construction projects varies, depending on:  Scale, location and complexity of the project  Construction methods, processes and equipment deployed  Total duration of construction near sensitive noise receptors  Construction activity periods (days, hours, time period)  Number and proximity of noise-sensitive sites to construction area(s)	<ul> <li>Prior to commencement of construction, develop and submit a detailed Construction Noise Management Plan.</li> <li>The Construction Noise Management Plan shall:         <ul> <li>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.</li> <li>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.</li> <li>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:</li></ul></li></ul>	The Construction Noise Management Plan will incorporate the following requirements related to monitoring of noise and noise related complaints:  • Monitor noise where the Construction Noise Management Plan indicates 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 weekly 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.



Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
	Expanded Don Fleet Junction:     Install wiring     Tree removals     Install Durisol® walls	Construction Vibration	Exposure to vibration may result in public annoyance and complaints. Vibration may also cause damage to buildings and other structures.	<ul> <li>Adhere to the following vibration exposure limits:         <ul> <li>Vibration, as a human irritant, is assessed in terms of its average level. Vibration velocity should not exceed 0.14 mm/s or current conditions (whichever is higher) by more than 25%.</li> <li>As a threat to buildings, vibration is assessed in terms of its peak value. The Zone Of Influence for vibration shall be the area where structures are expected to experience vibration peak particle velocities that exceed 5 mm/s. Vibration velocity should be limited to 8-22 mm/s, depending on vibration frequency. These limits are prescribed by the most current versions of the Toronto Municipal Code Chapter 591, Noise (2020) and Chapter 363, Vibration (2019) for typical structures (not building with special needs).</li> </ul> </li> <li>Adhere to the ground-borne (vibration induced) noise exposure criteria in the US FTA Report No. 0123, Transit Noise and Vibration impact Assessment Manual (2018).</li> <li>Develop and implement a detailed Construction Vibration Management Plan for Metrolinx review and approval with minimum requirements outlined below:         <ul> <li>Complete a detailed construction related vibration assessment prior to the commencement of construction that includes assessment of the vibration Zone Of Influence. The Zone Of Influence for vibration shall be established by using the methodology and input data provided in Section 7.2 of the US FTA Report No. 0123 (2018), Transit Noise and Vibration Impact Assessment Manual (2018).</li> <li>Complete pre-construction condition surveys for properties within the vibration Zone Of Influence of the planned work to establish their condition and establish a baseline prior to any work beginning.</li> <li>Identify any heritage structures and other sensitive structures, buildings or infrastructure vulnerable to vibration damage, assess requirements and, if necessary, develop mitigation measures.</li>             &lt;</ul></li></ul>	<ul> <li>The Construction Vibration Management Plan will incorporate the following requirements related to monitoring of vibration and vibration related complaints:         <ul> <li>Monitor vibration continuously at structures where the Construction Vibration Management Plan indicates that structures are deemed to be within the Zone Of Influence for construction related vibration or at additional structures as requested by Metrolinx.</li> <li>The type of Vibration Monitoring Program that is established is based on the vibration Zone Of Influence, the project location, duration, presence of night-time activity, and receptor proximity. The monitoring types include:</li></ul></li></ul>

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#### \*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, consult with the appropriate regulatory agencies



Section 4.10 Summary of Mitigation and Monitoring Commitments, Table 4-136 has been revised as follows:



TABLE 4-136: SUMMARY OF TRAFFIC MITIGATION AND MONITORING COMMITMENTS

Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
Installation of OCS	Excavate soil     Install OCS foundations at an approximate depth of 5m     Erect poles     Install wiring     Tree removals	• Traffic	Construction may result in the need for temporary road or lane closures changing access to nearby land uses	Metrolinx (or their Contractor) will coordinate with Municipalities and road authorities during detailed design to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid or minimize traffic interference to the extent possible during construction. The following will guide the development of Traffic Management Plans:  • Traffic Control and Management Plan will take into account any trees or vegetation that require proactive pruning/injury/removal/clearing due to the high volume of large vehicles that might require more clearance.  • 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.	The following monitoring activities will be carried out during the construction phase:  Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjusted as necessary during the construction period.  Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.
ayover/Storage Yard acilities	Construction of OCS at the Walkers Line Layover Facility Construction of OCS at the Unionville Storage Yard Facility Construction of OCS at the midland Layover Facility	• Traffic	Construction may result in the need for temporary road or lane closures changing access to nearby land uses	<ul> <li>Metrolinx (or their Contractor) will coordinate with Municipalities and road authorities during detailed design to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid or minimize traffic interference to the extent possible during construction. The following will guide the development of Traffic Management Plans:         <ul> <li>Traffic Control and Management Plan will take into account any trees or vegetation that require proactive pruning/injury/removal/clearing due to the high volume of large vehicles that might require more clearance.</li> <li>Traffic Control and Management Plan(s) will be developed prior to construction to maintain reasonable access through work zones, to the extent possible.</li> <li>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.</li> <li>Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs.</li> </ul> </li> </ul>	The following monitoring activities will be carried out during the construction phase:  Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjusted as necessary during the construction period.  Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.



Project Component	Project Activities	Environmental Component	Potential Effect	Mitigation Measures/Commitments	Monitoring Commitments
USRC Hydro One Conflicts	Relocation of circuits to an underground utility corridor, utilizing utility bridges: Install surface troughs Install cable banks Install utility bridges  New Don Fleet Junction: Remove Hydro Tower #10A Excavate soil Install BPEX foundations Erect BPEX structures Install wiring Tree removals Install Durisol® walls  Expanded Don Fleet Junction: Install wiring Tree removals Install wiring Insta	• Traffic	Construction may result in the need for temporary road or lane closures changing access to nearby land uses	The following mitigation measures are recommended to ensure safe movement of vehicles and pedestrians during construction of the proposed infrastructure within the USRC:  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.  Potential effects to pedestrian and cyclist activities during construction will be mitigated through the installation of appropriate wayfinding, regulatory, and warning signs.  Ensure that the public is notified in advance of any potential service disruptions.  Partial or full road closures may be required as a result of construction staging for the utility bridge installations at Lower Sherbourne Street, Parliament Street and Cherry Street. Clearly delineated, and appropriately signed route options, with clearly marked detours will be provided during construction, where required;  Consult with local transit agencies to establish a suitable mitigation strategy to be implemented.  Traffic impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.  A sightline analysis for southbound traffic under the proposed utility bridges will be reviewed by the Contractor will be responsible for completing a photometric analysis to ensure safe traffic movements. Depending on the results of the analysis, additional mitigation measures may be proposed to minimize potential traffic impacts (e.x. installation of additional signage or advance warning signals/lights).  The utility bridges will be designed in a way to prevent/minimize ice accretion and water build up-where possible.  For potential impacts related to pedestrian traffic along the Lower Don Trail, refer to the Land Use & Socio-Economic commitments table.	<ul> <li>Traffic impacts to be monitored in accordance with the Traffic Control and Management Plan and adjusted as necessary during the construction period.</li> <li>Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.</li> </ul>

#### \*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, consult with the appropriate regulatory agencies





### 5. Consultation

Section 5.3.4.3 Summary of Attendance and Public Comments Received has been added:

As the Virtual Open House format for the Don Fleet Junction Update required that all participants use Metrolinx Engage to view materials, the majority of comments were received through Metrolinx Engage. While comment forms were used as part of this round of consultation, interested parties were still permitted to provide feedback through emails, letters, and phone calls. The EPR Addendum webpage received approximately 1,141 page views by 406 users.

Seven (7) questions and comments related to the USRC Hydro One Conflicts and Don Fleet Junction were received through the Ask-a-Question page, Feedback Forms, and the regional email account. Of these, four (4) Feedback Forms were submitted, one (1) question was posted on the Ask-a-Question page and two (2) emails were received. A summary of the general question and comment topics submitted on Metrolinx Engage are as follows:

- Interest in anticipated timelines and construction schedules. Some participants were
  interested to learn about the anticipated timeline for construction of the proposed works at the
  new and existing Don Fleet Junction and if there will be impacts on traffic and Active
  Transportation.
- Scope of work and conflicts with other scheduled projects. Some participants wanted to clarify the scope of work and confirm there will be no conflicts with other projects such as the Gardiner Expressway.
- Concerns about infrastructure. Several participants shared concerns about the OCS.

**Table 5-6a** summarizes the key issues/comments/questions related to the USRC Hydro One Conflicts and Don Fleet Junction that were received from the public as part of the PIC Update, and how they were considered by Metrolinx.



### TABLE 5 -6a: SUMMARY OF PUBLIC CONSULTATION FOR DON FLEET JUNCTION UPDATE PUBLIC COMMENTS RECIEVED (FEBRUARY 2021)

ID	Source	Issue Category	Question/Comment	How Comment was Considered by Metrolinx
1	Regional Email	General	Thank you for the information below regarding the update to the Don Fleet Junction, as part of the GO Rail Network Electrification Addendum. Please find attached to this email the information found on the Metrolinx website regarding the Don Fleet Junction Update. Can you please confirm whether this is the only information that Metrolinx is seeking feedback on at this time?	Thank you for your interest in the Union Station Rail Corridor (USRC) Hydro One Conflicts, including the proposed scope of work at the new and existing Don Fleet Junction.  The USRC Hydro One conflicts scope of work includes the relocation of two (2) existing Hydro One overhead transmission circuits and one (1) existing Hydro One underground transmission circuit to an underground transmission corridor with the USRC, from Esplanade Transmission Station to Don Fleet Junction. Upgrades proposed at the new and existing Don Fleet Junction are required for the transition of circuits from the underground transmission corridor to overhead circuits.  While existing overhead Hydro One infrastructure north of the Don Fleet Junction is outside of the scope of the current assessment, we will take your feedback and share it with the planning team for future consideration.
2	Email	Impact Assessment - Construction Impacts	Thank you for the opportunity to review technical documents relating to the GO Rail Network Electrification Addendum – Don Fleet Junction Update. We understand that several documents are in development and have yet to be published, among them (Impacts on) Socio-economic and land use.  It is this document that most interests us as it outlines the physical environment in which the construction or expansion projects occur. In some cases, parks or recreation areas are affected, but this is rare, and tends to fall under discussions of impact of construction – noise, dust, vibration – or cases where trees must be removed in parks.  In particular, we are interested in the impact of construction on Active Transportation (e.g. multi-use walking and cycle trails ) that either run parallel to or bi-sect the construction areas. Previous TPAP assessments that we have reviewed have been diligent in identifying areas in which disruptions occur and workarounds or mitigation procedures.  If electrification results in fewer disruptions than new construction of, for example, a layover, as it involves modifications to existing rail lines, such disruptions may not occur, or may occur less often. Above all, we would recommend outlining mitigation steps when disruptions occur. If there are no disruptions, please note these in the report. Likewise, if there are enhancements to active transportation in areas in which electrification occurs or will occur, please note these as well.  Thank you again for the opportunity to review these documents and best wishes.	As a follow up to the earlier email, please see below for responses to your comments.  The Land Use & Socio-Economic Impact Assessment related to the Don Fleet Junction is contained within Section 4.3.2.5 of the GO Rail Network Electrification EPR Addendum, which is to be circulated to stakeholders in the coming weeks.  The GO Rail Network Electrification EPR Addendum documents that construction of the new and expanded Don Fleet Junction (JCT) has the potential to impact the Lower Don Trail. The location of potential impact is shown in the figure below:  Since it is anticipated that the Lower Don Trail will be closed during construction due to public safety reasons, the following mitigation measures are recommended:  If possible, an alternative temporary detour will be provided for the duration of construction.  Netrolinx will coordinate internally and with the City of Toronto to develop a trail diversion/detour plan prior to construction and trail closure.  If the Lower Don Trail is directly impacted due to construction activities, it will be rehabilitated and brought to current City standards.  Netrolinx will engage with the City of Toronto to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals.  Nuisance effects may also be experienced by the public during construction, which are short-term effects that are difficult to prevent (e.x. noise, dust, etc.). The City of Toronto Parks, Forestry and Recreation Department and Ward Councillors will be notified prior to release of a public notice for construction. Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables, and will be adhered to.  Following construction, the Lower Don Trail will be re-opened for public use to maintain accessibility and connectivity within the City of Toronto and surrounding parklands. Permanent Durisol@ walls will delineate the Don Fleet JCT from the Lower Don Trail, to ensure public safety and a



ID	Source	Issue Category	Question/Comment	How Comment was Considered by Metrolinx
				<ul> <li>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. Metrolinx is committed to continued consultation with the City of Toronto and TRCA.</li> <li>Thank you again for contacting us, your participation and feedback is an important part of our work. We look forward to your continued involvement with the Project.</li> </ul>
3	Metrolinx Engage (Feedback Form)	Don Fleet Jct	Are there any specific features, sensitive locations and areas of interest associated with the Don Fleet Junction that you feel have not been addressed by the Electrification TPAP Addendum? Construction timeframe  Are there any concerns or other impacts associated with the Don Fleet Junction that you'd like us to consider for the next stage of the project?  Traffic anxiety  Any comments or advice you'd like to share with the team? Anxiety	Thank you for your inquiry regarding the Don Fleet Junction Update currently live on Metrolinx Engage from February 2-February 11, 2021.  Construction timelines for the USRC Hydro One Conflicts scope of work, including proposed works at the new and existing Don Fleet Junction will be confirmed during design validation. Currently, Metrolinx anticipates construction will commence in 2022 and will provide advance notification to the public once the schedule is confirmed  The Don Fleet Junction scope of work is not anticipated to impact traffic on surrounding roadways. Construction of the Don Fleet Junction does however have the potential to impact pedestrian and cyclists along the Lower Don Trail. It is anticipated that the Lower Don Trail will be closed during construction due to public safety reasons, but a temporary detour will be provided for the duration of construction. Prior to beginning construction fences and gates will be installed to create separation between Lower Don Trail users and construction activities. Following construction, the Lower Don Trail will be re-opened for public use.  Should you have any other questions regarding the project, please do not hesitate to ask.
4	Metrolinx Engage (Ask a Question)	Don Fleet Jct	Why can't the overhead transmission wires be buried?  The overhead transmission wires should be buried from Don fleet junction as far north as possible to improve views in the don river valley and protect against extreme weather events (ice storms). The only reason this might not be possible is to due to the don river valley being a flood zone?	Thank you for your interest in the Union Station Rail Corridor (USRC) Hydro One Conflicts, including the proposed scope of work at the new and existing Don Fleet Junction.  The USRC Hydro One conflicts scope of work includes the relocation of two (2) existing Hydro One overhead transmission circuits and one (1) existing Hydro One underground transmission circuit to an underground transmission corridor with the USRC, from Esplanade Transmission Station to Don Fleet Junction. Upgrades proposed at the new and existing Don Fleet Junction are required for the transition of circuits from the underground transmission corridor to overhead circuits.  While existing overhead Hydro One infrastructure north of the Don Fleet Junction is outside of the scope of the current assessment, we will take your feedback and share it with the planning team for future consideration.



ID	Source	Issue Category	Question/Comment	How Comment was Considered by Metrolinx
5	Metrolinx Engage (Feedback Form)	Don Fleet Jct	Are there any specific features, sensitive locations and areas of interest associated with the Don Fleet Junction that you feel have not been addressed by the Electrification TPAP Addendum? Are there any concerns or other impacts associated with the Don Fleet Junction that you'd like us to consider for the next stage of the project? Any comments or advice you'd like to share with the team? The design height of the roof of existing Bi-level vehicles is 15"11'. If an overhead catenary/solid contact wire is to be used in the confines of Union Station is there sufficient electrical clearance between: 1) the roof of such vehicles and the electrified conductor, and 2) the conductor and the train shed? Has any consideration been given to propelling Bi-level vehicles with electro-diesels as in Montreal and New Jersey?	Thank you for your inquiry regarding the Don Fleet Junction Update currently live on Metrolinx Engage from February 2-February 11, 2021.  The overhead contact system to be used will be designed to applicable standards and code for clearance to safely accommodate the train shed roof, and all vehicles that will operate within the train shed. This includes existing and new bi-levels, and existing and new locomotives.  The future train fleet will be a combination of new electric and existing diesel trains. The successful proponent will be responsible for selecting and delivering the right trains and infrastructure to unlock the benefits of the GO Expansion Program.  Should you have any other questions regarding the Project, please do not hesitate to ask.
6	Metrolinx Engage (Feedback Form)	Don Fleet Jct	Are there any specific features, sensitive locations and areas of interest associated with the Don Fleet Junction that you feel have not been addressed by the Electrification TPAP Addendum? Utility bridge at Cherry Street may affect plans to extend the 504 King streetcar line into the port lands. Are you in contact with Waterfront Toronto and TTC?  Are there any concerns or other impacts associated with the Don Fleet Junction that you'd like us to consider for the next stage of the project?  Will moving the hydro line underground conflict with City of Toronto plans to realign the eastern part of the Gardiner Expressway and create a new stormwater management pond in this area? Are you in contact with City Transportation Services?  Any comments or advice you'd like to share with the team? It will be good to eliminate diesel fumes from the Union Station corridor where so many people live and work.	Thank you for your inquiry regarding the Don Fleet Junction Update currently live on Metrolinx Engage from February 2-February 11, 2021.  Metrolinx is committed to ongoing engagement with stakeholders and is aware of the planned Waterfront LRT and Cherry streetcar line within the USRC. Following the TPAP Addendum and as part of design validation, Metrolinx will continue to consult with all applicable stakeholders.  At this time, Metrolinx does not anticipate this project to impact City of Toronto realignment of the Gardiner Expressway. During the design validation process, Metrolinx will consult with all applicable stakeholders including the City of Toronto, Waterfront Toronto and TTC.  Finally, thank you for the positive feedback regarding improving air quality within the Union Station Rail Corridor for residents. Metrolinx is committed to implementing electric rail service to improve air quality impacts from its trains. Therefore, Metrolinx is taking the following steps to reduce air emission from trains:  - Electrify the system to the maximum extent possible.  - Deliver most service with electric locomotives and EMUs.  - Purchase only Tier-4 compliant equipment in the future, in addition to 17 Tier 4 locomotives already purchased. Tier 4 locomotives are the cleanest diesel technology currently available.  - Rebuild existing diesel engines to Tier-4 standard at the first scheduled major rebuild.  - Use the "cleanest low-sulphur" diesel fuel.  - Minimize diesel engine Idling and restrict location of idling.  - Minimize diesel engine Idling and restrict location of idling.  - Minimize pon-revenue train movements by locating train storage throughout the system.  - Match train frequency and size to demand for minimizing energy consumption and emissions.  - Provide training to operator and maintenance staff in energy efficiency practices.  - Adhere to highest equipment maintenance standards.  Thank you again for contacting us, your participation and feedback is an important part of our work. We look forward to you



ID	Source	Issue Category	Question/Comment	How Comment was Considered by Metrolinx
<b>7</b>	Source  Metrolinx Engage (Feedback Form)	Issue Category  Don Fleet Jct	Are there any specific features, sensitive locations and areas of interest associated with the Don Fleet Junction that you feel have not been addressed by the Electrification TPAP Addendum?  No, I thought it comprehensive.  Are there any concerns or other impacts associated with the Don Fleet Junction that you'd like us to consider for the next stage of the project?  No, I thought it comprehensive.  Any comments or advice you'd like to share with the team?  I am very happy to hear that electrification is proceeding, and that high cost hydrogen has been eliminated as an option. Electrification will improve the commute and the air (and sound!) of GO Train lines to nearby neighbourhoods.	How Comment was Considered by Metrolinx Acknowledged as received.



### 6. Commitments for Future Work

Section 6.19.1 Engagement with Indigenous Nations and Organizations has been added as follows:

In addition to commitments outlined in Section 6.6.5 above, Metrolinx will continue to consult with Indigenous Nations and organizations during future project phases.

