



Metrolinx/City of Mississauga

Environmental Project Report

Dundas Bus Rapid Transit Mississauga East

Date: March 2022



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Executive Summary

ES 1. Introduction

In 2020, Metrolinx completed the Dundas Bus Rapid Transit Initial Business Case, which recommends a preferred Bus Rapid Transit alignment, and supportive service concept along Dundas Street between Kipling Station in the City of Toronto, through the City of Mississauga and Halton Region, to Highway 6 in the City of Hamilton. AECOM Canada Limited (AECOM) was retained by Metrolinx and the City of Mississauga to evaluate the proposed 48-kilometre transit corridor. The evaluation involves the completion of the Preliminary Design, Preliminary Design Business Case and Transit Project Assessment Process.

In 2018, the Dundas Connects Master Plan (Dundas Connects) was completed by the City of Mississauga. It guides future development and intensification along the Dundas Street Corridor in the City of Mississauga. Bus Rapid Transit, cycling infrastructure, and an enhanced public realm for pedestrians were among the recommendations in Dundas Connects. Recommendations from Dundas Connects are being implemented through various studies and initiatives, including this Transit Project Assessment Process.

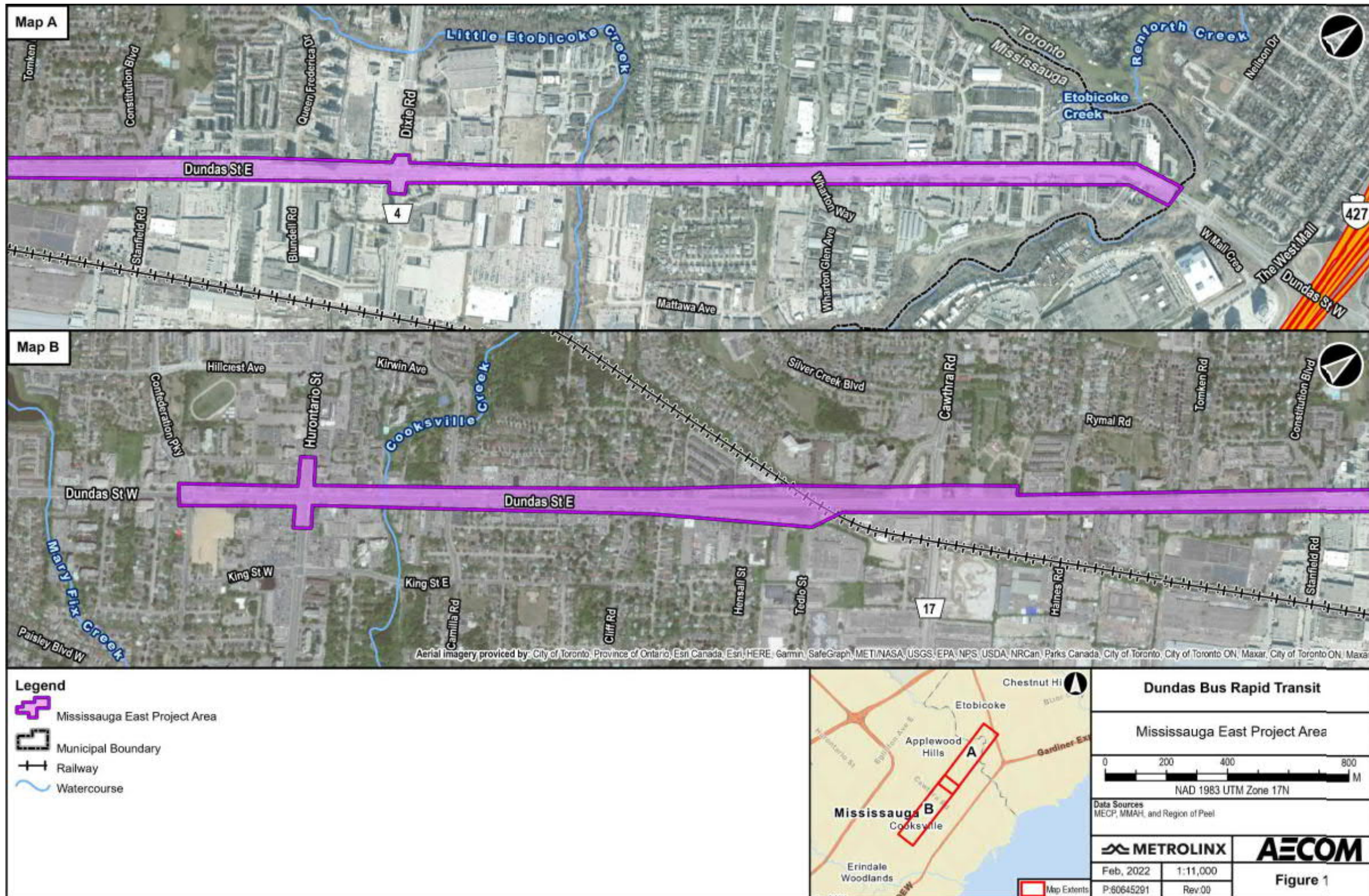
The Dundas Bus Rapid Transit Mississauga East Project (the Project) includes the planning and design of a 7-kilometre Bus Rapid Transit corridor from Confederation Parkway to the City of Toronto boundary at Etobicoke Creek, within the City of Mississauga (**Figure ES-1**). This Environmental Project Report has been prepared to support the Project.

ES 2. Study Process

The Project was assessed in accordance with the Transit Project Assessment Process, *Ontario Regulation 231/08: Transit Projects and Metrolinx Undertakings* under the Environmental Assessment Act. The Transit Project Assessment Process is a proponent driven process that provides a framework for public transit projects to follow which accelerates the environmental assessment process. The Transit Project Assessment Process involves an extensive pre-planning phase which includes consultation, assessment of impacts, development of measures to mitigate negative impacts, and documentation, and is followed by a regulated (up to 120 days) consultation and documentation period. Refer to **Figure 2-1** for the Transit Project Assessment Process. Consultation and engagement with the public, stakeholders and Indigenous Nations is ongoing throughout the process. Following the regulated (up to 120 days) consultation and documentation period, there is a 30-day public review period where the public has an opportunity to review the Environmental Project Report and provide additional comments, and then a 35-day Minister's review period of the updated

Environmental Project Report. Once the Minister's review is complete, the Minister may give notice allowing the proponent to proceed with its transit project but can only take action if there is potential for a negative impact on a matter of Provincial importance that relates to the natural environment or has cultural heritage value or interest, or on a constitutionally protected Aboriginal or Treaty Right. If the Minister issues a notice to proceed with the transit project as planned, or if they do not act within the 35-day period, Metrolinx and the City of Mississauga will issue a Statement of Completion and proceed to implementation.

Figure ES-1: Dundas Bus Rapid Transit – Mississauga East Project Area



ES 3. Project Description

The Project is part of Metrolinx's bigger picture for an integrated, multi-modal regional transportation system that will serve the needs of residents, businesses and institutions. It supports Ontario's Growth Plan for the Greater Golden Horseshoe, 2017, which sets out a broad vision for where and how our region will grow and identifies policies on transportation planning in the Greater Toronto and Hamilton Area.

As noted earlier, the Project corridor's western limit is at Confederation Parkway. The corridor continues eastward down Dundas Street towards Hurontario Street, where it will interface with the Hurontario Light Rapid Transit project currently under construction. Continuing east from Hurontario Street, the Project will cross over Cooksville Creek Culvert located at Jaguar Valley Drive and the Hensall Circle and Canadian Pacific Railway overpass located between Burslem Road to the west and Cawthra Road to the East, and then cross over the Cawthra Road overpass and continue along Dundas Street crossing over another two structures, the Little Etobicoke Creek Culvert and the Etobicoke Creek Bridge which represents the eastern limit of the Project corridor.

To meet design requirements, including those of the City of Mississauga, the Transportation Association of Canada, Metrolinx and others, the design will generally establish a roadway cross section of four general-purpose traffic lanes, two in each direction, two dedicated median Bus Rapid Transit lanes and an enhanced boulevard space. Through lanes will be 3.5 metres in width as standard and 3.35 metres in width at the minimum, while curb lanes will be 3.5 metres in width as a minimum. The road will be designed with a design speed of 90 kilometres per hour and a posted speed of 60 kilometres per hour.

The Bus Rapid Transit will be located in the median, between each set of general-purpose traffic lanes, and consist of two 3.5 metre dedicated bus lanes (one in each direction), raised median between the bus lanes and general-purpose lanes, 3.6 to 4.2 metre wide by 70 metre long far-side platforms at all stops and a 0.3 to 0.5 metre buffer between the platform backwall and adjacent general-purpose lane. This configuration can be seen in **Figure E-1**.

The boulevard space will consist of a 2 metre wide sidewalk, a 0.6 metre to 2.0 metre pole/furniture zone and a 2.0 metre protected cycle track. Where constraints exist, the sidewalk and cycle track will be replaced with a multi-use path with a minimum width of 3.0 metres.

Figure E-1: Rendering of Dedicated Median-Running Bus Lane Corridor Section



The following Project components are included:

Bus Rapid Transit Components

- Identification of a preferred design alternative for the length of the corridor.
- Implementation of Bus Rapid Transit along the Dundas Street corridor in dedicated median-running bus lanes.
- Retention of a local bus service overlay with integration of existing curbside stop locations, with enhanced amenities, while allowing the Municipal Transit Service Providers use of the dedicated Bus Rapid Transit corridor.
- Transit priority measures including signage, traffic signal phasing, as well as queue jump lanes.
- An Intelligent Transportation Systems Strategy including stop design, fare system and traveller information coordinated with municipal and regional service providers.
- Accommodation of Bus Rapid Transit on Dundas Street by respecting corridor characteristics.

- Transitions between the dedicated median-running bus lanes and the existing corridor at the eastern and western limits of the corridor improvements to ensure seamless transition and connectivity.
- Implementing design considerations for protection of future technologies, i.e., electrification, autonomous vehicles, etc.

Bus Rapid Transit Stop Components

- Eight Bus Rapid Transit stops (generally averaging one Bus Rapid Transit stop per kilometre) are being introduced at the following locations:
 - Wharton Way
 - Dixie Road
 - Tomken Road
 - Cawthra Road
 - Grenville Drive/Cliff Road
 - Kirwin Avenue/Camilla Road
 - Hurontario Street
 - Confederation Parkway
- Bus Rapid Transit stops will consist of two platforms, one far side platform for each direction of travel at each of the designated stop locations. Stops will accommodate two articulating buses and accommodation for service vehicles.
- Stop amenities will generally consist of Accessibility for Ontarians and Disabilities Act features, including ramps, railings tactile and warning strips, wayfinding signage including location and stop name, next bus information, fare collection, benches and seating, service maps, weather protection, garbage and recycling receptacles and arts and cultural heritage elements.

Road and Active Transportation Components

- Maintenance of four general purpose traffic lanes along Dundas Street.
- Turning lanes provided at key intersections (to accommodate left turns and U-turns). Creation of a street for all users that connects to the broader transportation network.
- Addition of active transportation facilities including protected cycle tracks, multi-use-paths and widened sidewalks.
- Addition of pedestrian lighting to supplement street lighting.

Utility Infrastructure Components

- Stormwater management system improvements to be introduced.

- Utility impacts and relocations to be carried out to allow for the widened corridor and introduction of station platforms.
- Utility relocations to accommodate and ensure Bus Rapid Transit is scalable for future transit solutions, i.e., electrified fleet, future Light Rail Transit.

Bridge and Culvert Components

- There are five existing bridge and culvert structures within the Study Area which are as follows:
 - Dundas Street East over Etobicoke Creek Bridge
 - Dundas Street East over Little Etobicoke Creek Culvert
 - Dundas Street East over Cawthra Road Bridges
 - Dundas Street East over Hensall Circle and Canadian Pacific Bridge
 - Dundas Street East over Cooksville Creek Culvert
- The existing structures were assessed based on their current condition state and structural capacity. For the structures at watercourse crossings, the structures were also assessed for hydraulic capacity.
- The five existing bridge and culvert structures within the Study Area require replacement as a result of the widening of the corridor, as well as their current state and/or hydraulic capacity. Below is a summary of the assessments for each of the structures:

Dundas Street East over Etobicoke Creek Bridge

- Existing structure is in generally fair-to-poor condition requiring major rehabilitation within three years.
- Based on bi-annual inspection findings some elements of the existing structure appear to not have sufficient capacity to carry the live loads in accordance with the latest bridge design code.
- A structural evaluation was not necessary given that it was concluded that bridge replacement is the only feasible alternative based on the condition of the structure and the need for its widening and realignment.

Dundas Street East over Little Etobicoke Creek Culvert

- Existing structure is in generally fair condition requiring only minor repairs to the northeast approach sidewalk.
- Under current conditions Dundas Street at the structure is overtopping during a 100-year flood event. In addition to

watercourse channel constraints, the hydraulic opening in the structure is insufficient.

- A structural evaluation was not necessary given that it was concluded that replacement of the structure is the only feasible alternative given that the structure has insufficient hydraulic capacity.

Dundas Street East over Cawthra Road Bridges

- Existing structure is in generally good-to-fair condition requiring minor rehabilitation including replacement of asphalt and waterproofing system and approach slabs, replacement of longitudinal deck joint and localized concrete patch repairs on the bridge and associated retaining walls.
- A structural evaluation was not necessary given that it was concluded that bridge replacement is the only feasible alternative based on the condition of the structure and the need for its widening.

Dundas Street East over Hensall Circle and Canadian Pacific Bridge

- Existing structure is in generally fair-to-poor condition requiring major rehabilitation including deck replacement (incl. sidewalks, median and parapet walls), replacement of approach slabs, repairs and recoating of structural steel, bearing replacement and localized concrete patch repairs on the pier, abutment walls and wingwalls.
- A structural evaluation was not necessary given that it was concluded that bridge replacement is the only feasible alternative based on the condition of the structure and the need for its widening.

Dundas Street East over Cooksville Creek Culverts

- Existing structures are in generally fair-to-poor condition requiring rehabilitation including waterproofing of the exterior surfaces of the culvert barrels and installation of creek protection at the downstream end of the culvert.
- Under current conditions Dundas Street at the structure is overtopping during a 100-year flood event. In addition to watercourse channel constraints, the hydraulic opening in the structure is insufficient.
- A structural evaluation has yet to be carried out given that the existing structural drawings have not been located. Upon receipt of the existing structural drawings or the required details provided

through a comprehensive field investigation, a structural assessment will be carried out to determine if the existing structures have sufficient structural capacity. If it is determined that the existing structures have sufficient structural capacity, the recommendation for replacement of the structures may be revisited.

ES 4. Existing Conditions

Both desktop research, agency consultation and field work was undertaken to inform the existing conditions of the Project. The following is a summary of the Project's existing conditions, a detailed description of which can be found in **Section 4**.

Natural Environment

Several permanent watercourses occur within the Study Area, including Mary Fix Creek, Cooksville Creek, Little Etobicoke Creek, and Etobicoke Creek.

The Project is situated in the Lake Erie-Lake Ontario Ecoregion (7E) dominated by developed lands making it the most urbanized ecoregion in Ontario. The Study Area consisted largely of heavily disturbed vegetation communities, with some remnant natural communities found in proximity to Etobicoke Creek. No rare vegetation communities or species were observed in association with the Study Area.

Although field investigations resulted in few wildlife sightings, the natural environment Study Area is known to include the following significant wildlife habitat:

- Colonially – Nesting Bird Breeding Habitat (Cliff Swallow)

A total of eight active (in addition to several partial or older) Cliff Swallow nests were documented under the Etobicoke Creek bridge. These nests were in close proximity to several active Barn Swallow nests.

The following Species at Risk were identified within the Study Area during field investigations:

- Barn Swallow
- Chimney Swift

Additionally, suitable habitat for Species at Risk bats (i.e., Little Brown, Northern, and Eastern Small-footed Myotis, and Tricolored Bat) is present within the Study Area and it is presumed that these species may be present. Based on Fisheries and Oceans Canada Species at Risk Mapping, no aquatic Species at Risk are known to occur within the Study Area. Etobicoke Creek and Little Etobicoke Creek are considered historic habitat of Redside Dace (*Clinostomus elongatus*); while this habitat is not currently

protected, should Redside Dace be detected in these watercourses again, regulated habitat protections would apply.

Tree Inventory

In support of the Project, an in-field tree inventory and a desktop-based tree impact analysis were conducted, in order to assess and quantify the existing condition of onsite trees as well as determine their potential impacts due to the Project.

One thousand, five hundred and sixty-five (1,565) trees were inventoried and assessed for the Project, which comprised of 1,460 trees within the City of Mississauga and 105 within the City of Toronto. In terms of tree location in proximity to the Project Area, 861 trees were directly located within the Project Area and 702 trees within the Study Area, collectively. An additional two trees that were inventoried were situated outside of the Study Area.

Groundwater Resources

The topography and regional drainage of the Study Area is affected by the local development and is undulating in nature, with a general downward slope southerly towards Lake Ontario. However, regional drainage in close proximity to Cooksville Creek, Little Etobicoke Creek and Etobicoke Creek will occur towards the direction of respective creeks. Elevations within the Study Area range from approximately 108 to 125 metres above sea level (Ontario, 2021b).

Air Quality

Background air quality levels are predominately below respective Provincial and Federal ambient air quality criteria and standards; however, some levels show significant exceedances for benzo(a)pyrene, as well as a lesser exceedance for benzene and nitrogen dioxide. In addition, both nitrogen dioxide and fine particulate matter (PM_{2.5}) show ambient concentrations within 73% to 87% of their respective federal standards.

Noise and Vibration

The Study Area is generally a mix between commercial and residential uses in a busy urban environment. Dundas Street is considered an arterial roadway which is intersected by other arterials (e.g., Dixie Road) and minor residential or commercial access roads. The ambient sound levels at the most impacted noise sensitive locations (e.g., dwellings) are dominated by a combination of existing Dundas Street and the intersecting roads. Existing GO rail intersecting Dundas Street near Cawthra contributes to the existing ambient sound levels at sensitive locations.

Currently, there are no known existing vibration concerns due to road traffic. However, heritage buildings have been identified in close proximity to Dundas Street.

Socio-Economic and Land Use

The Study Area features many different land use and density types. Within and adjacent to Cooksville Downtown, low-rise commercial uses are located close to the road. The street pattern is tighter in this area compared to areas outside of Cooksville Downtown. The remainder of the Study Area east of Cooksville Downtown is predominantly low-rise commercial with some mid-rise residential. Some open space and institutional land uses are sporadically located along Dundas. Additionally, some industrial land uses are present behind the uses fronting Dundas Street. The public realm east of Cooksville Downtown is dominated by parking lots separating the public right of way from commercial uses.

The following community amenities were inventoried within the Study Area:

- Institutional Uses (Schools, Libraries, Places of Worship, Hospitals and Public Medical Clinics);
- Recreational Uses (Recreation Centres and Sporting Fields, Trails and Parks and Open Spaces);
- Community Resources (Housing and Long-term Care, Neighbourhood Associations, Daycares, and other Community Resources);
- Commercial Spaces with Community Significance* (Indoor Malls and Cultural Shopping Centers); and
- Future Services and Facilities.

Traffic and Transportation

In the Study Area, Dundas Street is an east-west arterial road which traverses the southern portion of the City of Mississauga from Confederation Parkway in the west to the Etobicoke Creek in the east. Under the jurisdiction of the City of Mississauga, Dundas Street has a posted speed of 60 kilometres per hour throughout the Study Area. Two regional arterial roads (Cawthra Road and Dixie Road), one arterial road (Hurontario Street), and three major collector roads (Confederation Parkway, Kirwin Avenue, and Tomken Road) intersect with Dundas Street within the Study Area, along with numerous minor collector roads and neighborhood streets. A High Occupancy Vehicle lane is provided in the curb lane in either direction between Dixie Road and Southcreek Road, and is continuous beyond the eastern limit of the Study Area.

The Study Area road network generally operates with acceptable conditions during the weekday AM peak hour. The weekday PM peak hour exhibits more congestion and heavier volumes than the AM peak hour. While much of the Study Area is congested in the PM peak hour, significant queuing was specifically observed in the westbound

direction at Hurontario Street and at Confederation Parkway, where the cross-section only allows for four lanes of traffic.

The transit services in the Study Area are operated by MiWay with bus routes along Dundas Street and major north-south streets. The planned transit improvements include Hurontario Light Rail Transit which is currently under construction and expected to be completed in Fall 2024. A Light Rail Transit stop is planned at Dundas Street, but no special or specific provisions have been made in the Hurontario Light Rail Transit plans to date for a connection or interface with Dundas Street transit service.

Dundas Street throughout the Study Area is serviced with sidewalks and signalized intersections facilitating pedestrian crossings of major roads. Large lots and block sizes reduce pedestrian connectivity to surrounding areas and rapidly moving vehicles making right-hand turns into employment areas create potential pedestrian hazards.

The length of Dundas Street itself in the Study Area is generally not conducive to cycling due to the high volume of vehicle traffic and no dedicated bicycle infrastructure. Several north-south streets which intersect Dundas Street provide some degree of cycling connectivity through bicycle lanes and multi-use trails. These include Confederation Parkway, Kirwin Avenue/Gamilla Road, Constitution Boulevard/Stanfield Road, and Dixie Road. Furthermore, the City of Mississauga's 2018 Cycling Master Plan envisions cycling network improvements in the city and the proposes cycle track/separated bike lane on Dundas Street in the Study Area.

Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment was completed by AECOM in February 2022 and identified 20 known and potential built heritage resources and cultural heritage landscapes within or adjacent to the Study Area (refer to **Table E-1**).

Table E-1: Built Heritage Resources and Cultural Heritage Landscapes within the Study Area

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Type of Property/Name	Location/Address	Heritage Recognition	Directly Impacted by the Project	Heritage Impact Assessment Required
BHR 1	■ Commercial/Russell's Garage and All-Save Car Rental	■ 202 Dundas Street West	■ Listed on the Municipal Heritage Register	Yes	Yes
BHR 2	■ Residential	■ 196 Dundas Street West	■ Previously-Identified Built Heritage Resource (AECOM, 2016)	Yes	No
BHR 3	■ Residential	■ 188 Dundas Street West	■ Previously-Identified Built Heritage Resource (AECOM, 2016)	No	No
BHR 4	■ Commercial/Former Schiller Store	■ 51, 55-57 Dundas Street West	■ Listed on the Municipal Heritage Register	Yes	Yes
BHR 5	■ Commercial/Former Cooksville Post Office and Shaver House	■ 47 Dundas Street West	■ Listed on the Municipal Heritage Register	Yes	Yes
BHR 6	■ Commercial	■ 37 Dundas Street West	■ Previously-Identified Built Heritage Resource (AECOM, 2016)	Yes	No
BHR 7	■ Commercial/Copeland's General Store	■ 14 Dundas Street East	■ Listed on the Municipal Heritage Register	Yes	Yes

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Type of Property/Name	Location/Address	Heritage Recognition	Directly Impacted by the Project	Heritage Impact Assessment Required
BHR 8	■ Industrial/ Bell Telephone Company Cooksville Exchange Building	■ 47 Dundas Street East	■ Listed on the Municipal Heritage Register	No	No
BHR 9	■ Residential	■ 168 Dundas Street East	■ Previously-Identified Built Heritage Resource (AECOM, 2016)	No	No
BHR 10	■ Residential/Commercial	■ 172 Dundas Street East	■ Previously-Identified Built Heritage Resource (AECOM, 2016)	No	No
BHR 11	■ Residential/Commercial	■ 184 Dundas Street East	■ Previously-Identified Built Heritage Resource (AECOM, 2016)	No	No
BHR 12	■ Residential	■ 775 Dundas Street East	■ Listed on the Municipal Heritage Register	No	No
BHR 13 (associated with BHR 14)	■ Residential/Chapman Residence (Barn)	■ 855 Dundas Street East	■ Listed on the Municipal Heritage Register	No	No
BHR 14 (associated with BHR 13)	■ Residential/Chapman Residence	■ 865 Dundas Street East	■ Listed on the Municipal Heritage Register	No	No

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Type of Property/Name	Location/Address	Heritage Recognition	Directly Impacted by the Project	Heritage Impact Assessment Required
BHR 15	■ Commercial/Mississauga Chinese Centre	■ 888 Dundas Street East/2565 Haines Road	■ Listed on the Municipal Heritage Register	No	No
BHR 16	■ Cultural Heritage Plaque	■ 1576 Dundas Street East	■ Mississauga Heritage Foundation Plaque Location	No	No
CHL 1	■ Transportation Corridor/Former Credit Valley Railway Corridor	■ Former Credit Valley Railway Corridor	■ Listed on Municipal Heritage Register	No	No
CHL 2	■ Place of Worship/Dixie Union Chapel and Cemetery	■ 707 Dundas Street East	■ Designated Part IV of the Ontario Heritage Act ■ Listed on Ontario Heritage Trust Places of Worship Inventory	No	No
CHL 2a	■ Cultural Heritage Plaque	■ 707 Dundas Street East	■ Ontario Heritage Trust Plaque Location	No	No
CHL 2b	■ Cultural Heritage Plaque	■ 707 Dundas Street East	■ Mississauga Heritage Foundation Plaque Location	No	No
CHL 3	■ Place of Worship/St. John the Baptist Anglican Church & St. John's Dixie Cemetery and Crematorium	■ 719-737 Dundas Street East	■ Listed on Municipal Heritage Register ■ Listed on Ontario Heritage Trust Places of Worship Inventory	No	No

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Type of Property/Name	Location/Address	Heritage Recognition	Directly Impacted by the Project	Heritage Impact Assessment Required
CHL 4	■ Archaeological Remains/Remains of Dundas-Dixie Cemetery	■ 1370 Dundas Street East	■ Listed on the Municipal Heritage Register	No	No

Archaeology

A Stage 1 Archaeological Assessment was completed in October 2021 by AECOM. The archaeological assessment report has identified areas with the likelihood for recovery of archaeological resources. The Study Area has high potential for the recovery of Indigenous and Euro-Canadian archaeological resources. Stage 2 Archaeological Assessment is recommended for all areas identified as retaining archaeological potential.

There is one registered archaeological site located within the Study Area that has been recommended for further work. The latitude and longitude of the site provided in the Archaeological Sites Database places the site right on the boundaries of the Study Area, within an area of documented previous extensive disturbance.

Three cemeteries are also located within the Study Area: Dixie Union Cemetery, St. John's Dixie Cemetery & Crematorium, and the remains of the Dundas-Dixie Cemetery.

ES 5. Potential Impacts, Mitigation Measures and Monitoring Activities

Natural Environment

Aquatic

Several permanent watercourses occur within the Study Area. Based on the preliminary design, in-water work is anticipated, however, this will need to be confirmed as the design progresses. If in-water work is required or work below the water line involving piers or bridge abutments, additional assessment including Fisheries and Oceans Canada's review may be triggered. Vegetation removals may occur around the Etobicoke Creek bridge. The current design outlines an approximately 25 metre vegetated buffer being maintained from the watercourse on all four quadrants of the Etobicoke bridge based on this grading limit. The function of riparian vegetation is anticipated to remain similar based on the current design, minimal vegetation removal and no larger individual trees (over 35 centimetres diameter at breast height) being removed.

At this time in-water work is anticipated at the Etobicoke Creek, Little Etobicoke Creek, and Cooksville Creek crossings within the Bus Rapid Transit. General arrangement drawings outlining the proposed works required to construct the proposed crossings have not been completed at this time and additional assessment of impacts to fish and fish habitat will be required once more details regarding the footprint and associated works is detailed. It is anticipated that following additional assessment and possibly the implementation of design considerations to avoid death of fish or Harmful Alteration, Disruption or Destruction of fish habitat that a Fisheries and Oceans Canada review will be required. It is recommended that the Project not be submitted for review until

additional details and drawings are available to complete the Request for Review form and assess anticipated impacts associated with these watercourse crossings.

Terrestrial

No Species at Risk or regionally rare plant species or communities were identified within or adjacent to the Study Area. Therefore, adverse impacts to Species at Risk or regionally rare plant or vegetation communities are not anticipated to result from the proposed project works.

Tree Inventory

Based on the results of the tree impact analysis it is recommended that 922 trees will have to be removed in order to accommodate the construction of the Project whilst a further 133 trees are recommended for injury with protection. A further 430 trees are recommended for protection without injury and the remaining 80 trees are considered to be potential hazard trees, due them being dead, in poor condition or classed as a hazard tree upon field assessment but are being retained. In terms of tree compensation 1,535 replacement trees and a monetary value is required to replace trees being removed or injured (tree injuries in City of Toronto only), whilst a cash-in-lieu amount is required as an alternative to tree replacement.

Wildlife

Migratory birds are known to nest within vegetation and on structures present within the Study Area; the period when a bird is actively nesting is considered its most critical life stage. Timing windows allow vegetation removal activities to avoid periods when birds are actively nesting.

Cliff and Barn Swallows, which are protected under the provincial Endangered Species Act and the federal Species at Risk and Migratory Bird Convention Acts, were observed nesting under the Etobicoke Creek bridge. At the current design phase, it is unknown what impact the proposed works will have on the underside of the structure; however, it is not anticipated that the works will significantly impact the colony in a long-term manner as the structure will remain available to nesting Cliff and Barn Swallows and other migratory birds once construction activities are complete.

Any required removal of vegetation should be completed prior to or after the bird nesting period of April 1 to August 31 of any given year to ensure migratory birds or their nests are not adversely impacted. In the event that vegetation removal will be required prior to August 31, but later than April 1, a visual inspection of the areas to be cleared should be conducted by a qualified avian specialist before disturbance to ensure that no birds are using the area for the purposes of nesting. Vegetation removal within habitat suitable for Bat Species at Risk (e.g., Deciduous Woodland and the Dry – Fresh Oak Deciduous

Woodland) should not occur within the active bat season (i.e., April 30 – September 30). If migratory bird breeding and/or nesting activity is encountered at any time of year within the Study Area, an appropriate setback distance should be maintained from the nest/nesting birds. Works should not continue in the location of the nest until after it has been determined by an avian specialist that the young have fledged and vacated the nest and work areas. Provided that the appropriate mitigation measures are implemented during construction, it is not anticipated that the proposed works will negatively impact migratory birds or other wildlife species.

Mitigation measures will be employed as needed to minimize impacts to the species nesting in the structure. The final design should be re-evaluated to determine the extent of anticipated impacts and final mitigation measures to be employed. To avoid killing, harm and harassment to these species, exclusionary measures (i.e., Ministry of the Environment, Conservation and Parks approved exclusionary bird netting) should be used when possible to prevent nesting on the structure. These measures must be installed prior to the bird nesting period. If nesting activity of this species occurs prior to installation of the exclusionary measures, then the project works for the bridge must be delayed until it has been determined that nesting is completed, and the species has vacated or under approval from the Ministry of the Environment, Conservation and Parks. If these mitigation measures are followed, the project works are not anticipated to cause negative impacts to individual nesting Barn and Cliff Swallows.

Field surveys also documented Barn Swallow and Chimney Swifts within the project area, both of which are Species at Risk. Suitable habitat was also found for Species at Risk bats (i.e., Little Brown, Northern, and Eastern Small-footed Myotis, and Tricolored Bat) and so it is presumed that these species may be present. Otherwise, given that much of the Study Area is urban, industrial, or suburban in nature, habitat for Species at Risk is limited within the Study Area.

No Significant Wildlife Habitat is known to occur within the Study Area, and no designated areas (including Areas of Natural and Scientific Interest).

Air Quality

Assessment of Air Quality impacts identified the potential for increased Nitrogen Oxides, Carbon Monoxide, and Sulfur Oxide, particulate, and Volatile Organic Compounds impact levels at nearby receptors from vehicular emissions during construction as well as operation.

To mitigate these impacts during construction, on-site construction vehicle activity shall be managed (i.e., idling policies on site, wheel well washing, minimization of on-site vehicle travel as needed, etc.) to control emissions of odorous contaminants and diesel exhaust, including benzene and benzo(a)pyrene emissions from exhaust. An Air Quality Management Plan will be developed prior to construction to ensure consistent attention

to mitigation of dust and particulates, including silica, from the construction site. Applicable mitigation measures from Environment Canada are to also be followed. During operation, continued promotion of increased electric vehicle purchase and infrastructure within Ontario and implementation of vegetation within the Study Area to decrease ground level dispersion of particulates are suggested mitigations to reduce air quality impacts.

Recommended monitoring activities include the establishment of baseline conditions prior to construction and active air quality monitoring and reporting during construction.

Noise and Vibration

The acoustic modelling results indicated that Receptors are located within the Zone of Influence for noise and vibration during Project construction and operation activities. A detailed analysis of construction and operation noise at Receptor locations confirmed that several exceedances are anticipated during construction and operation activities. Therefore, some Receptor- or activity-specific mitigation measures were incorporated in the acoustic model to reduce the Project impact and determine the feasibility of compliance with the defined limits for noise. These mitigation measures were selected based on their technical, operational, administrative and economic feasibility, as well as impact on the Project (e.g., construction schedule). The mitigations incorporated in the acoustic modelling included barriers (construction and operation) and the replacement of tonal backup alarms with broadband type alarms (construction).

Additional general mitigations or best practices as well as recommended monitoring and follow up activities are also provided that would serve to reduce the potential Project noise and vibration impacts. Examples of these best practices include public engagement, acoustic enclosures, and no idling policies.

Socio-Economic and Land Use

A number of potential indirect and direct impacts to adjacent land uses were documented subject to final design. These include temporary and permanent property takes to support the construction and operation of the project; light, noise, vibration and dust spillage; and temporary or permanent alterations or restrictions to movement through the corridor during construction and operation for pedestrians, cyclists, public transit and drivers which could impact both through-travel and access to properties along the corridor. Temporary utility shut-offs are also possible during construction, although this would typically be for end-of-life or precautionary replacement as most utilities are located away from the guideway already.

Mitigations are proposed to minimize the effects of these impacts. These include consultation with affected property owners, the placement of barriers, fences or other mitigation measures to reduce light, dust, and noise impacts, and employing utility shut-

off best practices (such as advanced notice of utility shut offs). Maintaining access to properties and throughfare for all users to the extent possible is paramount during construction. It is recommended that an Access Management Plan is developed to guide access in the corridor through construction and operation, while consultation with affected agencies (emergency services, transit, etc.) will be important to support continuity of service in the corridor.

Cultural Environment

Built Heritage Resources and Cultural Heritage Landscapes

The Cultural Heritage Report identified potential impacts and recommended preliminary mitigation measures as follows:

- Construction activities and staging areas should be suitably planned in detailed design to avoid any direct, adverse impacts to the identified known and potential built heritage resources and cultural heritage landscapes.
- Should a Cultural Heritage Evaluation Report, which has been completed as part of this Project for six properties, conclude that a property meets one or more of the criteria outlined in the Ontario Regulation 9/06 and/or Ontario Regulation 10/06 of the Ontario Heritage Act, then a Heritage Impact Assessment should be completed by a qualified person during detailed design to assess direct adverse impacts of the construction activities related to the Project on the identified heritage attributes of a resource.
- Six properties were subject to a Cultural Heritage Evaluation Report, and the following properties were determined to have cultural heritage value or interest and therefore will require a Heritage Impact Assessment: Built Heritage Resource 1 - 202 Dundas Street West, Built Heritage Resource 4 - 51, 55-57 Dundas Street West, Built Heritage Resource 5 - 47 Dundas Street West and Built Heritage Resource 7 - 14 Dundas Street East.
- There are three plaques within the Study Area. It is recommended to monitor the protection of the plaque throughout construction to ensure integrity of the plaque is maintained. Post construction, the enclosure will be removed and the condition of the plaque will be confirmed to ensure it meets pre-construction conditions.
- Given that built heritage resources and cultural heritage landscapes are within the Study Area it is anticipated that in some locations vibrations limits will be exceeded and therefore, the mitigation measures for vibration impacts should be implemented. Construction and post-construction monitoring may be required for historic buildings that were determined subject to vibration damage.

Refer to Appendix C of the Cultural Heritage Report (available in **Appendix D** of this Environmental Project Report) for additional details on Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures.

Archaeology

The Stage 1 Archaeological Assessment completed for the Project resulted in the finding that there is high potential for pre- and post-contact Indigenous and 19th century Euro-Canadian archaeological resources and human burials to be present within the Study Area. Based on the results of background studies and a review of the City of Mississauga Official Plan, it has been determined that archaeological potential still exists within some small portions of the Study Area. In light of these results, prior to any ground disturbing activities, a Stage 2 Archaeological Assessment is recommended for all land identified as retaining archaeological potential.

There is one registered archaeological site located within the current Study Area boundaries, the Cherry Hill site (AjGv-18), that has been recommended for further work. However, the latitude and longitude of the site provided in the Archaeological Sites Database places the site right on the boundaries of the current Study Area, within an area of documented previous extensive disturbance. Once the land to be impacted by infrastructure improvements has been identified, should proposed construction activities impact any of the archaeological sites within an area that has not been subject to extensive disturbance, further Archaeological Assessment must be completed prior to ground disturbing activities.

Given the sparse details provided in the Archaeological Sites Database, it is not clear from the previous Archaeological Assessment what further work is required or whether there is potential for deeply buried remains. Therefore, the Stage 2 Archaeological Assessment requirements will be applied in the area to determine the level of disturbance present. If an undisturbed area in the vicinity of the coordinates provided in the Archaeological Sites Database is found and determined to be impacted by the Project, further archaeological work will be required in an attempt to relocate the site and assess for the potential of deeply buried remains is required.

Special consideration must be made for the cemeteries located within the Study Area: Dixie Union Cemetery, St. John's Dixie Cemetery & Crematorium, and the remains of the Dundas-Dixie Cemetery (CHL 4).

Dixie Union Cemetery and St. John's Dixie Cemetery and Crematorium:

- It was determined that there is no potential for unmarked burials associated with the Dixie Union Cemetery to be located outside the current fenceline. As a result, no further Archaeological Assessment is required within the Dundas Street or Cawthra Road right-of-way that are part of this Project.

Dundas-Dixie Cemetery:

- The existence of the Dundas-Dixie Cemetery is largely unknown, and it is unclear if any grave shafts exist below the current commercial structures on the property.
- It is unlikely that any intact archaeological resources exist beneath the land alterations along Dundas Street adjacent to the property.
- Therefore, because the cemetery is illustrated on historic mapping, and any relating documentation may have been destroyed, it is recommended that should any development impacts to the property outside of the Dundas Street right-of-way be proposed, additional Stage 2 and Stage 3 cemetery investigation is required to confirm the level of disturbance.

The current Study Area also crosses a number of 19th century settlement areas, including Summerville, Sydenham (later Dixie), and Cooksville. While we have not identified any areas where deeply buried potential remains, there is a possibility that structural remains could exist beneath the surface that could require further archaeological work.

Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment as part of the Dundas Bus Rapid Transit Project, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries. Further, as unmarked Indigenous burials have been referenced in previous historical records, local Indigenous Nations should be engaged in any impacts within the boundaries of the Dixie Union Cemetery/St. John's Dixie Cemetery & Crematorium.

ES6. Climate Change and Sustainability

The Climate Change and Sustainability risk assessment revealed 52 interactions showing risks out of 66 possible interactions, between 11 climate indicators and the six project components. Risk treatment and adaptation measures for each of the interactions have been developed in three types of measures, Design, Operations and Maintenance, and Policy.

In addition, within this 7.2 kilometre section of the Project there are three areas of significant riverine flooding which could impact the construction and future operation. Areas of riverine flooding are likely beyond the scope of the Project as they are a result of the upstream development of the watershed. As such operational procedures may need to be developed to ensure the safe operation of the Project.

ES 7. Consultation Process

The communication and engagement process followed by Metrolinx for the Project is described in **Section 7** of this Report and all engagement materials are included in **Appendix E**.

The overall approach to communication and engagement for the Project is outlined in **Section 7.1** of this Report. To share information and collect feedback related to the Project, Metrolinx has undertaken the following communication and engagement activities prior to the publication of the Environmental Project Report:

- Three virtual rounds of engagement (April 2021, September 2021, and January 2022) and two Metrolinx Live meetings (September 22, 2021 and January 27, 2022);
- Mississauga East-specific updates on the Project Engagement webpage ([click here to be directed to the Mississauga East-specific updates](#));
- Technical Advisory Committee meetings;
- Elected Official briefings;
- Engagement with Indigenous Nations, government review agencies and other technical stakeholders; and
- Meetings with local community groups as part of the Mississauga Stakeholder Advisory Group.

In accordance with Section 8 *Ontario Regulation 231/08: Transit Projects and Metrolinx Undertakings*, the communication and engagement record summarized in **Section 7** and provided in **Appendix E** summarizes Dundas Bus Rapid Transit Mississauga East Project engagement activities carried out with Indigenous Nations, members of the public, government review agencies and other technical stakeholders, Elected Officials, property owners and other interested parties, including a summary of feedback and comments received.

The Transit Project Assessment Process for the Project commenced on December 10, 2021. During the third round of engagement, Metrolinx shared information about what was heard during the second round of engagement and how feedback was incorporated; the Transit Project Assessment Process commencement and 30-day public review period for the Project; key findings, potential impacts and proposed mitigation measures from the Draft Environmental Project Report for the Project; how the design has progressed/been optimized to reduce potential impacts; and next steps.

ES 8. Permits and Approvals

A review of the Canadian Environmental Assessment Act 2012 determined that this project does not constitute a designated project under this Act. It is anticipated that following additional assessment and possibly the implementation of design considerations to avoid death of fish or HADD that a Fisheries and Oceans Canada review will be required. It is recommended that the project not be submitted for review until additional details and drawings are available to complete the Request for Review form and assess anticipated impacts associated with these watercourse crossings. It is recommended that screening under the Navigation Protection Program of Etobicoke Creek be carried at the start of detailed design to determine any further actions that may be required as a result of construction work at this crossing.

Provincial permits and approvals may be required from the Ministry of Environment, Conservation and Parks, the Ministry of Transportation for work around Highway 427.

Conservation Authority approvals may be required from Toronto and Region Conservation Authority and/or Credit Valley Conservation Authority.

At the municipal permitting level, Metrolinx, as a Provincial Crown Agency, is not generally subject to municipal permitting and approval requirements; regardless, Metrolinx works in co-operation with local municipalities to adhere to the intent of the relevant permit approval requirements to the extent possible.

Approvals will be required from private entities. These include agreements to permit construction of the Project over a Trans-Northern Pipeline at Stanfield Road and across Canadian Pacific Railway tracks west of Cawthra Road. Notices or Permits may also be required from utilities and telecommunication providers including Enbridge Gas Pipelines, Alectra, Bell, Rogers and others pertaining to their respective distribution networks. Lastly, there are several timing windows that must receive attention. Refer to **Section 5.1.3** for details.

ES 9. Future Studies

Natural Environment

- All Indigenous Nations will be provided the opportunity to participate in any future natural environment studies or environmentally sensitive construction activities.
- Additional assessment of impacts to fish and fish habitat will be required once more details regarding the footprint and associated works is detailed.

Air Quality

- Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan.
- Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.
- Develop and implement Weekly Air Quality Monitoring Reports during construction.
- Potential re-assessment of Air Quality Impacts during detailed design phase. Submission of an EA Addendum may be required for significant design changes from draft 10% design affecting Air Quality.

Noise and Vibration

- The assessment of potential noise and vibration impacts was completed based on the draft 10% design of the planned Bus Rapid Transit corridor. Therefore, the assessment is recommended to be updated during detailed design to confirm the findings of this study since changes may occur design process. Further, it is recommended that an updated pre-construction vibration study and building inspections be completed for fragile or heritage buildings identified along the corridor.
- Prior to commencement of construction, develop and submit a detailed Construction Noise Management Plan.
- Develop and implement a detailed Construction Vibration Management Plan prior to commencement of construction by Proponent for Metrolinx and/or City of Mississauga review and approval.

Built Heritage Resources and Cultural Heritage Landscapes

- Six built heritage resources, listed in **Table 5-8**, are anticipated to be directly, adversely impacted by the Project. Cultural Heritage Evaluation Reports have been completed by a qualified person, in consultation with the City of Mississauga Heritage Planning staff, and incorporated into the Environmental Project Report, to determine if the properties meet the criteria of Ontario Regulation 9/06 or Ontario Regulation 10/06 of the Ontario Heritage Act.
- Should a Cultural Heritage Evaluation Report conclude that a property meets one or more of the criteria outlined in the Ontario Regulation 9/06 and/or Ontario Regulation 10/06 of the Ontario Heritage Act, then a Heritage Impact Assessment should be completed by a qualified person during detailed design to assess direct adverse impacts of the construction activities related to the Project on the identified heritage attributes of a resource.

- Six properties were subject to a Cultural Heritage Evaluation Report, and the following properties were determined to have cultural heritage value or interest and therefore will require a Heritage Impact Assessment: Built Heritage Resource 1 - 202 Dundas Street West, Built Heritage Resource 4 - 51, 55-57 Dundas Street West, Built Heritage Resource 5 - 47 Dundas Street West and Built Heritage Resource 7 - 14 Dundas Street East.

Archaeology

- A Stage 2 Archaeological Assessment (and further stages of archaeological assessments, as recommended) will be undertaken/completed as early as possible during detailed design and prior to any ground disturbing activities. Recommendations from these archaeological assessments will be followed.
- A letter inviting Indigenous Nations to participate in the Stage 2 Archaeological assessment will be sent once more details regarding the project footprint and design are determined.
- Prior to construction, Proponent to develop and implement an Archaeological Risk Management Plan. The Archaeological Risk Management Plan will address any recommendations resulting from archaeological assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources.
- Should the Project Area change as the Project progresses, areas that are potentially undisturbed will require Stage 2 Archaeological Assessment.

Excavated Materials and Groundwater Management

- Develop a Soil and Excavated Materials Management Plan prior to commencement of construction.
- Develop a Groundwater Management and Dewatering Plan prior to commencement of construction to guide the handling, management, and disposal of groundwater encountered during the works.

Stormwater Management

- Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings during detailed design in accordance with the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003), the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to

time, and the guidelines and regulatory requirements of the Conservation Authority having jurisdiction.

- A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements.
- A hydraulic assessment of each crossing and any proposed bridge expansions (replacements) 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 the local Conservation Authority to assess the hydraulic impacts along regulated watercourses.
- Develop a Spill Prevention and Response Plan before work commences and implement during construction.

Socio-Economic and Land Use

- An access management plan will be developed and updated as needed by the constructor and operator prior to the commencement of construction. Access Management Plans are living documents that outline control measures that will be utilized during construction and operation of the Project to protect the public worker.
- A Streetscaping and Urban Design Study is to be undertaken by AECOM during the 30% design stage and made under separate cover to further develop and build on streetscaping and urban design recommendations made in the Dundas Connects Master Plan and Vision Cooksville.
- During detailed design, property requirements shall be reassessed in an attempt to eliminate or further reduce anticipated impacts to private properties, where possible.

Environmental Mitigation and Monitoring Plan

- The Environmental Mitigation and Monitoring Plan will be completed in detailed design by AECOM 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.

Fluvial Geomorphological Assessment

A review of any existing Fluvial Geomorphological data will be conducted at the 30% design stage. Where there is insufficient data available, a further assessment will be carried out.

Tables E-2 and E-3 summarize the environmental concerns and mitigation measures and commitments to future work to be undertaken and confirmed during future phases of the Project.

Table E-2: Summary of Environmental Concerns, Mitigation Measures and Commitments during Construction

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
<p>Aquatic Environment</p>	<p>Aquatic Environments</p>	<ul style="list-style-type: none"> ■ Release of Sediment or other deleterious substances from the work zone and stabilization of riparian area during and after construction 	<ul style="list-style-type: none"> ■ When possible, schedule work to avoid wet and rainy periods that may increase the risk of erosion and sedimentation. ■ Plan access points to minimize the amount of riparian vegetation lost or disturbed. ■ Uncured concrete and other materials used for grouting culverts shall be prevented from entering water bodies using appropriate barriers and should be stored a minimum of 30 metres from watercourses. ■ Develop a spill response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance. All spills of deleterious substances (as defined by the Fisheries Act) must be reported to the Ontario Spill's Action Center (click here to report pollution and spills) and the Fisheries and Oceans Canada (click here to email the Fisheries and Oceans Canada) if the spill results in <i>the Harmful Alteration, Damage or Destruction</i> to fish or fish habitat. An emergency spill kit shall be kept on-site at all times. ■ Erosion and sediment control measures shall be installed prior to starting work to prevent sediment from entering the watercourse and will be removed at the completion of construction as per Ontario Provincial Standards Specification 804 – Construction Specification for Temporary Erosion Control and Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control. ■ It is recommended that cover be utilized as per Ontario Provincial Standards Specification 804 – Construction Specifications for Temporary Erosion Control, as a part of the contract for areas where seeding is required. Recommended covers included in Ontario Provincial Standards Specification 804 –which should be considered for inclusion in the Contract Package include: <ul style="list-style-type: none"> – Straw mulch (where conditions permit); – Bonded Fibre Matrix or Fibre Reinforced Matrix (where conditions permit), and or erosion control blankets which are constructed of 100% biodegradable materials with non-plastic biodegradable mesh or sewn together with biodegradable thread; and – Fibre rolls which consist of an open—weave, biodegradable mesh or netting that securely contains the fibres (i.e., biodegradable material such as shredded straw, wood fibres or compost). ■ Alternatively, rock protection or rip-rap may also be used to stabilize highway embankments adjacent to the watercourse following completion of project works (anticipated to provide more rapid stabilization but little value to vegetation directly) as per Ontario Provincial Standards Specification 804 and Ontario Provincial Standards Specification 805. ■ All stockpiles of erodible construction materials and excess or surplus materials within 30 metres of a waterbody shall be protected from erosion within 48 hours of being built until they are required for construction or removed from the site as per Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ Where grubbing is required adjacent to a watercourse, temporary cover shall be applied prior to any forecasted precipitation and less than 48 hours after any grubbing as per Ontario Provincial Standards Specification 804 – Construction Specification for Temporary Erosion. 	<ul style="list-style-type: none"> ■ Erosion and sediment control measures shall be inspected for effectiveness regularly throughout construction and deficiencies corrected as per Ontario Provincial Standards Specification 804 – Construction Specification for Temporary Erosion Control and Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ The installation, monitoring, maintenance, and removal of temporary erosion and sediment control measures shall be according to Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ Additional assessment of impacts to fish and fish habitat and Fisheries and Oceans Canada Request for Review are anticipated to be required for works associated with Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek once details, including drawings etc. have been completed for these crossings.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ Temporary sediment control shall be removed, and associated excavations backfilled and compacted when the area being protected has been completely stabilized by final cover placement. When the final cover is vegetated, and placement could not be advanced to allow establishment and stabilization of the site prior to Contract Completion, temporary sediment control shall be left in place as per Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ Equipment shall not enter the watercourse as per Ontario Provincial Standards Specification 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks unless specified in the Contract Documents. All equipment shall be operated on or from dry land in a way that minimizes the disturbance of waterbody banks and riparian vegetation; ■ Ensure mobile industrial equipment is stored/fueled at least 30 metres away from the watercourse. In circumstances where it is not possible (e.g., non-mobile equipment), fueling and maintenance must be carried out in a controlled manner to prevent any discharge of equipment fuels and fluids onto the ground or into water bodies as per Ontario Provincial Standards Specification 182; and ■ Ensure machinery is not leaking fuels or lubricants as per Ontario Provincial Standards Specification 182. 	
<p>Aquatic Environment</p>	<p>Wetlands and Waterbodies</p>	<ul style="list-style-type: none"> ■ Vegetation Removal and Site Rehabilitation – Removal or impacts to wetland, aquatic and riparian vegetation; erosion and sedimentation to wetlands/waterbodies from construction; risk of contamination to wetlands/waterbodies as a result of spills. 	<ul style="list-style-type: none"> ■ Construction activities will maintain the buffers established during the design phase to minimize potential negative impacts to wetlands and waterbodies. ■ 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 <i>Vegetation Guideline (2020)</i>. ■ An Erosion and Sediment Control Plan, in accordance with the <i>Erosion and Sediment Control Guide for Urban Construction</i> (Toronto and Region Conservation Authority 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. ■ Design consideration will follow the Toronto and Region Conservation Authority’s <i>Crossing Guideline for Valley and Stream Corridors (2015)</i>, and will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. ■ 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 License to Collect Fish for Scientific Purposes from the Ministry of Northern Development, Mines, Natural Resources and Forestry. ■ Removal of riparian vegetation shall be in accordance with Ontario Provincial Standards Specification 182 and Ontario Provincial Standards Specification 804 – Construction Specifications for Seed and Cover; ■ Disturbance of riparian vegetation should be minimized; 	<ul style="list-style-type: none"> ■ Onsite 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. ■ Equipment coming on-site shall be inspected as close to the site entrance as possible for debris, and if present debris shall be removed entirely and shall be collected and managed as specified prior to the equipment proceeding to the Working Area. ■ Equipment shall also be inspected for debris prior to leaving the Working Area. Any debris shall be removed and managed as specified and in a manner that prevents equipment from coming into further contact with standing, sprayed or cut invasive or noxious vegetation. ■ Vegetation re-seeding should be inspected during all applicable phases of the project, up to 2 years following project completion to ensure vegetation uptake. ■ Compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to 2 years, following planting.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ Herbicides will not be used unless for the control of Invasive/Noxious plants. Herbicides shall not be sprayed where invasive or noxious vegetation is located in standing water. Locations to be sprayed with herbicide as specified in the Contract Drawings shall be visually inspected for the presence of standing water on a weekly basis and documented for the life of the Contract until or until the standing water is no longer present and herbicide spraying can commence; ■ Replace vegetative cover with topsoil and seed as per Ontario Provincial Standards Specification– 803 – Construction Specification for Vegetative Cover and Ontario Provincial Standards Specification 802 – Topsoil. ■ Though the Study Area is located within an urban area, several “natural” areas exist adjacent to the Study Area watercourses, and these areas provide direct groundwater discharge to the Study Area watercourses. As such, it is recommended that a seed mix comprised of native species be utilized for all re-vegetation activities within the Study Area watercourses and riparian areas. ■ The Northern Ontario Mix, as per Ontario Provincial Standards Specification 803, offers similar qualities for re-establishment within a roadside environment (and reduced long-term maintenance). This mix contains mostly native species with some non-native legumes included to help with the establishment of the planting; however, only native species should be used. ■ Alternatively though not specified in Ontario Provincial Standards Specification 803, a seed mix such as the Ontario Seed Company Rural Ontario Roadside Native Seed Mixture 8145 (click here for the Ontario Seed Company Native Seed Mixture 8145) may also be utilized as this seed mix contains a variety of native plant species able to establish and grow within a roadside environment. ■ It is recommended that cover be utilized as a part of the Contract for areas where seeding is required, given the sensitivities associated with the Study Area wetlands in particular. Recommended covers included in Ontario Provincial Standards Specification 803 which should be considered for inclusion in the Contract Package include: <ul style="list-style-type: none"> ■ Straw mulch (where conditions permit); ■ Bonded Fiber Matrix or Fiber Reinforced Matrix (where conditions permit), and or ■ Erosion control blankets made of natural fiber (i.e., with no nylon or synthetic netting/materials, etc.). ■ If there is insufficient time in the growing season for the seed to sprout, the site shall be stabilized with temporary erosion and sediment control measures and seeded in the following spring. It is important to note that many of the seed mixes outlined above are best established through fall seeding to allow normal dormancy and then germination the following spring as these species are adapted to the Ontario environment; ■ Where clearing and grading is required within 30 metres of a watercourse a tree inventory should be completed prior to grading activities and any trees removed be replaced in accordance with applicable tree compensation ratios to ensure function of riparian habitat remains. Native species should be selected which are tolerant of the urban environment to ensure function of the riparian area is maintained. ■ Planting of native shrubs is also recommended within riparian areas disturbed during construction. Use of native shrubs may be appropriate for areas close to the traveled portion of Dundas Street (i.e., newly regraded embankment) as they will generally stay smaller to avoid conflicts with utilities etc. 	

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none">■ Debris, including earth clods and invasive noxious vegetation material attached to the outside surfaces of the equipment, is prohibited from entering the Working Area.	

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Aquatic Environment	Fish and Fish Habitat	<ul style="list-style-type: none"> ■ Potential for direct, in-water impacts to fish and fish habitat. 	<ul style="list-style-type: none"> ■ All requirements of the <i>Fisheries Act</i> and the <i>Endangered Species Act</i> will be met. ■ Additional assessment of impacts to fish and fish habitat and Fisheries and Oceans Canada Request for Review are anticipated to be required for works associated with Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek once details including drawings, etc. have been completed for these crossings. Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a License to Collect Fish for Scientific Purposes from the Ministry of Northern Development, Mines, Natural Resources and Forestry. 	<ul style="list-style-type: none"> ■ Onsite 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.
Terrestrial Environment	Wildlife Travel Corridors, Vegetation Removal and Compensation Plans	<ul style="list-style-type: none"> ■ Temporary vegetation disturbance and limited vegetation removal 	<ul style="list-style-type: none"> ■ Vegetation re-seeding with native vegetation, with specific emphasis on areas adjacent to Etobicoke and Little Etobicoke Creek. ■ Sediment and erosion control fencing. ■ Upgrades to the terrestrial corridor associated with the Little Etobicoke Creek valley should be consistent with the Dundas Connects project. ■ Design consideration will follow the Toronto and Region Conservation Authority's <i>Crossing Guideline for Valley and Stream Corridors (2015)</i>, and will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. ■ It is recommended that any ditch line which is constructed that is not part of a watercourse (i.e., does not convey permanent flow) should be seeded with an appropriate moisture tolerating seed mix. It is important to note that none of the seed mixes included in Ontario Provincial Standard Specification 804 are suitable for re-seeding areas that are seasonally wet. Suitable seed mixes for this application include but are not limited to: <ul style="list-style-type: none"> ■ Seed mix containing 100% Canada bluejoint. Canada bluejoint (a native grass species) is well adapted for growth within the Dundas Street Right-of-Way in areas where moist soils are present. As a native moisture (able to grow in areas of seasonal standing water) and salt-tolerant species, Canada bluejoint has many growth properties similar to invasive phragmites and is often considered an aggressive spreading native species able to colonize sites quickly. This may also provide benefits to minimize the establishment and spread of invasive phragmites within the Study Area. These properties make it an ideal candidate for use within the Right-of-Way to re-seed ditch line areas following ditch cleanout or other activities which disrupt the existing vegetation cover; ■ Creek Bank Native Seed Mixture (Wet Meadow Type) (click here for the Ontario Seed Company Native Seed Mixture Type 8215); ■ Standard OBL Wetland Native Seed Mixture (click here for the Ontario Seed Company Native Seed Mixture Type 8185), or ■ Low Maintenance Retention Basin Native Seed Mixture 8220 (click here for the Ontario Seed Company Native Seed Mixture Type 8220). 	<ul style="list-style-type: none"> ■ Vegetation re-seeding should be inspected during all applicable phases of the project, up to 2 years following project completion to ensure vegetation uptake. ■ Installation of sediment and erosion control fencing in areas requiring grading during construction. Sediment and erosion control fencing should be inspected weekly, or during precipitation events that are >10 millimetres.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Terrestrial Environment	Wildlife Travel Corridors, Vegetation Removal and Compensation Plans	<ul style="list-style-type: none"> Tree/Vegetation removal, injury and protection. 	<ul style="list-style-type: none"> If a tree requires removal or injury, compensation and registration/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws for tree removals outside of Metrolinx properties (e.g., City of Mississauga's Public and Private Tree Bylaws (0254-2012)). Pruning of branches will be conducted through the implementation of proper arboricultural techniques. Tree Protection Zone 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 for tree removals outside of Metrolinx properties (e.g., City of Mississauga's Public and Private Tree Bylaws (0254-2012)). Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk, and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. 	<ul style="list-style-type: none"> 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). Outside of Metrolinx properties, compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to 2 years, following planting. 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 corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management Program within the Metrolinx Vegetation Guideline (2020).
Terrestrial Environment	Vegetation Removal and Compensation Plans	<ul style="list-style-type: none"> Disturbance, injury and/or removal of Species at Risk vegetation, including Butternut. 	<ul style="list-style-type: none"> As part of the Arborist Report, all trees within or adjacent to the Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other Species at Risk vegetation. Species at Risk vegetation will be subject to authorization and approval requirements under Applicable Law, prior to the commencement of construction. Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with Ministry of Northern Development, Mines, Natural Resources and Forestry Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to Ministry of the Environment and Parks to determine the next course of action. 	<ul style="list-style-type: none"> On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Terrestrial Environment	Integrated Vegetation Management	<ul style="list-style-type: none"> Footprint Impacts and potential for the establishment of invasive species and other incompatible species. 	<ul style="list-style-type: none"> An Integrated Vegetation Management Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the Integrated Vegetation Management 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. 	<ul style="list-style-type: none"> 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.
Terrestrial Environment	Tree Removal Strategy	<ul style="list-style-type: none"> Potential for the spread of emerald ash borer, <i>Agrilus planipennis</i> (Fairmaire) associated with removal, handling and transport of ash trees. 	<ul style="list-style-type: none"> 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, <i>Agrilus planipennis</i> (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. 	<ul style="list-style-type: none"> 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.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ Ensure precautions are being taken to minimize the spread of invasive species by cleaning equipment prior to moving sites. 	
Tree Inventory	Tree Protection	<ul style="list-style-type: none"> ■ Impacts to trees (removal or injury) during construction 	<p>Tree Protection Fencing and Ground Compaction Mitigation</p> <ul style="list-style-type: none"> ■ Tree protection fencing shall be installed around trees recommended for protection and retention, where retained trees are in close proximity to the Project Area (i.e., where a retained tree's tree protection zone is within the Study Area but is not touching or intersecting the Project Area), prior to the any work activities taking place within the Study Area. ■ The tree protection fencing shall be installed in accordance with the City of Mississauga's and the City of Toronto's respective tree protection guidelines and standards. ■ The tree protection fencing around the tree protection zone shall be installed with orange safety fencing and framed with lumber at 5 centimetres x 10 centimetres (2 inches x 4 inches) dimensions. ■ Alternatively, steel T-bars can also be used to erect the orange safety fencing. All tree protection fencing shall remain in place prior to any construction activity and in good repair until construction is complete. ■ It is recommended that tree protection zone signage be installed on the fence. Tree protection signage shall be installed by the contractor to clearly delineate tree protection zones. The sign shall be a minimum of 40 centimetres (15.75 inches) x 60 centimetres (23.5 inches), made of white gator board and outline the following: <ul style="list-style-type: none"> - That no grade change, storage of materials or equipment is permitted within the tree protection zone; - Contact information of the municipal forestry department; and - The potential fine for contravention of disobeying by-laws in which the tree protection zone was installed. ■ For any trees recommended for preservation there shall be no storage or movement of equipment or hoarding of materials within the tree protection zone. If work must be completed within the tree protection zone, 10 centimetres to 15 centimetres (4 inches to 6 inches) of mulch shall be spread over the area which is to be worked upon. Additionally, sheets of 2 centimetres (0.75 inches) thick plywood (minimum) or steel plating shall be applied on the mulch in order to help distribute the weight of the heavy equipment to avoid soil compaction. After construction, these measures shall be removed to allow proper aeration and water infiltration to the soil. This shall include removing the bulk of mulch so that only 5 centimetres to 10 centimetres (2 inches to 4 inches) remain. It is recommended that a Certified Arborist be on-site when work that could impact trees is required within the tree protection zone of trees identified for preservation. <p>Vegetation Clearing and Management</p> <ul style="list-style-type: none"> ■ Vegetation removal, including tree removal will be limited to the specified activity areas and shall not commence until required permits and approvals are obtained. ■ Clearing of vegetation outside of the breeding bird season is recommended to reduce potential impacts to migratory birds and avoid contravention of the Migratory Birds Convention Act. ■ Searching for nests by a qualified biologist are not recommended within complex habitats, as the ability to detect nests is low while the risk of disturbance to active 	<ul style="list-style-type: none"> ■ It is recommended that a Certified Arborist be retained to regularly monitor the Project's construction activities in order to ensure that all trees that are recommended for protection and retention are being maintained adequately, in relation to standard arboricultural practices and the aforementioned respective City protocols. ■ Additionally, no grading, excavation or restoration-related activities are to occur within the tree protection zone of any protected or retained trees, if it cannot be avoided, without the supervision of a Certified Arborist. ■ Should the limits of the proposed excavation areas change, a Certified Arborist will be retained to review trees with tree protection zones intersecting new excavation area limits in order to determine whether trees shall be recommended for removal, injury and protection or retention.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>nests is high. This disturbance increases the risk of nest predation or abandonment by adults.</p> <ul style="list-style-type: none"> ■ Nests searches may be completed during the nesting period (April 1st to August 31st) by a qualified biologist within 'simple habitats' (Environment and Climate Change Canada, 2018) which refer to habitats that contain few likely nesting spots or a small community of migratory birds. ■ Clearing in simple habitats during the nesting season can only occur if a qualified biologist has confirmed it would not affect the nest or young of a protected species. ■ Where works are proposed within a tree protection zone of a tree proposed for preservation, clearing of vegetation shall be performed manually to reduce soil compaction and mechanical damage to the tree. <p>Branch Pruning</p> <ul style="list-style-type: none"> ■ Where branches are likely to be damaged during construction, they shall be pruned accordingly, prior to construction activities, in order to avoid unnecessary damage to the tree. ■ Pruning should be completed in a three-step process: <ul style="list-style-type: none"> – The first step of this process is to cut through approximately one-third of the branch's diameter from the bottom side. – The second step of the process is to remove the majority of the branch and its lateral weight, through proceeding to make a cut on the top side, which is to be approximately half the diameter from the cut on the bottom side. This cut is to be made approximately 2.5 centimetres to 5 centimetres (1 inch to 2 inches) further out on the branch from the first cut in order to reduce the risk of tearing. – Once the weight (majority of the branch) has been removed, the final step of the process is to remove the remaining stub by completing the final cut at the branch bark ridge. This final cut must be a smooth surface with no jagged edges or torn bark. <p>Roots</p> <ul style="list-style-type: none"> ■ Root damage shall be minimized by restricting equipment in the vicinity of the existing tree protection zone and limiting equipment within the construction limits. This will help minimize damage if there is any excavation in the areas of a preserved tree. ■ It is critical to avoid damage to the structural root plate in order to prevent affecting tree stability and thus creating a hazard tree. In general, most of the fibrous roots of the tree are contained in the top 30 centimetres (11.75 inches) of the soil and may easily be severed during excavation, whilst structural roots are located deeper. ■ Hand digging, low pressure hydro-vac or air spade exploratory digging will aid in determining the damage of the tree root system. ■ All opportunities to avoid root and grade damage within the tree protection zone shall be taken – this shall include limiting machinery within the tree protection zone as much as possible and the employment of horizontal hoarding where work is proposed within the tree protection zone of a tree recommended for preservation. ■ Any roots that are severed during construction shall be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, mulch, wet burlap or soil shall be applied as soon as possible and watered regularly to prevent roots from drying-out, under the supervision of a Certified Arborist. 	

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>Excavation</p> <ul style="list-style-type: none"> ■ Methods of excavation within tree protection zone of trees proposed for protection or retention shall include those which cause the least harm to the tree, such as pneumatic or hydraulic excavation. These methods include tools which use high-pressure air or water to remove the soil around the roots without damaging the larger roots. ■ Fill within the tree protection zone shall not be permitted unless it is mitigated in a way that maintains air and water availability for roots. ■ All grade changes within and adjacent to tree protection zones shall be undertaken in accordance with the previously specified tree protection guidelines. ■ Access routes shall be established away from the tree protection zone. The existing grades within the tree protection zone shall not be disturbed to avoid damage to trees and soil compaction. 	
Species at Risk	General	<ul style="list-style-type: none"> ■ Habitat loss, disturbance and/or mortality to Species at Risk. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> ■ All requirements of the <i>Endangered Species Act</i> and <i>Species at Risk Act</i> will be met. Species-specific mitigation measures will be implemented based on any recommended studies undertaken prior to construction, and in consultation with Ministry of the Environment, Conservation and Parks/Ministry of Northern Development, Mines, Natural Resources and Forestry. ■ If Species at Risk is present and conservation strategies have been developed by Ministry of Northern Development, Mines, Natural Resources and Forestry/Ministry of the Environment, Conservation and Parks, 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 Species at Risk onsite, the identification of the Species at Risk species and the procedure(s) to follow if an individual is encountered or injured. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> ■ Onsite 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 authorization requirements under the <i>Endangered Species Act</i>.
Species at Risk	Barn Swallow	<ul style="list-style-type: none"> ■ Potential nest destruction and/or harm. Habitat loss, disturbance and/or mortality to Barn Swallow. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> ■ Field surveys will be undertaken prior to construction to confirm the number of nests present at the known locations and whether the nests remain active. ■ Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the <i>Endangered Species Act</i> will be met, including any compensation, replacement structures and/or authorization requirements. ■ If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken by a qualified biologist to confirm that no Barn Swallow 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, following Ministry of the Environment, Conservation and Parks approved guidance. ■ Bridge works should be completed outside of the bird breeding season (i.e., April 1 to August 31), if possible, to ensure incidental take or harm to Barn Swallows and their nests does not occur. ■ Mitigation and sustainability measures outlined in the <i>Operational Guidance for Migratory Bird nests Under Bridges and in Culverts, 2018</i> prepared by the Transportation Association of Canada should be implemented during construction. ■ The new bridge design should, where possible, incorporate opportunities for Barn Swallow nesting, including but not limited to placing nesting cups. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> ■ Onsite 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 Ministry of the Environment, Conservation and Parks, if required. ■ Authorization to the Ministry of the Environment, Conservation and Parks under Part III of the Ontario Regulation 830/21. ■ Authorization to the Ministry of the Environment, Conservation and Parks requires the preparation of a Barn Swallow mitigation and restoration record, which includes habitat compensation (if nests are removed and/or destroyed) and monitoring. ■ Authorization would also be required if Barn Swallows are identified as nesting within any other structure that requires disturbance as part of the project works (e.g., structural culverts etc.).

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Species at Risk	Chimney Swift	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to Chimney Swift. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> If repair, maintenance or demolition of buildings/structures with suitable roosting/nesting habitat (e.g., chimneys) is to take place, targeted surveys for Chimney Swift will be completed by a qualified avian biologist as per the Bird Studies Canada Chimney Swift Monitoring Protocol (2009). Repair, maintenance, or demolition of an identified roosting/nesting structure may constitute destruction of habitat and would be discussed in advance with the Ministry of the Environment, Conservation and Parks and requirements of the <i>Endangered Species Act</i> will be met. Register activities for Chimney Swift under the <i>Endangered Species Act</i> and consult with Ministry of the Environment, Conservation and Parks to fulfil requirements the <i>Endangered Species Act</i> and its associated regulations. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required.
Species at Risk	Species at Risk Bats	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to Species at Risk Bats. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> Disturbance to bat roosting habitat, with specific emphasis on the Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite, will be avoided during the bat roosting period of April 30th to September 30th in accordance with Ministry of the Environment, Conservation and Parks requirements. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required. Should vegetation and tree removals occur within the active period for Species at Risk bats, discussion with the Ministry of the Environment, Conservation and Parks is required to ensure contravention of the Endangered Species Act does not occur. Sites documented as being used by Species at Risk bats are not removable under the Endangered Species Act.
Species at Risk	Aquatic Species at Risk ¹	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to aquatic Species at Risk. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> Specific mitigation measures identified through the Aquatic Habitat and Fish Community Assessment, and/or any other studies, will be implemented. If aquatic Species at Risk is present, design and construction will occur in accordance with Ministry of the Environment, Conservation and Parks requirements. Register activities that fall under the notice of activity for aquatic species for works within habitat of certain fish or mussels. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required.
Wildlife and Wildlife Habitat	Wildlife	<ul style="list-style-type: none"> Disturbance, displacement, or mortality of wildlife 	<ul style="list-style-type: none"> Prior to construction, investigation of the Project Footprint for all wildlife and wildlife habitat that may have established following the completion of previous surveys will be undertaken, as appropriate. Erect exclusionary fencing in linkage areas within close (i.e., 30 metres) proximity of wildlife habitat. Fencing will be designed prior to construction. If wildlife is encountered, conservation strategies 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. If wildlife is able to be handled safely (e.g., non-Species at Risk herpetofauna), the qualified 	<ul style="list-style-type: none"> 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 to all wildlife encountered.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			biologist will follow safe handling-techniques, as approved by the province, to relocate and move individuals out of harms way.	
Wildlife and Wildlife Habitat	Migratory Breeding Birds and Nests	<ul style="list-style-type: none"> Disturbance or destruction of migratory birds and/or nests. 	<ul style="list-style-type: none"> All works must comply with the Migratory Birds Convention Act, including timing windows for the general nesting period (April 1st to August 31st in Ontario). Vegetation removals should occur outside of the bird breeding season (i.e., April 1 – August 31), if possible, to ensure incidental take or harm to migratory birds and their nests does not occur. Mitigation and sustainability measures outlined in the Operational Guidance for Migratory Bird nests Under Bridges and in Culverts, 2018 prepared by the Transportation Association of Canada should be implemented during construction. 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 a qualified biologist with experience conducting nest searches will be required 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. 	<ul style="list-style-type: none"> Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites. If vegetation removal occurs during the bird breeding season (i.e., April 1 – August 31), a visual inspection of the proposed removals is required by a qualified avian biologist to ensure that no birds are using the area for the purposes of nesting. If migratory bird breeding and/or nesting activity is encountered at any time of year within the Study Area, an appropriate setback distance should be maintained from the nest/nesting birds. Works should not continue in the location of the nest until after it has been determined by an avian specialist that the young have fledged and vacated the nest and work areas.
Air Quality	Human Health and Wellbeing	<ul style="list-style-type: none"> Construction related air pollution may pose risks to human health and wellbeing 	<ul style="list-style-type: none"> Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan. The Air Quality Management Plan will: <ul style="list-style-type: none"> – Demonstrate compliance with the specific air quality criteria and limits in the Metrolinx <i>Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment</i> (2019). – Define the Project’s air quality impact zone and identify all sensitive receptors within this area. – Assess the baseline air quality by continuous measurement of local ambient concentrations of PM_{2.5} and PM₁₀ 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. – 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. – Monitor continuously any contaminant, in addition to PM_{2.5} and PM₁₀, which is predicted to exceed its relevant air quality exposure criterion during any phase of the Project and at any receptor. – Include explicit commitment to the implementation of all applicable best practices identified in the Environment Canada document, <i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities</i> (2005). Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. 	<ul style="list-style-type: none"> Develop and implement Weekly Air Quality Monitoring Reports during construction 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: <ul style="list-style-type: none"> – 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 PM₁₀ – particulate matter of less than 2.5 and 10 micron in diameter, respectively. 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. – The criteria for PM_{2.5}, PM₁₀ and crystalline silica are provided in Metrolinx’s <i>Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment</i> (2019). The applicable criteria for all other air contaminants of concern are to be found in Ontario Ambient Air Quality Criteria (AAQC, 2020). Siting of the monitors should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks <i>Operations Manual for Air Quality Monitoring in Ontario</i> (2018).
Air Quality	Increased Traffic Congestion and Construction Vehicular Emissions Fugitive Particulate Emissions	<ul style="list-style-type: none"> Increased NO₂, CO, SO₂, particulate, and VOC impact levels at nearby receptors from vehicular emissions. Increased particulate emissions, including dust, from construction activities. 	<ul style="list-style-type: none"> On-site construction vehicle activity shall be managed to control emissions of odorous contaminants and diesel exhaust, including benzene and benzo(a)pyrene emissions from exhaust, including benzene and benzo(a)pyrene emissions from exhaust. An Air Quality Management Plan will be developed prior to construction to ensure consistent attention to mitigation of dust and particulates, including silica, from the construction site. The following mitigation measures should be considered in the Air Quality Management Plan: <ul style="list-style-type: none"> – All equipment complies with Canadian engine emissions standards. 	<ul style="list-style-type: none"> The following monitoring activities should be considered in the development of the Air Quality Management Plan: <ul style="list-style-type: none"> – Baseline conditions should be established prior to construction for longer than one week to capture representative concentrations under varying meteorological conditions.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> - All equipment visually inspected prior to use and properly maintained. - Implement a no idling policy on site (unless necessary for equipment operation). - Use of electricity from the grid over diesel generators wherever possible. - Retrofitting of combustion engines with specific exhaust emission control measures such as particulate traps. - If applicable, follow guidelines on hot mix asphalt outlined in the Ontario Hot Mix Producers Association’s Environmental Practices Guide: Ontario Hot Mix Asphalt Plants, Fifth Edition (Ontario Hot Mix Producers Association, 2015). ■ Applicable mitigation measures from Environment Canada’s Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005) and the Ministry of Environment, Conservation and Parks’ Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources, shall be followed. The following mitigation measures should be considered in the Air Quality Management Plan: <ul style="list-style-type: none"> - Complete earthwork grading within 10 days of ceased active construction. - Temporary seeding or mulching of bare soil and storage piles. - Compression or clodding of soil surfaces and storage piles to reduce erosion. - Confine storage pile activity to downwind side of piles. - Reduction of activities during high wind conditions. - Full or partial enclosure of demolition activities. - Wind screens or barriers where possible or necessary. - Scheduling certain construction activities (i.e., site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel, and uncovered soil storage piles) to periods of time when exposure to dust is expected to be limited (e.g., avoid scheduling activities during dry, windy weather conditions). - Landscaping materials ordered close to time of use to reduce on-site storage. - Application of soil stabilizers or dust control polymers where feasible. - Daily removal of accumulated mud, dirt and debris deposits on-site, and regular truck washing. - Paved and unpaved roadway cleaning, watering or application of a non-chloride dust suppressant. - Minimize drop height of materials on-site. - Covering surface area of hauled bulk material. - Methods and equipment for cleanup of accidental spill of dusty materials. - Limit travel speeds on-site to a maximum of 16-24 kilometres per hour. ■ If disruption of contaminated soils is anticipated at any time, ensure that contaminants are not released. ■ Develop a communications protocol which includes timely resolution of complaints. 	<ul style="list-style-type: none"> - On-site meteorological monitoring in conjunction with real-time particulate monitoring representative of receptor impacts. - Place monitors both upwind and downwind of construction activities, where possible. - Application of threshold “Action Level” triggers for implementation of specific and increasing intensity mitigation activities linked to specific construction activities. - Reporting detailed results of ongoing monitoring and mitigation activities. - Monitoring at locations where there are persistent complaints, as required. ■ In addition, relevant construction monitoring activities from the following recommended guidelines will be implemented during construction: <ul style="list-style-type: none"> - Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005); and, ■ Operations Manual for Air Quality Monitoring in Ontario (Ministry of the Environment, Conservation and Parks, 2018).

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Noise and Vibration	Noise	<ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> – 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 style="list-style-type: none"> ■ Prior to commencement of construction, develop and submit a detailed Construction Noise Management Plan. ■ The Construction Noise Management Plan shall: <ul style="list-style-type: none"> – Document and commit to all measures to be taken for meeting the noise exposure limits documented in the Metrolinx <i>Guide for Noise and Vibration Assessment (2020)</i> 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 <i>Guide for Noise and Vibration Assessment (2020)</i> 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: <ul style="list-style-type: none"> ✓ 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 as part of the Construction Noise Management Plan. ■ Replace standard vehicle backup alarms with broadband alarms ■ Inform local residents as practicable of construction activities identifying type of construction and duration ■ Use acoustic enclosures and mufflers for site power generators ■ Use activity or equipment specific noise barriers ■ Minimize simultaneous operation of equipment where possible ■ Implement no idling policy where practical ■ The replacement of tonal backup alarms for equipment to broadband type for all construction activities with the exception of culvert construction; and ■ Addition of 3 metres high and 45 metres long hoarding or barrier on the north side of Dundas for bridge construction located near Cawthra Road and Dundas Street. 	<ul style="list-style-type: none"> ■ Develop a Construction Noise Management Plan and incorporate the following requirements: ■ The Constructor will monitor noise where the management plan indicates that noise exposure limits may be exceeded. The Constructor will submit reports to the Contracting Authority describing the monitoring conducted and summarize the data collected for the reporting period. ■ The Constructor will make provision for monitoring for investigation of persistent complaints. ■ The Construction Noise Management Plan will incorporate the following requirements related to monitoring of noise and noise related complaints: <ul style="list-style-type: none"> ■ 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 <i>Guide for Noise and Vibration Assessment (2020)</i> 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. ■ The specifics of monitoring duration and location will depend on the activity location, type of activity, receptor location, etc. as per the Metrolinx Guide.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
<p>Noise and Vibration</p>	<p>Vibration</p>	<ul style="list-style-type: none"> ■ Exposure to vibration may result in public annoyance and complaints. Vibration may also cause damage to buildings and other structures. 	<ul style="list-style-type: none"> ■ Adhere to the following vibration exposure limits: <ul style="list-style-type: none"> – Vibration, as a human irritant, is assessed in terms of its average level. Vibration velocity should not exceed 0.14 millimetres per second or current conditions (whichever is higher) by more than 25%. – 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 millimetres per second. Vibration velocity should be limited to 8 to 22 millimetres per second, 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). ■ 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). ■ Develop and implement a detailed Construction Vibration Management Plan prior to commencement of construction by Proponent for Metrolinx and/or City of Mississauga review and approval with minimum requirements outlined below: <ul style="list-style-type: none"> – 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). – 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. – Identify any heritage structures and other sensitive structures, buildings or infrastructure vulnerable to vibration damage, assess requirements and, if necessary, develop mitigation measures. – Identify buildings, where vibration sensitive activities such as sound recording or medical image processing take place, assess requirements and, if necessary, develop mitigation measures. – 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. – Select construction/maintenance methods and equipment with the least vibration impacts. ■ In the presence of persistent complaints and subject to the results of a field investigation, identify alternative vibration control measures, where reasonably available. ■ Reduction in vehicle speed ■ Changes to operational sequencing ■ Changes to equipment layout or access routes ■ Utilize equipment with low vibration emissions where possible ■ Operate construction equipment on lower vibration settings where available ■ Maximize distance between equipment and Receptors where feasible ■ Review vibration assessment based upon refined site staging, construction areas, and equipment prior to the commencement of construction, and update if necessary. 	<ul style="list-style-type: none"> ■ Develop a Construction Vibration Management Plan and incorporate the following requirements: ■ Pre-construction building inspections of the potentially impacted buildings adjacent to construction are to be undertaken. ■ The Constructor will monitor vibration where the management plan indicates that vibration limits may be exceeded. The Constructor will submit reports to the Contracting Authority describing the monitoring conducted and summarize the data collected for the reporting period. ■ The Constructor will make provision for monitoring for investigation of persistent complaints. ■ The Construction Vibration Management Plan will incorporate the following requirements related to monitoring of vibration and vibration related complaints: <ul style="list-style-type: none"> – 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/City of Mississauga. – 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: <ul style="list-style-type: none"> ✓ 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 metres 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 metres of the boundary of the construction site). ■ Establish a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. ■ The specifics of monitoring duration and location will depend on the activity location, type of activity, receptor location, etc. as per the Metrolinx Guide.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Property: Temporary property effects, such as property takings for laydown areas, are unknown at this time and will be determined as design progresses 	<ul style="list-style-type: none"> Temporary property takings for construction of the Project will be confirmed as design progresses. Where property takings are identified, consultation and negotiation with the property owner will be initiated well in advance to secure the required property and identify site-specific mitigations. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures. Temporary property takings near residential and institutional uses should be avoided if possible. The construction of the Project may cause private signs or billboards to be removed temporarily. The owner shall be consulted in advance to determine an appropriate mitigation approach. Select staging/laydown areas in accordance with Metrolinx/City of Mississauga procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors. 	<ul style="list-style-type: none"> Follow Metrolinx/City of Mississauga guidance with respect to monitoring requirements at construction staging/laydown areas.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Nuisance effects from construction activities 	<ul style="list-style-type: none"> Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. An Erosion and Sediment Control Plan will be developed in accordance with the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways. 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 	<ul style="list-style-type: none"> When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. Erosion and sediment control monitoring to be conducted Number and resolution of complaints received
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Construction work may necessitate the temporary closure of driveways or building entrances; precise impacts are unknown at this time and will be determined as design progresses 	<ul style="list-style-type: none"> Closures of driveways and building entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Provide well connected, clearly delineated, and appropriately signed walkways and cycling route options, with clearly marked detours where required. Provide temporary lighting and wayfinding signs and cues for navigation around the construction site. Access to businesses during working hours will be maintained, where feasible. Where regular access cannot be maintained, alternative access and signage will be provided. 	<ul style="list-style-type: none"> Temporary access paths, walkways, cycling routes and fencing should be monitored. Number and resolution of complaints received.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Light trespass, glare and light pollution effects 	<ul style="list-style-type: none"> Comply with all local applicable municipal by-laws and Ministry of Transportation practices for lighting in areas near or adjacent to highways and roadways regarding outdoor lighting for both permanent and temporary construction activities, and incorporate industry best practices provided in American National Standards Institute/ Illuminating Engineering Society <i>RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting</i> Light trespass, glare and pollution effects will be minimized through the implementation of best practices (i.e., full cut-off fixtures) to mitigate or avoid unnecessary and obtrusive light. Perform the work 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. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans. Number and resolution of complaints received.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Increased noise, dust and vibration emanating from construction work 	<ul style="list-style-type: none"> Monitoring and mitigation of noise and vibration effects shall be undertaken as described in the Noise and Vibration Report, available under separate cover. 	<ul style="list-style-type: none"> In accordance with the Noise and Vibration Report.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Businesses on the corridor may experience lower visitation volumes if the corridor is 	<ul style="list-style-type: none"> The constructor is also encouraged to assist local businesses, such as by permitting businesses to advertise on construction enclosures (i.e., "We're still open!" signs) and coordinating the implementation of wayfinding/navigation with local businesses. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Streetscaping and Urban Design Study 	<ul style="list-style-type: none"> A Streetscaping and Urban Design Study is to be undertaken by AECOM during the 30% design stage and made under separate cover to further develop and build on streetscaping and urban design recommendations made in the Dundas Connects Master Plan and Vision Cooksville. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Visual Characteristics	<ul style="list-style-type: none"> Visual effects from construction areas/activities Temporary degradation of aesthetic quality of the streetscape. perceived to be difficult to access and navigate 	<ul style="list-style-type: none"> To mitigate impact to the visual environment, screened enclosures should be considered as required, particularly for storage areas. Temporary landscaping may also be implemented, especially at the borders of the construction site between site fencing and walkways where space allows. Site enclosures should take into account wayfinding and safety considerations (particularly accidental egress onto a construction site). A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas. Consideration will be given to providing temporary landscaping along the borders of the construction site between site fencing/enclosure and walkways, where space allows, and where necessary. 	<ul style="list-style-type: none"> 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.
Socio-Economic and Land Use	Transit and Transportation Network	<ul style="list-style-type: none"> Construction may result in traffic flow reductions Construction may result in the access restrictions to local bus routes and temporary disruptions 	<ul style="list-style-type: none"> Avoid simultaneous major closures and construction activities at adjacent major intersections along the corridor. Install and provide advance advisory signage, such as: <ul style="list-style-type: none"> Installation of roadway closure information signs at least two weeks in advance of the closing; and Distribution of notices to affected residents and business establishments to advise of the upcoming road closure(s) in their area. Prepare and implement emergency response and incident management plans during construction to assist emergency service providers (i.e., Fire, Police and Ambulance) in responding to incidents and emergencies within the construction area (i.e., an incident causing closure of a crossing adjacent to the construction site where the Contractor is able to permit emergency service vehicles to cross the crossing location under construction). Conduct pre-construction planning meetings with representatives of the City of Mississauga Fire, Police, and Ambulance providers, other relevant City of Mississauga and Peel Region divisions, and affected local transit authorities (e.g., MiWay); and Prepare Traffic and Transit Management Plans and Traffic Control Plans for each construction stage. The following will be done once a Contractor has been selected and a construction schedule developed: <ul style="list-style-type: none"> Coordinate the work with other planned road projects that may impact construction, so construction may be staged to minimize traffic impacts. Prior to construction, local municipalities (i.e., Peel Region) will be consulted to coordinate with their Capital Works Programs; 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Inspector/Contract Administrator with extensive knowledge of Ontario Traffic Manual Book 7 (Temporary Conditions to confirm that all activities are conducted in accordance with mitigation plans. Traffic impacts to be monitored in accordance with the Traffic and Transit Management Plans and adjust the Traffic Control Plans as necessary during the construction period. Transit impacts to be monitored and mitigation measures to be adjusted as necessary during the construction period.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> – Conduct a haul route analysis to confirm haul routes via public roads; – Maintain existing residential and commercial property access through the work zone to the extent practical or provide alternative temporary access or detour; and ■ Strive to accommodate local events and festivals by coordinating and consulting with local communities and event organizers to find mutually feasible options. 	
Socio-Economic and Land Use	Public Transit	<ul style="list-style-type: none"> ■ Construction may result in access restrictions to local bus routes and temporary disruptions 	<ul style="list-style-type: none"> ■ 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. 	<ul style="list-style-type: none"> ■ Traffic impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.
Socio-Economic and Land Use	Pedestrian and Cycling Network	<ul style="list-style-type: none"> ■ Bike lanes, multi-use paths and sidewalks may be temporarily restricted or eliminated ■ Temporary sidewalks/paths may have a rough or bumpy surface that creates discomfort for those with assisted mobility devices, strollers, etc. 	<ul style="list-style-type: none"> ■ Maintain pedestrian/cyclist access through the work zone whenever possible. ■ Where a sidewalk or path needs to be removed, provide a safe and accessible temporary path in accordance with the applicable municipal and/or provincial guidelines and standards. ■ Provide clear signage at decision points to pedestrians and cyclists informing of closures. For instance, a sidewalk closure should be indicated at an intersection and not mid-block. ■ Ensure detours can be observed through line of sight and provide adequate signage where not possible. 	<ul style="list-style-type: none"> ■ Temporary access paths, walkways, cycling routes and fencing should be monitored. ■ Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and mitigation adjusted as necessary during the construction period.
Socio-Economic and Land Use	Pedestrian and Cycling Network	<ul style="list-style-type: none"> ■ Operation of construction equipment and large construction trucks in corridor may pose safety and comfort challenges for pedestrians and cyclists 	<ul style="list-style-type: none"> ■ Develop a safety program that implements safety best practices in a construction zone and addresses pedestrian/cyclist movement through the corridor. 	<ul style="list-style-type: none"> ■ Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Socio-Economic and Land Use	Community Amenities	<ul style="list-style-type: none"> ■ Noise, vibration and dust generated by construction activity 	<ul style="list-style-type: none"> ■ Construction noise is subject to the City of Mississauga Noise Control Bylaw. Where work is required outside of permitted times, an exemption shall be applied for in advance of this work. 	<ul style="list-style-type: none"> ■ Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Socio-Economic and Land Use	Community Amenities	<ul style="list-style-type: none"> ■ Temporary access restrictions, such as driveway, trail or entrance closures due to nearby construction 	<ul style="list-style-type: none"> ■ Closures of driveways, trails and entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Alternate means of access (ex. Temporary driveway) shall be provided where a driveway is temporarily removed. 	<ul style="list-style-type: none"> ■ Temporary access paths, walkways, cycling routes and fencing should be monitored.
Socio-Economic and Land Use	Future Development	<ul style="list-style-type: none"> ■ Noise, vibration and dust generated by construction activity 	<ul style="list-style-type: none"> ■ Construction noise is subject to the City of Mississauga Noise Control Bylaw. Where work is required outside of permitted times, an exemption shall be applied for in advance of this work. ■ Best Management Practices regarding construction air quality will be implemented. 	<ul style="list-style-type: none"> ■ Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Socio-Economic and Land Use	Future Development	<ul style="list-style-type: none"> ■ Temporary access restrictions, such as driveways or sidewalk closures may also affect residents and visitors to the Study Area 	<ul style="list-style-type: none"> ■ Closures of driveways, trails and entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Alternate means of access (ex. Temporary driveway) shall be provided where a driveway is temporarily removed. 	<ul style="list-style-type: none"> ■ Temporary access paths, walkways, cycling routes and fencing should be monitored.
Utilities	Utilities Planning and Construction	<ul style="list-style-type: none"> ■ Utility serviceability effects due to design requirements and construction 	<ul style="list-style-type: none"> ■ Develop and implement a detailed Utility Infrastructure Relocation Plan that identifies all utilities anticipated to be impacted by the construction works, all relevant utility agencies and authorities, and outlines the approach to the utility relocation process. ■ Additional surveys shall be performed prior to construction to field locate and verify the existing utilities within the project area and document their condition. ■ Perform all work identified in the Utility Infrastructure Relocation Plan to protect, support, safeguard, remove, and relocate all Utility Infrastructure. 	<ul style="list-style-type: none"> ■ Maintain regular communication and coordination through issuance of regular progress reports and updates to applicable utility agencies. ■ Record all installation tolerances and how they are to be monitored. ■ Perform inspection and testing to ensure successful utility relocation and safe and efficient installation. ■ In the event of potential impacts to critical utilities, instrumentation and monitoring shall be carried out to

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ 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. 	<p>protect the critical utilities and structures and reduce risks of damage due to construction activities.</p>

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Utilities	Public Utilities	<ul style="list-style-type: none"> In general, existing public utilities are typically located at either side of the future guideway which is anticipated to significantly reduce the need for utility relocations during construction. Utility shut off is therefore mainly expected to be due to end-of-life or precautionary replacement undertaken as part of the Project. 	<ul style="list-style-type: none"> Effects of utility work on the community should be minimized through utility shut off best practices. These include minimizing the duration of shut offs, scheduling shut-offs during off-peak times (and avoiding early morning, evening, and weekend shut-offs whenever possible), and communicating shut-offs to affected residents and business in advance of the proposed shut-off. Special consideration should be given to the impact of shut-offs on sensitive locations such as schools, healthcare providers, and long-term care/seniors residences, and such locations should be identified early and engaged with in advance to minimize impacts to them. Public utility works shall not commence until all required permits and approvals have been obtained, which may include Environmental Compliance Approvals, Environmental Activity and Sector Reports, Road Occupancy Permits, and any other permits required. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Utilities	Private Utilities	<ul style="list-style-type: none"> In general, existing private utilities are typically located to either side of the future guideway which is anticipated to significantly reduce the need for utility relocations during construction. Utility shut off is therefore mainly expected to be due to end-of-life or precautionary replacement undertaken as part of the Project, or to install additional capacity at the request of a private utility service provider. 	<ul style="list-style-type: none"> Engagement with all private utility providers in the corridor should be undertaken early in and throughout the detailed design phase to ensure that their needs and requirements are taken into account in the project design. Private utility providers may wish to take advantage of construction to increase capacity in the corridor. Impacts of utility work on the community should be minimized through utility shut off best practices. These include minimizing the duration of shut offs, scheduling shut-offs during off-peak times (and avoiding early morning, evening, and weekend shut-offs whenever possible), and communicating shut-offs to affected residents and business in advance of the proposed shut-off. Special consideration should be given to the impact of shut-offs on sensitive locations such as schools, healthcare providers, and long-term care/seniors residences, and such locations should be identified early and engaged with in advance to minimize impacts on them. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Utilities	Utilities Post-Construction Phase	<ul style="list-style-type: none"> Future Utility Maintainability 	<ul style="list-style-type: none"> Where new utility crossings are proposed, application for a new utility crossing agreement will be required. Where modifications to an existing utility crossing takes place, updates to an existing utility crossing will be needed. Post- construction inspections of the new utility infrastructure shall be undertaken by qualified inspectors for applicable works upon completion of the construction works to document condition. Obtain as-built plans of the relocated infrastructure from utility agencies per as-built preparation standards Canadian Standards Association S250-11 – Mapping of Underground Utility Infrastructure (2011), as amended from time to time. 	<ul style="list-style-type: none"> Develop and implement tracking system for as-built deliverables.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Indirect or direct impacts to the heritage attribute(s) of a property of known or potential Cultural Heritage Value or Interest due to installation of new/modified infrastructure 	<ul style="list-style-type: none"> All work shall be performed in accordance with Applicable Law, including but not limited to the <i>Ontario Heritage Act</i>, the Ministry of Heritage, Sport, Tourism and Culture Industries <i>Standards and Guidelines for Provincial Heritage Properties: Metrolinx Identification and Evaluation (I&E) Process (2014)</i>, the Ministry of Heritage, Sport, Tourism and Culture Industries guidance on <i>Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (2019)</i> (Cultural Heritage Report), and the forthcoming <i>Standards and Guidelines for Provincial Heritage Properties: Metrolinx Identification and Evaluation (I&E) Process (2020)</i>. In the event that the <i>Metrolinx I&E Process (2020)</i> is not approved, follow the <i>Metrolinx Interim Cultural Heritage Management Process (2013)</i>. Follow the process and recommendations outlined in the Cultural Heritage Report completed as part of this Project. For known and potential properties of Cultural Heritage Value or Interest that will experience indirect or direct impacts and where no previous assessment has been 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>completed or a Statement of Cultural Heritage Value has not been approved by Metrolinx, undertake a Cultural Heritage Evaluation Report as per the forthcoming <i>Metrolinx I&E Process (2020)</i>. In the event that the <i>Metrolinx I&E Process (2020)</i> is not approved, follow the Metrolinx <i>Interim Cultural Heritage Management Process (2013)</i>.</p> <ul style="list-style-type: none"> Given the importance and location of some Cultural Heritage Resources, consultation with Municipal heritage staff and other jurisdictions will be undertaken as appropriate to determine if proposed infrastructure will be subject to specific policies within heritage districts or conservation areas (including parks). 	
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Direct impacts to the heritage attribute(s) of a known or potential Provincial Heritage Property or Provincial Heritage Properties of Provincial Significance due to installation of new/modified infrastructure 	<ul style="list-style-type: none"> The following directly impacted properties were subject to a Cultural Heritage Evaluation Report and determined to have cultural heritage value or interest and therefore will require a Heritage Impact Assessment: <ul style="list-style-type: none"> Built Heritage Resource 1 - 202 Dundas Street West, Built Heritage Resource 4 - 51, 55-57 Dundas Street West, Built Heritage Resource 5 - 47 Dundas Street West, and Built Heritage Resource 7 - 14 Dundas Street East. Given the importance and location of some Cultural Heritage Resources, consultation with Municipal heritage staff and other jurisdictions will be undertaken as appropriate to determine if proposed infrastructure will be subject to specific policies within heritage districts or conservation areas (including parks). 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Potential indirect impacts on known or potential properties of Cultural Heritage Value or Interest resulting from construction activities 	<ul style="list-style-type: none"> Selection of construction staging and laydown areas will follow Metrolinx/City of Mississauga's selection procedures which include avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> For any additional potentially affected Cultural Heritage Resources/properties not previously identified within a previous Metrolinx and/or City of Mississauga Environmental Assessment/Transit Project Assessment Process /Other Study 	<ul style="list-style-type: none"> If the project study limits change or there is a change in impact that is not captured or documented in previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and/or Environmental Study Reports post EA/ Transit Project Assessment Process, and which causes any additional heritage properties to be impacted by the proposed design/infrastructure, all applicable legislation will be followed to carry out additional impact assessment work and heritage studies to identify any known or potential built heritage resources and cultural heritage landscapes, and to identify potential impacts and appropriate mitigation measures. 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per the recommendations contained in any/all of the following documents: Cultural Heritage Reports, CHARs, Heritage Impact Assessment.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Management of Cultural Heritage Resources/Properties 	<ul style="list-style-type: none"> Develop and implement a Strategic Conservation Plan that addresses built heritage resources and cultural heritage landscapes according to Ministry of Heritage, Sport, Tourism and Culture Industries <i>Information Bulletin No. 2: Preparing Strategic Conservation Plans for Provincial Heritage Properties (2017)</i> and as outlined in the Project Agreement. 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments and Strategic Conservation Plans.
Built Heritage Resources and Cultural	-	<ul style="list-style-type: none"> Indirect Impacts to Cultural Heritage Plaques 	<ul style="list-style-type: none"> If avoidance of cultural heritage plaque locations (CHL 2A, CHL 2B, BHR 16) within the Project Area is not feasible or is directly adjacent to construction activities then: 	<ul style="list-style-type: none"> N/A

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Heritage Landscapes			<ul style="list-style-type: none"> ■ Incorporate the location on design drawings and indicate that the plaque is to be protected during construction: ■ Mark the plaque on the Detailed Design as “To be retained: Implement protection measures prior to construction” or if applicable, mark on Detailed Design as “To be retained, stored and reinstated post-construction” ■ Apply the following steps to the project construction plan: ■ Install plaque protection (i.e., fence hoarding), prior to construction or store during construction. ■ If applicable, during construction, monitor the protection of the plaque. Post construction, remove hoarding and confirm the condition of the plaque is as was prior to construction. 	
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> ■ Vibration Impact 	<ul style="list-style-type: none"> ■ Prior to construction, determine which built heritage resource or cultural heritage landscape documented in this Cultural Heritage Report requires vibration mitigation and monitoring. ■ Document (review and establish) the structural condition of a building to determine if it is vulnerable to vibration impacts from the Project. ■ Establish vibration limits based on structural conditions, founding soil conditions and type of construction vibration (refer to the Noise and Vibration report). ■ Implement vibration mitigating measures on the construction site and/or at the building (i.e., modify construction procedures, if required). 	<ul style="list-style-type: none"> ■ Construction and post-construction monitoring may be required for historic buildings that were determined subject to vibration damage. The following monitoring activities are recommended for vibration impacts: ■ Monitor vibration during construction using seismographs, with notification by audible and/or visual alarms when limits are approached or exceeded; and ■ Conduct regular condition surveys and reviews during construction to evaluate efficacy of protective measures. Implement additional mitigation as required.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> ■ Construction Activities 	<ul style="list-style-type: none"> ■ Construction activities and staging areas should be suitably planned in detailed design to avoid any adverse impacts to the identified known, previously identified and potential built heritage resources and cultural heritage landscapes. 	<ul style="list-style-type: none"> ■ N/A
Archaeology	Archaeological Resources	<ul style="list-style-type: none"> ■ Potential for the disturbance of unassessed or documented archaeological resources 	<ul style="list-style-type: none"> ■ Prior to construction, Proponent to develop and implement an Archaeological Risk Management Plan. The Archaeological Risk Management Plan will address 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 <i>Ontario Heritage Act</i>, the Ministry of Heritage, Sport, Tourism and Culture Industries, formerly the Ministry of Tourism, Culture and Sport (MTCS) <i>Standards and Guidelines for Consultant Archaeologists</i> (2011), and the Ministry of Heritage, Sport, Tourism and Culture Industries document, <i>Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario</i> (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 Ministry of Heritage, Sport, Tourism and Culture Industries. 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 Ministry of Heritage, Sport, Tourism and Culture Industries, and 	<ul style="list-style-type: none"> ■ 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.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>further archaeological assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx/City of Mississauga should be contacted, and Applicable Law and/or any specific agreement between Metrolinx and Indigenous Nations will be followed.</p> <ul style="list-style-type: none"> ■ 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 and the Ministry of Heritage, Sport, Tourism and Culture Industries 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 Ministry of Heritage, Sport, Tourism and Culture Industries will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the <i>Ontario Heritage Act</i>. If the human remains are determined to be of Indigenous origin, Metrolinx/City of Mississauga should be contacted and all Applicable Law and/or any specific agreement between Metrolinx and Indigenous Nations must be adhered to. ■ All archaeological assessment findings will be shared with Indigenous Nations, as per Metrolinx's <i>Guide to Engaging with Indigenous Communities</i> (2020). ■ Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries. 	
Archaeology	Area of Archaeological Potential	<ul style="list-style-type: none"> ■ Ground disturbing activities 	<ul style="list-style-type: none"> ■ A Stage 2 Archaeological Assessment (and further stages of archaeological assessments, as recommended) will be undertaken/completed as early as possible during detailed design and prior to any ground disturbing activities. Recommendations from these archaeological assessments will be followed. ■ The Stage 2 Archaeological Assessment for areas retaining archaeological potential must be conducted by a licensed archaeologist and must follow the requirements set out in the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011). 	<ul style="list-style-type: none"> ■ Prior to any ground disturbing activities, the Stage 2 Archaeological Assessment must be completed in areas identified as retaining archaeological potential as outlined in the Stage 1 Archaeological Assessment. Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Archaeology	St. John's Dixie Cemetery & Crematorium/Dixie Union Cemetery)	<ul style="list-style-type: none"> Ground disturbing activities 	<ul style="list-style-type: none"> There are currently no plans to impact the cemetery lands. A cemetery investigation will be required should the design change and result in proposed impacts to the property within the marked cemetery limits. Consultation with the Bereavement Authority of Ontario as outlined below will be required prior to any work within the cemetery limits. 	<ul style="list-style-type: none"> N/A
Archaeology	Dundas-Dixie Cemetery	<ul style="list-style-type: none"> Ground disturbing activities 	<ul style="list-style-type: none"> Should any development impacts to the property outside of the Dundas Street right-of-way be proposed, additional Stage 2 and Stage 3 cemetery investigation is required If any archeological sites including cultural features are encountered, they must undergo assessment and documentation according to the 2011 Standards and Guidelines; Given that the Bereavement Authority of Ontario is unaware of the possibility of a cemetery in this location, and it is not a formal licensed cemetery, a Cemetery Investigation Authorization may not be required. Consultation with the Ministry of Heritage, Sport, Tourism and Culture Industries and the Bereavement Authority of Ontario should occur prior to any ground disturbance; and A Stage 3 Cemetery Investigation report must be completed detailing the results of the investigation for each cemetery and submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries for review and acceptance into the Ontario Public Register of Archaeological Reports. 	<ul style="list-style-type: none"> N/A
Archaeology	Human Remains	<ul style="list-style-type: none"> Ground disturbing activities 	<ul style="list-style-type: none"> If human remains are encountered during construction, work must cease immediately, the police or Regional Coroner should be contacted, as well as the Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer Services, the Bereavement Authority of Ontario, and the Ministry of Heritage, Sport, Tourism and Culture Industries. If the remains are not determined to be of forensic interest, a Burials Site Investigation under the Funeral, Burial and Cremation Services Act, 2002 may be ordered; 	<ul style="list-style-type: none"> N/A
Archaeology	Structural Remains	<ul style="list-style-type: none"> Ground disturbing activities 	<ul style="list-style-type: none"> If historic structural remains are uncovered, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal. 	<ul style="list-style-type: none"> If historic structural remains are uncovered during construction, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Excavated Materials and Groundwater Management	Excavated Materials	<ul style="list-style-type: none"> ■ Construction operations could expose contaminated materials and/or result in the spreading of contaminated materials 	<ul style="list-style-type: none"> ■ Develop a Soil and Excavated Materials Management Plan prior to commencement of construction for the handling, management and disposal of all excavated material (i.e., soil, rock, and waste) that is generated or encountered during the work. The plan will be overseen by a Qualified Person pursuant to <i>Ontario Regulation 153/04</i> under the Environmental Protection Act (QP) and will comply with <i>Ontario Regulation 406/19</i> (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), the Ministry of the Environment, Conservation and Parks, formerly the Ministry of the Environment and Climate Change’s Management of Excess Soils: A Guide for Best Management Practices (April 2019, as amended) and all Applicable Law. The plan will describe how to address the management of the excavated materials, imported materials, contaminated materials, and impacted railway ties, including handling, transportation, testing, documentation and reuse and disposal of excavated materials generated as part of the works and in accordance with applicable regulatory requirements. ■ Non-soil materials encountered during the earthworks will also require waste classification as documented by testing where applicable to determine management and disposal requirements as per <i>Ontario Regulation 347</i> (as amended) and all Applicable Law. ■ The Soil and Excavated Materials Management Plan will be reviewed and approved prior to construction. 	<ul style="list-style-type: none"> ■ A Soil and Excavated Material Monthly Dashboard Report will be developed by the Constructor for review that includes monitoring and performance data related to the management of excavated materials for the preceding month. ■ Upon completion of the work, the Constructor will submit a Soil and Excavated Material Management Implementation Report.
Excavated Materials and Groundwater Management	Groundwater	<ul style="list-style-type: none"> ■ Construction operations could expose groundwater and associated contamination 	<ul style="list-style-type: none"> ■ Develop a Groundwater Management and Dewatering Plan prior to commencement of construction 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 handling, transfer, testing, monitoring, disposal of groundwater generated as part of the works and in accordance with applicable regulatory requirements. The Groundwater Management and Dewatering Plan will outline general groundwater monitoring considerations during the works and provide guidance for groundwater monitoring following the works where considered applicable. ■ 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 Ministry of the Environment, Conservation and Parks. ■ 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 prior to construction. 	<ul style="list-style-type: none"> ■ A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for 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.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Stormwater Management	Potential Impacts and Proposed Mitigation Measures for Stormwater and Site Drainage	<ul style="list-style-type: none"> ■ 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). 	<ul style="list-style-type: none"> ■ Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings during detailed design in accordance with the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003), the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, and the guidelines and regulatory requirements of the Conservation Authority having jurisdiction. ■ 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 Conservation Authorities having jurisdiction. ■ The quantity control criteria for the Study Area within Toronto and Regional Conservation Authority's Etobicoke Creek Watershed will be acquired from 2013 Etobicoke Creek Watershed Hydrology Update report. ■ The water balance requirement for the Study Area within Toronto and Regional Conservation Authority's jurisdiction is onsite retention of a minimum of 5 mm runoff from the impervious areas through some Low Impact Development measures, if feasible. ■ A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements. ■ Infiltration requirements for municipalities will be determined as per the design guidelines and standards. ■ Any proposed bridge expansions and 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. ■ A hydraulic assessment of each crossing and any proposed bridge expansions (replacements) 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 the local Conservation Authority to assess the hydraulic impacts along regulated watercourses. ■ Develop a Spill Prevention and Response Plan before work commences and implement during construction. 	<ul style="list-style-type: none"> ■ 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. ■ Obtain 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. Obtain 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), will be assessed. ■ Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS) removal as per the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003).
Environmental Mitigation and Monitoring Plan	General and Project Specific Environmental Protection Measures	<ul style="list-style-type: none"> ■ Avoid and/or Minimize Construction Impact 	<ul style="list-style-type: none"> ■ The Environmental Mitigation and Monitoring Plan will be completed in detailed design by AECOM 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. 	<ul style="list-style-type: none"> ■ N/A

*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.

Monitoring should be undertaken by a qualified biologist, as needed, when works are conducted in suitable wildlife habitat, including bird nest sweeps ahead of vegetation clearing. Daily discussion amongst environmental inspector and staff to determine if a biologist is needed on-site.

¹Aquatic Species at Risk and terrestrial vegetation, including Butternut were not observed within the Study Area; however, because of their prevalence within the broader landscape have been included for comprehensiveness and should be appropriately mitigated.

Table E-3: Summary of Environmental Concerns, Mitigation Measures and Commitments during Operation

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Air Quality	Operating Conditions: Increased Traffic Vehicular Emissions	<ul style="list-style-type: none"> Increased NO₂, CO, SO₂, particulate, and VOC impact levels at nearby receptors. 	<ul style="list-style-type: none"> Continued promotion of increased electric vehicle purchase and infrastructure within Ontario. Implementation of vegetation within the Study Area to decrease ground level dispersion of particulates. 	<ul style="list-style-type: none"> No other specific monitoring implementation recommended at this time.
Noise	Operational Noise	<ul style="list-style-type: none"> Noise impact during operation to nearby noise sensitive receptors 	<ul style="list-style-type: none"> In accordance with the Metrolinx Guide, noise attenuation barriers up to 5 metres in height may be considered. Based on the Mississauga Policy No. 09-03-03, barriers should span a complete block to ensure their effectiveness. 	<ul style="list-style-type: none"> Complete regular or routine maintenance on fleet vehicles to reduce the potential for undesired sound characteristics (e.g., tonal or cyclical) that may cause an overall increase in noise missions. Maintain Bus Rapid Transit laneways with smooth surface to avoid additional noise that may be caused by rough or uneven (e.g., potholes) surfaces as vehicles drive along the corridor.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Property: Based on the 10% design, it is estimated that approximately 2 hectares of private lands fronting Dundas Street are required for the operation of the Project 	<ul style="list-style-type: none"> Permanent property acquisition requirements for the operation of the Project will be confirmed as design progresses. During detailed design, the property requirements shall be reassessed in an attempt to eliminate or further reduce anticipated impacts to private properties, where possible. Where property takings are identified, consultation and negotiation with the property owner will be initiated in advance to secure the required property and identify site-specific mitigations. Where operation will affect a private sign or billboard and cause it to be removed permanently, the owner shall be consulted in advance to determine an appropriate mitigation approach. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Permanent closure of driveways or building entrances 	<ul style="list-style-type: none"> Closures of driveways and building entrances shall be avoided whenever possible and shall be kept to a minimum when required. Where possible, alternate means of access shall be provided where a driveway is permanently removed. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Excess light spillage onto neighbouring properties 	<ul style="list-style-type: none"> Lighting should be designed to minimize trespass, glare and pollution effects through the implementation of best practices to mitigate or avoid unnecessary and obtrusive light. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Increased noise, dust and vibration emanating from Project operations 	<ul style="list-style-type: none"> Operations activities such as corridor maintenance should be minimized in duration and footprint to the extent possible. 	<ul style="list-style-type: none"> Operator to monitor operations.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Negative aesthetic quality if not designed appropriately 	<ul style="list-style-type: none"> To mitigate impact to the visual environment, screened enclosures should be considered as required, particularly for storage areas. The visual effects of project structures (e.g. retaining walls, etc.) should be mitigated by considering their location, building materials, architectural design, and surrounding landscape treatments. Municipal departments and the public should be engaged as Project planning and design progresses. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Transit and Transportation Network	<ul style="list-style-type: none"> Existing on-street parking may be reduced or eliminated as needed Left turns across the median may be restricted (“right-in/right-out” operation only) 	<ul style="list-style-type: none"> The Project is anticipated to result in an improved experience for transit users, providing faster and more frequent connections to major destinations along Dundas Street and beyond. In communities where U-turns are not common movements at intersections, consider information campaigns to clearly explain the new movement to residents. 	<ul style="list-style-type: none"> City of Mississauga to monitor collision data to ensure driver guidance is achieving desired outcomes.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
		<ul style="list-style-type: none"> ■ Through travel at minor intersections may be restricted, requiring a U-turn at nearby major intersections ■ New turning movements (“U-turns”) may be introduced at major intersections 	<ul style="list-style-type: none"> ■ In general, it is good practice to reduce overall parking availability around higher-order transit corridors, however, significant loss of on-street parking may be compensated for by designating some new off-corridor parking spaces as appropriate and desired. ■ Introduce appropriate signage and signaling to guide driver movement through corridor. 	
Socio-Economic and Land Use	Pedestrian and Cycling Network	<ul style="list-style-type: none"> ■ Left turns across the median may be restricted for cyclists (“right-in/right-out” operation only) ■ Through travel at minor intersections may be restricted, requiring a detour to a nearby crosswalk 	<ul style="list-style-type: none"> ■ The project is expected to result in an improved experience for pedestrians and cyclists with new active transportation infrastructure. The Project should be designed to improve access to key destinations. ■ A public information campaign may be required to educate residents on Bus Rapid Transit and to avoid crossing the median. 	■ N/A
Socio-Economic and Land Use	Community Amenities	<ul style="list-style-type: none"> ■ Potential property impacts to community amenities 	<ul style="list-style-type: none"> ■ No effects to community amenities are anticipated as a result of the operation of the Project, except where property may be required. Property acquisition will be confirmed as design progresses. Where effects are anticipated, the property owner should be consulted with as soon as property impacts are understood. Property impacts to community amenities that serve vulnerable populations should be avoided. 	■ N/A
Socio-Economic and Land Use	Future Development	<ul style="list-style-type: none"> ■ Potential property impacts to planned future development 	<ul style="list-style-type: none"> ■ The Project should be designed to minimize effects to future development, where possible. Where effects are anticipated, the property owner should be consulted with as soon as property impacts are understood. ■ Overall, the Project is expected to have a positive effect on the Dundas Street corridor and spur additional development which is consistent with provincial and municipal planning policies. 	■ N/A

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Appendix F. Composite Utility Plan

Appendix G. Pinch Point Analysis

Appendix H. Mississauga East Segment Pinch Point – Traffic Input Memorandum

If you require accessibility accommodations or would like to provide input in an alternate format, please contact the Community Relations team by email at Peel@metrolinx.com or by phone at 416-202-7500.

1. Introduction

1.1 Project Overview

Previous municipal planning studies and the Metrolinx Initial Business Case confirmed the need for improved bus transit infrastructure along Dundas Street. Metrolinx is now advancing plans for the Dundas Bus Rapid Transit corridor. More than 20 kilometres of the 48 kilometre Bus Rapid Transit corridor will operate in bus lanes or in a dedicated right-of-way, separate from other traffic, allowing faster and more reliable transit connections.

In 2020, Metrolinx completed the Dundas Bus Rapid Transit Initial Business Case, which recommends a preferred Bus Rapid Transit alignment, and supportive service concept along Dundas Street between Kipling Station in the City of Toronto, through the City of Mississauga and Halton Region, to Highway 6 in the City of Hamilton. AECOM Canada Limited (AECOM) was retained by Metrolinx and the City of Mississauga to evaluate the proposed 48-kilometre transit corridor. The evaluation involves the completion of the Preliminary Design, Preliminary Design Business Case and Transit Project Assessment Process. The Dundas Bus Rapid Transit corridor is shown in **Figure 1-1**.

A Transit Project Assessment Process is a focused environmental impact assessment process created specifically for transit projects. The process involves an extensive pre-planning phase which includes consultation, assessment of impacts, development of measures to mitigate negative impacts and documentation, and is followed by a regulated (up to 120 days) consultation and documentation period. Consultation and engagement with the public, stakeholders and Indigenous Nations is ongoing throughout the process. Following the regulated (up to 120 days) consultation and documentation period, there is a 30-day public review period where the public has an opportunity to review the Environmental Project Report and provide additional comments, and then a 35-day Minister's review period of the updated Environmental Project Report. Refer to **Chapter 2** for details on the Transit Project Assessment Process.

The preliminary design phase will build upon the pre-planning completed as part of the Transit Project Assessment Process. In this phase, the project team will utilize the environmental impact assessment from the Transit Project Assessment Process to refine the Bus Rapid Transit design to a 30% design level. The Preliminary Design Business Case analyzes the Dundas Bus Rapid Transit corridor against strategic

objectives, financial and economic impacts and operations considerations. The Preliminary Design Business Case will compare the corridor against a business-as-usual scenario (i.e., without the Project).

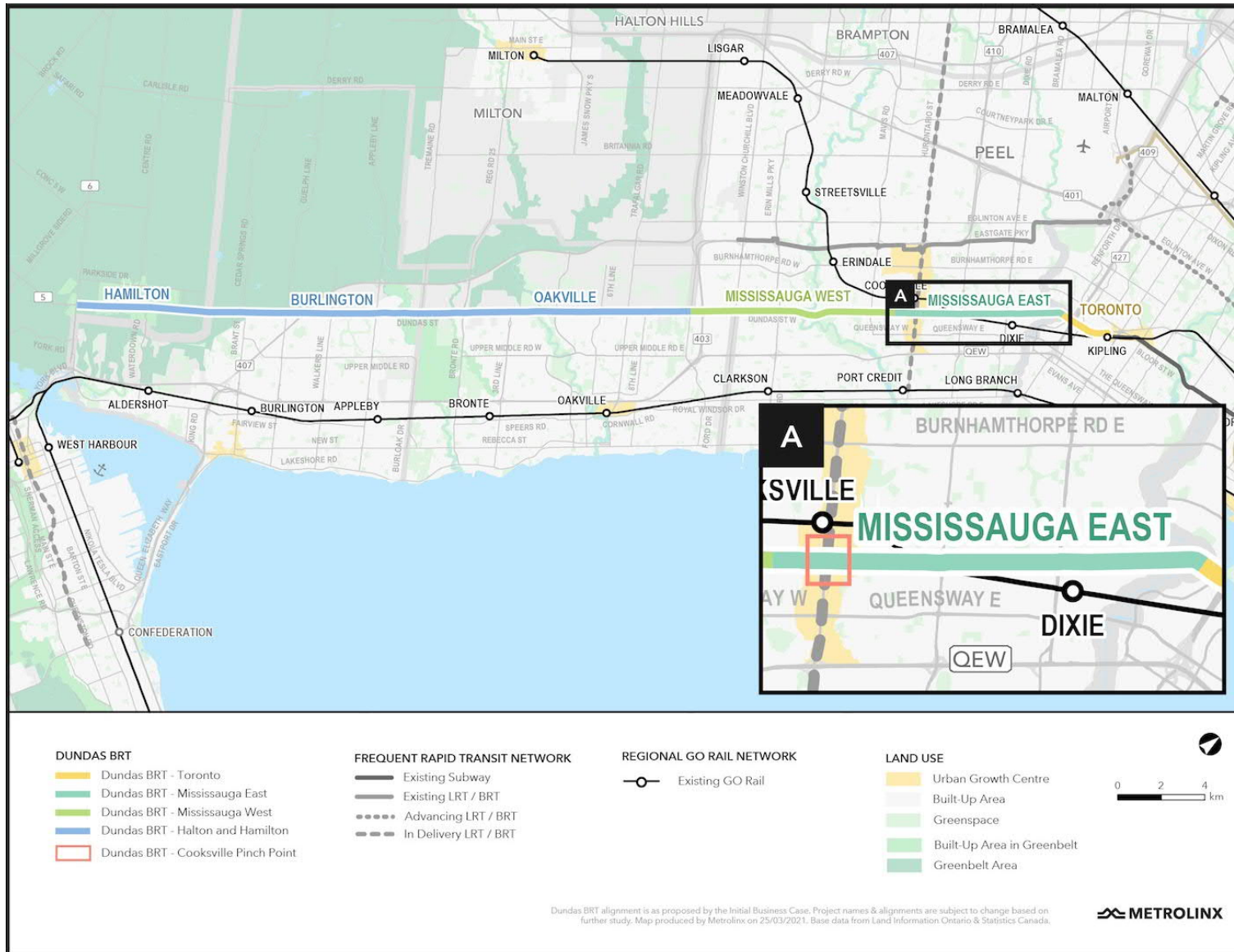
In 2018, the Dundas Connects Master Plan (Dundas Connects) was completed by the City of Mississauga. It guides future development and intensification along the Dundas Street Corridor in the City of Mississauga. Dundas Connects was developed over a 2-year period with extensive consultation from the public. It was endorsed by City Council on June 18, 2018. Bus Rapid Transit, cycling infrastructure, and an enhanced public realm for pedestrians were among the recommendations in Dundas Connects. Recommendations from Dundas Connects are being implemented through various studies and initiatives, including this Transit Project Assessment Process.

The purpose of the Dundas Bus Rapid Transit Project is to evaluate the proposed transit corridor along a 48 kilometre stretch of Dundas Street from Highway 6 in the City of Hamilton through to the Kipling Transit Hub in the City of Toronto, linking Etobicoke and Mississauga City Centres. The Project is organized into the following four areas along Dundas Street, three Transit Project Assessment Processes for Toronto, Mississauga East and Mississauga West:

- Toronto – Kipling Transit Hub to Etobicoke Creek;
- Mississauga East – Confederation Parkway to Ninth Line (current environmental Project Report);
- Mississauga West – Confederation Parkway to Ninth Line; and
- Halton and Hamilton – Ninth Line to Highway 6 (no Transit Project Assessment Process required).

The Dundas Bus Rapid Transit Mississauga East (the Project) includes the planning and design of a 7-kilometre Bus Rapid Transit corridor from Confederation Parkway to the City of Toronto boundary at Etobicoke Creek, within the City of Mississauga. Refer to **Figure 1-1** for the context map. Coordination between different municipalities (the City of Toronto and the City of Mississauga) as well as integration of design have been occurring throughout the Project. The Project has been submitted under the Government of Canada's Investing in Canada Infrastructure Program and is currently awaiting approval.

Figure 1-1: Dundas Bus Rapid Transit Context Map



1.2 Planning Context

1.2.1 Provincial

Over the past two decades, the Province has approved a series of initiatives, statutes and plans that have changed the way planning and development is to occur within Ontario. A significant number of these address transportation and public transit, as described in the following sections. Accordingly, the delivery of transit and public transit related developments should be consistent with these policies.

1.2.1.1 Provincial Policy Statement

The Provincial Policy Statement, 2020 is issued under Section 3 of the Planning Act and provides policy direction on matters of Provincial interest related to land use planning and development, with the aim of securing the long-term prosperity, environmental health and social wellbeing of the Province. The Provincial Policy Statement is premised on the efficient use of land and infrastructure, the protection of environmental resources and ensuring sufficient land is available for the development of future employment and residential uses.

Of relevance to the Project and Study Area are policies that relate to transportation systems and infrastructure, long-term economic prosperity, and the protection of natural, cultural and built heritage. In particular, the Provincial Policy Statement promotes:

- Healthy and active communities by facilitating active transportation and community connectivity (Provincial Policy Statement, 2020, Section 1.5.1);
- The planning for and protection of transportation infrastructure and transit to meet current and projected needs (Provincial Policy Statement, 2020, Section 1.6.8.1);
- Providing safe, energy efficient, integrated and reliable multimodal transportation systems which facilitate the movement of people and appropriately address projected needs (Provincial Policy Statement, 2020, Section 1.6.7);
- Maintaining or restoring the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems (Provincial Policy Statement, 2020, Section 2.1.2);
- Restricting development and site alteration in, or adjacent to, significant wetlands, woodlands, valley lands, wildlife habitat and Areas of Natural and Scientific Interest, unless it has been demonstrated that there will be no

negative effects on the natural features or their ecological functions (Provincial Policy Statement, 2020, Sections 2.1.4 and 2.1.5);

- Restricting development in habitat of endangered or threatened species except in accordance with Provincial and Federal requirements (Provincial Policy Statement, 2020, Section 2.1.7);
- Restricting development and site alteration in or near sensitive surface or groundwater features such that their features and related hydrological functions will be protected, improved, or restored (Provincial Policy Statement, 2020, Section 2.2.2); and
- Conserving significant built heritage resources and cultural heritage landscapes; and restricting development and site alteration on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved; conserving protected heritage properties that are adjacent to development (Provincial Policy Statement, 2020, Sections 2.6.1, 2.6.2 and 2.6.3).

1.2.1.2 2041 Regional Transportation Plan

Metrolinx was established under the *Metrolinx Act, 2006* by the Government of Ontario to support transit connectivity throughout the Greater Toronto and Hamilton Area. Part of Metrolinx's mandate is to create a long-term strategic plan for an effective multi-modal regional transportation system, promoting the integration of all modes of transportation with the Greater Toronto and Hamilton Area. To do so, Metrolinx developed *The Big Move* (2008), being the first regional transportation plan for the Greater Toronto and Hamilton Area. The plan provided a strategic, long-term vision for a co-ordinated transportation network across the region. It proposed over 1,200 kilometres of rapid transit over 25 years so that over 80% of residents in the region will live within 2 kilometres of a rapid transit line.

The 2041 Regional Transportation Plan (Metrolinx, 2018) builds on *The Big Move* to guide the continuing transformation of the Greater Toronto and Hamilton Area transportation system through the goals of creating strong connections, complete travel experiences, and sustainable and healthy communities. The Regional Transportation Plan identifies five strategies to achieve this:

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; and

5. Prepare for an uncertain future.

1.2.1.3 Frequent Rapid Transit Network

The Frequent Rapid Transit Network is a group of transit projects identified under Strategy #2 of the 2041 Regional Transportation Plan. Metrolinx has developed a prioritization framework known as “Advancing Transit Priorities: Frequent Rapid Transit Network Prioritization” which establishes a process to evaluate and assess unfunded Frequent Rapid Transit Network projects to determine the sequencing of business case assessment. Among the projects under consideration are an extension of the Project past Kipling Station to Trafalgar Road (undergoing initial business case assessment), as well as several routes that may provide future or expanded interconnectivity with and access to the Project (such as a Dixie-Bramalea route or an extension of the Hurontario Light Rail Transit line northwards).

1.2.2 Municipal

The Project traverses the Region of Peel and the City of Mississauga on a 7 kilometre stretch of Dundas Street. The Project Area terminates in the east at the City of Toronto boundary and in the west at Confederation Parkway. The Socio-Economic and Land Use Study Area extends 300 metres in all directions from the Project Area. Therefore, portions of the Study Area extend into the City of Toronto in the east. As such, the bulk of the municipal planning and policy analysis is focused on Peel Region and the City of Mississauga in the following sections. A review of relevant City of Toronto policy follows.

1.2.2.1 Region of Peel Long Range Transportation Master Plan

The Let’s Move Peel Long Range Transportation Plan (Region of Peel, 2019) outlines a vision for a connected Peel Region. The plan is meant to serve as a guide for the infrastructure programming and capital budgeting needs to meet the increasing demands on the Region’s transportation system to come with the growth forecasted in the Growth Plan. The five-year plan was created in 2019 with a 2041 horizon.

The plan aims to balance three broad transportation goals of the Region:

- **Sustainable Mobility:** The Region of Peel will strive to create a transportation system that provides its residents with a variety of travel options and promote sustainable modes.
- **Safe Mobility:** The Region of Peel will create safer roads for pedestrians, cyclists and vehicle operators to reduce the number of fatal and serious injury collisions.

- **Vehicular Mobility and Goods Movement:** The Region of Peel will continue to improve vehicular flow (through innovative forms of traffic management, maintenance, and strategic road and highway infrastructure projects).

The plan details existing and proposed rapid transit projects, and the ways in which the Region is working with Metrolinx to advance projects in collaboration with local municipalities. The length of Dundas Street through the City of Mississauga is identified as a potential Light Rail Transit/Bus Rapid Transit line. A Mobility Hub is identified at the intersection of Dundas and Hurontario Streets. Policies are laid out for Mobility Hubs, which the plan defines as major transit stations and surrounding areas that are meant to support a high number of transit boardings and alightings and facilitate transfers between different modes.

1.2.2.1.1 Region of Peel Sustainable Transportation Strategy

The Sustainable Transportation Strategy builds on policies identified in the Regional Official Plan and the Region of Peel Strategic Plan through which Peel has committed to promoting sustainable transportation, healthy living and environmentally conscious practices. It identifies the roles and responsibilities of the Region regarding sustainable transportation modes such as walking, biking, carpooling, transit and teleworking. Regarding transit, the Sustainable Transportation Strategy outlines three desired outcomes:

- Transit will be fully integrated with new developments and other modes of travel;
- Transit will be more competitive with automobile use for more trips; and
- Residents will choose to travel by transit more often.

1.2.2.2 Mississauga Transportation Master Plan

The Mississauga Transportation Master Plan lays out a vision for mobility within the City in 2041: “In Mississauga, everyone and everything will have the freedom to move safely, easily and efficiently to anywhere at anytime”. The plan is Mississauga’s first ever Transportation Master Plan and was endorsed by Council in May 2019. Six goals for transportation are outlined:

- **Safety:** Freedom from Harm Safe conditions for all travellers, advancing Vision Zero by supporting hazard-free travel and striving for zero fatalities;
- **Inclusion:** Freedom from Barriers An accessible network, where moving is easy regardless of a person’s age, ability, income, or familiarity with the city;
- **Integration:** Freedom of Choice An integrated network, where people and goods have viable options for moving within and beyond the city;

- **Connectivity:** Freedom of Access Simple and pleasant connections between people and the places and things they need to prosper;
- **Health: Freedom** to Flourish Support for the health of people and the planet, with more people-powered trips, lower vehicle emissions, and better stewardship of the natural environment; and
- **Resilience:** Freedom to Evolve Leadership in adapting to changes that reshape the transportation system and how it is used.

Nearly 100 actions are laid out including policies, plans, programs, procedures and partnerships that will move the City toward these six goals. Among those, relevant actions to the Project include:

- Completing the ongoing planning work by the City and the Region regarding Major Transit Station Areas (Goal 11);
- Advocating for an all-day two-way GO train service on the Milton GO Line (Goal 73);
- Working with Metrolinx and the Region of Peel to ensure consideration of future development on Metrolinx owned land around GO Stations (Goal 74); and
- Establishing protocols for engaging with neighbouring municipalities to coordinate transportation investment (Goal 78).

Transportation oriented visions are laid out for various 'Place Types' (corresponding with the city structure land use types identified in the City of Mississauga Official Plan). In particular to the project, the plan envisions Corridors as pedestrian oriented stretches that connect people to work and home and are centres of economic activity themselves. Corridors are outlined to be the focus for high-frequency transit service.

1.2.2.3 Dundas Connects Master Plan and Related Initiatives

The Dundas Connects Master Plan was finalized in 2018 to create a higher-order transit plan and changes to land use to support sustainable transit-supportive development and intensification along the Dundas Street Corridor within the City of Mississauga. The Plan was the result of a multi-year study which included an extensive public consultation process. The Dundas Connects Master Plan supports major improvements to transportation, land use and the public realm along the 19.5 kilometre corridor. Recommendations in the Master Plan include:

- Implementing Bus Rapid Transit along Dundas Street;
- Encouraging mixed-use development that supports transit;

- Creating more open spaces and community facilities;
- Maintaining existing and supporting new affordable housing;
- Maintaining four traffic lanes along Dundas Street;
- Providing safe cycling infrastructure along the length of the Dundas Street Corridor;
- Enhancing pedestrian space and providing street trees; and
- Encouraging street-related retail while supporting existing businesses.

Several ongoing initiatives which are related to the Master Plan and pertinent to the Study Area and the Project are outlined below and in **Section 4.8.2.1.4**.

1.2.2.4 Right-of-way Width Mississauga Official Plan Amendment

In order to allow for the seamless operation of the future Dundas Connects bus rapid transit system, Dundas Street needs to be widened. A wider right-of-way will create a space for all users, allowing for enough space to maintain four lanes of through-traffic and accommodate the proposed bus lanes, bike lanes and enhanced sidewalks and pedestrian spaces.

On February 5, 2020, City Council passed Amendment 106 to the Mississauga Official Plan to widen the Dundas Street right-of-way from approximately 35 metres to 40 to 42 metres. The Official Plan amendment updated Table 8:1 in Road Classification – Arterials in Chapter 8 and Schedule 8 of the City of Mississauga’s Official Plan to reflect the Dundas Connects Master Plan. The conceptual design that was developed in Dundas Connects will support securing the lands needed to allow for the development of the Bus Rapid Transit line.

1.2.2.5 Cooksville and Dixie GO Station Extensions

Future extensions to connect the system to Cooksville and Dixie GO Stations were considered as part of Dundas Connects to provide seamless transfers for passengers between the two transit systems. It was contemplated that this may include extensions of Cook Street to the Cooksville GO Station, and Neilco Crescent to the Dixie GO Station. While these extensions are not part of the scope of this Project and may be addressed through future Environmental Assessments, the preliminary design developed through this Project does not preclude either extension from being implemented in the future.

1.3 Purpose of the Transit Project

The Project is part of Metrolinx’s bigger picture for an integrated, multi-modal regional transportation system that will serve the needs of residents, businesses and institutions.

It supports Ontario's Growth Plan for the Greater Golden Horseshoe, 2017, which sets out a broad vision for where and how our region will grow and identifies policies on transportation planning in the Greater Toronto and Hamilton Area.

Bus Rapid Transit provides an efficient rapid transit alternative at-grade system with the following features:

- Dedicated lanes for buses, where feasible, resulting in shorter travel times and more reliable transit service;
- Frequent service with a bus every five minutes or less during peak hours;
- Smart signals will adapt to support smoother traffic flow for all commutes – on buses, in personal vehicles, and on bicycles;
- MiWay, GO Transit, and other transit system routes can use the dedicated lanes and share the same stops, making it easier to travel through the City to other parts of the region; and
- Reliable service with buses that are separated from general traffic in most areas.

The Project is recognized by Metrolinx and the City of Mississauga, as well as members of the public as a regional transit priority connection. The Project is a crucial transportation corridor connecting people through the western end of the Greater Toronto and Hamilton Area. The corridor has varied traffic, land use conditions and constraints. Without improved transport alternatives, the overall livability and economic development potential of the corridor, including future developments, would be constrained.

Implementation of the Project has the potential to result in:

- Faster, more reliable public transit;
- A reduction of greenhouse gas emissions;
- Improved connectivity; and
- Supporting growth through the facilitation of transit-oriented communities.

The Project is currently a Priority in Development project under the 2041 Regional Transportation Plan. The Project is also identified in the City of Mississauga Official Plan (2017) operating as Bus Rapid Transit within the City of Mississauga, and with bus connections into the Kipling Transit Hub in the City of Toronto.

Metrolinx and the City of Mississauga are committed to finalizing the planning and design of the Project, including preliminary design of the corridor and the Transit Project Assessment Process preparation and completion.

1.4 Description of the Study Area

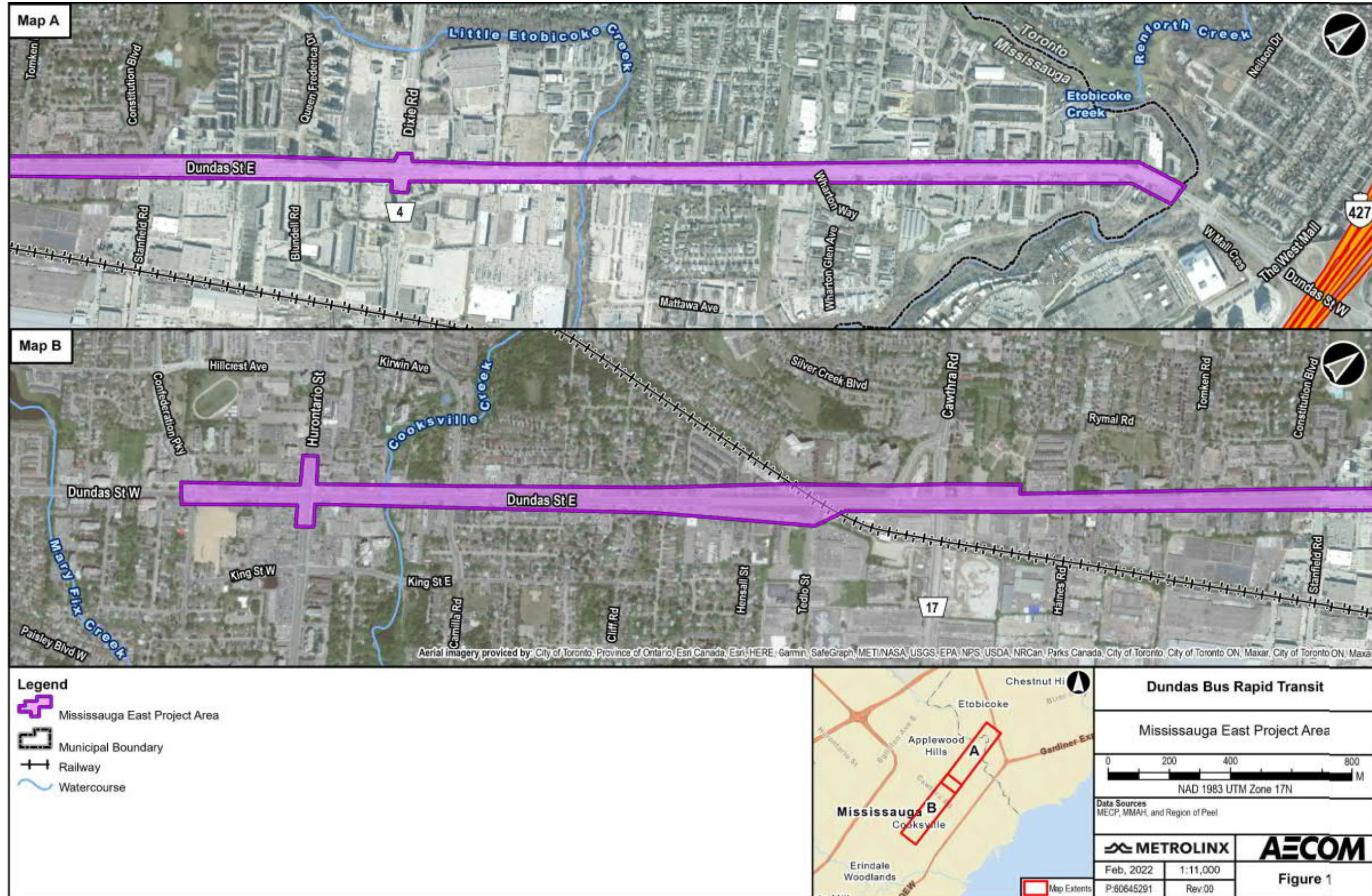
The Project Area is shown in **Figure 1-2**. The Project Area is the area of direct disturbance required for the construction and operation of the Project. It includes the proposed alignment for the Project and additional area for potential refinements as the design progresses.

To complete specific environmental studies required for the Transit Project Assessment Process, the Project Area was extended to account for environmental features that may be potentially impacted by the proposed Project. Study Areas are specific to environmental studies and are noted in **Table 1-1** and described further in **Section 4** of this Environmental Project Report.

Table 1-1: Study Area by Environmental Study

Environmental Studies	Study Area
Air Quality Impact Assessment	The Air Quality Impact Assessment Study Area extends 500 metres from the Project Area.
Noise and Vibration Impact Assessment	The Noise and Vibration Impact Assessment Study Area extends 500 metres from the Project Area.
Natural Environment Report	The Natural Environment Report Study Area extends 120 metres from the Project Area.
Socio-Economic and Land Use Study	The Socio-Economic and Land Use Study Area extends 300 metres from the Project Area.
Climate Change and Sustainability Report	The Climate Change and Sustainability Report Study Area is consistent with the Project Area.
Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment	The Cultural Heritage Report Study Area extends 50 metres from the Project Area.
Stage 1 Archaeology Assessment Report	The Stage 1 Archaeology Assessment Report extends 25 metres from the Project Area.

Figure 1-2: Dundas Bus Rapid Transit Mississauga East Project Area



1.5 Overview of the Environmental Project Report

Table 1-2 below summarizes the information that is required to be included in the Environmental Project Report as applicable to this Project and as specified in pages 33-34 of the Guide to Ontario’s Transit Project Assessment Process (Ministry of the Environment 2014), and the associated section of the Environmental Project Report where it has been addressed.

Table 1-2: Environmental Project Report Reference

Environmental Project Report Requirement	Section
A statement of the purpose of the transit project and a summary of any background information relating to the project.	1
A final description of the transit project including a description of the Preferred Design method.	3
A map showing the site of the transit project.	1 and 3
A description of the local environmental conditions at the site of the transit project.	4
A description of all studies carried out, including a summary of all data collected or reviewed and a summary of all results and conclusions.	4 and 5
The assessments, evaluation and criteria for any impacts of the Preferred Design method and any other design methods that were considered once the project’s transit project assessment process commenced.	5
A description of any proposed measures for mitigating any negative impacts the transit project might have on the environment.	5
If mitigation measures are proposed, a description of the proposal for monitoring or verifying the effectiveness of the mitigation measures.	5
A description of any municipal, provincial, federal, or other approvals or permits that may be required.	7
A consultation record.	6

2. Study Process

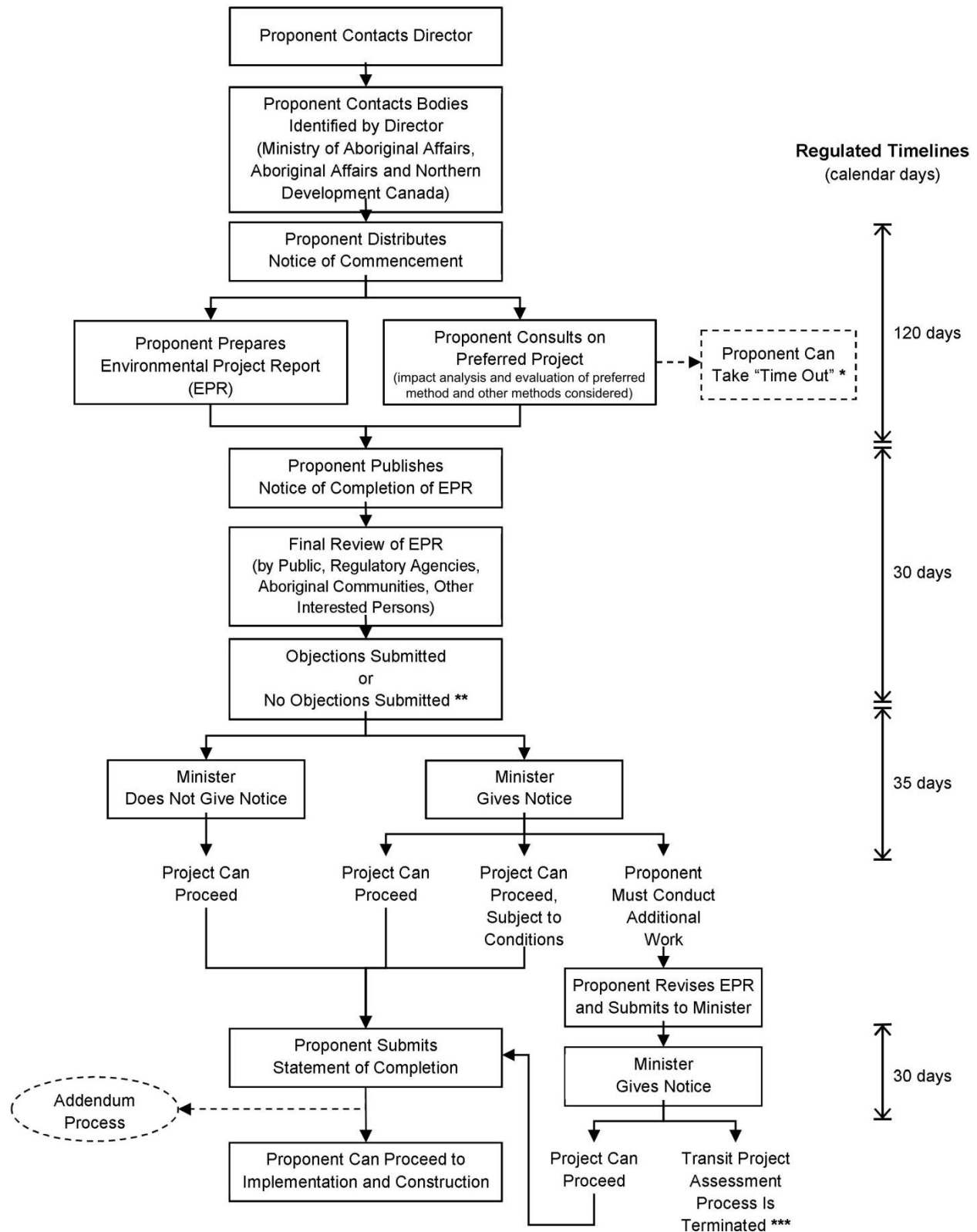
This Environmental Project Report was prepared in accordance with *Ontario Regulation 231/08, Transit Projects and Metrolinx Undertakings (Transit Projects Regulation)*. By following the Transit Project Assessment Process for certain approved projects, the Transit Projects Regulation exempts the proponent of the transit project (i.e., Metrolinx and the City of Mississauga) from the requirements under Part II of the Environmental Assessment Act.

As mentioned in **Section 1.1**, a Transit Project Assessment Process is a focused environmental impact assessment process created specifically for transit projects. The process involves an extensive pre-planning phase which includes consultation, assessment of impacts, development of measures to mitigate negative impacts and documentation, and is followed by a regulated (up to 120 days) consultation and documentation period. Consultation and engagement with the public, stakeholders and Indigenous Nations is ongoing throughout the process. Following the regulated (up to 120 days) consultation and documentation period, there is a 30-day public review period where the public has an opportunity to review the Environmental Project Report and provide additional comments, and then a 35-day Minister's review period of the updated Environmental Project Report (Refer to **Section 2.5** for more details).

A Transit Project Assessment Process makes sure that the natural, social, cultural, and economic environments are assessed and potential adverse effects from the proposed project are avoided, mitigated, or minimized where feasible. Transit Project Assessment Process projects are regulated under Ontario's Environmental Assessment Act, and are submitted for the Minister of the Environment, Conservation and Parks' review prior to proceeding with the transit project. Proponents are urged to undertake introductory activities and consultation through Pre-Planning Activities prior to the commencement of the Transit Project Assessment Process. Following completion of the Pre-Planning Activities, the proponent initiates the Transit Project Assessment Process by issuing the Notice of Commencement and the regulated up to 120-day consultation and documentation period commences.

The prescribed steps of the Transit Project Assessment Process are outlined in **Figure 2-1**.

Figure 2-1: Transit Project Assessment Process



2.1 Pre-Planning Activities

The existing environmental conditions within the Project Area and within specific Environmental Study Areas were established as part of the Pre-Planning Activities. Each of the primary environmental factors was assessed by practitioners using industry standard techniques. Studies were undertaken to document the existing environmental conditions in the following areas:

- Air Quality Impact Assessment;
- Noise and Vibration Impact Assessment;
- Natural Environment Report;
- Socio-Economic and Land Use Study;
- Climate Change and Sustainability Report;
- Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment;
- Stage 1 Archaeology Assessment Report; and
- Arborist Report.

2.2 Public and Stakeholder Engagement

Communication and engagement for this Project occurred in two main stages – prior to the Notice of Commencement for the Transit Project Assessment Process (including the release of the draft Environmental Project Report for technical agency review); and following the Notice of Commencement of the Transit Project Assessment Process. To build strong relationships and get a complete understanding of local issues in the surrounding communities, and to ensure communities stay engaged and informed, Metrolinx engages with the public and a range of stakeholders prior to officially commencing the Transit Project Assessment Process. The communication and engagement program has been followed by Metrolinx and the City of Mississauga and is outlined in further detail in **Section 7**.

2.3 Key Steps of the Transit Project Assessment Process

The Transit Project Assessment Process defines a series of activities that allows the process to be completed within approximately six months. These activities involve the following steps:

- Contact with the Ministry of the Environment, Conservation, and Parks;
- Issue Notice of Commencement of the Transit Project Assessment Process;

- Assessment process and consultation with the public and stakeholders;
- Issue Notice of Completion of the Environmental Project Report (within 120 days of the Notice of Commencement);
- Provide 30 days for the public, review agencies, Indigenous Nations and other interested persons to review the Environmental Project Report;
- Provide 35 days for the Ministry of the Environment, Conservation, and Parks to review the Environmental Project Report; and
- Submit a Statement of Completion.

It is important to note that *Ontario Regulation 231/08* provides a process by which the proponent may take a 'time out' during the up to 120-day Transit Project Assessment Process consultation and documentation period. This may be used only when issues arise during the up to 120-day Transit Project Assessment Process consultation and documentation period concerning a potential negative impact on a matter of Provincial importance or a constitutionally protected Aboriginal or Treaty Right. If a 'time out' is taken, then notice of this must be provided to the Director and Regional Director of the Ministry of the Environment, Conservation, and Parks and posted on the project website. Once the issue has been addressed, the proponent may resume the Transit Project Assessment Process by notifying the Director and Regional Director of the Ministry of the Environment, Conservation, and Parks.

2.4 Environmental Project Report

The documentation of the Transit Project Assessment Process, as provided in this Environmental Project Report, will be submitted to the Ministry of the Environment, Conservation, and Parks within 120 days of publishing the Notice of Commencement. This Environmental Project Report documents the existing environmental conditions within the Study Areas, the potential environmental impacts of the Project, recommended mitigation measures, the consultation process followed, and future commitments for the Project.

2.5 Objection Process, Minister's Review and Statement of Completion

The submission of this Environmental Project Report and the issuance of the Notice of Completion triggers the 30-day public and agency review period. During this time, if members of the public, regulatory agencies, Indigenous Nations, or other interested persons have concerns about this transit project, objections can be submitted to the Minister. After the 30-day review period has ended, any objections received will not be considered, and the Minister has 35 days within which certain authority may be exercised.

Persons wishing to submit an objection for the Minister to consider should provide the following information:

- Name, mailing address, organization or affiliation (where applicable), daytime telephone number, e mail address (where possible);
- Contact details of the proponent including name address and telephone number;
- Brief description of the proponent's proposed undertaking;
- Basis for why further study is required, including identification of any negative impacts that relate to a matter of provincial importance or a constitutionally protected Aboriginal or Treaty Right that was not identified in the proponent's Environmental Project Report; and
- Summary of how the person(s) objecting have participated in the Project's consultation process.

Whether or not there is public objection, the Minister may act within the 35-day period to issue one of the following three notices to the proponent:

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

The Minister may give notice allowing the proponent to proceed with its transit project but can only take action if there is potential for a negative impact on a matter of Provincial importance that relates to the natural environment or has cultural heritage value or interest, or on a constitutionally protected Aboriginal or Treaty Right. If the Minister issues a notice to proceed with the transit project as planned, or if they do not act within the 35-day period, Metrolinx and the City of Mississauga will issue a Statement of Completion and proceed to implementation. The Statement of Completion will indicate that Metrolinx and the City of Mississauga intends to proceed with the transit project in accordance with either:

- The Environmental Project Report;
- The Environmental Project Report subject to conditions set out by the Minister;
or
- The revised Environmental Project Report.

The construction or implementation of the transit project subject to the Transit Project Assessment Process cannot begin until the requirements of the process have been satisfied.

2.6 Addendum Process

The Project presented in this Environmental Project Report is not a static plan, nor is the context in which it is being assessed, reviewed, approved, constructed, and used. Given the potential for changes to the Project resulting from the approvals, Detailed Design, and construction processes, it is prudent to include in the Environmental Project Report a comment on the responsibilities of the proponent should changes be required in the Project.

This Environmental Project Report identifies the impacts associated with the Project presented herein, and the property envelope within which the Project can feasibly be constructed. The actual layout of Project is subject to Detailed Design and any variation from that shown in this Environmental Project Report, unless it results in an environmental impact which cannot be accommodated within the committed mitigation measures, does not require additional approval under *Ontario Regulation 231/08*.

The Transit Project Assessment Process includes provisions (in Section 15 of the Regulation) for proponents to make changes to a transit project after the Statement of Completion is submitted to the Director of the Environmental Assessment and Approvals Branch of the Ministry of the Environment, Conservation, and Parks and the Regional Director.

In compliance with Section 15(1) of the Regulation, Metrolinx and the City of Mississauga will prepare an addendum to the Environmental Project Report if there is a proposed change to the Project that is inconsistent with the Environmental Project Report after the Statement of Completion is issued. A change that is inconsistent with the Environmental Project Report is generally defined as one for which the effects have not been accounted for in the Environmental Project Report, either directly or through a contingency planning approach in which a worst case scenario has been contemplated and a protocol for addressing change has been included in the Environmental Project Report. If the proposed change would result in a lesser impact than planned for and meets the mitigation intents identified in the Environmental Project Report, it may be deemed to be consistent with the Environmental Project Report and therefore no addendum is required. Changes to the Project may also be required if there is a significant lapse of time (i.e., ten years) between the Statement of Completion and the start of construction, which will require a formal review of the Project by Metrolinx and the City of Mississauga in consultation with relevant stakeholders (in accordance with Section 16 of the Regulation).

The Environmental Project Report addendum must include the following information:

- A description of the proposed change;
- The reason for the proposed change;
- An assessment and evaluation of any impacts that the proposed change might have on the environment;
- A description of any proposed measure for mitigating any negative impacts that the proposed change might have on the environment; and
- A statement of whether the proponent is of the opinion that the proposed change is significant (or not), and the reasons for the opinion.

The requirement for an addendum does not apply to a change that is required to comply with another Act, a regulation made under another Act, or an order, permit, approval or other instrument issued under another Act.

3. Project Description

This section provides a detailed description of the conceptual engineering design prepared in support of the Transit Project Assessment Process, including the proposed Bus Rapid Transit corridor, as well as an overview of typical construction methods and activities.

3.1 Standards, Codes and Design Guidelines

The infrastructure proposed as part of the Project has been designed in accordance with industry best practices while adhering to applicable codes and standards. These applicable codes, standards and guidelines include, but are not limited to the following:

- Accessibility for Ontarians with Disabilities Act
- American National Standards Institute
- American Public Transportation Association Bus Rapid Transit Stations
- American Public Transportation Association Designing Bus Rapid Transit Running Ways
- American Railway Engineering and Maintenance-of-Way Association, Manual for Railway Engineering
- Canadian Highway Bridge Design Code
- Canadian Standards Association
- City of Mississauga Cycling Master Plan
- City of Mississauga MiWay Infrastructure Growth Plan
- City of Mississauga MiWay Standards and Drawings
- City of Mississauga Dundas Connects Master Plan
- City of Mississauga Streetscape Feasibility Study
- City of Mississauga Transportation Master Plan
- GO Transit Design Requirements Manual
- GO Transit Draft Noise and Vibration Protocol (1995)
- Illuminating Engineering Society
- Ontario Building Code
- Ontario Electrical Safety Code
- Ontario Provincial Standards
- Ontario Traffic Manual

- Manual of Uniform Traffic Control Devices for Canada
- Metrolinx General Guidelines for Design of Railway Bridges and Structures
- Metrolinx Universal Design Standard
- Metrolinx Wayfinding Design Standard
- Metrolinx Sustainable Design Standard
- Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (2021)
- Ministry of the Environment, Conservation and Parks Standards
- Ministry of Heritage, Sport, Tourism and Cultural Industries Standards and Guidelines
- Transportation Association of Canada Geometric Design Guide for Canadian Roads
- Transport Canada Standards
- Transportation Cooperative Research Program Bus Rapid Transit – Volume 1: Case Studies in Bus Rapid Transit
- Transportation Cooperative Research Program Bus Rapid Transit – Volume 2: Implementation Guidelines

3.2 Design Refinements and Alternatives Evaluation

Work previously completed as part of the City of Mississauga's Dundas Connects Master Plan and Metrolinx's Initial Business Case has been leveraged to guide the development of the development of alternatives and the preliminary design. Context sensitive refinements have been made to optimize the corridor alignment and minimize impacts throughout the Mississauga East segment. Refinements included optimization of the corridor alignment, application of minimum design standards (e.g., 3.35 metres through lanes, 1.5 metres sidewalks, 0.6 metres pole zones, etc.) and a reduction in the proposed amenities in the boulevard space, including a consolidation of the cycle track, pole zone and sidewalk to a single multi-use path. In the event that the constraints that necessitated the abovementioned refinements change, the desired and/or standard design criteria shall be applied.

In addition to the geometric, active transportation and public realm design considerations, existing utilities were considered in the refinements to the design. A Subsurface Utility Engineering investigation was carried out to establish the location and type of existing subsurface and aboveground utility infrastructure, the findings have been overlaid on the proposed Dundas Bus Rapid Transit corridor in the form of a Composite Utility Plan which can be found in **Appendix F**.

As part of this Study an assessment was conducted to establish any constrained areas within the Study Area, that could not be addressed through conventional design approaches, also known as Pinch Points. The assessment resulted in one Pinch Point being identified within the Study Area, which is through the Cooksville Area between Kirwin Avenue/Camilla Road and Confederation Parkway.

A Pinch Point is a constrained area that may require different design approaches such as reduced number of lanes, or reductions in the proposed amenities in the boulevard space.

In addition to the evaluation criteria identified as part of the preliminary design, the Pinch Point evaluation considers the below technical categories pertaining to the natural, cultural and built environment:

- Environmental Considerations
 - Natural features (e.g., trees, vegetation, watercourses)
 - Known cultural/built heritage resources
 - Land uses
 - Community character
- Geometrics/Infrastructure Considerations
 - Minor vertical and horizontal alignment adjustments
 - Multi-modal cross-section
 - Continuity of infrastructure
 - Capital cost
- Mobility and Traffic Considerations
 - Alignment with the 2041 Regional Transit Plan goals and objectives
 - Alignment with the objective of the Project to provide a higher-quality regional transit corridor
 - Transit customer experience
 - Bus Rapid Transit travel times
 - Auto travel times/operations
 - Queue lengths
 - Level of service
 - Transit service reliability
 - Cyclist accessibility and connectivity
 - Pedestrian accessibility and connectivity
 - Road Safety
- Property Considerations
 - Land acquisition and building displacement
 - Approved development applications
 - Municipal development planning and policy

The multi-criteria analysis was conducted on six alternatives which were reviewed for potential benefits and drawbacks, which then led to a short list of three alternatives within the Cooksville area, which were then considered for further screening.

The screening of the short-listed alternatives determined that the full median Bus Rapid Transit with widening of the corridor about the centreline of Dundas Street. Was the best performing alternative, similar to the areas outside of the Pinch Point. This alternative proved to be the best performing in terms of geometrics/infrastructure, mobility, traffic and property considerations. It also provides a Bus Rapid Transit station at Hurontario with limited to no impacts to the future Hurontario Light Rapid Transit and would allow for optimal Bus Rapid Transit operations and reliability. Further details regarding the multi-criteria analysis and screening process can be found in the Pinch Point Analysis (**Appendix G**) and Traffic Input Memorandum (**Appendix H**).

The above-mentioned outside Pinch Point and Pinch Point preliminary designs have been carried forward to inform this Project.

Details regarding design criteria can be found in the Design Criteria Report (**Appendix B**).

Existing Conditions of the Study Area can be found within **Chapter 4** of this Report.

3.3 Description of the Preferred Design

The following is a description of the preferred design of the Project corridor. As noted earlier, the Project corridor's western limit is at Confederation Parkway. The corridor continues eastward down Dundas Street towards Hurontario Street, where it will interface with the Hurontario Light Rapid Transit project currently under construction. Continuing east from Hurontario Street, the Project will cross over Cooksville Creek Culvert located at Jaguar Valley Drive and the Hensall Circle and Canadian Pacific Railway overpass located between Burslem Road to the west and Cawthra Road to the East, and then cross over the Cawthra Road overpass and continue along Dundas Street crossing over another two structures, the Little Etobicoke Creek Culvert and the Etobicoke Creek Bridge which represents the eastern limit of the Project corridor.

To meet design requirements, including those of the City of Mississauga, the Transportation Association of Canada, Metrolinx and others, the design will generally establish a roadway cross section of four general-purpose traffic lanes, two in each direction, two dedicated median Bus Rapid Transit lanes and an enhanced boulevard space. Through lanes will be 3.5 metres in width as standard and 3.35 metres in width at the minimum, while curb lanes will be 3.5 metres in width as a minimum. The road will be designed with a design speed of 90 km/h and a posted speed of 60 km/h.

In the median, between each set of general-purpose traffic lanes, will be the Bus Rapid Transit guideway consisting of two 3.5 metre dedicated bus lanes (one in each direction), raised median between the bus lanes and general-purpose lanes, 4.2 metre wide by 70 metre long far-side platforms at all stops and a 0.3 metre buffer between the platform backwall and adjacent general-purpose lane. This configuration can be seen in **Figure 3-1**. The 70 metre long platforms consist of a 5 metre ramp from adjacent cross walk, a 40 metre long station platform (to accommodate two articulated buses) and a 25 metre mountable median for service vehicles and emergency medical services crossing.

The boulevard space will consist of a 1.5 metre to 2 metre wide sidewalk, a 0.6 metre to 2.0 metre pole/furniture zone and a 2.0 metre protected cycle track. Where constraints exist, the sidewalk and cycle track will be replaced with a multi-use path with a minimum width of 3.0 metres.

3.4 Key Project Components

To achieve the outcomes outlined in **Section 1**, the following Project components are included:

Bus Rapid Transit Components

- Identification of a preferred design alternative for the length of the corridor.
- Implementation of Bus Rapid Transit along the Dundas Street corridor in dedicated median-running bus lanes.
- Retention of a local bus service overlay with integration of existing curbside stop locations, with enhanced amenities (e.g., location of stop name and wayfinding signage, next bus information, seating, weather protection, garbage/recycling receptacles, etc.), if not already present, while allowing the transit service providers use of the dedicated Bus Rapid Transit corridor.
- Transit priority measures including signage, traffic signal phasing, as well as queue jump lanes for intersecting roads that facilitate quick Bus Rapid Transit bus access and egress, for routes that branch in and out of the corridor.
- An Intelligent Transportation Systems Strategy including stop design, fare system and traveller information coordinated with municipal and regional service providers.
- Accommodation of Bus Rapid Transit on Dundas Street by respecting corridor characteristics.

- Transitions between the dedicated median-running bus lanes and the existing corridor at the eastern and western limits of the corridor improvements to ensure seamless transition and connectivity.
- Implementing design considerations for protection of future technologies, i.e., electrification, autonomous vehicles, etc.

Refer to **Figure 3-1** below for a rendering of dedicated median-running bus lane corridor section.

Figure 3-1: Rendering of Dedicated Median-Running Bus Lane Corridor Section



Note: * Conceptual rendering for illustrative purposes and subject to change through design development and stakeholder engagement.

3.4.1 Bus Rapid Transit Stop Components

- Eight Bus Rapid Transit stops (generally averaging one Bus Rapid Transit stop per kilometre) are being introduced at the following locations:
 - Wharton Way
 - Dixie Road
 - Tomken Road
 - Cawthra Road
 - Grenville Drive/Cliff Road

- Kirwin Avenue/Camilla Road
- Hurontario Street
- Confederation Parkway
- Bus Rapid Transit stops will consist of two platforms, one far side platform for each direction of travel at each of the designated stop locations. Stops will accommodate two articulating buses and accommodation for service vehicles.
- Stop amenities will generally consist of Accessibility for Ontarians and Disabilities Act features, including ramps and railings, tactile warning strips, passenger assistance intercom, wayfinding signage including location and stop name, next bus information, fare collection, benches and seating, service maps, weather protection, garbage and recycling receptacles and arts and cultural heritage elements.
- Refer to **Figure 3-2** below for a rendering of an example typical median Bus Rapid Transit stop.

Figure 3-2: Rendering of Dedicated Median-Running Bus Lane Corridor Section



Note: * Conceptual rendering for illustrative purposes and subject to change through design development and stakeholder engagement.

3.4.2 Road and Active Transportation Components

- Maintenance of four general purpose traffic lanes along Dundas Street.
- Turning lanes provided at key intersections (to accommodate left turns and U-turns). Creation of a street for all users that connects to the broader transportation network.

- Addition of active transportation facilities including protected cycle tracks, multi-use-paths and widened sidewalks.
- Addition of pedestrian lighting to supplement street lighting.

3.4.3 Utility Infrastructure Components

- Stormwater management system improvements to be introduced.
- Utility impacts and relocations to be carried out to allow for the widened corridor and introduction of station platforms.
- Utility relocations to accommodate and ensure Bus Rapid Transit is scalable for future transit solutions (i.e., electrified fleet, future Light Rail Transit).

3.4.4 Bridge and Culvert Components

- There are five existing bridge and culvert structures within the Study Area which are as follows:
 - Dundas Street East over Etobicoke Creek Bridge
 - Dundas Street East over Little Etobicoke Creek Culvert
 - Dundas Street East over Cawthra Road Bridges
 - Dundas Street East over Hensall Circle and Canadian Pacific Bridge
 - Dundas Street East over Cooksville Creek Culvert
- The existing structures were assessed based on their current condition state and structural capacity. For the structures at watercourse crossings, the structures were also assessed for hydraulic adequacy.
- The five existing bridge and culvert structures within the Study Area require replacement as a result of the widening of the corridor, as well as their current condition state and/or hydraulic capacity. Below is a summary of the assessments for each of the structures:
 - Dundas Street East over Etobicoke Creek Bridge
 - Existing structure is in generally fair-to-poor condition requiring major rehabilitation within three years.
 - Based on bi-annual inspection findings some elements of the existing structure appear to not have sufficient capacity to carry the live loads in accordance with the latest bridge design code.
 - A structural evaluation was not necessary given that it was concluded that bridge replacement is the only feasible

- alternative based on the condition of the structure and the need for its widening and realignment.
- Dundas Street East over Little Etobicoke Creek Culvert
 - Existing structure is in generally fair condition requiring only minor repairs to the northeast approach sidewalk.
 - Under current conditions Dundas Street at the structure is overtopping during a 100-year flood event. In addition to watercourse channel constraints, the hydraulic opening in the structure is insufficient.
 - A structural evaluation was not necessary given that it was concluded that replacement of the structure is the only feasible alternative given that the structure has insufficient hydraulic capacity.
 - Dundas Street East over Cawthra Road Bridges
 - Existing structure is in generally good-to-fair condition requiring minor rehabilitation including replacement of asphalt and waterproofing system and approach slabs, replacement of longitudinal deck joint and localized concrete patch repairs on the bridge and associated retaining walls.
 - A structural evaluation was not necessary given that it was concluded that bridge replacement is the only feasible alternative based on the condition of the structure and the need for its widening.
 - Dundas Street East over Hensall Circle and Canadian Pacific Bridge
 - Existing structure is in generally fair-to-poor condition requiring major rehabilitation including deck replacement (incl. sidewalks, median and parapet walls), replacement of approach slabs, repairs and recoating of structural steel, bearing replacement and localized concrete patch repairs on the pier, abutment walls and wingwalls.
 - A structural evaluation was not necessary given that it was concluded that bridge replacement is the only feasible alternative based on the condition of the structure and the need for its widening.
 - Dundas Street East over Cooksville Creek Culverts

- Existing structures are in generally fair-to-poor condition requiring rehabilitation including waterproofing of the exterior surfaces of the culvert barrels and installation of creek protection at the downstream end of the culvert.
- Under current conditions Dundas Street at the structure is overtopping during a 100-year flood event. In addition to watercourse channel constraints, the hydraulic opening in the structure is insufficient.
- A structural evaluation has yet to be carried out given that the existing structural drawings have not been located. Upon receipt of the existing structural drawings or the required details provided through a comprehensive field investigation, a structural assessment will be carried out to determine if the existing structures have sufficient structural capacity. If it is determined that the existing structures have sufficient structural capacity, the recommendation for replacement of the structures may be revisited.

Additional information pertaining to the design plan for the undertaking are contained in the following appendices.

- **Appendix B** Design Criteria Report
- **Appendix C** Preliminary Design Concept

3.5 Construction Activities

The following section provides an overview of the types of typical construction methods and activities that may be employed to build the proposed infrastructure. The anticipated commencement of construction is 2023/24.

3.5.1 Construction Planning Activities

3.5.1.1 Construction Management Plans

Construction Management Plans will be developed and implemented as part of the detailed design phase of the Project and will take into consideration applicable legislation as appropriate.

3.5.1.2 Traffic Management Plan

Metrolinx and the City of Mississauga will coordinate with the municipalities, local road authorities, emergency services and local businesses generating major traffic movements

as appropriate during the detailed design phase to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid or minimize interferences to the travelling public to the extent possible.

At a minimum the Traffic Management Plan shall include the following:

- Sequencing of construction activities and the associated Traffic Staging Plans for each stage of the work in accordance with the Ontario Traffic Manual.
- Analysis and identification of the impacts to traffic, transit and pedestrian operations and movements associated with the construction activities and the potential mitigation measures.
- Modifications to existing traffic signalling system and use of temporary systems.
- Emergency services considerations and accommodations.

3.5.1.3 Construction Staging Areas

The locations of construction staging areas will be identified during the detailed design phase. Consultation with the municipalities and other affected third-party stakeholders will be undertaken as appropriate with respect to the locations of any proposed construction staging and laydown areas.

3.5.2 Enabling Works

Prior to implementation of the Bus Rapid Transit infrastructure enabling works are envisioned to be carried out which will include property acquisitions and major utility relocations (self performed by utility owners) to support the introduction of the Bus Rapid Transit infrastructure.

3.5.3 Construction Activities

3.5.3.1 Site Preparation

Construction activities associated with site preparation are anticipated to include the following:

- Implementation of the Traffic Management Plan starting with providing traffic lanes and pedestrian facilities on one side of Dundas Street with a construction work zone on the opposite side of Dundas Street. Upon completion of the construction activities within the first stage work zone, the traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street. Subsequent stages and associated traffic management as required.

- Construction of laydown/staging areas.
- Construction of temporary lighting and traffic signal infrastructure.
- Relocation of existing subsurface and aerial utility infrastructure, as required, to facilitate the widening of the corridor.
- Site clearing.

3.5.3.2 Grading and Roadway Widening

Construction activities associated with grading and roadway widening are anticipated to include the following:

- Implementation of the Traffic Management Plan starting with providing traffic lanes and pedestrian facilities on one side of Dundas Street with a construction work zone on the opposite side of Dundas Street. Upon completion of the construction activities within the first stage work zone, the traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street. Subsequent stages and associated traffic management as required.
- Sub-excavation and removals within the widened section of the corridor within the first stage work zone.
- Construction of new retaining walls to support widened corridor and associated grading.
- Construction of new curb lines and new storm water conveyance system.
- Construction of new subgrade and pavement structure within widened section of corridor.
- Construction of new streetscaping and boulevard space including cycle track, tree/furniture zone and sidewalks.
- Upon completion of the construction activities within the first stage work zone, the traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street and the above construction activities completed on the opposite side of Dundas Street.
- The third and final stage would be to construct the centre of the corridor including the Bus Rapid Transit lanes, medians and stop platforms.

3.5.3.3 Stop Platforms

Construction activities associated with construction of stop platforms are anticipated to include the following:

- Implementation of the Traffic Management Plan.
- Localized sub-excavation for platform area.
- Construction of median Bus Rapid Transit platform foundations and platform surface.
- Construction of median Bus Rapid Transit platform shelter structure including pedestrian lighting and electrical service for amenities.
- Installation of stop amenities.

3.5.3.4 Bridge and Culvert Replacements

Construction activities associated with bridge and culvert replacements are anticipated to include the following:

- Implementation of the Traffic Management Plan. For all structures it is envisioned that they will be replacement in two stages.

The following is a list of proposed construction activities for each structure:

- **Dundas Street East over Etobicoke Creek Bridge (Replacement)**
 - Installation, maintenance and removal of sediment control measures.
 - Installation of roadway protection between Stage 1 and Stage 2 work zones.
 - Removal of existing bridge superstructure within Stage 1 work zone.
 - Removal of existing bridge abutments and pier, including foundations to a specified depth below grade.
 - Construction of new bridge abutments and piers including foundations.
 - Construction of new bridge superstructure.
 - Construction of approaches including approach slabs.
 - Upon completion of the above Stage 1 construction activities traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street on the new structure and the above construction activities completed on the other side of Dundas Street.

- **Dundas Street East over Little Etobicoke Creek Culvert (Replacement)**
 - Installation, maintenance and removal of sediment control measures.
 - Installation of roadway protection between Stage 1 and Stage 2 work zones.
 - Construction of new bridge abutments.
 - Construction of new bridge superstructure.
 - Construction of approaches including approach slabs.
 - Upon completion of the above Stage 1 construction activities traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street on the new structure and the above construction activities completed on the other side of Dundas Street.
 - Upon completion of both stages of bridge construction, the existing culvert shall be removed.

- **Dundas Street East over Cawthra Road Bridges (Replacement)**
 - Installation, maintenance and removal of sediment control measures.
 - Installation of roadway protection between Stage 1 and Stage 2 work zones.
 - Removal of existing bridge superstructure within Stage 1 work zone.
 - Removal of existing bridge abutments and pier, including foundations to a specified depth below grade.
 - Construction of new bridge abutments and piers including foundations.
 - Construction of new bridge superstructure.
 - Construction of approaches including approach slabs.
 - Modification of existing retaining walls to suit new bridge abutments.
 - Upon completion of the above Stage 1 construction activities traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street on the new structure and the above construction activities completed on the other side of Dundas Street.

- **Dundas Street East over Hensall Circle and CP Bridge (Replacement)**
 - Installation, maintenance and removal of sediment control measures.

- Installation of roadway protection between Stage 1 and Stage 2 work zones.
 - Installation of hoarding above CP rail corridor.
 - Removal of existing bridge superstructure within Stage 1 work zone.
 - Removal of existing bridge abutments and pier, including foundations to a specified depth below grade.
 - Construction of new bridge abutments and piers including foundations.
 - Construction of new bridge superstructure.
 - Construction of approaches including approach slabs.
 - Modification of existing retaining walls to suit new bridge abutments.
 - Upon completion of the above Stage 1 construction activities traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street on the new structure and the above construction activities completed on the other side of Dundas Street.
- **Dundas Street East over Cooksville Creek Culvert (Replacement)**
 - Installation, maintenance and removal of sediment control measures.
 - Installation of roadway protection between Stage 1 and Stage 2 work zones.
 - Construction of new bridge abutments.
 - Construction of new bridge superstructure.
 - Construction of approaches including approach slabs.
 - Upon completion of the above Stage 1 construction activities traffic lanes and pedestrian facilities will be diverted to the other side of Dundas Street on the new structure and the above construction activities completed on the other side of Dundas Street and along Jaguar Valley Drive.
 - Upon completion of both stages of bridge construction, the existing culvert shall be removed.
 - Reconstruction of watercourse channel throughout the limits of the new bridge.

3.6 Operations and Maintenance

The Routing and Service Plan for the Project is currently under development and is expected to be finalized Spring/Summer 2022. The outcome of the Routing and Service Plan will be a recommended routing and service option that will be carried forward for further study in the Preliminary Design Business Case in comparison to the Business As Usual scenario. Once the preferred routing and service option has been confirmed, an Operations and Maintenance Strategy will be developed.

4. Existing Conditions

This section of the Environmental Project Report describes the Study Area in the context of the Project, the existing natural, socio-economic and cultural environments and provides the baseline conditions against which the effects of the Project have been measured.

Information on the following components is presented in the sections below and is supplemented with detailed technical reports provided in **Appendix D**:

- Soils and Physiography
- Natural Environment;
- Tree Inventory;
- Groundwater Resources;
- Air Quality;
- Noise and Vibration;
- Socio-Economic and Land Use;
- Traffic and Transportation;
- Cultural Heritage; and
- Archaeology.

4.1 Matter of Provincial Importance

As per the Transit Project Assessment Process Guide, the term matter of provincial importance means the following phrase in its entirety: a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest, or on a constitutionally protected Aboriginal or Treaty Right as recognized and affirmed in Section 35 of the *Constitution Act, 1982*. As part of this Study, matters of provincial importance are examined and considered for potential impacts and mitigation measures recommended.

4.2 Soils and Physiography

The Lake Erie-Lake Ontario Ecoregion (7E) is underlain by Silurian and Devonian limestone bedrock and substrate primarily characterized by calcareous mineral materials, with a secondary component composed of organic material (Crins et al., 2009). Data gathered from the OGS Earth database (MNDM, 2020) describes the

physiography of the Study Area predominantly as sand plains, with smaller areas characterized by shale plains, till plains, and historic beaches. The surficial geology of the Study Area consists primarily of till, Paleozoic bedrock, and coarse-textured glaciolacustrine deposits, with smaller areas of fine-textured glaciolacustrine deposits. Modern alluvial deposits can also be found within several watercourse corridors in the Study Area. No significant soil or bedrock geology features were identified within or adjacent to the Study Area.

4.3 Natural Environment

4.3.1 Methodology

4.3.1.1 Background Data and Agency Consultation

In order to acquire current information on habitat present within the Study Area, a comprehensive desktop review was completed. The desktop review of the available information sources listed below, provided data on the following: Vegetation characteristic of the area and ecoregion, Species at Risk that have been found or have the potential to be found in the vicinity of the Study Area, local habitat conditions in the vicinity of the subject property, fish species and habitat type present within identified watercourses, the location of any Natural Heritage features inclusive of Provincially Significant Wetlands, Areas of Natural and Scientific Interest, and Significant Woodlands in vicinity of the Study Area and any significant wildlife habitat. In addition to the above, any project specific information provided by Metrolinx was reviewed and local agencies were consulted to confirm desktop study findings and to provide any additional information with respect to the presence of Species at Risk, related habitats, and fish habitat within the Study Area. The overall review was conducted using the sources provided below:

- The Land Information Ontario was consulted for natural heritage information in the vicinity of the Study Area (Ministry of Northern Development, Mines, Natural Resources and Forestry, 2020a);
- The Ontario Geological Survey Earth geoscience database (MNDM, 2020);
- The Natural Heritage Information System database (Ministry of Northern Development, Mines, Natural Resources and Forestry, 2020b);
- The Atlas of the Breeding Birds of Ontario (Bird Studies Canada et al., 2006);
- The Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020);
- The Ontario Butterfly Atlas (Toronto Entomologists' Association, 2020);
- Readily available information from interest groups and the general public;

- Region of Peel Official Plan (Region of Peel, 2018);
- Environment Canada Climate database 2020;
- Fisheries and Oceans Canada Species at Risk Mapping; and
- Fish Online.

4.3.1.2 Field Data Collection

Field investigations to collect current information related to terrestrial and aquatic ecosystem conditions within the Study Area were carried out by McIntosh Perry staff. C. Heffernan and E. Jolin completed field investigations on May 28 and July 14, 2020. Additionally, K. Burrell and J. Abernethy completed field investigations on June 17 and June 23, 2021.

Fieldwork was conducted 120 metres from, as well as including the proposed project footprint. Fieldwork completed during the surveys was consistent with the requirements as defined in the Metrolinx RFP. The investigations included assessments of the following:

- Existing vegetation communities;
- Invasive and/or noxious plant species;
- Existing wetland areas;
- Observations of Species at Risk and their habitat (including suitable habitat);
- Resident or migrant bird and wildlife species;
- Wildlife corridors;
- Significant habitat areas or vegetation communities;
- Current land uses surrounding the Study Area; and
- Aquatic habitat characterization of Etobicoke Creek.

4.3.2 Description of Existing Conditions

4.3.2.1 Aquatic Environment

Several permanent watercourses occur within the Study Area. Background information indicate that the aquatic species listed below in **Table 4-1** have the potential to be present in the vicinity of, or within the Study Area.

Table 4-1: Potential Aquatic Species within the Study Area

Watercourse Name	Watercourse Classification (i.e. warm water, cold-water)	Historical Data in Fish Species Present
Mary Fix Creek	Warm water	Brown Bullhead, Goldfish
Cooksville Creek	Warm water	Blacknose Dace, Brown Trout, Creek Chub, Longnose Dace, Rainbow Trout, White Sucker
Little Etobicoke Creek	Unknown	Rock Bass, White Sucker
Etobicoke Creek	Warm water	Black Crappie, Blacknose Dace, Bluegill, Bluntnose Minnow, Brook Stickleback, Brown Bullhead, Coho Salmon, Common Carp, Common Shiner, Creek Chub, Fathead Minnow, Freshwater Drum, Johnny Darter x Tesselated Darter, Largemouth Bass, Longnose Dace, Pumpkinseed, Rainbow Smelt, Rock Bass, Round Whitefish, Smallmouth Bass, Threespine Stickleback, Walleye, White Perch, White Sucker, Yellow Perch

Of the four watercourses identified in the Study Area, a more comprehensive assessment of Etobicoke Creek was conducted due to both the undisturbed nature of the area, and the presence of natural features adjacent to the creek both upstream and downstream.

Field investigations of Etobicoke Creek were conducted. The main channel associated with the Dundas Street bridge structure was comprised of runs with a large riffle present approximately 30 metres downstream of the bridge crossing. Substrate within the Study Area section was comprised primarily of cobble and boulders with some fine sediment such as silt and sand present in some portions of the channel between the boulders and cobble. Habitat associated with the Dundas Street bridge crossing appears suitable to support the spawning of several species of specialized spawning baitfish within the Study Area (i.e., upstream, downstream and under the structure). Species which either broadcast their eggs over cobble substrates or use interstitial spaces between cobbles and boulders are anticipated to spawn directly within the Study Area. Though a comprehensive fisheries review including fish sampling was not completed, large numbers of juvenile and young of year baitfish were observed within Etobicoke Creek during the field investigations on May 28 and July 14, 2020.

Pictures of the Etobicoke Creek as part of the photographic field record can be found in **Appendix A**.

4.3.2.2 Terrestrial Environment

4.3.2.2.1 Vegetation

The Study Area is situated in the Lake Erie-Lake Ontario Ecoregion (7E) and in general is dominated by cropland and pasture (78%), with over 7% of the ecoregion converted to developed lands, making it the most urbanized ecoregion in Ontario. Remnant forests consist primarily of dense deciduous forest (10.3%), with the addition of sparse deciduous forests (1.0%) and mixed deciduous forests (0.8%). These forests contain characteristic species, such as Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*), White Ash (*Fraxinus americana*), Eastern Hemlock (*Tsuga canadensis*), and Eastern White Pine (*Pinus strobus*). Remnant tall-grass prairie and oak savannah ecosystems also occur in this ecoregion (Crins *et al.*, 2009).

The Study Area consists of a variety of largely heavily disturbed vegetation communities, including cultural and mixed meadow, deciduous woodland, open and treed bluffs, and mixed forest. Given the highly urban nature of the Study Area, many of the vegetation communities are disturbed. Some remnant natural communities are found, primarily in proximity to Etobicoke Creek. No rare vegetation communities or species were observed in association with the Study Area. As well, plant species are provided in **Table 4-2**, below.

Table 4-2: Vegetation Species Observed within the Study Area

Vegetation Type	Common Name	Scientific Name
Woody	Austrian Pine	<i>Pinus nigra</i>
Woody	Basswood	<i>Tilia americana</i>
Woody	Bur Oak	<i>Quercus macrocarpa</i>
Woody	Common Apple	<i>Malus domestica</i>
Woody	Common Buckthorn	<i>Rhamnus cathartica</i>
Woody	Common Hackberry	<i>Celtis occidentalis</i>
Woody	Common Pear	<i>Pyrus communis</i>
Woody	Colorado Blue Spruce	<i>Picea pungens</i>
Woody	Honey Locust	<i>Gleditsia triacanthos</i>
Woody	Lilac	<i>Syringa vulgaris</i>
Woody	Manitoba maple	<i>Acer negundo</i>
Woody	Norway Spruce	<i>Picea abies</i>
Woody	Norway Maple	<i>Acer platanoides</i>
Woody	Eastern Poison-ivy (noxious)	<i>Toxicodendron radicans</i>
Woody	Red Oak	<i>Quercus rubra</i>
Woody	Red-osier Dogwood	<i>Cornus sericea</i>
Woody	White Elm	<i>Ulmus americana</i>
Woody	Riverbank Grape	<i>Vitis riparia</i>

Vegetation Type	Common Name	Scientific Name
Woody	Scot's Pine	<i>Pinus sylvestris</i>
Woody	Shrub Willow	<i>Salix spp.</i>
Woody	Siberian Elm	<i>Ulmus pumila</i>
Woody	Silky Dogwood	<i>Cornus obliqua</i>
Woody	Staghorn Sumac	<i>Rhus typhina</i>
Woody	Sugar Maple	<i>Acer saccharum</i>
Woody	Tamarack	<i>Larix laricina</i>
Woody	Tatarian Honeysuckle	<i>Lonicera tatarica</i>
Woody	Virginia Creeper	<i>Parthenocissus quinquefolia</i>
Woody	White Birch	<i>Betula papyrifera</i>
Herbaceous	Bittersweet Nightshade	<i>Solanum dulcamara</i>
Herbaceous	Black Medick	<i>Medicago lupulina</i>
Herbaceous	Blue Vervain	<i>Verbena hastata</i>
Herbaceous	Boneset	<i>Eupatorium perfoliatum</i>
Herbaceous	Broad-leaved Cattail	<i>Typha latifolia</i>
Herbaceous	Birdfoot Trefoil	<i>Lotus corniculatus</i>
Herbaceous	Bull Thistle (noxious)	<i>Cirsium vulgare</i>
Herbaceous	Canada goldenrod	<i>Solidago canadensis</i>
Herbaceous	Canada thistle (noxious)	<i>Cirsium arvense</i>
Herbaceous	Chicory	<i>Cichorium intybus</i>
Herbaceous	Coltsfoot (noxious)	<i>Tussilago farfara</i>
Herbaceous	Common Milkweed	<i>Asclepias syriaca</i>
Herbaceous	Common Mullein	<i>Verbascum thapsus</i>
Herbaceous	Common Ragweed (noxious)	<i>Ambrosia artemisiifolia</i>
Herbaceous	Common Sow-thistle (noxious)	<i>Sonchus oleraceus</i>
Herbaceous	Cow Vetch	<i>Vicia cracca</i>
Herbaceous	Curly Dock	<i>Rumex crispus</i>
Herbaceous	Narrow-leaved Cattail	<i>Typha angustifolia</i>
Herbaceous	New England Aster	<i>Symphotrichum novae-angliae</i>
Herbaceous	Nodding Thistle	<i>Carduus nutans</i>
Herbaceous	Foxtail Barley	<i>Hordeum jubatum</i>
Herbaceous	Kentucky Bluegrass	<i>Poa pratensis</i>
Herbaceous	Pale Smartweed	<i>Persicaria lapathifolia</i>
Herbaceous	Philadelphia Fleabane	<i>Erigeron philadelphicus</i>
Herbaceous	Narrow-leaved Cattail	<i>Typha angustifolia</i>
Herbaceous	Phragmites (invasive)	<i>Phragmites australis subsp. Australis</i>
Herbaceous	Purple Loosestrife	<i>Lythrum salicaria</i>
Herbaceous	Queen Anne's lace	<i>Daucus carota</i>
Herbaceous	Reed Canary Grass	<i>Phalaris arundinacea</i>
Herbaceous	Spotted Jewelweed	<i>Impatiens capensis</i>
Herbaceous	Viper's Bugloss	<i>Echium vulgare</i>
Herbaceous	White Sweet-clover	<i>Melilotus albus</i>

4.3.2.2 Wetlands

The Study Area is situated in a highly urbanized area. There are no wetlands within the Study Area. The closest wetlands to the Study Area (i.e., within 2 kilometres), include the following wetlands:

- The Credit River Marshes Wetland Provincially Significant Wetland Complex is located 1.3 kilometre from the Study Area at its nearest point.
- An unevaluated wetland associated with Stillmeadow Park is located 0.8 kilometre from the Study Area at its nearest point.
- The Cawthra Woods Provincially Significant Wetland Complex is 1.7 kilometre from the Study Area at its nearest point.

4.3.2.3 Wildlife

Observations made during the 2020 and 2021 field investigations by McIntosh Perry staff documented wildlife around the Study Area. Incidental species observed include:

- Mammals: Eastern Cottontail (*Sylvilagus floridanus*) and Raccoon (*Procyon lotor*); and
- Insects: Cabbage White (*Pieris rapae*), Clouded Sulphur (*Colias philodice*).

The observed mammals and insects are typical of the Study Area and are common and secure in Ontario.

Table 4-3 outlines the bird species that were observed within the Study Area during the 2020 and 2021 field investigations and any applicable legislative protection for each species.

Table 4-3: Bird Species Observed Within the Study Area

Common Name	Scientific Name	Applicable Legislative Protection
American Crow	<i>Corvus brachyrhynchos</i>	N/A
American Goldfinch	<i>Spinus tristis</i>	<i>Migratory Birds Convention Act</i>
American Robin	<i>Turdus migratorius</i>	<i>Migratory Birds Convention Act</i>
American Woodcock	<i>Scolopax minor</i>	<i>Fish and Wildlife Conservation Act</i>
Barn Swallow	<i>Hirundo rustica</i>	<i>Migratory Birds Convention Act</i> <i>Endangered Species Act</i>
Brown-headed Cowbird	<i>Molothrus ater</i>	<i>Fish and Wildlife Conservation Act</i>
Blue Jay	<i>Cyanocitta cristata</i>	<i>Fish and Wildlife Conservation Act</i>
Canada Goose	<i>Branta canadensis</i>	<i>Migratory Birds Convention Act</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>	<i>Migratory Birds Convention Act</i>
Chimney Swift	<i>Chaetura pelagica</i>	<i>Migratory Birds Convention Act</i>

Common Name	Scientific Name	Applicable Legislative Protection
		<i>Endangered Species Act</i>
Chipping Sparrow	<i>Spizella passerina</i>	<i>Migratory Birds Convention Act</i>
Common Grackle	<i>Quiscalus quiscula</i>	<i>Fish and Wildlife Conservation Act</i>
Common Raven	<i>Ceryle alcyon</i>	<i>Fish and Wildlife Conservation Act</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	<i>Migratory Birds Convention Act</i>
Eastern Phoebe	<i>Sayornis phoebe</i>	<i>Migratory Birds Convention Act</i>
European Starling	<i>Sturnus vulgaris</i>	N/A
Great Blue Heron	<i>Ardea herodias</i>	<i>Migratory Birds Convention Act</i>
Gray Catbird	<i>Dumetella carolinensis</i>	<i>Migratory Birds Convention Act</i>
Herring Gull	<i>Larus argentatus</i>	<i>Migratory Birds Convention Act</i>
House Sparrow	<i>Passer domesticus</i>	N/A
Horned Lark	<i>Eremophila alpestris</i>	<i>Migratory Birds Convention Act</i>
House Wren	<i>Troglodytes aedon</i>	<i>Migratory Birds Convention Act</i>
Indigo Bunting	<i>Passerina cyanea</i>	<i>Migratory Birds Convention Act</i>
Killdeer	<i>Charadrius vociferus</i>	<i>Migratory Birds Convention Act</i>
Mourning Dove	<i>Zenaida macroura</i>	<i>Migratory Birds Convention Act</i>
Northern Cardinal	<i>Cardinalis</i>	<i>Migratory Birds Convention Act</i>
Ring-billed Gull	<i>Larus delawarensis</i>	<i>Migratory Birds Convention Act</i>
Rock Pigeon	<i>Columba livia</i>	N/A
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	<i>Fish and Wildlife Conservation Act</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>	<i>Migratory Birds Convention Act</i>
Song Sparrow	<i>Melospiza melodia</i>	<i>Migratory Birds Convention Act</i>
Spotted Sandpiper	<i>Actitis macularius</i>	<i>Migratory Birds Convention Act</i>
Turkey Vulture	<i>Cathartes aura</i>	<i>Fish and Wildlife Conservation Act</i>
Yellow Warbler	<i>Setophaga petechia</i>	<i>Migratory Birds Convention Act</i>
Warbling Vireo	<i>Vireo gilvus</i>	<i>Migratory Birds Convention Act</i>

4.3.2.4 Significant Wildlife Habitat

Based on the criteria outlined in the Significant wildlife habitat ecoregional criteria schedules: Ecoregion 7E ([click here for Significant Wildlife Habitat Ecoregional Criteria Schedules: Ecoregion-7e](#)), the following significant wildlife habitat is known to occur within the Study Area:

- Colonially – Nesting Bird Breeding Habitat (Cliff Swallow)

A total of eight active (in addition to several partial or older) Cliff Swallow nests were documented under the Etobicoke Creek bridge. These nests were in close proximity to several active Barn Swallow nests.

4.3.2.5 Species at Risk

Field surveys carried out by McIntosh Perry biologists found the following Species at Risk within the Study Area: Barn Swallow and Chimney Swift. Additionally, suitable habitat for Species at Risk bats (i.e., Little Brown, Northern, and Eastern Small-footed

Myotis, and Tricolored Bat) is present within the Study Area and it is presumed that these species may be present. Based on Fisheries and Oceans Canada Species at Risk Mapping, no aquatic Species at Risk are known to occur within the Study Area. Etobicoke Creek and Little Etobicoke Creek are considered historic habitat of Redside Dace (*Clinostomus elongatus*); while this habitat is not currently protected, should Redside Dace be detected in these watercourses again, regulated habitat protections would apply.

Given that much of the Study Area is urban, industrial, or suburban in nature, habitat for Species at Risk is limited within the Study Area. Species at Risk and their habitats are afforded protection under the Endangered Species Act.

4.3.2.6 Significant Natural Heritage Features

Several designated natural areas are located within the broader vicinity of the Study Area. However, the only Area of Natural and Scientific Interest located within or adjacent (within 2 kilometres) to the Study Area is the Cawthra Woods Area of Natural and Scientific Interest, located approximately 1.9 kilometres south of the Study Area.

The Cawthra Woods Area of Natural and Scientific Interest is characterized as a 20 hectares mature deciduous forest, comprised primarily of Sugar Maple, American Beech (*Fragus grandifolia*), and Black Cherry (*Prunus serotina*).

4.3.2.7 Study Area Ecological Functions

Based on information collected during the background information review, and field investigations, the Study Area provides several ecological functions. These include:

1. Habitat for fish

While all three watercourses within the Study Area have experienced heavy anthropogenic influences, Etobicoke Creek has the best and most extensive remaining natural habitat.

2. Nesting habitat for several species of migratory birds

The wooded communities found throughout the Study Area provide the best available nesting habitat for migratory bird species observed during field investigations.

3. Wildlife travel corridors

The riparian corridors associated with the Cooksville, Little Etobicoke, and Etobicoke Creek corridors provide habitat that may be suitable for wildlife travel corridors, particularly mammalian species which use these corridors in highly urbanized areas.

4. Habitat for Species at Risk bats (Tricolored Bat, Little Brown, Northern, and Eastern Small-footed Myotis)

Habitat for Species at Risk bats is present within the Deciduous Woodland and Dry – Fresh Oak Deciduous Woodland Ecosite.

5. Habitat for SAR birds (Barn Swallow and Chimney Swift)

Habitat for Species at Risk birds (i.e., Barn Swallow and Chimney Swift) is present within the Study Area, including active nesting sites (eight were documented under the Etobicoke Creek bridge), as well as foraging habitat.

4.4 Tree Inventory

4.4.1 Methodology

4.4.1.1 Tree Inventory

All trees with a measurable diameter at breast height that were within the Study Area and were located within the City of Mississauga's right-of-way, the City of Toronto's right-of-way and Ravine and Natural Feature Protection areas, and Toronto and Region Conservation Authority/Credit Valley Conservation Authority regulated areas were inventoried in accordance with the aforementioned arboricultural best practices and municipal guidelines. Additionally, all trees with a diameter at breast height of equal to or greater than 15 centimetres on private property that were within the Study Area were also inventoried. The locations of all identified trees were recorded using an SX Blue II GPS unit and Samsung tablet or smartphone.

4.4.1.2 Tree Assessment

The assessment included a visual examination of above-ground parts for each measurable tree. These trees were not inspected at height, probed, cored, or dissected, and excavation for detailed root crown inspection was not completed. Since some symptoms may only be present seasonally, the extent of observation that can be made may be limited by the time of year in which the assessment took place. As this tree inventory was conducted during the summer and leaf-on season, all trees underwent a full crown assessment by examining the proportion of live crown. It is understood that trees are living organisms and their health and vigour are continually changing over time due to factors such as seasonal variations and changes in site conditions. For this reason, the assessment presented in this report is valid at the time of inspection and no guarantee is made about the continued health of trees that were deemed to be in good, fair or poor condition.

In accordance with the aforementioned guidelines, all trees with a measurable diameter at breast height were to be identified, sized and assessed for condition. The visual inspection included recording abiotic and biotic disorders as well as structural defects. The condition rating designated to each tree was based on the results of the basic assessment. The hazard potential of trees was assessed using the method outlined in the International Society of Arboriculture publication *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas – 2nd Edition* (Matthey and Clark, 1994). Using this guide, an overall condition rating (i.e., dead, hazard, poor, fair, or good) was given to each tree included in the inventory.

- Dead:** A specimen tree is considered dead when it has no living tissue.
- Hazard:** The specimen tree could either be alive or dead but the tree in its part could pose an imminent hazard to people or property during normal weather conditions. These trees have the potential for splitting, breaking and/or falling over during inclement weather, and because of their proximity to various targets (i.e., people or property), could cause personal injury and/or severe damage to municipal infrastructure and/or private property.
- Poor:** Trees in poor condition show major symptoms of decline. At least 50% of main scaffold branches are dead, missing or in diseased state. The trunk shows evidence of advanced rot, deadwood or is hollow throughout. Twig development on the main branched or throughout the canopy is poor and may have limited sucker growth. Callus growth around wounds is minimal. A tree in poor condition could decline further to become a safety hazard. Removal prior to development should be considered if it is considered a hazard tree.
- Fair:** Trees in fair condition show moderate symptoms of decline in lower canopy or scaffold branches, but more than 50% of scaffold branches are present and viable. The trunk shows limited evidence of rot or insect damage. Good callus growth is present near wound areas. Trees that have scaffold branches that are healthy, but are in a “Y” formation may also be included in this category, if “included-bark” is evident as the risk of splitting or breakage increases as the tree matures. Removal or preservation of these trees depends on the location of the specimen and associated target potential, and would depend on the species, and its tolerance to grading, trenching and surviving in an urban environment. Some major arboricultural maintenance may be required and may include major scaffold or secondary branch removal, bracing and/or cabling.

Good: The specimen tree shows no symptoms of decline in the trunk, and all scaffold branches are present and are in good condition. Most scaffold branches are at right angles to the trunk, and show good vigour. Small amounts of dead wood may be present in secondary branches, but account for less than 25% of the canopy. Depending on the grading in the immediate area, a tree in good condition would be recommended for preservation. Such a tree would typically survive to maturity without major arboricultural maintenance.

4.4.1.3 Tree Impact Analysis

Using data collected during the tree inventory and assessment, a tree impact analysis was performed using ESRI ArcGIS software. Determination of each tree's recommended action (i.e. remove, minor injury and protect, injure and protect, protect or retain) were based on several factors including each tree's current condition and its location in relation to the Project Area. As per the respective tree protection guidelines for each municipality, a recommended tree protection zone was applied around each tree. The tree protection zone is an area around each tree, typically established based on the species and size of the tree and is intended to provide a buffer protecting the tree from potential impacts, including root and soil compaction and mechanical damage of above-ground parts.

As such tree protection zone for the trees within the City of Mississauga were determined based on each tree's diameter class, as per the Tree Protection Zone table within the *Tree Preservation and Protection Standards (2017)*. For trees within the City of Toronto, a tree protection zone for a tree found within a non- Ravine and Natural Feature Protection Ravine and Natural Feature Protection area was determined based on the tree's diameter class, whilst for a tree found within a Ravine and Natural Feature Protection area the tree protection zone was determined based on either the tree's dripline or its diameter class, whichever was largest. Furthermore, based on a directive from the Toronto and Region Conservation Authority, trees that were located within a Toronto and Region Conservation Authority regulated area were to have a tree protection zone that was 1 metre beyond the dripline. As such, for the purposes of this tree impact analysis the largest tree protection zone (i.e., diameter class or dripline +1 metre) was used for trees found within a Toronto and Region Conservation Authority regulated area.

4.4.1.4 Tree Valuation

As outlined in the City of Mississauga's *Tree Preservation & Protection Standards (2017)*, a Tree Appraisal Value using the Trunk Formula Method for City of Mississauga-owned trees recommended for removal is a requirement for an Arborist

Report. The Council of Tree & Landscape Appraisers provides guidance on using the Trunk Formula Method to appraise the monetary value of trees that are considered too large to be replaced with nursery or field-grown stock. There are several factors to be considered when appraising a tree recommended for removal, including (but not limited to) its species factor, condition factor, installation cost and replacement cost. These factors are based on the *Guide for Plant Appraisal (2000) Ontario Supplement (2020)* document which provides regionally relevant data pertaining to species ratings, and basic costs for trees and/or current industry tree replacement costs.

4.4.2 Tree Inventory

A total of 1,565 individual trees were inventoried and assessed for the Project, which comprised of 1,460 trees within the City of Mississauga and 105 within the City of Toronto.

In terms of tree location in proximity to the Project Area, 861 trees were directly located within the Project Area and 702 trees within the Study Area, collectively. An additional two trees that were inventoried were situated outside of the Study Area. **Table 4-4** below provides a summary of tree locations within Study Area, whilst **Table 4-5** provides a summary of trees inventoried as well as their City of Mississauga ownership or their City of Toronto By-law category.

Table 4-4: Summary of Tree Locations

Location	Trees Within the Project Area	Trees Within Buffer Area*	Trees Located Outside Study Area	Total Number of Trees
City of Mississauga	847	612	1	1,460
City of Toronto	14	90	1	105
Total	861	702	2	1,565

Note: * Trees located within 6 metre, 10 metre or 12 metre from Project Area, as required by the applicable by-laws and guidelines.

Table 4-5: Summary of Tree Inventory and Total Trees in Each Category

City Name	Ownership/ Category	Description	Total
City of Mississauga	City of Mississauga	Trees of all diameter situated on City of Mississauga right-of-way or City-owned property	770
City of Mississauga	Region of Peel	Trees of all diameter situated on Region of Peel right-of-way or Region-owned property	82
City of Mississauga	Private	Trees of all sizes situated on private property	607
City of Mississauga	N/A	Trees of all diameters located outside the Study Area within City of Mississauga	1
City of Mississauga	-	Total	1,460

City Name	Ownership/ Category	Description	Total
City of Toronto	1	Trees of all diameters situated on private property within the Project Area	0
City of Toronto	2	Trees of all diameters situated on private property within the Study Area	0
City of Toronto	3	Trees of all diameters situated on City-owned parkland within the Study Area	0
City of Toronto	4	Trees of all diameters that are located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	0
City of Toronto	5	Trees of all diameters situated on City's road allowance, as well as other City-owned property, within the Project Area and Study Area	0
City of Toronto	Shared (1,4)	Trees of all diameters situated on private property within the Project Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	14
City of Toronto	Shared (2,4)	Trees of all diameters situated on private property within the Study Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	64
City of Toronto	Shared (3,4)	Trees of all diameters situated on City-owned parkland within the Study Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	10
City of Toronto	Shared (5,4)	Trees of all diameters situated on City's road allowance, as well as other City-owned property, within the Study Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection within the Study Area	16
City of Toronto	N/A	Trees of all diameters located outside the Study Area within City of Toronto	1
City of Toronto	-	Total	105
Cities of Mississauga and Toronto	-	Grand Total	1,565

4.5 Groundwater Resources

The topography and regional drainage of the Study Area is affected by the local development and is undulating in nature, with a general downward slope southerly towards Lake Ontario. However, regional drainage in close proximity to Cooksville Creek, Little Etobicoke Creek and Etobicoke Creek will occur towards the direction of respective creeks. Elevations within the Study Area range from approximately 108 to 125 metres above sea level (Ontario, 2021b).

It must be noted that subterranean infrastructure such as utility conduits, ducts, subgrade structures, dewatering systems and buildings influence the local flow of shallow groundwater and have not been assessed as part of this Limited Phase I Environmental Site Assessment. Regional groundwater flow directions were estimated by first assuming all groundwater will tend to flow southward, towards Lake Ontario and then will also tend towards other nearby water features, such as rivers when in close proximity to said features. The regional groundwater flow assumptions do not take into account any potential localized features that may be present in any given area, such as underground utilities, basements that are within the water table or dewatering systems. Identifying locations of localized features that may manipulate groundwater flow direction was not part of the scope of this assignment.

4.6 Air Quality

4.6.1 Background Review

Relevant project-specific background documents and information were reviewed prior to conducting the impact assessment. Project-specific information was primarily related to engineering details for the project design, specifications and other relevant data where appropriate. Existing documentation on traffic studies conducted within the boundary of the Study Area was requested from relevant municipal bodies, including City of Toronto, City of Mississauga, City of Oakville, Regional Municipality of Peel, and Regional Municipality of Halton, and has been reviewed to be able to provide existing conditions and future projected traffic volumes.

The background review provided the basis of understanding for the Project requirements and informed the methodology for carrying out the Air Quality Impact Assessment.

4.6.2 Description of Existing Conditions

The Study Area for this assessment is the Project footprint area marked for development, including all lands scheduled for construction activities and new or expanded stations with a 500-metre extension surrounding all potential on-ground sources of air emissions. Representative receptors were selected within these individual 500-metre boundaries surrounding the Project Area. Representative receptors were marked as either sensitive or critical. Sensitive receptors include residential homes and critical receptors include locations where vulnerable populations spend eight or more hours per day (e.g. hospitals, schools, child-care centres, long-term care homes, etc.).

Criteria air contaminants and greenhouse gases were selected for assessment based on recommendations from the internal Metrolinx Draft Environmental Guide: Recommended Approach for Assessing and Mitigating Air Quality Impacts and

Greenhouse Gas Emissions of Metrolinx Public Transit Projects (“Metrolinx Air Quality Guideline” issued in draft, November, 2019), and the Ministry of Transportation Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (2020). Relevant criteria for assessment were obtained from the Ontario Ambient Air Quality Criteria (AAQC, 2020) and the Canadian Ambient Air Quality Standards (CAAQS, 2020).

The meteorological data was obtained from the Toronto Pearson Airport over a 5-year period (2016 to 2020). The wind rose for this time period shows the predominant wind direction is from the northwest, the west and southeast. It also shows a low-windspeed predominance from the southeast.

Background air quality levels are predominately below respective Provincial and Federal ambient air quality criteria and standards; however, some levels show significant exceedances for benzo(a)pyrene, as well as a lesser exceedance for benzene and nitrogen dioxide. In addition, both nitrogen dioxide and fine particulate matter (PM_{2.5}) show ambient concentrations within 73% to 87% of their respective federal standards.

4.6.3 Representative Receptors

Representative receptors were selected within this Study Area, determined by distance from the proposed project alignment. A total of nine (9) critical receptors (childcare centres, retirement homes, and similar institution buildings) and 27 sensitive receptors (residences) were identified as per Table 21 in the Air Quality Impact Assessment Report. A figure showing the locations of each of the representative receptors is provided in Figure A3, Appendix A of the Air Quality Impact Assessment Report. The Air Quality Impact Assessment Report is available in **Appendix D** of this Environmental Project Report.

4.6.4 Relevant Air Quality Guidelines

The applicable standards for Criteria Air Contaminants are established by the Ministry of the Environment, Conservation and Parks as the Ambient Air Quality Criteria (AAQC, 2020) and the Canadian Council of Ministers of the Environment as the Canadian Ambient Air Quality Standards (CAAQS, 2020). A summary of the standards and guidelines are presented in **Table 4-6** below.

Table 4-6: Summary of Applicable Guidelines and Standards

Criteria Air Contaminant	Source	Averaging Period	Air Quality Threshold Value (µg/m ³)
Nitrogen dioxide	Ambient Air Quality	One hour	400

Criteria Air Contaminant	Source	Averaging Period	Air Quality Threshold Value ($\mu\text{g}/\text{m}^3$)
	Criteria	24 hours	200
Nitrogen dioxide ⁽¹⁾	Canadian Ambient Air Quality Standards	One hour (2020)	119
		Annual (2020)	34
		One hour (2025)	83
		Annual (2025)	24
Carbon monoxide	Ambient Air Quality Criteria	One hour	36,200
		Eight hours	15,700
Sulphur dioxide	Ambient Air Quality Criteria	10-minute	178
		One hour	106
		Annual	11
Sulphur dioxide ⁽²⁾	Canadian Ambient Air Quality Standards	One hour (2020)	193
		Annual (2020)	14
		One hour (2025)	179
		Annual (2025)	11
Particulate matter (<10 microns) ⁽³⁾	Ambient Air Quality Criteria	24 hours	50
Particulate matter (<2.5 microns) ⁽⁴⁾	Canadian Ambient Air Quality Standards	24 hours (2020)	27
Particulate matter (<2.5 microns) ⁽⁴⁾	Canadian Ambient Air Quality Standards	Annual (2020)	8.8
Acetaldehyde	Ambient Air Quality Criteria	30-minute	500
		24 hours	500
Acrolein	Ambient Air Quality Criteria	One hour	4.5
		24 hours	0.4
Benzene	Ambient Air Quality Criteria	24 hours	2.3
		Annual	0.45
Benzo(a)pyrene	Ambient Air Quality Criteria	24 hours	0.00005
		Annual	0.00001
1,3-Butadiene	Ambient Air Quality Criteria	24 hours	10
		Annual	2
Formaldehyde	Ambient Air Quality Criteria	24 hours	65

Notes: (1) The Canadian Ambient Air Quality Standards threshold for nitrogen dioxide is based on the three-year average of the annual 98th percentile of the daily maximum one-hour average concentrations.

- (2) The Canadian Ambient Air Quality Standards threshold for sulphur dioxide is based on the three-year average of the annual 99th percentile of the daily maximum one-hour average concentrations.
- (3) The value of 50 µg/m³ (24 hr) is an interim Ambient Air Quality Criteria and is provided as a guide for decision making.
- (4) The Air Quality threshold for fine particulate (PM_{2.5}) is based on the 98th percentile ambient measurement (24-hour), annually averaged over three years.

The Ambient Air Quality Criteria are acceptable effects-based levels in ambient air, used for assessing general air quality and the potential for causing adverse effects. Criteria are set based on the “limiting effect” and are the lowest concentrations at which an adverse effect may be experienced. Effects considered may be health, odour, vegetation, soiling, visibility, corrosion or others and thresholds have variable averaging times appropriate for the effect that they are intended to protect against. The Ambient Air Quality Criteria are set at levels below which adverse health and/or environmental effects are not expected. If a contaminant has more than one Ambient Air Quality Criteria value, all must be used for assessment purposes as each represents a different type of effect linked to a particular averaging period.

The Canadian Council of Ministers of the Environment has developed Canada-wide standards for PM_{2.5}, NO₂ and SO₂ under the Canadian Ambient Air Quality Standards. The Canadian Ambient Air Quality Standards are established as voluntary objectives under the Canadian Environmental Protection Act, 1999. These standards are developed jointly by various provincial jurisdictions based on a scientific and risk-based approach. Standards are presented to the Ministers along with a timetable for implementation and monitoring and public reporting programs. Ministers are responsible for implementing the standards within their own jurisdictions and promote consistency across the country.

4.6.5 Methodology

Examine vehicle exhaust and greenhouse gas emissions:

- The assessment was based on publicly available historical data from ambient air quality monitoring stations close to the Study Area
- Five-years of data was averaged to capture existing air quality data from monitoring stations. Emissions captured included:
 - Vehicular emissions;
 - Diesel rail emissions; and

- Industrial emissions.

Determine the need for mitigation and provide a strategy or list of potential mitigation measures based on construction and operation plans.

4.7 Noise and Vibration

4.7.1 Description of Existing Conditions

The Study Area is generally a mix between commercial and residential uses in a busy urban environment. Dundas Street is considered an arterial roadway which is intersected by other arterials (e.g., Dixie Road) and minor residential or commercial access roads. The ambient sound levels at the most impacted noise sensitive locations (e.g., dwellings) are dominated by a combination of existing Dundas Street and the intersecting roads. Existing GO rail intersecting Dundas Street near Cawthra contributes to the existing ambient sound levels at sensitive locations.

Currently, no known existing vibration concerns due to road traffic. However, heritage buildings have been identified in close proximity to Dundas Street.

4.7.2 Methodology

Municipal, regional and provincial legislation or guidelines address assessment and limits to noise, vibration, or both due to project construction and operation activities. However, the Metrolinx Environmental Guide for Noise and Vibration Impact Assessment (Metrolinx Guide) provides a framework for noise and vibration assessments of transit projects including Bus Rapid Transit. The Metrolinx Guide was developed by industry subject matter experts with contributions from the Ontario Ministry of the Environment, Conservation and Parks and provides direction for the assessment of and limits to noise and vibration impacts due to project construction and operation activities. The assessment for the Project was undertaken in accordance with the definitions and methods defined within the Metrolinx Guide relevant to the Project. These methods are further specified in the following sections.

4.7.2.1 Sensitive Receptors

This assessment determined the potential impacts at noise or vibration sensitive receptor (Receptor) locations. These Receptors were defined as locations where people may typically live, sleep, learn or pray, in accordance with the Metrolinx Guide. The selection of Receptor locations considered factors including the:

- Separation distance between Receptors and Project source(s);

- Shielding from intervening structures between Receptors and Project source(s);
- Background sound or vibration levels of Receptors; and
- Level of sensitivity of the Receptor.

Sensitive receptors were identified based on aerial and street imagery. Within distinct areas of sensitive land uses, groupings of sensitive Receptors were identified and selected to represent the potential worst-case impact due to Project activities. It is not typically necessary to undertake calculations for every Receptor along the corridor, especially for those that are farther away since those locations will have an equal or lesser impact.

4.7.2.2 Noise During Construction

The limits for noise during construction activities for a project are described by noise exposure limits in the Metrolinx Guide. These limits were adapted from the U.S. Federal Transit Administration Publication Transit Noise and Vibration Impact Assessment (2006) and Federal Highway Administration publication Highway Construction Noise Handbook (2006). The noise exposure limits are defined as sound level limits of varying time-based equivalent sound levels (i.e., day, night, 15 minute and maximum) during the daytime or nighttime periods that also depend on the land use of the noise sensitive receptor. A summary of these limits is provided in **Table 4-7**.

The Metrolinx Guide provides limits for the daytime and night-time equivalent sound levels as the louder of up to a 5 dB increase above baseline or an absolute limit as defined in **Table 4-7**.

This assessment considers the predicted sound level due to the Project activities compared with the defined absolute limits. This approach is considered conservative since:

- The absolute limit would be used if the baseline sound level were equal to 5 dB below the absolute limit, or lower; and
- The absolute limit would be more restrictive if the baseline sound level were higher than 5 dB below the absolute limit.

Additional baseline noise measurements may be conducted immediately prior to construction in order to refine these limits.

A Zone of Influence was developed to define the geographic area within which receptors may be exposed to unmitigated noise levels higher than the defined limits. The Zone of Influence was used to inform the identification of areas where mitigation measures may be required. Where the sound levels were predicted to exceed the

defined limits, mitigation measures were investigated and implemented in the acoustic model to reduce the impact in order to demonstrate the feasibility of compliance.

Table 4-7 : Construction Noise Exposure Limits

Land Use	L _{eq} (15-h, 9-h) (dBA)	L _{eq} (15-h, 9-h) (dBA)	L _{eq} (15-minute) (dBA)	L _{eq} (15-minute) (dBA)	L _{max} (dBA)
	Day (07:00 – 22:00)	Night (22:00 – 07:00)	Day (07:00 – 22:00)	Night (22:00 – 07:00)	Day (07:00 – 22:00)
Residential – Weekday	Louder of: 75 or Baseline+5	Louder of: 65 or Baseline+5	85	75	90
Residential – Weekend & Holiday	Louder of: 70 or Baseline+5	Louder of: 60 or Baseline+5	75	65	90
Institutional	Louder of: 70 or Baseline+5	Louder of: 60 or Baseline+5	75	65	90
Commercial	Louder of: 80 or Baseline+5	None	None	None	None
Industrial	Louder of: 85 or Baseline+5	None	None	None	None

Notes:

1. Weekend commences at 10:00 pm on Friday and ends at 7:00 am on Monday.
2. Noise measurements should be made continuously over the applicable averaging time and should exclude spurious events and non-project rail passbys.
3. All L_{max} noise measurements made with sound level meter set to slow-scale response.
4. Institutional buildings include schools, universities, child daycare centres, hospitals, old age homes, and churches where noise may be less tolerable.
5. All limits apply to the noise-sensitive receptor and are measured outdoors as close as practical to the building façade or property line, typically, that means at the lot-line of the receptor property. For large properties in rural settings where buildings and livable areas are set back from lot-lines and construction areas, lot-line measurements can be extrapolated to remote receptor locations.

4.7.2.3 Vibration During Construction

The limits for ground-borne vibration during construction activities for a project are described by absolute limits in the Metrolinx Guide. These limits were developed based on the Ministry of Environment and Energy and GO Transit publication Noise and Vibration Protocol (1995) and the City of Toronto’s By-Law No. 514-2008 (2008) which address public annoyance and building damage, respectively. Further, these limits are based on root mean square velocity and peak particle velocity levels in millimetres per second for public annoyance and building damage, respectively. The peak particle velocity vibration limits are also dependent on the frequency of vibration. The Metrolinx Guide notes that stricter vibration limits for building damage as defined by the U.S. Federal Transit Administration may be required for fragile or heritage buildings. A summary of the vibration limits applicable to this assessment is summarized in **Table 4-8**.

The assessment compared the predicted vibration level due to the Project activities with the limits defined in **Table 4-8**. The equipment and activities associated with Project construction was used for this assessment. For the assessment of public annoyance, the Root mean square velocity limit of 0.14 millimetres per second. This is considered a conservative approach since this limit is the most restrictive.

Table 4-8: Construction Vibration Limits

Target of Criteria	Vibration Limit (mm/s)
Public Annoyance	Root mean square velocity not to exceed 0.14 millimetres per second or current conditions (whichever is higher)
Building Damage (Normal)	Peak Particle Velocity limit according to frequency (Hz): < 4 Hz 8 millimetres per second 4 Hz to 10 Hz 15 millimetres per second > 10Hz 25 millimetres per second
Building Damage (Fragile or Heritage)	Peak Particle Velocity limit of 3 millimetres per second

- Notes: 1. Vibration is assessed as close as possible to building foundation, typically within 5 metres.
 2. The vertical component of vibration is used to assess compliance with criteria.

A Zone of Influence was developed to define the geographic area within which receptors may be exposed to unmitigated vibration levels higher than the defined limits. The Zone of Influence was used to inform the identification of areas where mitigation measures may be required. Where the vibration levels were predicted to exceed the defined limits, mitigation measures were investigated and implemented in the acoustic model to reduce the impact in order to demonstrate the feasibility of compliance.

4.7.2.4 Noise During Operation

The criteria for assessing road traffic noise are based on the Ontario Ministry of Transportation publication Environmental Guide for Noise (Ontario Ministry of Transportation 2008) and the City of Mississauga Policy No. 09-03-03, Noise Attenuation Barriers on Major Roadways. The limits for noise during operation activities for a project are described by an allowable change compared with the future ambient sound levels and an absolute limit. Noise levels are calculated in Outdoor Living Area locations based on the 16-hour equivalent traffic noise level between 07:00 hours (07:00 am) and 23:00 hours (11:00 pm). Outdoor Living Areas are generally located 1.2 metres above the existing ground surface at a distance of 3 metres from the dwelling unit wall and may include areas such as patios, decks, terraces and backyards. The sound level limits ($L_{eq,16hr}$) for Bus Rapid Transit projects along roadways (excluding highways) are:

- +5 dB relative to future ambient sound level, or
- 60 dBA within the City of Mississauga, and 65 dBA outside the City of Mississauga.

In order to determine the change in future ambient sound level, the predicted sound level of the Bus Rapid Transit operations was added to the predicted future ambient sound level. These predictions were compared with the allowable limits to determine if an exceedance was likely. The determination of the future ambient sound level was based on projections of road traffic volumes.

4.7.2.5 Vibration During Operation

There are no quantitative limits or methods of assessment for the assessment of vibration during project operation defined in the Metrolinx Guide or in other provincial and federal guidelines. However, the U.S. Federal Transit Administration publication Transit Noise and Vibration Impact Assessment Manual (2018) notes that “Because the rubber tires and suspension systems on buses provide vibration isolation, it is unusual for buses to cause ground-borne vibration or noise problems.” In addition, within the context of environmental assessments in the province of Ontario, vibration impact assessments for rubber-tired vehicle projects has historically not been completed. In consideration of the above, a quantitative vibration assessment from operation of the Bus Rapid Transit was not completed.

With respect to ground-borne vibration or noise problems, it is uncommon for rubber-tired vehicles to be a source of concern. The U.S. FTA notes that “Because the rubber tires and suspension systems on buses provide vibration isolation, it is unusual for buses to cause ground-borne vibration or noise problems. For most issues with bus-

related vibration, such as rattling of windows, the cause is almost always airborne noise and directly related to running surface conditions such as potholes, bumps, expansion joints, or other discontinuities in the road surface (usually resolved by smoothing the discontinuities).” The quality of the road surface condition upon commencement of operation is not controlled by the Project or its design. Rather, the condition will be dependant on the quality of workmanship of the contractor who should complete the Project free from discontinuities, potholes, or bumps. Finally, ongoing maintenance of the road surface would be within the purview of the City of Mississauga.

4.7.2.6 Determining Future Ambient Conditions

Future ambient sound levels (i.e., future without Project) for each receptor location were determined by predictive modeling. Peak AM traffic volumes were provided by AECOM traffic analysts for 2041 Business-as-Usual (May 2021). The future ambient sound levels include traffic related to proposed Metrolinx projects, but rail and aircraft sources are not generally included. In practice, there may be some influence in the overall noise level at any Receptor from ambient noise sources including rail and aircraft traffic. Ambient noise sources were not included in this modelling. The assessment is therefore considered to have used a conservative approach because the baseline level used for determining the impact will be lower than if these sources were included.

4.7.2.7 Modelling

4.7.2.7.1 Noise During Construction

Noise emissions sources for the construction of road works and infrastructure for the Project include mobile and stationary equipment such as excavators, asphalt pavers and power generators. Detailed construction staging and equipment has not yet been developed for the Project. However, six potential construction activities and associated equipment were identified and assumed to be the most energy intensive (i.e., highest levels of noise and vibration):

1. Existing Asphalt Removal and Site Preparation;
2. Paving New Asphalt;
3. Station Construction Installation;
4. Soil Excavation and Stockpiling;
5. Culvert Construction; and
6. Bridge Construction.

Sound levels due to construction noise at points of reception were predicted based on the procedure provide in the Metrolinx Guide which incorporates geometric spreading

calculations (excluding ground topography and duty cycles of construction equipment. The equation for the prediction of the propagation of noise is as follows:

$$L_{eq}(\text{point of reception}) = SPL_{\text{equipment @ ref}} - 20 \log (D_{\text{point of reception}}/D_{\text{ref}}) + 10 * \log(D.C.)$$

Where: $L_{eq}(\text{point of reception})$ = sound level of the piece of equipment at the point of reception (dBA),

$SPL_{\text{equipment}}$ = sound pressure level of equipment at a reference distance (usually 15 metres or 50 feet),

$D_{\text{point of reception}}$ = straight line distance from equipment to point of reception (metres),

D_{ref} = reference distance provided in $SPL_{\text{equipment}}$ (metres), and

$D.C.$ = fraction of time, or duty cycle, that a piece of equipment usually operates.

The total sound level at a point of reception is determined by the logarithmic sum of the predicted values for each source (i.e., piece of equipment) associated with the construction activities.

4.7.2.7.2 Vibration During Construction

Construction vibration Zones of Influence were predicted using reference equipment source levels and assumed equipment operations for the construction activities and equipment. The U.S. Federal Transit Administration includes procedures for predicting vibration transmission which incorporate a distance attenuation equation to estimate vibration levels from reference source levels. As a result, the predictions provide a reasonable estimate for a wide range of soil conditions.

$$\text{Peak Particle Velocity} = (\text{Reference vibration velocity}) \times (D_{\text{ref}}/D)^{1.5}$$

Where: D_{ref} = the reference distance at which the reference vibration level is given and

D = the distance from the equipment to the receiver.

The building damage limits are based on in-ground vibration levels, adjacent to the building. Perceptible vibrations would result from in-building floor vibrations, but the limits for construction vibration perceptibility are also taken as in-ground vibration levels. This approach is consistent with the U.S. Federal Transit Administration procedures.

For the assessment of public annoyance, the resultant peak particle velocity may be converted to a root mean square velocity value. In accordance with the U.S. Federal Transit Administration for construction vibration, a crest factor (ratio of peak particle velocity to maximum root mean square velocity) of 4 was used in the following equation.

$$\text{Root mean square velocity} = \text{Peak particle velocity} \div 4$$

The building damage limits are based on in-ground vibration levels, adjacent to the building. Perceptible vibrations would result from in-building floor vibrations, but the limits for construction vibration perceptibility are taken as in-ground vibration levels. This approach is consistent with the U.S. Federal Transit Administration procedures.

For the determination of the Zone of Influence for public annoyance, the resultant peak particle velocity may be converted to an approximate root mean square velocity value. In accordance with the U.S. Federal Transit Administration procedure for construction vibration analysis, a crest factor (ratio of peak particle velocity to maximum root mean square velocity) of 4 was used in the following equation.

$$\text{Approximate root mean square velocity} = \text{Peak particle velocity} \div 4$$

4.7.2.7.3 Noise During Operation

Noise emission predictions due to road traffic were based on the methods provided by the Ministry of the Environment (now the Ministry of the Environment, Conservation and Parks) publication Ontario Road Noise Analysis Method for Environment and Transportation (1990). Model predictions in accordance with Ontario Road Noise Analysis Method for Environment and Transportation are based on methods developed by the US Federal Highway Administration. This assessment method evaluates a reference sound level and applies adjustments based on the gradient of the roadway, pavement surface, distance between road and receiver, topography and any shielding between the source and a Receptor location.

When assessing buses using the Ontario Road Noise Analysis Method for Environment and Transportation algorithms, they are classified as “medium trucks”. However, using the medium truck reference sound source characteristics does not account for the routing of exhaust to roof level for modern buses. Therefore, an adjusted source height of 2.4 metres for the Bus Rapid Transit buses was used in this assessment to reflect the heightened acoustic centre considering the roof level exhaust.

4.8 Socio-Economic and Land Use

4.8.1 Methodology

The methodology for the Study involves the completion of four main tasks:

1. Policy review;
2. Existing conditions review;
3. Site Visit; and
4. Documentation of Potential Impacts, Mitigation Measures, and Monitoring Activities.

4.8.1.1 Policy Review

A background review was conducted using applicable provincial, municipal, and other relevant policy documents to identify and understand the planning framework and current land use designations affecting the Study Area.

4.8.1.2 Existing Conditions Review

An existing conditions review was conducted within the Study Area, which included neighbourhood profiles, community amenities, and development applications present. These categories broadly describe the socio-economic and land use environment along Dundas Street that the Project may interact with. Neighbourhood profiles were developed using municipal data portals, Census information, mapping software, site visit observations and other desktop resources. Community Amenities were captured using Google Maps and confirmed with site visit observations. Development Applications were available and obtained through municipal data portals ([click here to obtain development applications](#)).

4.8.1.3 Site Visit

A site visit was used to verify the data collected in the previous tasks, and to document any additional socio-economic features within the Study Area. The site visit occurred on April 14, 2021. Photos from the Site Visit are provided in **Appendix A**.

4.8.1.4 Potential Impacts, Mitigation Measures, and Monitoring Activities

Socio-economic features and land uses identified in the previous two sections were assessed against the Project to determine potential adverse impacts and opportunities which may result from the Project. Based on the potential adverse impacts identified, appropriate mitigation measures (where impacts are anticipated) are provided, with the

aim of reducing or eliminating adverse impacts. Monitoring requirements are also identified, for both the construction and operation phases of the Project. Impacts and mitigation are based on industry best practice.

4.8.2 Description of Existing Conditions

4.8.2.1 Planning Policy Context

The following section discusses relevant planning policies that affect the Project. A discussion of the transportation planning framework under which this Project is being planned can be found in **Section 1.2**.

4.8.2.1.1 Provincial

Over the past two decades, the Province has approved a series of initiatives, statutes and plans that have changed the way planning and development is to occur within Ontario. A significant number of these address land use in the context of transportation and public transit, as described in the following sections. Accordingly, the delivery of transit and public transit related developments should be consistent with these policies.

A Place to Grow: Growth Plan for the Greater Golden Horseshoe

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, Office Consolidation 2020 (Growth Plan), is a long-term plan for Ontario to promote economic growth, increase housing supply, create jobs and build communities that make life easier, healthier and more affordable for people of all ages. The current Growth Plan came into effect on May 16, 2019 and was consolidated in August 2020. Changes to the Growth Plan since its original 2006 version and 2017 updated version have provided greater detail on policies for achieving vibrant and complete communities. A primary objective of the Growth Plan is the achievement of complete communities that provide access to transit networks and have an increased amount and variety of housing options.

The Growth Plan identifies Downtown Mississauga as an “urban growth centre”. It is noted that the Mississauga Official Plan includes Downtown Cooksville as part of the overall Downtown Mississauga Designation. Downtown Cooksville is located where Dundas Street intersects Hurontario Street. The Growth Plan notes that “urban growth centres” will be planned:

- As focal areas for investment in regional public service facilities, as well as commercial, recreational, cultural and entertainment uses;
- To accommodate and support the transit network at the regional scale and provide connection points for inter- and intra-regional transit;

- To serve as high-density major employment centres that will attract provincially, nationally or internationally significant employment uses; and
- To accommodate significant population and employment growth.

Each “urban growth centre” is given a minimum density target to achieve by 2031. The minimum density target for Downtown Mississauga is 200 residents and jobs combined per hectare. The Growth Plan directs growth within settlement areas to “strategic growth areas” which includes “urban growth centres” and “major transit station areas” (Policy 2.2.1.2). Of relevance to the Project and Study Area are policies that relate to the creation of complete communities and enhanced transit planning within “strategic growth areas”.

Greenbelt Plan

The Greenbelt Plan, 2017 identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas and function occurring within the Greater Golden Horseshoe landscape (Province of Ontario, 2017). The Greenbelt Plan was introduced under the Greenbelt Act, 2005 and includes lands within, and builds upon the ecological protections provided by, the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan. The Greenbelt Plan, together with the Growth Plan, builds on the Provincial Policy Statement to establish a land use planning framework for the Greater Golden Horseshoe that supports a thriving economy, a clean healthy environment, and social equity (Province of Ontario, 2017).

The Project terminates near Etobicoke Creek, which is designated as an Urban River Valley under the Greenbelt Plan, 2017. The Urban River Valley designation, which applies to publicly owned urban river valley lands brought into the Greenbelt, promotes protection of natural and open space lands along river valleys in urban areas, provides connectivity between the Greenbelt and Lake Ontario, and directs land use planning in areas where the Greenbelt occupies river valleys in an urban context (Province of Ontario, 2017). The Greenbelt Plan lays out goals for Urban River Valleys (s. 1.2.3). Relevant to the Project and Study Area are the following:

- Protection of natural and open space lands along river valleys in urban areas which will assist in ecologically connecting the rest of the Greenbelt Area to the Great Lakes and other inland lakes;
- Protection of natural heritage and hydrologic features and functions along urban river valleys, including coastal wetlands;
- Conservation of cultural heritage resources; and

- Provision of a range of natural settings on publicly owned lands for recreational, cultural and tourism uses, including parkland, open space land and trails.

Urban River Valley Policies, provided under Section 6 of the Greenbelt Plan, note that all existing, expanded or new infrastructure subject to and approved under the Environmental Assessment Act (or similar approval) are permitted within the Urban River Valley designation, provided that the goals of the Growth Plan and Greenbelt Plan are supported (Province of Ontario, 2017).

4.8.2.1.2 Municipal

Region of Peel Official Plan

The Peel Region Official Plan, Office Consolidation 2018 is a long-term plan used to assist the Region in managing growth and development. The main purpose of the plan is to provide Regional Council with a long-term regional strategic policy framework for guiding growth and development in Peel, while having regard for protecting the environment, managing renewable and non-renewable resources, and outlining regional structure that manages this growth within Peel in the most efficient manner.

The Peel Region Official Plan was adopted by Council on July 11, 1996 and approved with modifications by the Minister of Municipal Affairs and Housing on October 22, 1996. The Region of Peel is currently in the process of completing the Peel 2041+ Regional Official Plan Review, to be completed in 2022. A December 2018 Office Consolidation is currently available.

Urban Growth Centres

Schedule D – Regional Structure and Schedule D4 – The Growth Plan Policy Areas in Peel identify a Conceptual Urban Growth Centre centred on Hurontario Street and extending from Highway 403 in the north to the Queen Elizabeth Way in the south. The portion of the Study Area around the intersection of Dundas and Hurontario (known as Cooksville) falls within the Urban Growth Centre Designation.

Mobility Hubs and Rapid Transit Corridors

Schedule G – Rapid Transit Corridors identifies the lands surrounding the intersection of Dundas Street and Hurontario Street, including the Cooksville GO Station, as a Gateway Mobility Hub. Furthermore, the lands surrounding the intersection of Dundas Street and Dixie Road, including the Dixie GO Station, are identified as a Potential Gateway Mobility Hub. Lastly, the entirety of Dundas Street within the Region of Peel is identified as a Rapid Transit Corridor.

City of Mississauga Strategic Plan

The City of Mississauga's Strategic Plan is the City's highest level policy document which guides strategic decision making for the City of Mississauga. It includes five Strategic Pillars for Change, one of which is a pillar called *Move*. This pillar has the following features:

- It provides direction that Mississauga will be a city where people are able to get around without automobiles and where transit is a desirable choice that connects people to destinations and directly influences and shapes the form of the city.
- It establishes the principle that the promotion of transit is a preferred, affordable and accessible choice consistent with a city that values clean air and healthy lifestyles.
- It sets out five strategic goals:
 - To contribute to environmental responsibility by reducing private automobile use and the development of compact mixed-use developments.
 - To support a 24-hour city by connecting communities within Mississauga and the Golden Horseshoe, contributing to a vibrant, successful city.
 - To make transit frequent, clean, safe, reliable, and within walking distance of every home with an intricate web of higher order transit so that it is a faster and more affordable alternative to the automobile.
 - To create additional capacity in the transportation system through strategic investments into transit and the addition of links in the street network and active mobility choices.
 - To support transit-oriented development policies and deliberate civic actions as a means of direct growth.

City of Mississauga Official Plan

The Mississauga Official Plan, Office Consolidation 2020 sets out planning policies to manage and direct the physical change of the city and the effects of such change on the social, economic, cultural and natural environment. The Mississauga Official Plan provides direction for the next stage of the City's growth, one that will be defined by a sustained increase in population and employment that will primarily be accommodated through infill and redevelopment opportunities as most of Mississauga's greenfield lands have been developed.

At a high level, the Mississauga Official plan articulates a series of guiding principles and strategic actions that inform the document's specific planning policies, including a number of high-level strategic actions that are operationalized through planning policies associated with the City Structure, Intensification Areas, and Long-Term Rapid Transit Network, Land Use Designations, and Character Areas.

City Structure

The City Structure provides an overall framework for guiding change and growth within Mississauga, organizing the city into functional areas, some of which will accommodate intensification and others that are envisaged as remaining largely stable. The seven City Structure elements are:

- Downtown;
- Major Nodes;
- Community Nodes;
- Corporate Centres;
- Neighbourhoods;
- Employment Areas; and
- Special Purpose Areas.

The Study Area contains four of the City Structure elements outlined above: Downtown, Community Nodes, Neighbourhoods, and Employment Areas. Of the City Structure elements within the Study Area, both the Downtown and Community Node structure elements are identified as Intensification Areas.

Corridors, Major Transit Station Areas and Mobility Hubs

The various City Structure elements are connected to each other by Corridors, which are major roads and arterials that have the ability to transform over time to accommodate multi-modal transportation and become attractive public places with complementary land uses. Several north-south streets that intersect Dundas are identified as Corridors including Dixie Road and Cawthra Road. In order to achieve the transformation of corridors, land uses and building entrances are to be oriented towards the Corridor and subject to a minimum height of two storeys and maximum height as specified in the City Structure element they travel through or abut.

Some Corridors are envisaged as accommodating an additional level of change over time and are identified as Intensification Corridors in recognition of this potential. Both Hurontario Street and Dundas Street are classified as Intensification Corridors for the entirety of their length. As with other Intensification Areas in the City, a mix of housing, community infrastructure, employment and commercial uses are permitted and at a

density high enough to support transit usage along Intensification Corridors. Notwithstanding this broad vision for higher density, not all segments of an Intensification Corridor are appropriate for intensification and therefore appropriate locations for specific densities, land uses and building heights are to be developed through corridor-specific planning studies (e.g., the Dundas Connects Master Plan).

Major Transit Station Areas are an additional type of Intensification Area identified in the Mississauga Official Plan. They are defined as an area with an approximate 500 metre radius around an existing or planned higher-order transit (i.e., transit that generally operates in its own right-of-way) station. In addition to the policies provided for all Intensification Areas, Major Transit Station Areas feature policies that establish general minimum heights of two storeys for all buildings and that emphasize access to the transit station by various modes of transportation, particularly pedestrians and cyclists. The GO Stations at Dixie and Cooksville are identified as Major Transit Station Areas and fall within the Study Area. Please refer to **Section 4.8.2.1.4** to learn more about the Major Transit Station Area Study.

Mobility Hubs are identified within the Mississauga Official Plan as part of the Long-Term Transit Network and areas that have a concentration of employment, housing, shopping and recreational uses centred on a transportation node featuring both local and regional connections. While the Mississauga Official Plan does not identify Mobility Hubs specifically as Intensification Areas, it does include a policy that speaks to promoting development in a manner that supports the Metrolinx Regional Transportation Plan, which as noted previously, contains strategies and actions related to encouraging high density, mixed use, transportation-oriented development within Mobility Hubs. Cooksville is identified as a Mobility Hub and Dixie is identified as a Potential Mobility Hub.

Land Use Designations

There are fourteen land use designations that cover the lands that either front Dundas or are within the Study Area. Refer to **Appendix A** for the land use map of the Study Area.

Policies Specific to Character Areas

The general land use policies contained within the Mississauga Official Plan are further modified by area-specific policies associated with Character Areas. All of Mississauga is divided into a series of Character Areas which are commensurate with the City Structure elements. There are several Character Areas covered by the Study Area. Refer to Socio-Economic and Land Use Study (**Appendix D**) for more details on each Character Area.

Downtown Fairview, Cooksville and Hospital Policy Review (Ongoing)

The Downtown Fairview, Cooksville and Hospital Policy Review is a city-led initiative to update Official Plan policies to manage anticipated growth in communities along the Hurontario Street corridor. These communities are anticipated to experience growth in the coming years that is spurred by the completion of the Hurontario Light Rail Transit, which is currently under construction. One of the major concepts being explored in this initiative is that of the “15-minute city,” where it is possible for a community to shop, work, play and learn within a 15 minute walk from their home.

The policy review is in Phase 2 of 3 at the time of this report.

City of Mississauga Cycling Master Plan

The purpose of the City of Mississauga Cycling Master Plan is to transform Mississauga into a bicycle-friendly City, where people have the option to cycle for recreation, fitness, and daily transportation needs. The goals of the Cycling Master Plan include:

- Improve safety for cycling;
- Build a connected, convenient and comfortable bicycle network;
- Increase the number of cycling trips in Mississauga; and
- Foster a culture of cycling.

On February 5, 2020, City Council passed Amendment 106 to the Mississauga Official Plan to widen the Dundas Street right-of-way from approximately 35 to 40-42 metres. The Official Plan amendment updated Table 8:1 in Road Classification – Arterials in Chapter 8 and Schedule 8 of the City of Mississauga’s Official Plan to reflect the Dundas Connects Master Plan. The conceptual design that was developed in Dundas Connects will support securing the lands needed to allow for the development of the Bus Rapid Transit line.

Vision Cooksville

The Dundas Connects Master Plan was informed by a number of preceding plans, including Vision Cooksville. Vision Cooksville is a Long-Range Community Vision for Downtown Cooksville which sets out a series of six principles to guide improvement in the Cooksville neighbourhood. The Dundas Connects Master Plan adopted a number of principles found in Vision Cooksville, specifically regarding the vision outlined for the public realm and community identity.

In addition to this, the City of Mississauga has ongoing engagement to update Official Plan policies to guide anticipated growth in Cooksville spurred by the implementation of a new higher-order transit, especially the Hurontario Light Rail Transit line.

4.8.2.1.3 Conservation Authority Policies and Guidelines

Credit Valley Conservation Authority Policies and Guidelines

The Study Area falls under the jurisdiction of the Credit Valley Conservation Authority. *Ontario Regulation 166/06* under Section 28 of the Conservation Authorities Act, 1998, establishes regulated areas within Credit Valley Conservation Authority's jurisdiction where development could be subject to flooding, erosion, or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features.

Toronto and Region Conservation Authority Policies and Guidelines

The Study Area falls under the jurisdiction of the Toronto and Region Conservation Authority. *Ontario Regulation 166/06* under Section 28 of the Conservation Authorities Act, 1998, establishes regulated areas within Toronto and Region Conservation Authority's jurisdiction where development could be subject to flooding, erosion, or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. Toronto and Region Conservation Authority has also developed the Terrestrial Natural Heritage System to identify natural features and areas that need to be protected and expanded within their jurisdiction in order to protect ecological functions and biodiversity. Valley and stream corridors, wetlands, woodlands, and meadows are key components of this target system. Toronto and Region Conservation Authority also sets targets for improving the quality, integrity, quantity, and connectivity of terrestrial natural features within the System.

4.8.2.1.4 Emerging Policy Documents

Region of Peel Major Transit Station Areas Study

Major Transit Station Areas are lands within an approximate 500 to 800 metre radius of a transit station or stop, primarily along existing or planned transit corridors. As part of the Peel 2041+ Regional Official Plan Review, the Region of Peel is leading a study in collaboration with local municipalities (Mississauga, Brampton and Caledon) to determine Major Transit Station Areas locations, boundaries and densities.

Major Transit Station Areas are intended to be developed as high density, mixed-use, transit-supportive neighbourhoods that provide access to local amenities, jobs, housing, and recreation opportunities. Major Transit Station Areas are one component of the overall Regional Official Plan Review 2041 project. There are over 60 potential Major Transit Station Areas within the City of Mississauga alone.

The Region has completed Phase 1A of the Study.

As of the December 2020 update, the study has suggested nineteen Major Transit Station Areas which fall within the Study Area, these being either Priority Major Transit Station Areas (as per Growth Plan, 2020), or Other Major Transit Station Areas. One priority Major Transit Station Area related to the Hurontario Light Rail Transit line falls just to the north of the intersection of Dundas and Hurontario. Another Major Transit Station Area just south of Dundas Street at Dixie is identified as being tied to the Dixie GO Station. Seventeen other Major Transit Station Areas are presented along the length of Dundas Street, which are identified as being tied to the Project. These are the areas where Dundas Street intersects with:

- Confederation Parkway;
- Hurontario Street;
- Kirwin Avenue;
- Grenville Drive;
- Cawthra Road;
- Tomken Road;
- Dixie Drive; and
- Wharton Way.

The latest update from December 2020 proposes draft Official Plan amendments to delineate the Major Transit Station Areas outlined above, identifies density targets and outlines planning steps needed to implement the Major Transit Station Areas.

City of Mississauga Dundas Street Special Policy Areas Review

The Dundas Street Special Policy Area review is examining the boundaries of two areas of flood risk along Dundas Street East. In this context a Special Policy Area is an area within a community that has historically existed in the flood plain that is regulated under different jurisdictions, such as provincial or by conservation authorities. Special Policy Areas are not meant to allow new or intensified development and site alteration, if the community has other possible locations for development outside the flood plain. The two areas of flood risk along Dundas Street East are:

- The area around the intersection of Dixie Road and Dundas Street East, known as the “Applewood Special Policy Area” (west of Dixie Road), and the “Dixie-Dundas Special Policy Area” (east of Dixie Road); and
- The area further east along Dundas Street East at Etobicoke Creek, the boundary with Toronto, known as the “Etobicoke Creek Special Policy Area”.

The review will assess the boundaries of these floodplains and the flood risks to existing and future residents, property, and infrastructure. The review is currently at a preliminary stage.

City of Mississauga Pedestrian Master Plan

The City of Mississauga Pedestrian Master Plan is a long-term plan (with a 20-year outlook) that aims to improve the pedestrian network, infrastructure, policies, programs and environment so that all people have the freedom to move easily and comfortably as a pedestrian. The goals of the Pedestrian Master Plan include:

- Make walking safer and more comfortable, and work towards achieving Vision Zero;
- Build sidewalks and trails that are connected and accessible;
- Encourage walking as part of an active and healthy lifestyle; and
- Increase the number of walking trips in Mississauga.

The City of Mississauga Pedestrian Master Plan is nearing completion, with approval anticipated soon.

Peel 2041+

An update of the Regional Official Plan to ensure that official plan policies stay current with the Provincial plans and policy changes and reflect the community's needs. Initiated in 2013 with a goal of achieving Provincial conformity by July 1, 2022.

4.8.2.2 Neighbourhood Characteristics

4.8.2.2.1 Land Use and Built Form Patterns

The Study Area features many different land use and density types. Within and adjacent to Cooksville Downtown, low-rise commercial uses are located close to the road. The street pattern is tighter in this area compared to areas outside of Cooksville Downtown. The remainder of the Study Area east of Cooksville Downtown is predominantly low-rise commercial with some mid-rise residential. Some open space and institutional land uses are sporadically located along Dundas. Additionally, some industrial land uses are present behind the uses fronting Dundas Street. The public realm east of Cooksville Downtown is dominated by parking lots separating the public right of way from commercial uses.

4.8.2.2.2 Future Development

A review was conducted using information from the City of Mississauga's Planning Information Hub to assess future growth and development potential within the Study Area. The review focused on development applications which were most likely to

notably increase density and/or provide new employment opportunities. As such, the review considered applications for Official Plan and Zoning By-law amendments, site plan control, plan of condominium, plan of subdivision, and part lot control and did not consider minor variances and applications for consent. Summary Tables are provided below for the relevant development applications.

At the time of this Report preparation, fourteen development applications are active within the central portion of the Study Area. As proposed, the developments would increase the supply of residential dwellings as most of the proposals are for multiple storey residential buildings (1569 dwellings are currently proposed). Several of these include commercial space on the ground floor. Additionally, one proposal is to expand a private school, and another is to create commercial units in an existing building.

4.8.2.3 Community Amenities

This section provides an overview of community amenities within the Study Area to assess. Inventoried community amenities were inventoried were classified into five categories: Institutional Uses, Recreational Uses, Community Resources, Commercial Spaces with Community Significance, and Future Services and Facilities.

4.8.2.3.1 Institutional Uses

Two private high schools, one public secondary school, two catholic elementary and secondary schools, and three private career colleges are located in the Study Area. There are also thirteen places of worship serve various Christian denominations as well as a Hindu Temple and Sikh Gurudwara.

4.8.2.3.2 Recreational Uses

Seventeen Parks and Open Spaces of varying size and function are found within the central portion of the Study Area, including Erindale Park, one of Mississauga's most important greenspaces. There is also one Recreation Centre in the Study Area, the Dixie Curling Club.

4.8.2.3.3 Community Resources

Three childcare centres and two long term care homes are found within the central portion of the Study Area, along with four non-profit housing facilities. Various other Community Resources within the central portion include non-profit support organizations for newcomer communities and incarcerated individuals, the Correctional Service of Canada Peel Office, the Erindale Community Hall, two food banks, a Region of Peel shelter providing emergency shelter for homeless families, the Embassy of the Republic of Croatia in Canada and the Canadian Parents for French Ontario office.

4.8.2.3.4 Future Services and Facilities

No future services and facilities are proposed within the central portion at the time of this Report preparation.

4.8.2.4 Utilities

4.8.2.4.1 Public Utilities

Public utilities are utility services operated by a municipal or provincial government, or an organization established to operate a utility on behalf of a governing body. Examples of these utility services identified within the corridor include fiber-optic communication lines that are operated by the Region of Peel and the City of Mississauga, and municipal servicing (water, wastewater, and stormwater systems) that the City of Mississauga operates. Two hydro companies, Alectra and Hydro One, also have ductbanks and/or overhead lines present in the corridor.

4.8.2.4.2 Private Utilities

Private utility services are those which are operated by private sector organizations. A number of private utility services have been identified in the corridor. These include telecommunications lines (mostly fiber optic lines) owned and operated by Bell, Rogers, and Zayo, as well as Enbridge Gas natural gas lines. A Trans-Northern Pipeline is also located in the vicinity of Stanfield Road.

4.9 Traffic and Transportation

The traffic and transportation analysis for this segment of the Project is based on work completed as part of the Dundas Connects Master Plan, completed in 2018. As part of this work, the Dundas Street segment between Confederation Parkway and the Etobicoke Creek was examined from a traffic and transportation perspective and implementation of Bus Rapid Transit was assessed. The analysis looked at all transportation modes using the corridor: automobile, public transit, pedestrians and cyclists. Also, in support of the assessment of the Cooksville Pinch Point alternatives analysis, microsimulation modelling to test alternative designs and report on traffic and transit operations was conducted and can be found in the Mississauga East Segment Pinch Point – Traffic Input Memorandum (**Appendix H**).

A thorough modelling analysis of the existing traffic conditions along the Dundas Street corridor was undertaken. This includes developing a fully functional, calibrated and validated traffic microsimulation model using VISSIM software to simulate interactions between vehicles, public transit and pedestrians, and estimate network performance measures for the weekday AM and PM peak hours.

4.9.1 Description of Existing Conditions

4.9.1.1 Road Network

In the Study Area, Dundas Street is an east-west arterial road which traverses the southern portion of the City of Mississauga from Confederation Parkway in the west to the Etobicoke Creek in the east. Under the jurisdiction of the City of Mississauga, Dundas Street has a posted speed of 60 kilometres per hour throughout the Study Area. The lands along the corridor and in the surrounding areas are a mix of residential, mixed-use, greenbelt, commercial, and institutional.

Two regional arterial roads (Cawthra Road and Dixie Road), one arterial road (Hurontario Street), and three major collector roads (Confederation Parkway, Kirwin Avenue, and Tomken Road) intersect with Dundas Street within the Study Area, along with numerous minor collector roads and neighborhood streets.

Dundas Street has a four-lane cross-section from Confederation Parkway to Cawthra Road and a six-lane cross-section from Cawthra Road to the end of the Study Area in the east. In many locations a two-way centre turn lane is present, providing access to stop-controlled side streets and private entrances. Major intersections have dedicated left turn lanes with accompanying left turn signals and right turn lanes, which occasionally are provided with a yield-controlled channel. Bus stops are present at many intersection and midblock locations throughout the corridor. Within the Study Area there are a total of 20 signalized intersections and 12 stop-controlled intersections at minor streets. Major arterials that cross Dundas Street include Hurontario Street, Cawthra Road and Dixie Road. These roadways have posted speeds ranging from 50 to 70 kilometres per hour and have typical cross-sections of four lanes to six lanes.

A High Occupancy Vehicle lane is provided in the curb lane in either direction between Dixie Road and Southcreek Road, and is continuous beyond the eastern limit of the Study Area. The High Occupancy Vehicle lanes permit only transit vehicles, taxis, and personal vehicles with vehicle occupancy of three persons or more to travel from 7:00 to 10:00 AM and 3:00 to 7:00 PM, Monday to Friday.

Capacity analyses will be performed and levels of service defined for the signalized intersections in the Study Area. The concept of level of service uses qualitative measures that characterize conditions within a traffic stream and their perceptions by motorists. Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with Level of Service A representing the best operating conditions and Level of Service F the worst. Level of Service E corresponds to the maximum flow rate of capacity. A level of service

of D or better for urbanized areas is acceptable to most agencies. Critical movements are defined as having Level of Service E or F.

The Study Area road network generally operates with acceptable conditions during the weekday AM peak hour. Most intersections with major arterial roads operate at Level of Service D or better. The weekday PM peak hour exhibits more congestion and heavier volumes than the AM peak hour. Many intersections operate at Level of Service D or better, and the intersection at Hurontario Street operates at Level of Service E. While much of the Study Area is congested in the PM peak hour, significant queuing was specifically observed in the westbound direction at Hurontario Street and at Confederation Parkway, where the cross-section only allows for 4 lanes of traffic.

Table 4-9 presents the operational results for both the weekday AM and PM peak hours, including overall intersection delay and Level of Service. Note that most of the critical movements listed are for vehicles on the north or south legs. This is due to the high cycle length throughout the corridor (140 seconds) and the incurred delay by vehicles waiting to proceed onto Dundas Street from side streets. Comparatively, minor streets have lower volumes and while a turning movement from a minor street may be shown as critical, residual capacity does exist.

Table 4-9: Weekday Peak Hour Operational Results

Intersection	AM Peak Hour Delay	AM Peak Hour Level of Service	AM Peak Hour Critical Movements	PM Peak Hour Delay	PM Peak Hour Level of Service	PM Peak Hour Critical Movements
Confederation Parkway	43.0	D	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound left-turn movement ■ Southbound through movement ■ Southbound right-turn movement 	54.5	D	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound left-turn movement ■ Southbound through movement ■ Southbound right-turn movement ■ Eastbound left-turn movement ■ Eastbound through movement
Hurontario Street	37.5	D	<ul style="list-style-type: none"> ■ Eastbound through movement ■ Westbound left-turn movement 	71.4	E	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound left-turn movement ■ Southbound through movement ■ Southbound right-turn movement ■ Eastbound left-turn movement ■ Westbound ■ Westbound through movement ■ Westbound right-turn movement
Kirwin Avenue	24.0	C	<ul style="list-style-type: none"> ■ Southbound left-turn movement 	33.7	C	<ul style="list-style-type: none"> ■ Northbound left-turn movement
Cliff Road	11.1	B	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound through movement 	8.7	A	-
Cawthra Road	22.9	C	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement ■ Southbound left-turn movement ■ Southbound through movement 	30.3	C	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement ■ Southbound left-turn movement ■ Southbound through movement ■ Westbound left-turn movement
Haines Road	15.4	B	-	11.8	B	-
Chinese Centre	1.1	A	-	2.2	A	-
Tomken Road	8.6	A	-	23.2	C	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound left-turn movement ■ Southbound through movement
Stanfield Road	10.7	B	<ul style="list-style-type: none"> ■ Northbound left-turn movement 	14.1	B	<ul style="list-style-type: none"> ■ Northbound left-turn movement

Intersection	AM Peak Hour Delay	AM Peak Hour Level of Service	AM Peak Hour Critical Movements	PM Peak Hour Delay	PM Peak Hour Level of Service	PM Peak Hour Critical Movements
Palstan Road	2.5	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound left-turn movement ■ Southbound through movement 	4.2	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement ■ Southbound left-turn movement ■ Southbound through movement
Arena Road	3.4	A	<ul style="list-style-type: none"> ■ Southbound left-turn movement 	13.2	B	-
Queen Frederica Drive	12.8	B	-	17.1	B	-
Dixie Road	46.7	D	<ul style="list-style-type: none"> ■ Southbound left-turn movement ■ Eastbound through movement ■ Eastbound right-turn movement 	48.7	D	<ul style="list-style-type: none"> ■ Southbound left-turn movement ■ Eastbound left-turn movement ■ Westbound left-turn movement ■ Westbound through movement
Neilco Court	2.9	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement ■ Southbound left-turn movement ■ Southbound through movement 	8.5	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement ■ Southbound left-turn movement
Jarrow Avenue	6.9	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement ■ Southbound left-turn movement ■ Southbound through movement 	21.9	C	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Westbound left-turn movement
Mattawa Avenue	7.1	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement 	16.1	B	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Northbound through movement
Coram Avenue	6.8	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement ■ Southbound left-turn movement ■ Southbound through movement 	8.7	A	<ul style="list-style-type: none"> ■ Northbound left-turn movement
Wharton Way	14.2	B	-	14.9	B	<ul style="list-style-type: none"> ■ Northbound through movement
Summerville Court	7.1	A	<ul style="list-style-type: none"> ■ Southbound left-turn movement 	10.7	B	<ul style="list-style-type: none"> ■ Southbound left-turn movement
Southcreek Road	5.8	A	-	7.4	A	<ul style="list-style-type: none"> ■ Southbound left-turn movement ■ Southbound through movement

4.9.1.2 Transit Network

The transit services in the Study Area are operated by MiWay with bus routes along Dundas Street and major north-south streets. Currently, four MiWay routes service Dundas Street in the Study Area: 1 and 1C (local), and 101 and 101A (express). Additionally, routes 2, 4, 5, 8, 28, 38, 51 and 103 cross Dundas Street with stops in close proximity to intersections with Dundas Street. Within the immediate study boundary, bus stops are located along the entirety of Dundas Street. Bus routes also cross Dundas Street at Confederation Parkway, Hurontario Street, Cawthra Road, Tomken Road, and Dixie Road.

Table 4-10 presents all MiWay bus routes that service Dundas Street within the Study Area that have been included as part of this existing conditions assessment.

The planned transit improvements include Hurontario Light Rail Transit which is currently under construction and expected to be completed in Fall 2024. A Light Rail Transit stop is planned at Dundas Street, but no special or specific provisions have been made in the Hurontario Light Rail Transit plans to date for a connection or interface with Dundas Street transit service.

4.9.1.3 Cycling, Pedestrian and Trail Network

Dundas Street throughout the Study Area is serviced with sidewalks and signalized intersections facilitating pedestrian crossings of major roads. Large lots and block sizes reduce pedestrian connectivity to surrounding areas and rapidly moving vehicles making right-hand turns into employment areas create potential pedestrian hazards. The residential areas in the Mississauga Valleys and Applewood Neighbourhoods are generally well served with sidewalks, although connectivity to Dundas Street is limited due to the large block sizes. The Dixie Employment Area off Dundas Street is not well-served by sidewalks. The portions of Dundas Street on the west of Etobicoke Creek are served with sidewalks; however, the highway-like conditions of vehicles moving increasingly quickly as they approach Highway 427 create potential hazards.

The length of Dundas Street itself in the Study Area is generally not conducive to cycling due to the high volume of vehicle traffic and no dedicated bicycle infrastructure. Several north-south streets which intersect Dundas Street provide some degree of cycling connectivity through bicycle lanes and multi-use trails. These include Confederation Parkway, Kirwin Avenue/Gamilla Road, Constitution Boulevard/Stanfield Road, and Dixie Road. Furthermore, the City of Mississauga's 2018 Cycling Master Plan envisions cycling network improvements in the city and proposes cycle track/separated bike lane on Dundas Street in the Study Area.

Table 4-10: Public Transit Options within the Study Area

Route	Mode	Service Area, Connections and Variations
MiWay - 1 Dundas	Bus	<ul style="list-style-type: none"> ■ Operates locally east-west along Dundas between the Laird Road/ Ridgeway Drive Loop and Kipling Transit Hub in Toronto. ■ Connections at Kipling Transit Hub to Milton GO Line and Toronto Transit Commission Bloor-Danforth Line 2. ■ Includes the 1C Variation (South Common Centre – University Toronto Mississauga – Kipling Transit Hub).
MiWay – 101 Dundas Express	Bus	<ul style="list-style-type: none"> ■ Operates express east-west along Dundas between the South Common Centre Terminal and Kipling Transit Hub in Toronto. ■ Connections at Kipling Station to Milton GO Line and Toronto Transit Commission Bloor Danforth Line 2. ■ Includes the 101A Variation, operating during rush hour (Laird Road/ Ridgeway Drive Loop and Kipling Transit Hub in Toronto).
MiWay – 4 Sherway Gardens	Bus	<ul style="list-style-type: none"> ■ Operates locally east-west between Cooksville GO Station and Trillium Health Centre/Sherway Gardens in Toronto. ■ Connections at Cooksville GO Station with Milton GO Line. ■ Intersects the Study Area at Mavis Road.
MiWay – 38 Creditview	Bus	<ul style="list-style-type: none"> ■ Operates locally north-south between Cooksville GO Station and Meadowvale Town Centre Terminal. ■ Connections with Milton GO Line at Cooksville, Erindale, Meadowvale and Lisgar GO Stations. ■ Intersects the Study Area and runs along Dundas Street between Confederation Parkway and Wolfedale Road. ■ 38A Creditview-Argentia variation runs Saturday/Sunday with a slightly reduced route.
MiWay – 28 Confederation	Bus	<ul style="list-style-type: none"> ■ Operates locally north-south between Trillium Health Centre Mississauga and City Centre Transit Terminal. ■ Connections at City Centre Terminal with Mississauga Transitway and Regional GO buses. ■ Intersects the Study Area at Confederation Parkway. ■ Includes a rush hour only variation to the Cooksville GO Station (to in the morning, from in the evening), connecting to the Milton GO Line.
MiWay – 2 Hurontario	Bus	<ul style="list-style-type: none"> ■ Operates locally north-south along Hurontario Street between Port Credit GO Station and City Centre Transit Terminal. ■ Connections at Port Credit GO Station with Lakeshore West GO Line, at Cooksville GO Station with the Milton GO Line and at City Centre Terminal with Mississauga Transitway and Regional GO buses. ■ Intersects the Study Area at Hurontario Street.

Route	Mode	Service Area, Connections and Variations
MiWay – 103 Hurontario Express	Bus	<ul style="list-style-type: none"> ■ Operates express north-south along Hurontario Street between Trillium Health Centre (Mississauga) and Brampton Gateway Terminal. ■ Connections at Cooksville GO Station with the Milton GO Line and at City Centre Terminal with Mississauga Transitway and Regional GO buses. ■ Intersects the Study Area at Hurontario Street.
MiWay – 8 Cawthra	Bus	<ul style="list-style-type: none"> ■ Operates locally north-south between Port Credit GO Station and City Centre Transit Terminal. ■ Connections at Port Credit GO Station with Lakeshore West GO Line and at City Centre Terminal with Mississauga Transitway and Regional GO buses. ■ Intersects the Study Area at Cawthra Road. ■ Operates Monday to Saturday and includes an off-peak stop at the Cawthra Senior’s Centre.
MiWay – 51 Tomken	Bus	<ul style="list-style-type: none"> ■ Operates locally north-south along Tomken Road between Stanfield Road in the Dixie Employment Area and Cardiff Boulevard loop north of Derry Road. ■ Connections to the Mississauga Transitway at the Tomken Transitway station. ■ Intersects the Study Area at Tomken Road. ■ Operates Monday-Saturday.
MiWay – 5 Dixie	Bus	<ul style="list-style-type: none"> ■ Operates locally north-south along Dixie Road between the Long Branch GO Station in Toronto and Cardiff Boulevard loop north of Derry Road. ■ Connections at Long Branch GO Station with the Lakeshore West GO Line, the Dixie GO Station with the Milton GO Line and the Mississauga Transitway at the Dixie Transitway station. ■ Intersects the Study Area at Dixie Road. ■ Operates Monday-Saturday.

4.10 Cultural Heritage

A Cultural Heritage Report – Existing Conditions and Preliminary Impacts Assessment (January 2022) was completed by AECOM for the Project. The assessment for this report consisted of data collection, background historic research, review of secondary source material and field review. A total of 20 (known and potential) cultural heritage landscapes and built heritage resources were identified within or adjacent to the corridor as listed in **Tables 4-11** and **4-12** below.

For details of each built heritage resources and cultural heritage landscapes, please refer to Appendix A B of the Cultural Heritage Report, available in **Appendix D** of this Environmental Project Report.

Cultural Heritage Evaluation Reports were recommended for the six properties that could be directly impacted (**Table 4-13**). All Cultural Heritage Evaluation Reports were completed in February 2022 by Tara Jenkins, MA, CAHP, Cultural Heritage Specialist Lead, available in **Appendix D**. **Table 4-13** presents the outcomes of the Cultural Heritage Evaluation Reports completed for each of the properties.

Table 4-11: Summary of Existing Conditions – Built Heritage Resources

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Type of Property/Name	Location/Address	Heritage Recognition
BHR 1	■ Commercial/Russell's Garage and All-Save Car Rental	■ 202 Dundas Street West	■ Listed on the Municipal Heritage Register
BHR 2	■ Residential	■ 196 Dundas Street West	■ Previously-Identified Built Heritage Resource (AECOM, 2016)
BHR 3	■ Residential	■ 188 Dundas Street West	■ Previously-Identified Built Heritage Resource (AECOM, 2016)
BHR 4	■ Commercial/Former Schiller Store	■ 51, 55-57 Dundas Street West	■ Listed on the Municipal Heritage Register
BHR 5	■ Commercial/Former Cooksville Post Office and Shaver House	■ 47 Dundas Street West	■ Listed on the Municipal Heritage Register
BHR 6	■ Commercial	■ 37 Dundas Street West	■ Previously-Identified Built Heritage Resource (AECOM, 2016)
BHR 7	■ Commercial/Copeland's General Store	■ 14 Dundas Street East	■ Listed on the Municipal Heritage Register
BHR 8	■ Industrial/ Bell Telephone Company Cooksville Exchange Building	■ 47 Dundas Street East	■ Listed on the Municipal Heritage Register
BHR 9	■ Residential	■ 168 Dundas Street East	■ Previously-Identified Built Heritage Resource (AECOM, 2016)
BHR 10	■ Residential/Commercial	■ 172 Dundas Street East	■ Previously-Identified Built Heritage Resource (AECOM, 2016)
BHR 11	■ Residential/Commercial	■ 184 Dundas Street East	■ Previously-Identified Built Heritage Resource (AECOM, 2016)
BHR 12	■ Residential	■ 775 Dundas Street East	■ Listed on the Municipal Heritage Register
BHR 13 (associated with BHR 14)	■ Residential/Chapman Residence (Barn)	■ 855 Dundas Street East	■ Listed on the Municipal Heritage Register
BHR 14 (associated with BHR 13)	■ Residential/Chapman Residence	■ 865 Dundas Street East	■ Listed on the Municipal Heritage Register
BHR 15	■ Commercial/Mississauga Chinese Centre	■ 888 Dundas Street East/2565 Haines Road	■ Listed on the Municipal Heritage Register
BHR 16	■ Cultural Heritage Plaque	■ 1576 Dundas Street East	■ Mississauga Heritage Foundation Plaque Location

Table 4-12: Summary of Existing Conditions – Cultural Heritage Landscapes

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Type of Property/Name	Location/Address	Heritage Recognition
CHL 1	■ Transportation Corridor/Former Credit Valley Railway Corridor	■ Former Credit Valley Railway Corridor	■ Listed on Municipal Heritage Register
CHL 2	■ Place of Worship/Dixie Union Chapel and Cemetery	■ 707 Dundas Street East	■ Designated Part IV of the Ontario Heritage Act ■ Listed on Ontario Heritage Trust Places of Worship Inventory
CHL 2a	■ Cultural Heritage Plaque	■ 707 Dundas Street East	■ Ontario Heritage Trust Plaque Location
CHL 2b	■ Cultural Heritage Plaque	■ 707 Dundas Street East	■ Mississauga Heritage Foundation Plaque Location
CHL 3	■ Place of Worship/St. John the Baptist Anglican Church & St. John's Dixie Cemetery and Crematorium	■ 719-737 Dundas Street East	■ Listed on Municipal Heritage Register ■ Listed on Ontario Heritage Trust Places of Worship Inventory
CHL 4	■ Archaeological Remains/Remains of Dundas-Dixie Cemetery	■ 1370 Dundas Street East	■ Listed on the Municipal Heritage Register

Table 4-13: Properties that were subject to a Cultural Heritage Evaluation Report

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Location / Address	Meet Ontario Regulation 9/06	Meet Ontario Regulation 10/06	Heritage Impact Assessment Required
BHR 1	■ 202 Dundas Street West	Yes	No	Yes
BHR 2	■ 196 Dundas Street West	No	No	No
BHR 4	■ 51, 55-57 Dundas Street West	Yes	No	Yes
BHR 5	■ 47 Dundas Street West	Yes	No	Yes

Built Heritage Resource/ Cultural Heritage Landscape Ref. #	Location / Address	Meet Ontario Regulation 9/06	Meet Ontario Regulation 10/06	Heritage Impact Assessment Required
BHR 6	■ 37 Dundas Street West	No	No	No
BHR 7	■ 14 Dundas Street East	Yes	No	Yes

4.11 Archaeology

A Stage 1 Archaeological Assessment was completed in October 2021 by Samantha Markham, MES (P438) for the Project. A Stage 1 Archaeological Assessment consists of a review of geographic, land use and historical information for the property and the relevant surrounding area, a property visit to inspect its current condition and contacting TCI to find out whether, or not, there are any known archaeological sites on or near the property. Its purpose is to identify areas of archaeological potential and further archaeological assessment (e.g. Stage 2- 4) as necessary. The Stage 1 Archaeological Assessment is included in **Appendix D**.

There is one registered archaeological site located within the current Study Area boundaries, the Cherry Hill site (AjGv-18), that has been recommended for further work. However, the latitude and longitude of the site provided in the Archaeological Sites Database places the site right on the boundaries of the current Study Area, within an area of documented previous extensive disturbance. Once the land to be impacted by infrastructure improvements has been identified, should proposed construction activities impact any of the archaeological sites within an area that has not been subject to extensive disturbance, further Archaeological Assessment must be completed prior to ground disturbing activities.

Special consideration must be made for the cemeteries located within the Study Area: Dixie Union Cemetery, St. John's Dixie Cemetery & Crematorium, and the remains of the Dundas-Dixie Cemetery (CHL 4).

Based on the background research, plot mapping, and conversations with the cemetery operator, it is reasonable to believe that the fenceline represents the cemetery limits and it has been determined that there is no potential for unmarked burials associated with the Dixie Union Cemetery to be located outside the current fenceline. It has also been determined that all expansion of the cemetery has occurred to the north with the expansion of the St. John's Dixie Cemetery and any unmarked graves are unlikely to exist within the Dundas Street right-of-way. Additionally, there is a large, modern concrete retaining wall to the west along the Cawthra Road underpass that is not anticipated to be impacted by the Project. As a result, no further Archaeological Assessment is required within the Dundas Street or Cawthra Road rights-of-way as part of this Project.

The existence of the Dundas-Dixie Cemetery is largely unknown, and it is unclear if any grave shafts exist below the current commercial structures on the property. It is also unlikely that any intact archaeological resources exist beneath the land alterations along Dundas Street adjacent to the property.

5. Potential Impacts, Mitigation Measures and Monitoring Activities

The following sections document the potential impacts and proposed mitigation measures pertaining to the natural, socio-economic and cultural environments during both the construction and operations phases of the Project. See the table below for a list of environmental components as well as criteria that these mitigation measures have been developed for. These sections describe impacts based on the existing conditions described in **Section 4**. These impacts and mitigation measures will be reviewed and refined in future phases of the Project.

Table 5-1: Environmental Components and Criteria for the Development of Mitigation Measures

Environmental Component	Criteria
<p>Natural Environment</p>	<ul style="list-style-type: none"> ■ Aquatic Environment ■ Terrestrial Environment ■ Wildlife ■ Significant Wildlife Habitat ■ Species at Risk ■ Significant Natural Features
<p>Socio-Economic Environment</p>	<ul style="list-style-type: none"> ■ Air Quality ■ Noise and Vibration ■ Land Use and Built Form Patterns ■ Transit and Transportation Network ■ Pedestrian and Cycling Network ■ Community Amenities ■ Future Development ■ Utilities
<p>Cultural Environment</p>	<ul style="list-style-type: none"> ■ Built Heritage Resources and Cultural Heritage Landscapes ■ Archaeology

Overall, the Project has been designed to prioritize the avoidance of negative effects, followed by mitigating negative effects, and compensating for negative impacts will be selected only as a last resort, if required.

5.1 Natural Environment

The following sections outline possible impacts during construction on various aquatic and terrestrial features in relation to the proposed project works. The assessment

considers specific receptors (i.e., Species at Risk, migratory birds, designated areas, etc.) and potential stressors, which may impact the receptor at a spatial scale (i.e., time, duration, and intensity).

5.1.1 Construction

5.1.1.1 Aquatic environment

Several permanent watercourses occur within the Study Area. Of the three watercourses identified in the Study Area, a more comprehensive assessment of Etobicoke Creek was conducted due to the size of the watercourse, the relatively undisturbed nature of the area, and the presence of natural features adjacent to the creek where it crosses Dundas Street.

Habitat associated with Etobicoke Creek at the Dundas Street bridge crossing appears suitable to support the spawning of several species of specialized spawning baitfish within the Study Area (i.e., upstream, downstream and under the structure). Species which either broadcast their eggs over cobble substrates or use interstitial spaces between cobbles and boulders are anticipated to spawn directly within the Study Area. Though a comprehensive fisheries review including fish sampling was not completed, large numbers of juvenile and young of year baitfish were observed within Etobicoke Creek during field investigations. No aquatic Species at Risk were observed or are known from the Study Area.

As part of the design, the existing bridge will be replaced with a new wider bridge that will also accommodate the new Dundas Bus Rapid Transit infrastructure in the middle of the roadway and a 4 metre wide multi-use path on each side of the bridge. Similar to the existing bridge, the new bridge will also be a 3-span structure with span lengths comparable to the span lengths of the existing bridge. Based on the preliminary design, in-water work is anticipated, however, this will need to be confirmed as the design progresses. It appears that the existing Etobicoke Creek bridge will be replaced to accommodate a proposed multi-use path adjacent to both lanes. Additionally, based on the proposed design it appears that grading will occur within 30 metres of Etobicoke Creek and as such vegetation removals are anticipated. The current design outlines an approximately 25 metres vegetated buffer being maintained from the watercourse on all four quadrants of the bridge based on this grading limit. Though riparian vegetation removal will be required, this is not considered to be significant at this time based on the proposed grading limits and no larger individual trees (i.e., >35 cm diameter at breast height) are likely to be removed as part of this work. As such, the function of riparian vegetation is anticipated to remain based on the current design.

In-water work is anticipated at the other two (2) watercourse crossings present within the Study Area (i.e., Little Etobicoke Creek and Cooksville Creek). The Little Etobicoke Creek culvert will be replaced with a new wider and longer bridge to accommodate the new Dundas Bus Rapid Transit infrastructure, as well as address the insufficient hydraulic capacity of the existing culvert. The bridge is anticipated to be a single span structure, but has yet to be confirmed as part of the Dixie-Dundas Flood Mitigation Study.

The Cooksville Creek culvert will be removed and replaced with a new single-span bridge that will also accommodate the new Dundas Bus Rapid Transit infrastructure in the middle and a 4 metre wide multi-use path on each side of the bridge. The length of the new bridge span has yet to be confirmed but is anticipated to be 20 metres±. Still to be confirmed is width of the bridge which could extend to the northern limits of the existing culverts or just wide enough to accommodate the widened roadway.

Grading is proposed within 30 metres of both Little Etobicoke Creek and Cooksville Creek, as required, both within and outside the exiting right-of-way. However, the final design should explore opportunities to reduce construction activities within the floodplain and watercourse. Minimum acceptable sidewalk and multi-use path widths will be implemented in proximity to all natural heritage features, in accordance with best management practices and the Toronto and Region Conservation Authority guidelines. The grading limits outlined in the current design will extend right up to the existing watercourse bank, which will require removal of riparian vegetation adjacent to the watercourse. The area of the removal and number of trees to be removed should be quantified before finalizing the design. Removal of vegetation within the grading limits will result in the removal of trees and shrubs which currently provide function as overhead cover (i.e., shading) and production of terrestrial insects, etc. Given the highly urban area, removal of this vegetation is anticipated to result in impacts to these functions, however, they may be offset by the re-planting of suitable species within the limits of grading following construction (i.e., temporary provided site restoration to restore function is completed).

At this time in-water work is anticipated at the Etobicoke Creek, Little Etobicoke Creek, and Cooksville Creek crossings within the Bus Rapid Transit route. General arrangement drawings outlining the proposed works required to construct the proposed crossings have not been completed at this time and additional assessment of impacts to fish and fish habitat will be required once more details regarding the footprint and associated works is detailed. It is anticipated that following additional assessment and possibly the implementation of design considerations to avoid death of fish or Harmful Alternative, Disruption or Destruction of fish habitat that a Fisheries and Oceans Canada review will be required. It is recommended that the Project not be submitted for

review until additional details and drawings are available to complete the Request for Review form and assess anticipated impacts associated with these watercourse crossings.

5.1.1.2 Terrestrial Environment

The Study Area was screened for the presence of Species at Risk or rare plants during field investigations. No Species at Risk or regionally rare plant species or communities were identified within or adjacent to the Study Area. Therefore, adverse impacts to Species at Risk or regionally rare plant or vegetation communities are not anticipated to result from the proposed project works. Limited vegetation and tree removal is anticipated with the widening/rehabilitation of the Etobicoke Creek bridge and Little Etobicoke Creek. These sites consist of typical urban roadside ecology. If re-seeding of these areas with native vegetation species is conducted along with proper grading, it is not anticipated that the proposed works at these sites will cause negative impacts.

5.1.1.2.1 Tree Inventory

Tree Assessment

All trees surveyed as part of the tree inventory and assessment were found within an urban/natural environment and consisted of small, medium and large trees with diameter at breast height measurements ranging from 1 centimetre to 99 centimetres; the average diameter at breast height was 18 centimetres (**Figure 5-1**). Several tree species were identified during the tree inventory, with the most abundant being honeylocust (*Gleditsia triacanthos*) and Manitoba maple (*Acer negundo*) at 14% of the overall trees collected, respectively, followed by red ash (*Fraxinus pennsylvanica* var. *pennsylvanica*) at 12% of the overall trees collected (**Figure 5-2**).

Figure 5-1: Distribution of Diameter Class Across the Study Area

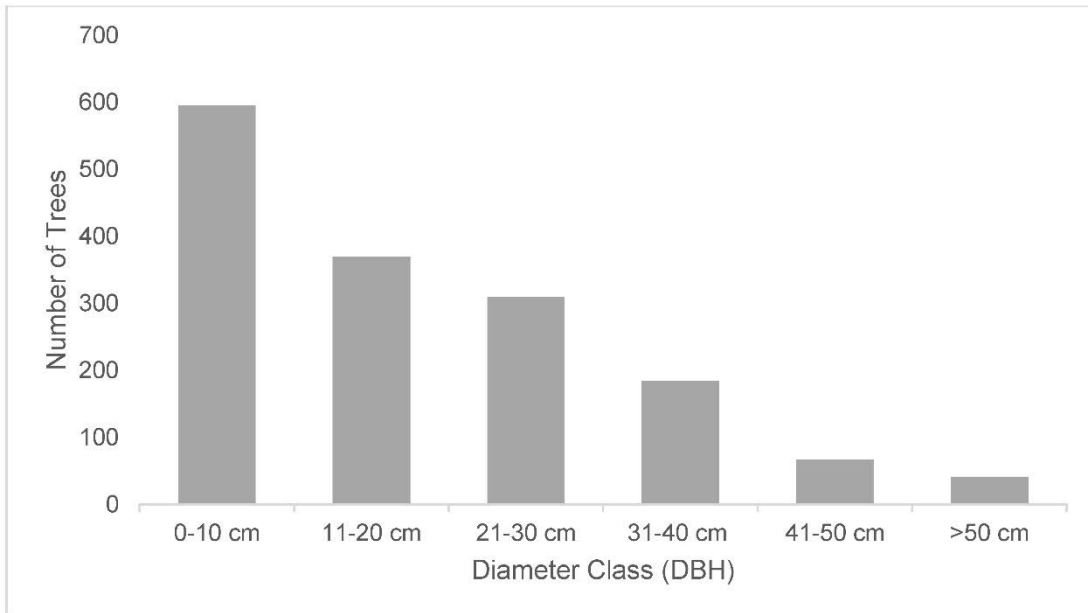
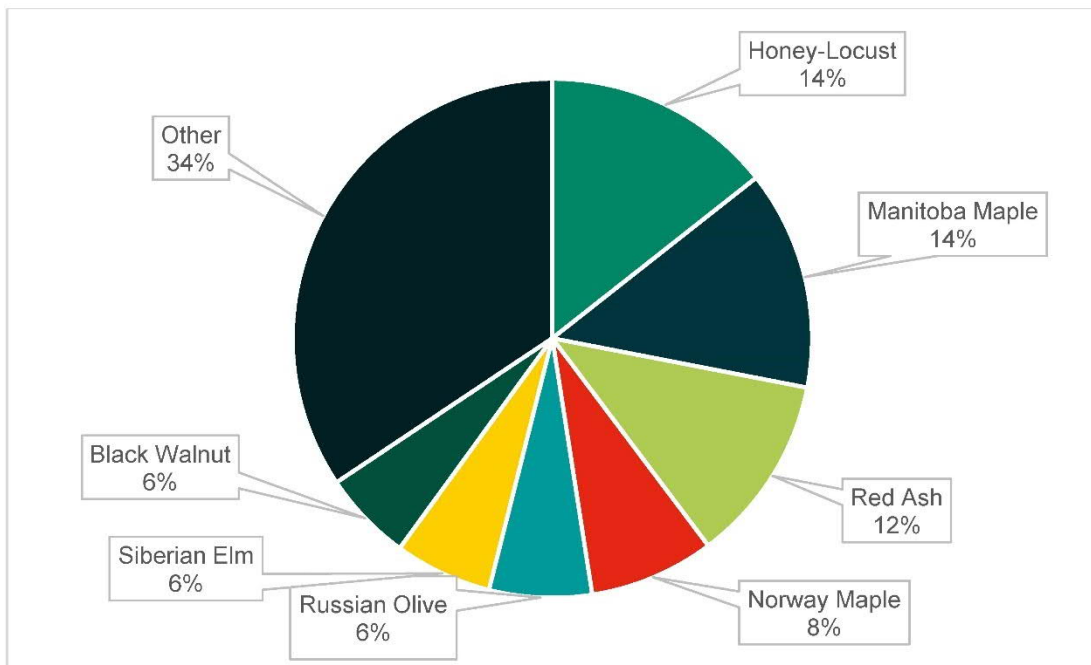


Figure 5-2: Species Composition Across the Study Area



The majority of the defects observed were caused by either human interference or natural occurrences including mechanical damage, insects, weather and natural environmental conditions. **Table 5-2** provides a summary of the overall condition of the trees ranging from a rating of good to dead.

Table 5-2: Summary of Tree Condition

Tree Condition	Total Number of Trees
Good	751
Fair	644
Poor	102
Dead	60
Hazard	8
Total	1,565

Tree Impact Analysis

Based on the results of the tree impact analysis a total of 922 trees are recommended for removal including 861 within the Project Area and 61 within the Buffer Area, collectively. Furthermore, 133 trees are recommended for injury with protection, with 46 being recommended for injury and 87 for minor injury. A further 430 trees have been recommended to have protection placed around them, due to their tree protection zones being within the Buffer Area. The remaining 80 trees located within the collective Buffer Area are being retained but are considered potential hazards. **Table 5-3** summarizes the number of trees recommended for removal, injury and protection, minor injury and retention.

5.1.1.3 Wildlife

Migratory birds are known to nest within vegetation present within the Study Area. Timing windows allow vegetation removal activities to avoid periods when birds are actively nesting. The period when a bird is actively nesting is considered its most critical life stage as many species are highly dependent on habitat around their nest site to supply food for nestlings and to conceal their nest, eggs, and young.

Cliff and Barn Swallows were observed nesting under the Etobicoke Creek bridge. These species are known to reuse nests and nesting locations. Barn Swallows are protected under the provincial Endangered Species Act and the federal Species at Risk Act; in addition, both species and their nests, eggs, and fledglings are afforded protection under the Migratory Bird Convention Act.

Currently, at the existing design phase, it is unknown what impact the proposed works will have on the underside of the structure, however, assuming that bridge materials are conducive to the nests of Cliff and Barn Swallows, it is not anticipated that the works will significantly impact the colony in a long-term manner, as the structure will remain available to nesting Cliff and Barn Swallows and other migratory birds once construction activities are complete.

Table 5-3: Summary of Tree Removal and Preservation Recommendations

Location/Ownership	Removal Permit Required	Removal No Permit Required	Minor Injury with Protection Permit Required	Minor Injury with Protection No Permit Required	Injury with Protection Permit Required	Injury with Protection No Permit Required	Protection with No Injury No Permit Required	Retention with No Protection No Permit Required	Potential Hazard Trees No Permit Required	Totals
City of Mississauga	577	22	32	0	22	0	94	0	23	770
Region of Peel	61	0	0	0	0	0	20	0	1	82
Private (Mississauga) <small>(see Note 1)</small>	157	85	43	7	17	2	266	0	30	607
City of Toronto	0	0	0	0	0	0	13	0	13	26
Private (Toronto) <small>(see Note 1)</small>	20	0	5	0	5	0	35	0	13	78
N/A <small>(see Note 2)</small>	0	0	0	0	0	0	2	0	0	2
Totals	815	107	80	7	44	2	430	0	80	1,565

Note: 1 For Private Tree Permitting, private landowners should be notified.
 2. Trees located outside of the Study Area (i.e., Project Area and Buffer Area) that have not been included in the final required permitting counts or tree compensation numbers

As detailed information on the bird species (migratory birds, provincially protected birds, and birds not afforded protection) is available for the Study Area based on the findings of the 2020/2021 field investigations, a nesting window reflective of the species known to occur within the Study Area has been recommended for this location. The Birds Canada *Nesting Calendar Query Tool* was used to determine the most appropriate nesting period based on the individual bird species known to utilize the Study Area for the purposes of nesting. The nesting calendar query tool utilizes a large data set collected over decades by the Canadian Wildlife Service, Birds Canada, and other agencies to calculate the dates when individual species are most likely to be actively nesting within a given geographic area. The core nesting period for birds within the Study Area is approximately April 1 to August 31 (i.e., the period when most birds are anticipated to be actively nesting).

Any required removal of vegetation should be completed prior to or after the bird nesting period of April 1 to August 31 of any given year to ensure migratory birds or their nests are not adversely impacted. In the event that vegetation removal will be required prior to August 31, but later than April 1, a visual inspection of the areas to be cleared should be conducted by a qualified avian specialist before disturbance to ensure that no birds are using the area for the purposes of nesting. Vegetation removal within habitat suitable for Bat Species at Risk (e.g., Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland) should not occur within the active bat season (i.e., April 30 – September 30). If migratory bird breeding and/or nesting activity is encountered at any time of year within the Study Area, an appropriate setback distance should be maintained from the nest/nesting birds. Works should not continue in the location of the nest until after it has been determined by an avian specialist that the young have fledged and vacated the nest and work areas. Provided that the appropriate mitigation measures are implemented during construction, it is not anticipated that the proposed works will negatively impact migratory birds or other wildlife species.

Though the full scope of proposed works associated with the structure have not been detailed, mitigation measures may be employed to minimize impacts to the species. The final design should be re-evaluated to determine the extent of anticipated impacts and final mitigation measures to be employed. The following is generally recommended to ensure killing, harm, and harassment to these species does not occur. If applicable based on project works it is recommended that exclusionary measures (i.e., Ministry of the Environment, Conservation and Parks approved exclusionary bird netting) are installed on the structure to prevent nesting activities, if possible. The exclusionary measures must be installed prior to the bird nesting period. If nesting activity of this species occurs prior to installation of the exclusionary measures, then the project works for the bridge must be delayed until it has been determined that nesting is completed, and the species has vacated or under approval from the Ministry of the Environment,

Conservation and Parks. If these mitigation measures are followed, the project works are not anticipated to cause negative impacts to individual nesting Barn and Cliff Swallows.

5.1.1.4 Significant Wildlife Habitat

Based on the criteria outlined in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion7E* (Ministry of Northern Development, Mines, Natural Resources and Forestry, 2015), no Significant Wildlife Habitat is known to occur within the Study Area.

5.1.1.5 Species at Risk

Species at Risk and their habitats are afforded protection under the Endangered Species Act. McIntosh Perry field surveys documented the following Species at Risk within the Study Area: Barn Swallow and Chimney Swift. Additionally, suitable habitat for Species at Risk bats (i.e., Little Brown, Northern, and Eastern Small-footed Myotis, and Tricolored Bat) is present within the Study Area and it is presumed that these species may be present. Given that much of the Study Area is urban, industrial, or suburban in nature, habitat for Species at Risk is limited within the Study Area.

5.1.1.5.1 Species at Risk Bats

Habitat associated with the Study Area appears suitable for the following Endangered species: Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and Tricolored Bat.

There is the potential to encounter the Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and/or Tri-colored Bat within the treed portions of the Study Area (i.e., Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite). These species may utilize forested habitat adjacent to the Dundas Street right-of-way as maternity colony habitat (i.e., snags, cavity trees, etc.). The design of the Project should have consideration for suitable habitat present within the Study Area (i.e., the Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite) and avoid, where possible, any vegetation removal throughout suitable habitats. If vegetation removal is required, removals should occur outside of the active period for Species at Risk bats (i.e., April 30 to September 30). Adhering to removals occurring outside of this time period should avoid any potential negative impacts on these species. Should vegetation and tree removals occur within this period, consultation with the Ministry of the Environment, Conservation and Parks should occur to determine best paths forward.

5.1.1.5.2 Barn Swallow

Habitat within and adjacent to the Study Area appears suitable for the life processes of the Barn Swallow; a species considered threatened in Ontario. Field surveys documented the presence of eight active Barn Swallow nests under the Etobicoke Creek bridge. Given that Barn Swallows were documented to be nesting under the Etobicoke Creek bridge, and pending both the nature of finalized bridge works and usage confirmation prior to construction, the project works may require authorization to the Ministry of the Environment, Conservation and Parks under the Endangered Species Act. Based on the proposed project works it appears that the proposed project works (to be re-evaluated once the design is more complete) may be completed under an exemption outlined under Part III of Ontario Regulation 830/21 of *Ontario Regulation 242/08* of the *Endangered Species Act* which applies to Barn Swallows.

Given the scope of the proposed work at this time, the removal of the existing nests will be required in association with the bridge replacement. The new bridge design should, where possible, incorporate opportunities for Barn Swallow nesting, including but not limited to nesting cups. Bridge construction and demolition activities have the potential to harm and harass Barn Swallows if the activities are performed during the nesting period of this species (i.e., May 20 to August 20). Impacts to individual Barn Swallows and other migratory birds that were observed nesting on the structure can be mitigated through the use of Ministry of the Environment, Conservation and Parks approved bird exclusion netting installed prior to April 1 to and maintained until August 31 of any year to exclude Barn Swallows and other migratory birds from nesting on the structure. Following completion of the works, the structure is anticipated to be suitable as nesting habitat for the Barn Swallow. In addition, mitigation and sustainability measures outlined in the *Operational Guidance for Migratory Bird nests Under Bridges and in Culverts*, 2018 prepared by the Transportation Association of Canada should be considered as the design progresses and during construction.

During detailed design, prior to construction, any structure requiring work must be rescreened to determine if conditions have changed since the 2020/2021 field investigations. Authorization would also be required if Barn Swallows are identified as nesting within any other structure that requires disturbance as part of the project works (e.g., structural culverts etc.).

5.1.1.5.3 Chimney Swift

Field surveys completed in 2020 documented the presence of several foraging Chimney Swift along the Study Area length. This species is considered threatened, however, no evidence of the species using the immediate Study Area (i.e., structures etc. found within the right-of-way) was observed (i.e., the species is anticipated to be nesting away

from Dundas Street in chimneys of other structures). Therefore, no negative impacts are anticipated to the species in relation to the project works.

5.1.1.6 Significant Natural Features

No designated areas such as American National Standards Institute's or properties managed by the Toronto and Region Conservation Authority or Credit Valley Conservation are located within the Study Area. The proposed project works are not anticipated to have negative impacts to American National Standards Institute's or other designated areas outside of the Study Area.

5.1.1.7 Study Area Ecological Functions

5.1.1.7.1 Fish Habitat

At this time in-water work is anticipated at the Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek crossings within the Project. Detailed design of the proposed crossings has not been completed at this time and additional assessment of impacts to fish and fish habitat will be required once further design work is completed. It is anticipated that following additional assessment and possibly the implementation of design considerations to avoid death of fish or Harmful Alternation, Disruption or Destruction that Fisheries and Oceans Canada review will be required. It is recommended that the Project not be submitted for review until additional details and drawings are available to complete the Request for Review form and assess anticipated impacts associated with these watercourse crossings.

Short-term impacts associated with potential in-water work and vegetation removal surrounding the preliminary designs will occur, however, mitigative measures will minimize these impacts and long-term impacts to this function is not anticipated.

5.1.1.7.2 Migratory Bird Nesting Habitat

Migratory bird nesting habitat is present throughout the Study Area, primarily within vegetated riparian corridors (i.e., Cooksville, Little Etobicoke, and Etobicoke Creeks). The core nesting period for migratory birds within the Study Area is approximately April 1 to August 31 (i.e., the period when most birds are anticipated to be actively nesting).

Any required removal of vegetation should be completed prior to or after the core bird nesting period of any given year to ensure migratory birds or their nests are not adversely impacted. In the event that vegetation removal during the core nesting period, appropriate mitigation measures as described in the Natural Environment Report (**Appendix D**) are to be implemented. Provided that the appropriate mitigation

measures are implemented during construction, it is not anticipated that the proposed works will negatively impact migratory birds and their nesting habitat.

Provided that mitigation measures outlined above and in the Natural Environment Report (**Appendix D**) are followed, there are no anticipated negative impacts associated with the function of migratory bird breeding habitat in either the short- or long-term. The final design should be re-evaluated to determine the extent of anticipated impacts and final mitigation measures to be employed.

5.1.1.7.3 Wildlife Travel Corridors

Some vegetation removal will be required in support of the bridge designs. Though riparian vegetation removal will be required, this is not considered to be significant at this time; no larger individual trees (i.e., >35 centimetre diameter at breast height) are likely to be removed as part of this work.

Vegetation removals will follow compensation requirements in accordance with Metrolinx's *Vegetation Guideline* (2020). Outside of Metrolinx properties, compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to two years, following planting. The approach to compensation monitoring will be determined by property ownership, applicable governing bylaws/regulations and location with respect to ecological functioning. As such, compensation plantings will ensure that the function of riparian vegetation, and specifically the function as wildlife travel corridors is not negatively impacted.

5.1.1.7.4 Habitat for Species at Risk Bats

Habitat associated with the Study Area appears suitable for the following Endangered species: Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and Tri-colored Bat.

These species may utilize forested habitat adjacent to the Dundas Street right-of-way as maternity colony habitat (i.e., snags, cavity trees, etc.). The design of the Dundas Bus Rapid Transit should have consideration for suitable habitat present within the Study Area (i.e., the Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite) and avoid, where possible, any vegetation removal throughout suitable habitats. If vegetation removal is required, removals should occur outside of the active period for Species at Risk bats (i.e., April 30 to September 30). Adhering to removals occurring outside of this time period should avoid any potential negative impacts on these species. Should vegetation and tree removals occur within this period, consultation with the Ministry of the Environment, Conservation and Parks should occur to determine best paths forward.

5.1.1.7.5 Habitat for SAR Birds

Habitat for Barn Swallow is present within the Study Area. Field investigations documented the presence of eight active nests on the Etobicoke Creek bridge. Following mitigative measures outlined in the Natural Heritage Report (**Appendix D**) and the completion of the proposed works, the Etobicoke Creek structure is anticipated to be suitable as nesting habitat for the Barn Swallow in the long-term. No negative long-term impact is anticipated in association with the proposed design for habitat for the Barn Swallow.

Field surveys completed in 2020 also documented the presence of several foraging Chimney Swift along the Study Area length. However, no evidence of the species using the immediate Study Area (i.e., structures, etc. found within the right-of-way) was observed (i.e., the species is anticipated to be nesting away from Dundas Street in chimneys of other structures). Therefore, no negative impacts are anticipated to the species and its habitat in relation to the project works.

5.1.2 Operation

No impacts to the natural environment during operation of the Project are anticipated.

5.1.3 Mitigation Measures

5.1.3.1 Construction

5.1.3.1.1 Aquatic Environments

- When possible, schedule work to avoid wet and rainy periods that may increase the risk of erosion and sedimentation.
- Plan access points to minimize the amount of riparian vegetation lost or disturbed.
- Uncured concrete and other materials used for grouting culverts shall be prevented from entering water bodies using appropriate barriers and should be stored a minimum of 30 metres from watercourses.
- Develop a spill response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance. All spills of deleterious substances (as defined by the Fisheries Act) must be reported to the Ontario Spill's Action Center ([click here to report pollution and spills](#)) and Fisheries and Oceans Canada ([click here to email Fisheries Protection](#)) if the spill results in the Harmful Alteration, Damage or Destruction to fish or fish habitat. An emergency spill kit shall be kept on-site at all times.

- Erosion and sediment control measures shall be installed prior to starting work to prevent sediment from entering the watercourse and will be removed at the completion of construction as per Ontario Provincial Standard Specification 804 – Construction Specification for Temporary Erosion Control and Ontario Provincial Standard Specification 805 – Construction Specification for Temporary Sediment Control.
- It is recommended that cover be utilized as per Ontario Provincial Standard Specification 804 – Construction Specifications for Temporary Erosion Control, as a part of the contract for areas where seeding is required. Recommended covers included in Ontario Provincial Standard Specification 804 – which should be considered for inclusion in the Contract Package include:
 - Straw mulch (where conditions permit);
 - Bonded Fibre Matrix or Fibre Reinforced Matrix (where conditions permit), and or erosion control blankets which are constructed of 100% biodegradable materials with non-plastic biodegradable mesh or sewn together with biodegradable thread; and
 - Fibre rolls which consist of an open—weave, biodegradable mesh or netting that securely contains the fibres (i.e., biodegradable material such as shredded straw, wood fibres or compost).
- Alternatively, rock protection or rip-rap may also be used to stabilize highway embankments adjacent to the watercourse following completion of project works (anticipated to provide more rapid stabilization but little value to vegetation directly) as per Ontario Provincial Standard Specification 804 and Ontario Provincial Standard Specification 805.
- All stockpiles of erodible construction materials and excess or surplus materials within 30 metres of a waterbody shall be protected from erosion within 48 hours of being built until they are required for construction or removed from the site as per Ontario Provincial Standard Specification 805 – Construction Specification for Temporary Sediment Control;
- Where grubbing is required adjacent to a watercourse, temporary cover shall be applied prior to any forecasted precipitation and less than 48 hours after any grubbing as per Ontario Provincial Standard Specification 804 – Construction Specification for Temporary Erosion;
- Temporary sediment control shall be removed, and associated excavations backfilled and compacted when the area being protected has been completely stabilized by final cover placement. When the final cover is vegetated, and

placement could not be advanced to allow establishment and stabilization of the site prior to Contract Completion, temporary sediment control shall be left in place as per Ontario Provincial Standard Specification 805 – Construction Specification for Temporary Sediment Control;

- Equipment shall not enter the watercourse as per Ontario Provincial Standard Specification 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks unless specified in the Contract Documents. All equipment shall be operated on or from dry land in a way that minimizes the disturbance of waterbody banks and riparian vegetation;
- Ensure mobile industrial equipment is stored/fueled at least 30 metres away from the watercourse. In circumstances where it is not possible (e.g., non-mobile equipment), fueling and maintenance must be carried out in a controlled manner to prevent any discharge of equipment fuels and fluids onto the ground or into water bodies as per Ontario Provincial Standard Specification 182; and
- Ensure machinery is not leaking fuels or lubricants as per Ontario Provincial Standard Specification 182.

5.1.3.1.2 Wetlands and Waterbodies

- Construction activities will maintain the buffers established during the design phase to minimize potential negative impacts to wetlands and waterbodies.
- 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 (Toronto and Region Conservation Authority 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.
- Design consideration will follow the Toronto and Region Conservation Authority's Crossing Guideline for Valley and Stream Corridors (2015), and will be developed

and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections.

- 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 License to Collect Fish for Scientific Purposes from the Ministry of Northern Development, Mines, Natural Resources and Forestry.
- Removal of riparian vegetation shall be in accordance with Ontario Provincial Standard Specification 182 and Ontario Provincial Standard Specification 804 – Construction Specifications for Seed and Cover.
- Disturbance of riparian vegetation should be minimized.
- Herbicides will not be used unless for the control of Invasive/Noxious plants. Herbicides shall not be sprayed where invasive or noxious vegetation is located in standing water. Locations to be sprayed with herbicide as specified in the Contract Drawings shall be visually inspected for the presence of standing water on a weekly basis and documented for the life of the Contract until or until the standing water is no longer present and herbicide spraying can commence.
- Replace vegetative cover with topsoil and seed as per Ontario Provincial Standard Specification 803 – Construction Specification for Vegetative Cover and Ontario Provincial Standard Specification 802 – Topsoil.
- Though the Study Area is located within an urban area, several “natural” areas exist adjacent to the Study Area watercourses, and these areas provide direct groundwater discharge to the Study Area watercourses. As such, it is recommended that a seed mix comprised of native species be utilized for all re-vegetation activities within the Study Area watercourses and riparian areas.
- The Northern Ontario Mix, as per Ontario Provincial Standard Specification 803, offers similar qualities for re-establishment within a roadside environment (and reduced long-term maintenance). This mix contains mostly native species with some non-native legumes included to help with the establishment of the planting; however, only native species should be used.
- Alternatively though not specified in Ontario Provincial Standard Specification 803, a seed mix such as the Ontario Seed Company Rural Ontario Roadside Native Seed Mixture 8145 ([click here for the Ontario Seed Company Native Seed Mixture 8145](#))

may also be utilized as this seed mix contains a variety of native plant species able to establish and grow within a roadside environment.

- It is recommended that cover be utilized as a part of the Contract for areas where seeding is required, given the sensitivities associated with the Study Area wetlands in particular. Recommended covers included in Ontario Provincial Standard Specification 803 which should be considered for inclusion in the Contract Package include:
 - Straw mulch (where conditions permit);
 - Bonded Fiber Matrix or Fiber Reinforced Matrix (where conditions permit), and or
 - Erosion control blankets made of natural fiber (i.e., with no nylon or synthetic netting/materials, etc.).
- If there is insufficient time in the growing season for the seed to sprout, the site shall be stabilized with temporary erosion and sediment control measures and seeded in the following spring. It is important to note that many of the seed mixes outlined above are best established through fall seeding to allow normal dormancy and then germination the following spring as these species are adapted to the Ontario environment.
- Where clearing and grading is required within 30 metres of a watercourse a tree inventory should be completed prior to grading activities and any trees removed be replaced in accordance with applicable tree compensation ratios to ensure function of riparian habitat remains. Native species should be selected which are tolerant of the urban environment to ensure function of the riparian area is maintained.
- Planting of native shrubs is also recommended within riparian areas disturbed during construction. Use of native shrubs may be appropriate for areas close to the traveled portion of Dundas Street (i.e., newly regraded embankment) as they will generally stay smaller to avoid conflicts with utilities, etc.
- Debris, including earth clods and invasive noxious vegetation material attached to the outside surfaces of the equipment, is prohibited from entering the Working Area.

5.1.3.1.3 Fish and Fish Habitat

- All requirements of the Fisheries Act and the Endangered Species Act will be met.
- Additional assessment of impacts to fish and fish habitat and Fisheries and Oceans Canada Request for Review are anticipated to be required for works associated with Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek once details including drawings, etc. have been completed for these crossings.

- Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a License to Collect Fish for Scientific Purposes from the Ministry of Northern Development, Mines, Natural Resources and Forestry.

5.1.3.1.4 Wildlife Travel Corridors, Vegetation Removal and Compensation Plans

- Temporary vegetation disturbance and limited vegetation removal.
- Vegetation re-seeding with native vegetation, with specific emphasis on areas adjacent to Etobicoke and Little Etobicoke Creek.
- Sediment and erosion control fencing.
- Upgrades to the terrestrial corridor associated with the Little Etobicoke Creek valley should be consistent with the Dundas Connects project.
- Design consideration will follow the Toronto and Region Conservation Authority's Crossing Guideline for Valley and Stream Corridors (2015), and will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections.
- It is recommended that any ditch line which is constructed that is not part of a watercourse (i.e., does not convey permanent flow) should be seeded with an appropriate moisture tolerating seed mix. It is important to note that none of the seed mixes included in Ontario Provincial Standard Specification 804 are suitable for re-seeding areas that are seasonally wet. Suitable seed mixes for this application include but are not limited to:
 - Seed mix containing 100% Canada bluejoint. Canada bluejoint (a native grass species) is well adapted for growth within the Dundas Street right-of-way in areas where moist soils are present. As a native moisture (able to grow in areas of seasonal standing water) and salt-tolerant species, Canada bluejoint has many growth properties similar to invasive phragmites and is often considered an aggressive spreading native species able to colonize sites quickly. This may also provide benefits to minimize the establishment and spread of invasive phragmites within the Study Area. These properties make it an ideal candidate for use within the right-of-way to re-seed ditch line areas following ditch cleanout or other activities which disrupt the exiting vegetation cover;
 - Creek Bank Native Seed Mixture (Wet Meadow Type) ([click here for the Ontario Seed Company Native Seed Mixture Type 8215](#));

- Standard OBL Wetland Native Seed Mixture ([click here for the Ontario Seed Company Native Seed Mixture Type 8185](#)), or
- Low Maintenance Retention Basin Native Seed Mixture 8220 ([click here for the Ontario Seed Company Native Seed Mixture Type 8220](#)).

5.1.3.1.5 Tree/Vegetation Removal, Injury and Protection

- If a tree requires removal or injury, compensation and registration/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws for tree removals outside of Metrolinx properties (e.g., City of Mississauga's Public and Private Tree Bylaws (0254-2012)).
- Pruning of branches will be conducted through the implementation of proper arboricultural techniques.
- Tree Protection Zone 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 for tree removals outside of Metrolinx properties (e.g., City of Mississauga's Public and Private Tree Bylaws (0254-2012)).
- Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk, and features, e.g., Designated Natural Areas and Significant Wildlife Habitat.

5.1.3.1.6 Disturbance, Injury and/or Removal of Species at Risk Vegetation, Including Butternut.

- As part of the Arborist Report, all trees within or adjacent to the Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other Species at Risk vegetation. Species at Risk vegetation will be subject to authorization and approval requirements under Applicable Law, prior to the commencement of construction.
- Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with Ministry of Northern Development, Mines, Natural Resources and Forestry Butternut Assessment

Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to Ministry of the Environment, Conservation and Parks to determine the next course of action.

- An Integrated Vegetation Management Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the Integrated Vegetation Management 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.

5.1.3.1.7 Integrated Vegetation Management

- An Integrated Vegetation Management Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the Integrated Vegetation Management 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.

5.1.3.1.8 Tree Removal Strategy

- 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.
- It is recommended that a Certified Arborist be retained during tree removal operations in order to ensure that standardized arboricultural techniques are employed, prior to and during the proposed work activities, and to confirm the need to remove or protect additional trees in proximity to the Study Area. Additionally, it is recommended that a Certified Arborist return at the conclusion of construction to assess the health of trees that were protected during construction and identify opportunities for mitigation should any trees display signs of stress (i.e. falling limbs, declining health, etc.).

5.1.3.1.9 Tree Protection Recommendations

The following subsections outline tree protection measure recommendations that will further reduce the potential for negative impacts to preserved trees. Furthermore, the following subsections provide standard protection recommendations shall apply to trees that require tree protection fencing for protection during construction activities. Notwithstanding this, recommendations for the timing of vegetation clearing apply to the site in general.

Tree Protection Fencing and Ground Compaction Mitigation

Tree protection fencing shall be installed around trees recommended for protection and retention, where retained trees are in close proximity to the Project Area (i.e., where a retained tree's tree protection zone is within the Study Area but is not touching or intersecting the Project Area), prior to the any work activities taking place within the Study Area. The tree protection fencing shall be installed in accordance with the City of Mississauga's and the City of Toronto's respective tree protection guidelines and standards. The tree protection fencing around the tree protection zone shall be installed with orange safety fencing and framed with lumber at 5 centimetres x 10 centimetres (2 inches x 4 inches) dimensions. Alternatively, steel T-bars can also be used to erect the orange safety fencing. All tree protection fencing shall remain in place prior to any construction activity and in good repair until construction is complete.

It is recommended that tree protection zone signage be installed on the fence. Tree protection signage shall be installed by the contractor to clearly delineate tree protection zones. The sign shall be a minimum of 40 centimetres (15.75 inches) x 60 centimetres (23.5 inches), made of white gator board and outline the following:

- That no grade change, storage of materials or equipment is permitted within the tree protection zone;
- Contact information of the municipal forestry department; and
- The potential fine for contravention of disobeying by-laws in which the tree protection zone Tree Protection Zone was installed.

For any trees recommended for preservation there shall be no storage or movement of equipment or hoarding of materials within the tree protection zone. If work must be completed within the tree protection zone, 10 centimetres to 15 centimetres (4 inches to 6 inches) of mulch shall be spread over the area which is to be worked upon. Additionally, sheets of 2 centimetres (0.75 inches) thick plywood (minimum) or steel plating shall be applied on the mulch in order to help distribute the weight of the heavy equipment to avoid soil compaction. After construction, these measures shall be removed to allow proper aeration and water infiltration to the soil. This shall include

removing the bulk of mulch so that only 5 centimetres to 10 centimetres (2 inches to 4 inches) remain. It is recommended that a Certified Arborist be on-site when work that could impact trees is required within the tree protection zone of trees identified for preservation.

Vegetation Clearing and Management

Vegetation removal, including tree removal will be limited to the specified activity areas and shall not commence until required permits and approvals are obtained.

Clearing of vegetation outside of the breeding bird season is recommended to reduce potential impacts to migratory birds and avoid contravention of the Migratory Birds Convention Act. Searching for nests by a qualified biologist are not recommended within complex habitats, as the ability to detect nests is low while the risk of disturbance to active nests is high. This disturbance increases the risk of nest predation or abandonment by adults. Nests searches may be completed during the nesting period (April 1st to August 31st) by a qualified biologist within 'simple habitats' (Environment and Climate Change Canada, 2018) which refer to habitats that contain few likely nesting spots or a small community of migratory birds. Clearing in simple habitats during the nesting season can only occur if a qualified biologist has confirmed it would not affect the nest or young of a protected species.

Where works are proposed within a tree protection zone of a tree proposed for preservation, clearing of vegetation shall be performed manually to reduce soil compaction and mechanical damage to the tree.

Branch Pruning

Where branches are likely to be damaged during construction, they shall be pruned accordingly, prior to construction activities, in order to avoid unnecessary damage to the tree.

Pruning should be completed in a three-step process. The first step of this process is to cut through approximately one-third of the branch's diameter from the bottom side. The second step of the process is to remove the majority of the branch and its lateral weight, through proceeding to make a cut on the top side, which is to be approximately half the diameter from the cut on the bottom side. This cut is to be made approximately 2.5 centimetres to 5 centimetres (1 inch to 2 inches) further out on the branch from the first cut in order to reduce the risk of tearing. Once the weight (majority of the branch) has been removed, the final step of the process is to remove the remaining stub by completing the final cut at the branch bark ridge. This final cut must be a smooth surface with no jagged edges or torn bark.

Roots

Root damage shall be minimized by restricting equipment in the vicinity of the existing tree protection zone and limiting equipment within the construction limits. This will help minimize damage if there is any excavation in the areas of a preserved tree. It is critical to avoid damage to the structural root plate in order to prevent affecting tree stability and thus creating a hazard tree. In general, most of the fibrous roots of the tree are contained in the top 30 centimetres (11.75 inches) of the soil and may easily be severed during excavation, whilst structural roots are located deeper. Hand digging, low pressure hydro-vac or air spade exploratory digging will aid in determining the damage of the tree root system. As mentioned earlier, all opportunities to avoid root and grade damage within the tree protection zone shall be taken – this shall include limiting machinery within the tree protection zone as much as possible and the employment of horizontal hoarding where work is proposed within the tree protection zone of a tree recommended for preservation.

Any roots that are severed during construction shall be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, mulch, wet burlap or soil shall be applied as soon as possible and watered regularly to prevent roots from drying-out, under the supervision of a Certified Arborist.

Excavation

Methods of excavation within tree protection zone of trees proposed for protection or retention shall include those which cause the least harm to the tree, such as pneumatic or hydraulic excavation. These methods include tools which use high-pressure air or water to remove the soil around the roots without damaging the larger roots.

Fill within the tree protection zone shall not be permitted unless it is mitigated in a way that maintains air and water availability for roots.

All grade changes within and adjacent to tree protection zones shall be undertaken in accordance with the previously specified tree protection guidelines.

Access routes shall be established away from the tree protection zone. The existing grades within the tree protection zone shall not be disturbed to avoid damage to trees and soil compaction.

5.1.3.1.10 Wildlife

- Prior to construction, investigation of the Project Footprint for all wildlife and wildlife habitat that may have established following the completion of previous surveys will be undertaken, as appropriate.

- Erect exclusionary fencing in linkage areas within close (i.e., 30 metres) proximity of wildlife habitat. Fencing will be designed prior to construction.
- If wildlife is encountered, conservation strategies 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. If wildlife is able to be handled safely (e.g., non-Species at Risk herpetofauna), the qualified biologist will follow safe handling-techniques, as approved by the province, to relocate and move individuals out of harms way.

5.1.3.1.11 Migratory Breeding Birds and Nests

- All works must comply with the Migratory Birds Convention Act, including timing windows for the general nesting period (April 1st to August 31st in Ontario).
- Vegetation removals should occur outside of the bird breeding season (i.e. April 1 to August 31), if possible, to ensure incidental take or harm to migratory birds and their nests does not occur.
- Mitigation and sustainability measures outlined in the Operational Guidance for Migratory Bird nests Under Bridges and in Culverts, 2018 prepared by the Transportation Association of Canada should be implemented during construction.
- 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 a qualified biologist with experience conducting nest searches will be required 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.

5.1.3.1.12 Species at Risk

- All requirements of the Endangered Species Act and Species at Risk Act will be met. Species-specific mitigation measures will be implemented based on any recommended studies undertaken prior to construction, and in consultation with Ministry of the Environment, Conservation and Parks/Ministry of Northern Development, Mines, Natural Resources and Forestry.
- If Species at Risk is present and conservation strategies have been developed by Ministry of Northern Development, Mines, Natural Resources and Forestry/Ministry

of the Environment, Conservation and Parks, 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 Species at Risk on-site, the identification of the Species at Risk species and the procedure(s) to follow if an individual is encountered or injured.

Barn Swallow

- Field surveys will be undertaken prior to construction to confirm the number of nests present at the known locations and whether the nests remain active.
- Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the Endangered Species Act will be met, including any compensation, replacement structures and/or authorization requirements.
- If construction activities are scheduled during the nesting season for Barn Swallow (April 1 to August 31), a nest search will be undertaken by a qualified biologist to confirm that no Barn Swallow 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, following Ministry of the Environment, Conservation and Parks guidance.
- Bridge works should be completed outside of the bird breeding season (i.e. April 1 to August 31), if possible, to ensure incidental take or harm to Barn Swallows and their nests does not occur.
- Mitigation and sustainability measures outlined in the Operational Guidance for Migratory Bird nests Under Bridges and in Culverts, 2018 prepared by the Transportation Association of Canada should be implemented during construction.

Chimney Swift

- If repair, maintenance or demolition of buildings/structures with suitable roosting/nesting habitat (e.g., chimneys) is to take place, targeted surveys for Chimney Swift will be completed by a qualified avian biologist as per the Bird Studies Canada Chimney Swift Monitoring Protocol (2009).
- Repair, maintenance, or demolition of an identified roosting/nesting structure may constitute destruction of habitat and would be discussed in advance with the Ministry of the Environment, Conservation and Parks and requirements of the Endangered Species Act will be met.

- Register activities for Chimney Swift under the Endangered Species Act and consult with Ministry of the Environment, Conservation and Parks to fulfil requirements the Endangered Species Act and its associated regulations.

Species at Risk Bats

- Disturbance to bat roosting habitat, with specific emphasis on the Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite, will be avoided during the bat roosting period of April 30th to September 30th in accordance with Ministry of the Environment, Conservation and Parks requirements.

Aquatic Species at Risk

- Specific mitigation measures identified through the Aquatic Habitat and Fish Community Assessment, and/or any other studies, will be implemented.
- If aquatic Species at Risk is present, design and construction will occur in accordance with Ministry of the Environment, Conservation and Parks requirements.
- Register activities that fall under the notice of activity for aquatic species for works within habitat of certain fish or mussels.

5.1.3.2 Operation

No impacts to the natural environment during operation of the Project are anticipated. As such, no mitigation measures during operation of the Project are recommended.

5.1.4 Monitoring Activities

5.1.4.1 Aquatic Environments

- Erosion and sediment control measures shall be inspected for effectiveness regularly throughout construction and deficiencies corrected as per Ontario Provincial Standard Specification 804 – Construction Specification for Temporary Erosion Control and Ontario Provincial Standard Specification 805 – Construction Specification for Temporary Sediment Control.
- The installation, monitoring, maintenance, and removal of temporary erosion and sediment control measures shall be according to Ontario Provincial Standard Specification 805 – Construction Specification for Temporary Sediment Control.
- Additional assessment of impacts to fish and fish habitat and Fisheries and Oceans Canada Request for Review are anticipated to be required for works associated with

Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek once details, including drawings, etc. have been completed for these crossings.

5.1.4.2 Wetlands and 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.
- Equipment coming on-site shall be inspected as close to the site entrance as possible for debris, and if present debris shall be removed entirely and shall be collected and managed as specified prior to the equipment proceeding to the Working Area.
- Equipment shall also be inspected for debris prior to leaving the Working Area. Any debris shall be removed and managed as specified and in a manner that prevents equipment from coming into further contact with standing, sprayed or cut invasive or noxious vegetation.
- Vegetation re-seeding should be inspected during all applicable phases of the project, up to two years following project completion to ensure vegetation uptake.
- Compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to two years, following planting.

5.1.4.3 Fish and Fish 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.

5.1.4.4 Wildlife Travel Corridors, Vegetation Removal and Compensation Plans

5.1.4.4.1 Temporary Vegetation Disturbance and Limited Vegetation Removal

- Vegetation re-seeding should be inspected during all applicable phases of the project, up to two years following project completion to ensure vegetation uptake.
- Installation of sediment and erosion control fencing in areas requiring grading during construction. Sediment and erosion control fencing should be inspected weekly, or during precipitation events that are >10 mm.

5.1.4.4.2 Tree/Vegetation Removal, injury and Protection

- 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). Outside of Metrolinx properties, compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to 2 years, following planting. 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 corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management Program within the Metrolinx Vegetation Guideline (2020).

5.1.4.4.3 Disturbance, Injury and/or Removal of Species at Risk Vegetation, including Butternut

- On-site inspection will be undertaken to confirm the implementation of the mitigation measures.

5.1.4.5 Integrated Vegetation Management

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.

5.1.4.6 Tree Removal Strategy

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.

5.1.4.7 Tree Preservation

It is recommended that a Certified Arborist be retained to regularly monitor the Project's construction activities in order to ensure that all trees that are recommended for protection and retention are being maintained adequately, in relation to standard arboricultural practices and the aforementioned respective City protocols. Additionally, no grading, excavation or restoration-related activities are to occur within the tree protection zone of any protected or retained trees, if it cannot be avoided, without the supervision of a Certified Arborist. Should the limits of the proposed excavation areas change, a Certified Arborist will be retained to review trees with tree protection zones intersecting new excavation area limits in order to determine whether trees shall be recommended for removal, injury and protection or retention.

5.1.4.8 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 to all wildlife encountered.

5.1.4.9 Migratory Breeding Birds and Nests

Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.

If vegetation removal occurs during the bird breeding season (i.e. April 1 to August 31), a visual inspection of the proposed removals is required by a qualified avian biologist to ensure that no birds are using the area for the purposes of nesting. If migratory bird breeding and/or nesting activity is encountered at any time of year within the Study Area, an appropriate setback distance should be maintained from the nest/nesting birds. Works should not continue in the location of the nest until after it has been determined by an avian specialist that the young have fledged and vacated the nest and work areas.

5.1.4.10 Species at Risk

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 authorization requirements under the Endangered Species Act.

Barn Swallow

- 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 Ministry of the Environment, Conservation and Parks, if required.
- Authorization to the Ministry of the Environment, Conservation and Parks under Part III of the Ontario Regulation 830/21: Barn Swallows of the *Ontario Regulation 242/08 – General*.
- Authorization to the Ministry of the Environment, Conservation and Parks requires the preparation of a Barn Swallow mitigation and restoration record, which includes habitat compensation (if nests are removed and/or destroyed) and monitoring.
- Authorization would also be required if Barn Swallows are identified as nesting within any other structure that requires disturbance as part of the project works (e.g., structural culverts etc.).

Chimney Swift

- 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 Ministry of the Environment, Conservation and Parks, if required.

Species at Risk Bats

- 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 Ministry of the Environment, Conservation and Parks, if required.
- Should vegetation and tree removals occur within the active period for Species at Risk bats, discussion with the Ministry of the Environment, Conservation and Parks is required to ensure contravention of the Endangered Species Act does not occur. Sites documented as being used by Species at Risk bats are not removable under the Endangered Species Act.

Aquatic Species at Risk

- 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 Ministry of the Environment, Conservation and Parks, if required.

5.1.5 Groundwater

5.1.5.1 Construction

Construction operations could expose groundwater and associated contamination.

5.1.5.2 Operation

No impacts to groundwater during operation of the Project are anticipated.

5.1.5.3 Mitigation Measures

- Develop a Groundwater Management and Dewatering Plan prior to commencement of construction 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 handling, transfer, testing, monitoring, disposal of groundwater generated as part of the works and in accordance with applicable regulatory requirements. The Groundwater Management and Dewatering Plan will outline general groundwater monitoring considerations during the works and provide guidance for groundwater monitoring following the works where considered applicable.
- 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 or an Environmental Activity Sector Registry from the Ministry of the Environment, Conservation and Parks.
- 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 prior to construction.

5.1.5.4 Monitoring Activities

- A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for 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.

5.1.6 Stormwater Management

5.1.6.1 Construction

- 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).

5.1.6.2 Operation

No impacts to stormwater management are anticipated during operation of the Project.

5.1.6.3 Mitigation Measures

- Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings during detailed design in accordance with the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003), the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, and the guidelines and regulatory requirements of the Conservation Authority having jurisdiction.

- 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 Conservation Authorities having jurisdiction.
- The quantity control criteria for the Study Area within Toronto and Regional Conservation Authority's Etobicoke Creek Watershed will be acquired from 2013 Etobicoke Creek Watershed Hydrology Update report.
- The water balance requirement for the Study Area within Toronto and Regional Conservation Authority's jurisdiction is onsite retention of a minimum of 5 mm runoff from the impervious areas through some Low Impact Development measures, if feasible.
- A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements.
- Infiltration requirements for municipalities will be determined as per the design guidelines and standards.
- Any proposed bridge expansions and 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.
- A hydraulic assessment of each crossing and any proposed bridge expansions (replacements) 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 the local Conservation Authority to assess the hydraulic impacts along regulated watercourses.
- Develop a Spill Prevention and Response Plan before work commences and implement during construction.

5.1.6.4 Monitoring Activities

- 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.

- Obtain 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. Obtain 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 Best Management Practices, will be assessed.
- Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids removal as per the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003).

5.2 Socio-Economic Environment

5.2.1 Air Quality

5.2.1.1 Construction

Construction activity creates and releases fine particulates (fugitive dust) and other vapours into the surrounding community, including diesel combustion exhaust, asphalt volatile contaminant emissions, etc. Emissions from construction activity are temporary and unlikely to have long-lasting effects on the surrounding area.

Fugitive dust emissions can result from movement of construction equipment and transport of materials to and from a construction site. Fugitive dust would generally be a problem during periods of intense construction activity and would be accentuated by windy and/or dry conditions.

- Construction activities which potentially prove most impactful to the local air quality include, but are not limited to:
 - Clearing and grubbing;
 - Grading and rock blasting;
 - Road and surface paving;

- Storage of granular material;
- Structure construction/ deconstruction; and
- Mobile on-site equipment.

Construction activities will result in temporary traffic disruption and detour, which can lead to increased traffic congestion, thereby increasing motor vehicle exhaust emissions on nearby roadways, and could result in elevated localized pollutant concentrations.

Construction equipment operating by diesel fuel combustion or other fuel type combustion emit exhaust contaminants during their operation. Compared with emissions from other motor vehicle sources in the Study Area, emissions from construction equipment and trucks are generally insignificant with respect to compliance with the provincial and federal ambient air quality standards.

5.2.1.2 Operation

The highest predicted contaminant emissions for the Future Build Conditions (the future scenario of the Project assuming the Project in operation in 2041) were modelled in AERMOD using a 50-metre spaced receptor grid, including sensitive and critical receptors. The results of the dispersion modelling identified the location of the maximum concentration at the most impacted receptor within the Study Area.

The following contaminants are predicted to exceed the federal and/or provincial standards within the Future Build Conditions:

1. **NO₂**: For both the 1-hour and annual averaging period thresholds, with approximately equal contribution from both the background ambient air quality data and the Future Build modelled results. The location of highest impact is at critical receptor CR6. Model results from both averaging periods also predict an exceedance at other identified sensitive and critical receptors within the Study Area.
2. **Benzene**: For the annual averaging period threshold, with approximately equal contribution from both the background ambient air quality data and the Future Build modelled results. The location of highest impact is at the sensitive receptor SR8. Model results from this averaging period also predict an exceedance at other identified sensitive and critical receptors within the Study Area.
3. **Benzo(a)pyrene**: For both the 24-hour and annual averaging period thresholds, with approximately equal contribution from both the background ambient air quality data and the Future Build modelled results. The location of highest impact is at sensitive receptor SR8. Model results for both

averaging periods also predict an exceedance at all other sensitive and critical receptors within the Study Area.

For nitrogen dioxide, benzene and benzo(a)pyrene, the ambient background concentration was a major contributor to the exceedance to the 1-hour, 24-hour and annual Canadian Ambient Air Quality Standards and Ambient Air Quality Criteria standards in combination with the modelled concentration.

The full results for the Future Build Conditions are presented in **Table 6-8** and **Table 6-9** of the Air Quality Impact Assessment Report and the receptor locations are shown in Figure A3, Appendix A of the Air Quality Impact Assessment Report. The Air Quality Impact Assessment Report is available in **Appendix D** of this Environmental Project Report.

5.2.1.3 Mitigation Measures

5.2.1.3.1 Construction

- Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan. The Air Quality Management Plan will:
 - Demonstrate compliance with the specific air quality criteria and limits in the Metrolinx Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment (2019).
 - Define the Project's air quality impact zone and identify all sensitive receptors within this area.
 - Assess the baseline air quality by continuous measurement of local ambient concentrations of PM_{2.5} and PM₁₀ 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.
 - 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.
 - Monitor continuously any contaminant, in addition to PM_{2.5} and PM₁₀, which is predicted to exceed its relevant air quality exposure criterion during any phase of the Project and at any receptor.
 - 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).

- Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.
- On-site construction vehicle activity shall be managed to control emissions of odorous contaminants and diesel exhaust, including benzene and benzo(a)pyrene emissions from exhaust, including benzene and benzo(a)pyrene emissions from exhaust. An Air Quality Management Plan will be developed prior to construction to ensure consistent attention to mitigation of dust and particulates, including silica, from the construction site. The following mitigation measures should be considered in the Air Quality Management Plan:
 - All equipment complies with Canadian engine emissions standards.
 - All equipment visually inspected prior to use and properly maintained.
 - Implement a no idling policy on site (unless necessary for equipment operation).
 - Use of electricity from the grid over diesel generators wherever possible.
 - Retrofitting of combustion engines with specific exhaust emission control measures such as particulate traps.
 - If applicable, follow guidelines on hot mix asphalt outlined in the Ontario Hot Mix Producers Association's Environmental Practices Guide: Ontario Hot Mix Asphalt Plants, Fifth Edition (Ontario Hot Mix Producers Association, 2015).
- Applicable mitigation measures from Environment Canada's Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005) and the Ministry of Environment, Conservation and Parks' Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources, shall be followed. The following mitigation measures should be considered in the Air Quality Management Plan:
 - Complete earthwork grading within 10 days of ceased active construction.
 - Temporary seeding or mulching of bare soil and storage piles.
 - Compression or clodding of soil surfaces and storage piles to reduce erosion.
 - Confine storage pile activity to downwind side of piles.
 - Reduction of activities during high wind conditions.
 - Full or partial enclosure of demolition activities.
 - Wind screens or barriers where possible or necessary.
 - Scheduling certain construction activities (i.e., site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel,

and uncovered soil storage piles) to periods of time when exposure to dust is expected to be limited (e.g., avoid scheduling activities during dry, windy weather conditions).

- Landscaping materials ordered close to time of use to reduce on-site storage.
 - Application of soil stabilizers or dust control polymers where feasible.
 - Daily removal of accumulated mud, dirt and debris deposits on-site, and regular truck washing.
 - Paved and unpaved roadway cleaning, watering or application of a non-chloride dust suppressant.
 - Minimize drop height of materials on-site.
 - Covering surface area of hauled bulk material.
 - Methods and equipment for cleanup of accidental spill of dusty materials.
 - Limit travel speeds on-site to a maximum of 16 to 24 kilometres per hour.
- If disruption of contaminated soils is anticipated at any time, ensure that contaminants are not released.

5.2.1.3.2 Operation

The individual impacts from the proposed Project emissions on the local air quality are a result of contributions from both idling vehicles and travelling vehicles within the Study Area. These emissions from roadways and idling vehicles are released with little upward dispersion capacity and are therefore expected to dissipate with increasing distance from the emission source.

Potential mitigation actions to counteract the Project emission impacts are limited due to the Project's projected increase in vehicular travel along Dundas Street. Increased percentage of electric vehicles and fuel-efficient vehicles within the vehicular fleet can provide significant criteria air criteria and greenhouse gas reduction in the short to medium term. The introduction and increasing popularity and affordability of hybrid and full electric vehicles, as well as transit authority led initiatives to increase the percentage of fuel efficient and hybrid vehicles within the provincial vehicle fleet will continue to reduce emission impacts from vehicles in the future.

As suggested within the construction mitigation section, areas affected by airborne particulates may be benefited by introducing vegetation (e.g. trees, shrubbery, etc.) to help reduce cumulative particulate impacts during the operational phase. Vegetation would be best placed, where feasible, between sources of emission (i.e. roadways) and impacted receptor(s).

5.2.1.4 Monitoring Activities

5.2.1.4.1 Construction

Develop and implement Weekly Air Quality Monitoring Reports during construction 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:

- 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 PM₁₀ – particulate matter of less than 2.5 and 10 micron in diameter, respectively. 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.
- The criteria for PM_{2.5}, PM₁₀ and crystalline silica are provided in Metrolinx’s *Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment* (2019). The applicable criteria for all other air contaminants of concern are to be found in Ontario Ambient Air Quality Criteria (AAQC, 2020).

Siting of the monitors should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks Operations Manual for Air Quality Monitoring in Ontario (2018).

The following monitoring activities should be considered in the development of the Air Quality Management Plan:

- Baseline conditions should be established prior to construction for longer than one week to capture representative concentrations under varying meteorological conditions.
- On-site meteorological monitoring in conjunction with real-time particulate monitoring representative of receptor impacts.
- Place monitors both upwind and downwind of construction activities, where possible.
- Application of threshold “Action Level” triggers for implementation of specific and increasing intensity mitigation activities linked to specific construction activities.
- Reporting detailed results of ongoing monitoring and mitigation activities.
- Monitoring at locations where there are persistent complaints, as required.

In addition, relevant construction monitoring activities from the following recommended guidelines will be implemented during construction:

- Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005); and,
- Operations Manual for Air Quality Monitoring in Ontario (Ministry of the Environment, Conservation and Parks, 2018).

5.2.1.5 Final 10% Design

The final 10% design has been developed since the completion of this Air Quality assessment which was based on the draft 10% design. The final 10% design incorporated changes that may impact the air quality impacts of the project on identified sensitive and critical receptors. These changes include slight roadway readjustments and changes to structural requirements at some infrastructure locations (e.g. widening of passenger platforms for select Dundas Bus Rapid Transit scheduled route stops).

Roadway realignments may increase or decrease the predicted air quality impacts for both construction and operation. However, based on the magnitude of the changes reflected in the final 10% design, the overall findings of this study would not be significantly impacted.

Changes to structural requirements may result in different construction equipment usage, staging and phasing areas than what was assumed for the purposes of this assessment. However, the general mitigation actions suggested within this assessment for construction operations will still apply regardless of changes resulting from the final 10% design structural requirements and are equally applicable. Correspondingly, while the direct impact from altered construction operations may alter, the overall mitigation actions and recommendations of this assessment will still apply.

5.2.2 Noise and Vibration

5.2.2.1 Construction

5.2.2.1.1 Noise

A Zone of Influence was determined for each identified construction activity and provides a screening distance for which the Project noise may exceed the sound level limits. A summary of the Zone of Influence distances for each activity is provided in **Table 5-4**. The results provided in **Table 5-4** represent the Zones of Influence based on the sound level limits for daytime residential weekday construction activities only since it was assumed that Project construction activities will occur during the daytime hours on weekdays only.

Based on the results, no exceedances were predicted when comparing with the limits for the maximum allowable sound level (L_{max}). However, prediction results indicated that exceedances are expected for the unmitigated Project construction activities when comparing with the daytime equivalent ($L_{eq,16hr}$) and 15-minute equivalent ($L_{eq,15min}$) sound level limits.

5.2.2.1.2 Vibration

A Zone of Influence was determined for each construction activity and limit type related to public annoyance and building damage. Occurrences where Receptors were identified to be within the Zones of Influence for various limit types or activities are provided in **Table 5-5**.

5.2.2.2 Operation

5.2.2.2.1 Noise

The sound levels at Receptor locations were predicted for the “without Project” and “with Project” scenarios for the year 2041 and are summarized in **Table 5-5**.

Based on the results provided in **Table 5-6**, the traffic noise impacts due to the Project were predicted to be from 0 to 1 dB when comparing the future “Without Project” and “With Project” scenarios. However, the sound levels were predicted to exceed the 60 dBA limit.

Table 5-4: Construction Noise Zone of Influence

Construction Activity	Daytime ($L_{eq,16hr}$)	Daytime ($L_{eq,16hr}$)	Daytime ($L_{eq,16hr}$)	Daytime ($L_{eq,16hr}$)	15-Minute ($L_{eq,15min}$)	15-Minute ($L_{eq,15min}$)	Maximum (L_{max})	Maximum (L_{max})
	Residential	Institutional	Commercial	Industrial	Residential	Institutional	Residential	Institutional
Existing Asphalt Removal & Site Preparation	77 metres	136 metres	43 metres	25 metres	38 metres	109 metres	27 metres	27 metres
Paving New Asphalt	72 metres	128 metres	41 metres	23 metres	33 metres	104 metres	25 metres	25 metres
Station Construction Installation	48 metres	84 metres	27 metres	15 metres	23 metres	71 metres	16 metres	16 metres
Soil Excavation and Stockpiling	46 metres	82 metres	26 metres	16 metres	24 metres	76 metres	18 metres	18 metres
Culvert Construction	43 metres	77 metres	27 metres	15 metres	20 metres	63 metres	14 metres	14 metres
Bridge Construction	72 metres	128 metres	41 metres	23 metres	32 metres	99 metres	22 metres	22 metres

Table 5-5: Zones of Influence With Receptors by Activity and Limit Type

Receptor Within Construction Activity Zone of Influence? (Yes/No)

Limit Type	Existing Asphalt Removal	Paving New Asphalt	Station Construction Installation	Soil and Excavation Stockpiling	Culvert Construction	Bridge Construction
Public Annoyance	Yes	Yes	Yes	Yes	No	Yes
Building Damage	Yes	Yes	No	Yes	No	Yes
Building Damage Fragile or Heritage	Yes	Yes	No	Yes	No	No

Table 5-6: Operation Noise Prediction Results

Receptor ID	Assessment Year: 2041 “Without Project” Predicted $L_{eq,16hr}$ (dBA)	Assessment Year: 2041 “With Project” Predicted $L_{eq,16hr}$ (dBA)	Assessment Year: 2041 Predicted Noise Impact⁽¹⁾ (dBA)	Exceeds Noise Limit? (Yes or No) +5 dB Above Ambient	Exceeds Noise Limit? (Yes or No) 60 dBA Maximum
O_01	71	71	0	No	Yes
O_02	62	62	0	No	Yes
O_03	63	63	0	No	Yes
O_04	65	66	1	No	Yes
O_05	70	71	1	No	Yes
O_06	62	62	0	No	Yes
O_07	69	69	0	No	Yes
O_08	66	67	1	No	Yes
O_09	69	70	1	No	Yes
O_10	61	62	1	No	Yes
O_11	62	62	0	No	Yes
O_12	64	64	0	No	Yes
O_13	70	71	1	No	Yes
O_14	66	66	0	No	Yes
O_15	58	58	0	No	No
O_16	56	56	0	No	No
O_17	67	68	1	No	Yes

Notes: 1. Arithmetic difference between “With Project” and “Without Project” scenarios.

5.2.2.2 Vibration

The U.S. Federal Transit Administration Publication Transit Noise and Vibration Impact Assessment Manual (2018) notes that “Because the rubber tires and suspension systems on buses provide vibration isolation, it is unusual for buses to cause ground-borne vibration or noise problems.” It is uncommon for rubber-tired vehicles to be a source of concern. The U.S. Federal Transit Administration notes that “For most issues with bus-related vibration, such as rattling of windows, the cause is almost always airborne noise and directly related to running surface conditions such as potholes, bumps, expansion joints, or other discontinuities in the road surface (usually resolved by smoothing the discontinuities).” The quality of the road surface condition upon commencement of operation is not controlled by the Project or its design. Rather, the condition will be dependant on the quality of workmanship of the contractor who should complete the Project free from discontinuities, potholes or bumps. Finally, ongoing maintenance of the road surface would be within the purview of the City of Mississauga.

5.2.2.3 Mitigation Measures

The acoustic modelling results indicated that Receptors are located within the Zone of Influence for noise and vibration during Project construction and operation activities. A detailed analysis of construction and operation noise at Receptor locations confirmed that several exceedances are anticipated. Therefore, some Receptor- or activity-specific mitigation measures were incorporated in the acoustic model to reduce the Project impact and determine the feasibility of compliance with the defined limits for noise. The mitigation measures were selected based on their technical, operational, administrative and economic feasibility, as well as impact on the Project (e.g., construction schedule).

Additional general mitigations and recommended monitoring activities are also provided that would serve to reduce the potential Project noise and vibration impacts.

5.2.2.3.1 Project Construction Modelled Mitigations

Detailed Project construction model prediction results indicated that the daytime ($L_{eq,16hr}$) and 15-minute ($L_{eq,15min}$) equivalent noise limits would be exceeded for several activities and Receptor locations. Specific mitigation measures incorporated in the acoustic model to reduce the noise impact included:

1. The replacement of tonal backup alarms for equipment to broadband type for all construction activities with the exception of culvert construction; and
2. Addition of 3 metre high and 45 metre long hoarding or barrier on the north side of Dundas for bridge construction located near Cawthra Road and Dundas Street.

5.2.2.3.2 Project Operation Modelled Mitigations

Model prediction results indicated that although the noise impact as a result of the Project would not exceed the allowable change (+5 dB), the maximum 60 dBA sound level stipulated by the City of Mississauga Policy No. 09-03-03 would be exceeded.

Existing noise barriers exist at various locations along Dundas Street which were included in the model predictions but were not considered as an additional requirement unless modifications were required. Existing noise barrier locations are provided in the Noise and Vibration Impact Assessment Report, available under separate cover. Mitigations measure (i.e., noise barriers) were incorporated in the acoustic model with the consideration of technical, operational, administrative, and economic feasibility. Noise barriers may be constructed of a combination of earth berms and physical walls (e.g., concrete, vinyl). The City of Mississauga policy is to limit physical walls to a height of 3 m. Barrier heights greater than 3 metres would therefore be required to be a combination of physical walls and earth berms. Further study by the proponents to confirm the feasibility of the modelled mitigation measures (e.g., maximum height, aesthetics, etc.) included in this assessment is necessary prior to finalization. This feasibility assessment will be completed during detailed design. The unmitigated and mitigated results as well as mitigation analysis notes is summarized in **Table 5-7**.

The barriers and modelling analysis results should be reviewed and reassessed during detailed design to confirm the necessity and extents for each. Following the inclusion of mitigation measures, O_05 and O_07 continued to exceed the absolute sound level limit by 4 dB and 2 dB, respectively.

Table 5-7: Modelled Mitigation Measures – Operation Noise

Receptor ID	Unmitigated Sound Level L _{eq,16hr} (dBA)	Mitigated Sound Level L _{eq,16hr} (dBA)	Sound Level Limit L _{eq,16hr} (dBA)	Modelled Mitigation Measure(s) Notes
O_01	71	No Change	60	■ Not technically or operationally feasible to install a barrier that would reduce the sound level by at least 5 dB due to insufficient space caused by large gaps for driveways or entryways.
O_02	62	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_03	63	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_04	66	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_05	72	64	60	■ 5 metre high barrier. ■ The feasibility of noise barriers is currently being determined by the proponents. As such, this mitigation measure is subject to change based on that determination.
O_06	62	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_07	69	No Change	60	■ Not technically feasible to reduce the sound level by at least 5 dB due to physical noise wall height limitation of 3 m and insufficient space for earth berm to be constructed.
O_08	67	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_09	70	No Change	60	■ Not technically or operationally feasible to install a barrier that would reduce the sound level by at least 5 dB due to insufficient space caused by large gaps for driveways or entryways.
O_10	62	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_11	62	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_12	64	58	60	■ 1.8 metre high barrier along overpass. ■ The feasibility of noise barriers is currently being determined by the proponents. As such, this mitigation measure is subject to change based on that determination.
O_13	71	No Change	60	■ Not technically or operationally feasible to install a barrier that would reduce the sound level by at least 5 dB due to insufficient space caused by large gaps for driveways or entryways. ■ Not technically feasible to reduce the sound level by at least 5 dB due to physical noise wall height limitation of 3 m and insufficient space for earth berm to be constructed.
O_14	66	No Change	60	■ This Receptor location is not adjacent to Dundas street and so does not meet the installation criteria of Policy 09-03-03.
O_15	58	No Change	60	■ No Mitigation Required.
O_16	56	No Change	60	■ No Mitigation Required.
O_17	68	No Change	60	■ As per the City of Mississauga, this receptor is located in a mixed- use commercial location where the type of business occupying may change over time, and correspondingly mitigation. is not applicable.

5.2.2.3.3 General Mitigation Measures

Construction Noise

- Replace standard vehicle backup alarms with broadband alarms.
- Inform local residents as practicable of construction activities identifying type of construction and duration.
- Use acoustic enclosures and mufflers for site power generators.
- Use activity or equipment specific noise barriers.
- Minimize simultaneous operation of equipment where possible.
- Implement no idling policy where practical.
- 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 as part of the Construction Noise Management Plan.

Construction Vibration

- Reduction in vehicle speed.
- Changes to operational sequencing.
- Changes to equipment layout or access routes.
- Utilize equipment with low vibration emissions where possible.
- Operate construction equipment on lower vibration settings where available.
- Maximize distance between equipment and Receptors where feasible.
- Review vibration assessment based upon refined site staging, construction areas, and equipment prior to the commencement of construction, and update if necessary.
- Adhere to the following vibration exposure limits.
- Vibration, as a human irritant, is assessed in terms of its average level. Vibration velocity should not exceed 0.14 millimetres per second or current conditions (whichever is higher) by more than 25%.
- 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 millimetres per second. Vibration velocity should be limited to 8 to 22 millimetres per second, 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).
- Adhere to the ground-borne (vibration induced) noise exposure criteria in the US Federal Transit Administration Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018).

- Develop and implement a detailed Construction Vibration Management Plan prior to commencement of construction by Proponent for Metrolinx and/or City of Mississauga review and approval with minimum requirements outlined below:
 - 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 Federal Transit Administration Report No. 0123 (2018), Transit Noise and Vibration Impact Assessment Manual (2018).
 - 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.
 - Identify any heritage structures and other sensitive structures, buildings or infrastructure vulnerable to vibration damage, assess requirements and, if necessary, develop mitigation measures.
 - Identify buildings, where vibration sensitive activities such as sound recording or medical image processing take place, assess requirements and, if necessary, develop mitigation measures.
 - 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.
 - Select construction/maintenance methods and equipment with the least vibration impacts.
 - In the presence of persistent complaints and subject to the results of a field investigation, identify alternative vibration control measures, where reasonably available.

Operation Noise

- In accordance with the Metrolinx Guide, noise attenuation barriers up to 5 metre in height may be considered. Based on the Mississauga Policy No. 09-03-03, barriers should span a complete block to ensure their effectiveness.

Operation Vibration

- As mentioned in **Section 5.2.2.2.2**, the quality of the road surface condition upon commencement of operation is not controlled by the Project or its design. Rather, the condition will be dependant on the quality of workmanship of the contractor who

should complete the Project free from discontinuities, potholes or bumps. As such, no mitigation measures for operation vibration is recommended.

5.2.2.4 General Monitoring Activities

Construction Noise

- Develop a Construction Noise Management Plan and incorporate the following requirements:
 - The Constructor will monitor noise where the management plan indicates that noise exposure limits may be exceeded. The Constructor will submit reports to the Contracting Authority describing the monitoring conducted and summarize the data collected for the reporting period.
 - The Constructor will make provision for monitoring for investigation of persistent complaints.
- The specifics of monitoring duration and location will depend on the activity location, type of activity, receptor location, etc. as per the Metrolinx Guide.
- 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 Vibration

- Develop a Construction Vibration Management Plan and incorporate the following requirements:
 - Pre-construction building inspections of the potentially impacted buildings adjacent to construction are to be undertaken.
 - The Constructor will monitor vibration where the management plan indicates that vibration limits may be exceeded. The Constructor will submit reports to the Contracting Authority describing the monitoring conducted and summarize the data collected for the reporting period.
 - The Constructor will make provision for monitoring for investigation of persistent complaints.
- The specifics of monitoring duration and location will depend on the activity location, type of activity, receptor location, etc. as per the Metrolinx Guide.
- 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 related vibration or at additional structures as requested by Metrolinx/City of Mississauga.
 - 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 metres 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 metres of the boundary of the construction site).
 - Establish a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.

Operation Noise

- Complete regular or routine maintenance on fleet vehicles to reduce the potential for undesired sound characteristics (e.g., tonal or cyclical) that may cause an overall increase in noise missions.
- Maintain Bus Rapid Transit laneways with smooth surface to avoid additional noise that may be caused by rough or uneven (e.g., potholes) surfaces as vehicles drive along the corridor.

Operation Vibration

No monitoring activities are recommended for operation vibration.

5.2.2.5 Final 10% Design

The final 10% design has been developed since the completion of the assessment which was based on the draft 10% design. The final 10% design incorporated changes that may impact the noise or vibration prediction results at the identified receptors. Broadly, these changes included roadway realignments and changes to structural requirements at some infrastructure locations.

Roadway realignments may increase or decrease the predicted sound levels for both construction and operation. Nevertheless, based on the magnitude of the change of the alignment in the final 10% design, the overall findings in this study would not be affected.

Changes to structural requirements may result in different construction equipment usage, staging and phasing than what was assumed for the purposes of this assessment. Regardless, since detailed construction information has not yet been developed, a prediction of the resultant change compared with the draft 10% design cannot be determined. Correspondingly, while the prediction results at some assessed locations may change, the overall findings of the assessment do not.

5.2.3 Land Use and Built Form Patterns

5.2.3.1 Construction

Direct impacts are unknown at this time and will be determined as design progresses but may include property take for laydown areas and temporary closure of driveways or building entrances. It is anticipated that temporary property take will be minimal due to the nature of construction.

Construction work may necessitate the temporary closure of driveways or building entrances; precise impacts are unknown at this time and will be determined as design progresses.

Indirect effects resulting from construction activity include excess light spillage on to neighbouring properties as well as increased noise, dust and vibration emanating from construction work.

Construction work may also result in the temporary degradation of aesthetic quality of the streetscape. Businesses on the corridor may also experience lower visitation volumes if the corridor is perceived to be difficult to access and navigate.

All effects are subject to final design.

5.2.3.2 Operation

Potential direct impacts may include permanent property take and driveway or building entrance closure. Based on the 10% design, it is estimated that approximately 2 hectares of private lands fronting Dundas Street will be required for the operation of the Project.

Indirect effects resulting from the operation of the Project include excess light spillage onto neighbouring properties as well as increased noise, dust and vibration emanating from Project operations. There is also the potential for degraded aesthetic quality of the streetscape if improperly designed. All effects are subject to final design.

Overall, the Project is anticipated to have a positive effect on adjacent land uses, as it will provide a fast, reliable alternative mode of transportation to both residents living along the corridor as well as to visitors accessing local businesses. Historically, this has encouraged intensification and diversification of land use which supports decreased reliance on single-occupant vehicles and leads to a number of social, health, economic and environmental benefits to the local community.

5.2.3.3 Mitigation Measures

Temporary property takings and billboard removals for construction of the Project will be confirmed as design progresses. Where these are identified, consultation and negotiation with the owner will be initiated well in advance to secure the required property and identify site-specific mitigations. Temporary property takings near residential and institutional uses should be avoided if possible.

Selection of staging/laydown areas will be in accordance with Metrolinx/City of Mississauga procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors.

Closures of driveways and building entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures.

Mitigation of potential nuisance effects shall be undertaken as described in the Air Quality and Noise and Vibration Reports, available under separate covers. An Erosion and Sediment Control Plan will be developed in accordance with the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways. A Communications Protocol will also 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. A Complaints Protocol shall also be developed.

Light trespass, glare and pollution effects will be minimized through the implementation of best practices to mitigate or avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses. Local applicable municipal by-laws and Ministry of Transportation practices for lighting in areas near or adjacent to highways and roadways regarding outdoor lighting for both permanent and temporary construction activities shall be complied with, and industry best practices shall be followed.

To mitigate impact to the visual environment, screened enclosures and temporary fencing should be considered as required, particularly for storage areas. Best practices should be utilized for all screened enclosures.

A Streetscaping and Urban Design Study is to be undertaken by AECOM during the 30% design stage and made under separate cover to further develop and build on streetscaping and urban design recommendations made in the Dundas Connects Master Plan and Vision Cooksville.

5.2.3.4 Monitoring Activities

Nuisance monitoring shall be undertaken as described in the Air Quality and Noise and Vibration Reports, available under separate cover. Erosion and sediment control monitoring will be conducted, and construction activities will be monitored by a qualified

Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.

Temporary access paths, walkways, cycling routes and fencing should be monitored.

Metrolinx/City of Mississauga guidance is to be followed respecting monitoring requirements at construction staging/laydown areas.

Complaints shall be tracked for quantity and resolution.

5.2.4 Transit and Transportation Network

5.2.4.1 Construction

Potential impacts include temporary lane reductions, narrowing of lanes, and/or turning restrictions on Dundas Street and cross streets near intersections throughout the construction period. Where necessary, one-way or full street closures may be enacted to support major infrastructure work. Left turns across the median may be restricted, and existing on-street parking may be reduced or eliminated as needed.

Traffic may also be temporarily halted to allow construction vehicles to enter/exit construction sites, and may be slowed by slow-moving equipment transitioning between locations, and emergency response times may increase through the corridor and adjacent roads during periods of heavy traffic volume.

Traffic movements may be affected at 20 signalized and 12 stop-controlled intersections along Dundas Street as a result of the Project.

5.2.4.2 Operation

Existing on-street parking may be reduced or eliminated as needed and left turns across the median will be restricted (“right-in/right-out” operation only). Through travel at minor intersections will be restricted, requiring a U-turn at nearby major intersections; and new turning movements (“U-turns”) will be introduced at major intersections.

The Project is anticipated to result in an improved experience for transit users, providing faster and more frequent connections to major destinations along Dundas Street and beyond.

5.2.4.3 Mitigation Measures

5.2.4.3.1 Construction

Suggested mitigation measures during construction include avoiding simultaneous closure and construction on adjacent major intersections and installing and providing

advance advisory signage. Emergency response and incident management plans should be prepared and implemented during construction to assist emergency service providers in responding to incidents and emergencies within the construction area. As well, pre-construction planning meetings with representatives of the City of Mississauga emergency services and affected local transit authorities should be conducted.

Traffic and Transit Management Plans and Traffic Control Plans shall be prepared.

Once a Contractor has been selected and a construction schedule developed, work with other planned road projects that may impact construction is to be coordinated, so that construction may be staged to minimize traffic impacts. Prior to construction, local municipalities (i.e. Peel Region) will be consulted to coordinate with their Capital Works Programs. A haul route analysis shall be conducted to confirm haul routes via public roads.

Existing residential and commercial property access shall be maintained through the work zone to the extent practical or provide alternative temporary access or detour.

5.2.4.3.2 Operation

During operation of the Project, it is recommended to introduce appropriate signage and signaling to guide driver movement through corridor and to monitor collision data to ensure driver guidance is achieving desired outcomes. Should there be significant loss of on-street parking, it may be compensated for by designating some new off-corridor parking spaces when appropriate and desired, but should be limited to that which is deemed absolutely necessary.

5.2.4.4 Monitoring Activities

5.2.4.4.1 Construction

Construction activities will be monitored by a qualified inspector/contract administrator with extensive Ontario Traffic Manual Book 7 (Temporary Conditions) knowledge to confirm that all activities are conducted in accordance with mitigation plans.

Traffic effects to be monitored in accordance with the Construction Traffic and Transit Management Plan and adjust the Traffic Control Plans as necessary during the construction period.

Transit effects to be monitored and adjusted as necessary during the construction period.

5.2.5 Pedestrian and Cycling Network

5.2.5.1 Construction

Impacts on the pedestrian and cycling network include the temporary restriction or elimination of bike lanes, multi-use paths and other cycling facilities as well as the temporary closure or removal of sidewalks. Temporary sidewalks/paths may have a rough or bumpy surface that creates discomfort for those with assisted mobility devices, strollers, etc., and the operation of construction equipment and large construction trucks in the corridor may pose safety and comfort challenges for pedestrians and cyclists.

5.2.5.2 Operation

Possible effects of the operation of the Project include left turns across the median and through travel at minor intersections being restricted for cyclists, requiring a detour to a nearby crosswalk/cross-ride.

Once completed, the Project is expected to result in an improved experience for pedestrians and cyclists with new active transportation infrastructure. The Project should be designed to improve access to key destinations.

5.2.5.3 Mitigation Measures

5.2.5.3.1 Construction

Construction impacts can be managed by maintaining pedestrian/cyclist access through the work zone whenever possible, and where a sidewalk or path needs to be removed, providing a temporary path as soon as the situation allows. Clear signage should be provided at decision points to inform pedestrians and cyclists of closures, and detours should be observable through line of sight with adequate signage provided where not possible.

5.2.5.4 Monitoring Activities

5.2.5.4.1 Construction

Temporary access paths, walkways, cycling routes and fencing should be monitored.

Cycling network impacts to be monitored and mitigation adjusted as necessary during the construction period.

5.2.6 Community Amenities

5.2.6.1 Construction

In general, effects on community amenities within the Study Area are mostly anticipated to be minor, mainly in the form of noise, vibration and dust generated by construction activity. Some amenities may experience temporary access restrictions, such as driveway, trail or entrance closures due to nearby construction. Impacts to community amenities will be confirmed as the design progresses.

5.2.6.2 Operation

No impacts to community amenities are anticipated except where property may be required. Property acquisition will be confirmed as design progresses.

5.2.6.3 Mitigation Measures

5.2.6.3.1 Construction

Construction noise is subject to the City of Mississauga Noise Control Bylaw. Where work is required outside of permitted times, an exemption shall be applied for in advance of this work.

Closures of driveways, trails and entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Alternate means of access shall be provided where a driveway is temporarily removed.

5.2.6.3.2 Operation

No effects on community amenities are anticipated as a result of the operation of the Project, except where property may be required. Property acquisition will be confirmed as design progresses. Where effects are anticipated, the property owner should be consulted with as soon as property impacts are understood. Property impacts to community amenities that serve vulnerable populations should be avoided.

5.2.6.4 Monitoring Activities

5.2.6.4.1 Construction

Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.

Temporary access paths, walkways, cycling routes and fencing should be monitored.

5.2.7 Future Development

5.2.7.1 Construction

Noise, vibration and dust generated by construction activity are all potential effects that should be given special consideration where construction of future development coincides with Project construction. Temporary access restrictions, such as driveways or sidewalk closures may also affect residents and visitors to the Study Area.

5.2.7.2 Operation

No effects to future development are anticipated as a result of the operation of the Project, except where property may be required. Property acquisition will be confirmed as design progresses.

Overall, the Project is expected to have a positive effect on the Dundas Street corridor. It is expected to provide access to rapid, reliable transit to the future development that it will spur along the corridor, which is consistent with provincial and municipal planning policies.

5.2.7.3 Mitigation Measures

5.2.7.3.1 Construction

The Project should be designed to minimize effects to planned future development, where possible. Where effects are anticipated, the property owner should be consulted with as soon as property impacts are understood. Recommendations regarding construction noise, closure of driveways and property acquisition found in the Community Amenities section apply here as well.

Overall, the Project is expected to have a positive effect on the Dundas Street corridor and spur additional development which is consistent with provincial and municipal planning policies.

5.2.7.4 Monitoring Activities

5.2.7.4.1 Construction

Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.

Temporary access paths, walkways, cycling routes and fencing should be monitored.

5.2.8 Utilities

5.2.8.1 Construction

Impacts to utilities during construction are subject to final design. In general, existing public and private utilities are typically located at either side of the future guideway which is anticipated to significantly reduce the need for utility relocations during construction. Utility shut off is therefore mainly expected to be due to end-of-life or precautionary replacement undertaken as part of the Project.

A detailed Utility Infrastructure Relocation Plan shall be developed and implemented that identifies all utilities anticipated to be impacted by the construction works, all relevant utility agencies and authorities, and outlines the approach to the utility relocation process. Additional surveys shall be performed prior to construction to field locate and verify the existing utilities within the project area and document their condition. All work identified in the Utility Infrastructure Relocation Plan shall be performed to protect, support, safeguard, remove, and relocate all Utility Infrastructure.

Permits and consents from and with all Utility Companies shall be obtained with respect to the design, construction, installation, servicing, operation, repair, preservation, relocation, and or commissioning of Utility Infrastructure.

Where new utility crossings are proposed, application for a new utility crossing agreement will be required, and where modifications to an existing utility crossing takes place, updates to an existing utility crossing will be needed. Post- construction inspections of the new utility infrastructure shall be undertaken for applicable works upon completion of the construction works to document condition. As-built plans shall be obtained of the relocated infrastructure from utility agencies per as-built preparation standards Canadian Standards Association S250-11 – Mapping of Underground Utility Infrastructure (2011), as amended from time to time.

5.2.8.2 Operation

No effects to public utilities are anticipated during Project operations.

5.2.8.3 Mitigation Measures

5.2.8.3.1 Construction

Effects of utility work on the community should be minimized through utility shut off best practices, including early shut-off notification.

Engagement with all private utility providers in the corridor should be undertaken early in and throughout the detailed design phase to ensure that their needs and requirements are taken into account in the project design.

Where new utility crossings are proposed, application for a new utility crossing agreement will be required, and where modifications to an existing utility crossing takes place, updates to an existing utility crossing will be needed. Post- construction inspections of the new utility infrastructure shall be undertaken for applicable works upon completion of the construction works to document condition. As-built plans shall be obtained of the relocated infrastructure from utility agencies per as-built preparation standards Canadian Standards Association S250-11 – Mapping of Underground Utility Infrastructure (2011), as amended from time to time.

5.2.8.4 Monitoring Activities

5.2.8.4.1 Construction

Regular communication and coordination shall be maintained through issuance of regular progress reports and updates to applicable utility agencies. All installation tolerances and how they are to be monitored shall be recorded, and inspection and testing shall be performed by qualified individuals to ensure successful utility relocation and safe and efficient installation.

In the event of potential impacts to critical utilities, instrumentation and monitoring shall be carried out to protect the critical utilities and structures and reduce risks of damage due to construction activities.

A tracking system shall be developed to track as-built deliverables.

5.2.9 Excavated Materials

5.2.9.1 Construction

Construction operations could expose contaminated materials and/or result in the spreading of contaminated materials.

5.2.9.2 Operation

No impacts to contaminated materials are anticipated during operation of the Project.

5.2.9.3 Mitigation Measures

5.2.9.3.1 Construction

Develop a Soil and Excavated Materials Management Plan prior to commencement of construction for the handling, management and disposal of all excavated material (i.e., soil, rock, and waste) that is generated or encountered during the work. The plan will be overseen by a Qualified Person pursuant to *Ontario Regulation 153/04* under the Environmental Protection Act (QP) and will comply with *Ontario Regulation 406/19* (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), the Ministry of the Environment, Conservation and Parks, formerly the Ministry of the Environment and Climate Change's Management of Excess Soils: A Guide for Best Management Practices (April 2019, as amended) and all Applicable Law. The plan will describe how to address the management of the excavated materials, imported materials, contaminated materials, and impacted railway ties, including handling, transportation, testing, documentation and reuse and disposal of excavated materials generated as part of the works and in accordance with applicable regulatory requirements.

Non-soil materials encountered during the earthworks will also require waste classification as documented by testing where applicable to determine management and disposal requirements as per *Ontario Regulation 347* (as amended) and all Applicable Law.

The Soil and Excavated Materials Management Plan will be reviewed and approved prior to construction.

5.2.9.4 Monitoring Activities

5.2.9.4.1 Construction

A Soil and Excavated Material Monthly Dashboard Report will be developed by the Constructor for review that includes monitoring and performance data related to the management of excavated materials for the preceding month.

Upon completion of the work, the Constructor will submit a Soil and Excavated Material Management Implementation Report.

5.3 Cultural Environment

5.3.1 Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Report - Existing Conditions and Preliminary Impacts Assessment was completed in February 2022 by AECOM for the Project. A total of 20 (known and potential) cultural heritage landscapes and built heritage resources were identified within or adjacent to the Study Area. **Table 5-8** provides a brief description of the anticipated project impacts based on the preliminary design. The table also describes the mitigation measures and recommendations included in the technical study. **Table 5-8** is to be read in conjunction with **Tables 9-1 and 9-2** which summarize the environmental concerns and mitigation measures and commitments to future work to be undertaken and confirmed during future phases of the Project.

Table 5-8: Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures – Built Heritage Resources and Cultural Heritage Landscapes

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 1	202 Dundas Street West/ Russell's Garage and All-Save Car Rental	Listed on the Municipal Heritage Register	<p>1. Potential direct adverse impact from the Project.</p> <p>Potential direct impact to the property. A portion of BHR 1 along Dundas Street East, is located within the grading limits of the 10% Preliminary Design. The building within BHR 1 will not be directly impacted, however the encroachment on the property is substantial as the grading limits are proposed to be abut the building on the property. In addition, the former remnants of the gas station are within the 10% Preliminary Design. The remnants of the gas station are considered heritage attributes of the property. Therefore, it is anticipated that the property will be directly adversely impacted by the Project.</p>	<p>i. Preferred Option: Avoid the Property</p> <p>Based on the 10% Preliminary Design, there will be direct impacts to the property (partial property acquirement, removal of heritage attribute [remnants of the gas pump]). If the design cannot be revised to avoid the property, the following mitigation measures are required:</p> <p>ii. Alternative Option:</p> <ul style="list-style-type: none"> • Consult with the City of Mississauga Heritage Planning Department as part of the preliminary design phase regarding physical impacts to BHR 1 in order to determine and obtain any approval/permits required. • Complete a Cultural Heritage Evaluation Report by a Qualified Heritage Professional, during the as early as possible as design progresses, to determine if the property has cultural heritage value or interest. • Following the Cultural Heritage Evaluation Report, if cultural heritage value is determined, complete a Heritage Impact Assessment by a Qualified Heritage Professional, as early as possible as design progresses, to mitigate impacts of the Project. • Indicate on the 30% Preliminary Design that the building on the property is to be protected during construction. Install protective measures (i.e. temporary fencing) if necessary. 	<ul style="list-style-type: none"> ▪ Monitor the protection of the building throughout construction to the ensure integrity of the structure is maintained.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 1	202 Dundas Street West/ Russell's Garage and All-Save Car Rental	Listed on the Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 1 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 2	196 Dundas Street West	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. Potential direct adverse impact from the Project.</p> <p>Potential direct impact to the property. A portion of BHR 2 along Dundas Street East, is located within the grading limits of the 10% Preliminary Design. The building within BHR 2 will not be directly impacted, however the hedge and brick entrance feature along the right-of-way of Dundas Street West within the property is anticipated to be impacted. The hedge has been identified as a potential heritage attribute of the property in this Cultural Heritage Report.</p>	<p>i. Preferred Option: Avoid the Property</p> <p>Based on the 10% Preliminary Design, there will be direct impacts to the property (partial property acquirement, potential impact to a heritage attribute [the hedge]). If the design cannot be revised to avoid the property, the following mitigation measures are required:</p> <p>ii. Alternative Option:</p> <ul style="list-style-type: none"> • Consult with the City of Mississauga Heritage Planning Department as part of the preliminary design phase regarding physical impacts to BHR 2 in order to determine and obtain any approval/permits required. • Complete a Cultural Heritage Evaluation Report by a Qualified Heritage Professional, during the as early as possible as design progresses, to determine if the property has cultural heritage value or interest. • Following the Cultural Heritage Evaluation Report, if cultural heritage value is determined, complete a Heritage Impact Assessment by a Qualified Heritage Professional, as early as possible as design progresses, to mitigate impacts of the Project. 	The Project will have no direct impacts that require monitoring prior, during or post-construction.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 2	196 Dundas Street West	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 2 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).
BHR 3	188 Dundas Street West	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. No direct adverse impacts from the Project</p> <p>The 10% Preliminary Design drawing indicates that a small section of the northern portion of the property is within the grading limits. A sidewalk is proposed within the manicured lawn area of BHR 3. However, it is not anticipated that the new sidewalk will impact a proposed heritage attribute of the property. Therefore, no direct adverse impacts to the property are anticipated.</p>	No mitigation measures required.	The Project will have no direct impacts that require monitoring prior, during or post-construction.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 3	188 Dundas Street West	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 3 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 4	51, 55-57 Dundas Street West/Former Schiller Store	Listed on the Municipal Heritage Register	<p>1. Potential direct adverse impact from the Project.</p> <p>Potential direct impact to the property. A substantial portion of the building is located within the grading limits of the 10% Preliminary Design. Therefore, based on the 10% Preliminary Design, the demolition of the building is anticipated.</p>	<p>i. Preferred Option: Avoid the Property</p> <p>Based on the 10% Preliminary Design, there will be direct impacts to the property (full property acquirement, removal of the building). If the design cannot be revised to avoid the property, the following mitigation measures are required:</p> <p>ii. Alternative Option:</p> <ul style="list-style-type: none"> • Consult with the City of Mississauga Heritage Planning Department as part of the preliminary design phase regarding physical impacts to BHR 4 in order to determine and obtain any approval/permits required. • Complete a Cultural Heritage Evaluation Report by a Qualified Heritage Professional, during the as early as possible as design progresses, to determine if the property has cultural heritage value or interest. • Following the Cultural Heritage Evaluation Report, if cultural heritage value is determined, complete a Heritage Impact Assessment by a Qualified Heritage Professional, as early as possible as design progresses, to mitigate impacts of the Project. 	Not applicable.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 5	47 Dundas Street West/Former Cooksville Post Office and Shaver House	Listed on the Municipal Heritage Register	<p>1. Potential direct adverse impact from the Project.</p> <p>Potential direct impact to the property. A substantial portion of the building is located within the grading limits of the 10% Preliminary Design. Therefore, based on the 10% Preliminary Design, the demolition of the building is anticipated.</p>	<p>i. Preferred Option: Avoid the Property</p> <p>Based on the 10% Preliminary Design, there will be direct impacts to the property (full property acquirement and removal of the building). If the design cannot be revised to avoid the property, the following mitigation measures are required:</p> <p>ii. Alternative Option:</p> <ul style="list-style-type: none"> • Consult with the City of Mississauga Heritage Planning Department as part of the preliminary design phase regarding physical impacts to BHR 5 in order to determine and obtain any approval/permits required. • Complete a Cultural Heritage Evaluation Report by a Qualified Heritage Professional, during the as early as possible as design progresses, to determine if the property has cultural heritage value or interest. • Following the Cultural Heritage Evaluation Report, if cultural heritage value is determined, complete a Heritage Impact Assessment by a Qualified Heritage Professional, as early as possible as design progresses, to mitigate impacts of the Project. 	Not applicable.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 6	37 Dundas Street West	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. Potential direct adverse impact from the Project.</p> <p>Potential direct impact to the property. A substantial portion of the building is located within the grading limits of the 10% Preliminary Design. Therefore, based on the 10% Preliminary Design, the demolition of the building is anticipated.</p>	<p>i. Preferred Option: Avoid the Property</p> <p>Based on the 10% Preliminary Design, there will be direct impacts to the property (full property acquirement/removal of the building). If the design cannot be revised to avoid the property, the following mitigation measures are required:</p> <p>ii. Alternative Option:</p> <ul style="list-style-type: none"> • Consult with the City of Mississauga Heritage Planning Department as part of the preliminary design phase regarding physical impacts to BHR 6 in order to determine and obtain any approval/permits required. • Complete a Cultural Heritage Evaluation Report by a Qualified Heritage Professional, during the as early as possible as design progresses, to determine if the property has cultural heritage value or interest. • Following the Cultural Heritage Evaluation Report, if cultural heritage value is determined, complete a Heritage Impact Assessment by a Qualified Heritage Professional, as early as possible as design progresses, to mitigate impacts of the Project. 	Not applicable.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 7	14, 20-38 Dundas Street East/Copeland's General Store	Listed on the Municipal Heritage Register	<p>1. Potential direct adverse impact from the Project.</p> <p>Potential direct impact to the property. A substantial portion of the building is located within the grading limits of the 10% Preliminary Design. Therefore, based on the 10% Preliminary Design, the demolition of the building is anticipated.</p>	<p>i. Preferred Option: Avoid the Property</p> <p>Based on the 10% Preliminary Design, there will be direct impacts to the property (full property acquirement, removal of the building). If the design cannot be revised to avoid the property, the following mitigation measures are required:</p> <p>ii. Alternative Option:</p> <ul style="list-style-type: none"> • Consult with the City of Mississauga Heritage Planning Department as part of the preliminary design phase regarding physical impacts to BHR 7 in order to determine and obtain any approval/permits required. • Complete a Cultural Heritage Evaluation Report by a Qualified Heritage Professional, during the as early as possible as design progresses, to determine if the property has cultural heritage value or interest. • Following the Cultural Heritage Evaluation Report, if cultural heritage value is determined, complete a Heritage Impact Assessment by a Qualified Heritage Professional, as early as possible as design progresses, to mitigate impacts of the Project. 	Not applicable.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 8	47 Dundas Street East/Bell Telephone Company Cooksville Exchange Building	Listed on the Municipal Heritage Register	<p>1. No direct adverse impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 8	47 Dundas Street East/Bell Telephone Company Cooksville Exchange Building	Listed on the Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 8 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 9	168 Dundas Street East	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. No direct adverse impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 9	168 Dundas Street East	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 9 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 10	172 Dundas Street East	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. No direct adverse impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 10	172 Dundas Street East	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 10 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 11	184 Dundas Street East	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. No direct adverse impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 11	184 Dundas Street East	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 11 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
CHL 1	Former Credit Valley Railway Corridor	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>1. No direct adverse impacts from the Project.</p> <p>The current overpass structure which carries Dundas Street over the rail corridor will be replaced with a wider structure to accommodate BRT infrastructure. This bridge will be a skewed, two-span structure similar to the present bridge, however the length of the westbound span will be increased so that the new abutment does not interfere with the alignment of Hensall Circle. All work is anticipated to take place outside of the rail corridor, and therefore, no direct impacts to the corridor are anticipated.</p>	No mitigation measures required. Continue to avoid the rail corridor.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
CHL 1	Former Credit Valley Railway Corridor	None (Potential BHR, Identified in a previous heritage report [AECOM, 2016])	<p>2. No anticipated indirect adverse impact from the Project.</p> <p>No anticipated indirect impacts from the Project. Although there is a portion of this cultural heritage landscape within the grading limits of the 10% Preliminary Design, there are no buildings or structures that would be impacted indirectly by this Project.</p>	No mitigation measures required.	The Project will have no indirect impacts that require monitoring prior, during or post-construction.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
CHL 2	707 Dundas Street East/Dixie Union Chapel and Cemetery	Designated Part IV of the Ontario Heritage Act (By-Law#83078, Amendment #963-86)	<p>1. No direct impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
CHL 2	707 Dundas Street East/Dixie Union Chapel and Cemetery	Designated Part IV of the Ontario Heritage Act (By-Law#83078, Amendment #963-86)	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the stone church and stone wall associated with this cultural heritage landscape is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).
CHL 2A	707 Dundas Street East/Dixie Union Chapel and Cemetery- Cultural Heritage Plaque	Ontario Heritage Trust Plaque Location	<p>1. No direct or indirect adverse impacts from the Project</p> <p>The plaque is separated from the grading limits of the 10% Preliminary Design by a stone wall. Therefore, no direct or indirect impacts to the plaque are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
CHL 2B	707 Dundas Street East/Dixie Union Chapel and Cemetery-Cultural Heritage Plaque	Mississauga Heritage Foundation Plaque Location	<p>1. No direct adverse impacts from the Project</p> <p>The plaque is separated from the grading limits of the 10% Preliminary Design by a stone wall. Therefore, no direct or indirect impacts to the plaque are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
CHL 3	719-737 Dundas Street East/St. John the Baptist Anglican Church & St. John's Dixie Cemetery and Crematorium	Listed on Municipal Heritage Register	<p>1. No direct adverse impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required, continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
CHL 3	719-737 Dundas Street East/St. John the Baptist Anglican Church & St. John's Dixie Cemetery and Crematorium	Listed on Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the stone church associated with this cultural heritage landscape is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 12	775 Dundas Street East	Listed on the Municipal Heritage Register	<p>1. No direct adverse impacts from the Project</p> <p>The property is adjacent to the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the property are anticipated.</p>	No mitigation measures required. Continue to avoid the property.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 12	775 Dundas Street East	Listed on the Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 12 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 13	855 Dundas Street East/Chapman Residence (Barn)	Listed on the Municipal Heritage Register	<p>1. No direct adverse impacts from the Project</p> <p>Although the 10% Preliminary Design drawings indicate that a small section of the southern edge of the property is within the grading limits, the present sidewalk on the north side of Dundas Street East is not being relocated or reconstructed. It is anticipated therefore, that the area graded will return to pre-construction conditions (manicured lawn). Therefore, no direct adverse impacts to the property are anticipated.</p>	No mitigation measures required.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 13	855 Dundas Street East/Chapman Residence (Barn)	Listed on the Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 13 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 14	865 Dundas Street East/Chapman Residence	Listed on the Municipal Heritage Register	<p>1. No direct adverse impacts from the Project</p> <p>Although the 10% Preliminary Design drawings indicate that a small section of the southern edge of the property is within the grading limits, the present sidewalk on the north side of Dundas Street East is not being relocated or reconstructed. It is anticipated therefore, that the area graded will return to pre-construction conditions (manicured lawn). Therefore, no direct adverse impacts to the property are anticipated.</p>	No mitigation measures required.	The Project will have no direct impacts that require monitoring prior, during or post-construction.
BHR 14	865 Dundas Street East/Chapman Residence	Listed on the Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the building within BHR 14 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 15	888 Dundas Street East/2565 Haines Road/Mississauga Chinese Centre	Listed on the Municipal Heritage Register	<p>1. No direct adverse impacts from the Project</p> <p>Currently, the 10% Preliminary Design drawings indicate that the grading limits are directly adjacent to the western most concrete foundation for the entrance structure on Dundas Street East. The entrance structure is considered a heritage attribute of BHR 15. The structure is not being removed or relocated for the project. It is anticipated that graded areas on this property will be returned to pre-construction conditions. In addition, the design will be revised for the 30% Preliminary Design to provide a buffer between the grading and the western most concrete foundation of the entrance structure to ensure the foundation of the structure will not be adversely impacted during construction. Therefore, no direct adverse impacts to the property are anticipated.</p>	<p>Although this property is not anticipated to be directly adversely impacted, the entrance structure on Dundas Street East is adjacent to the grading limits. Therefore, the following mitigation measures are required:</p> <ul style="list-style-type: none"> ▪ Mark the entrance structure on the 30% Preliminary Design drawings as “To be retained: Implement protection measures prior to construction” ▪ Install protection measures such as box or fence hoarding, prior to construction. 	<ul style="list-style-type: none"> ▪ Monitor the protection of the entrance structure throughout construction to the ensure integrity of the structure is maintained. ▪ Post construction, the enclosure will be removed and the condition of the entrance structure will be confirmed to ensure it meets pre-construction conditions.

Reference #	Location / Address and Property Name	Municipal Heritage Recognition	Type and Description of Potential Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations	Monitoring Activities
BHR 15	888 Dundas Street East/2565 Haines Road/Mississauga Chinese Centre	Listed on the Municipal Heritage Register	<p>2. Potential indirect adverse impact from the Project.</p> <p>Potential indirect impact from vibration associated with the Project. It is unknown at this time based on the available information if vibration impacts are anticipated. However, the entrance structure and building within BHR 15 is within the Cultural Heritage Study Area and therefore, may result in indirect impacts from vibration. Vibration damage to a historic building is an adverse indirect impact.</p>	See Recommendations of the Cultural Heritage Report (available in Appendix D) for mitigation measures related to vibration.	The Project has potential to have indirect impacts that require monitoring prior, during or post-construction. See Recommendations of the Cultural Heritage Report (available in Appendix D).
BHR 16	1576 Dundas Street East/Cultural Heritage Plaque	Mississauga Heritage Foundation Plaque	<p>1. No direct adverse impacts from the Project</p> <p>The plaque is outside, however close to, the grading limits of the 10% Preliminary Design. Therefore, no direct physical impacts to the plaque are anticipated.</p>	<p>Although this property is not anticipated to be directly impacted, the plaque on Dundas Street East is near to the grading limits. Therefore, the following mitigation measures are required:</p> <ul style="list-style-type: none"> ▪ Mark the plaque on the 30% Preliminary Design drawings as “To be retained: Implement protection measures prior to construction” ▪ Install protection measures such as box or fence hoarding, prior to construction. 	<ul style="list-style-type: none"> ▪ Monitor the protection of the plaque throughout construction to ensure integrity of the plaque is maintained. ▪ Post construction, the enclosure will be removed and the condition of the plaque will be confirmed to ensure it meets pre-construction conditions.

5.3.1.1 Indirect Impacts to Cultural Heritage Plaques and/or Heritage Attributes of a Property

Heritage related monitoring is recommended for two built heritage resources/cultural heritage landscapes (BHR 15 and BHR 16) during and immediately following construction completion. Based on the proximity of the entrance structure on the property at 888 Dundas Street East (BHR 15), and the Mississauga Heritage Foundation Plaque (BHR 16), the following construction monitoring is required:

- Incorporate the location on 30% Preliminary Design and indicate that the features are to be protected during construction:
 - Mark these features on the 30% Preliminary Design “To be retained, stored and reinstated post-construction”.
- Apply the following step to the project construction plan:
 - Install protective measures (i.e. fence or box hoarding), prior to construction.
- During construction, monitor the protection of the entrance structure (BHR 15) and plaque (BHR 16). Post-construction, remove hoarding and confirm the condition of the feature (i.e., compared to prior to construction).

5.3.1.2 Vibration Monitoring Activities

Evaluation of impacts related to vibration activities requires assessment based on identification of specific construction methods proposed, distance between the sensitive receptor (i.e. a built heritage resource) and the construction activity, and anticipated vibration levels (mm/s). A detailed construction plan outlining information such as schedule, type and quantity of equipment, or their anticipated usage rates has not yet been developed. On this basis, several activities anticipated to be the most energy intensive for road construction projects were developed by AECOM to evaluate potential worst-case scenarios. The vibration analysis will provide Zones of Influence for each developed scenario which identifies the area where if a sensitive receptor, such as a built heritage resource, is located in close proximity to construction equipment, and if building damage may occur. At this time, the Study Area includes a 50 metres buffer to include heritage properties that may be subject to vibration impact. Note, the vibration buffer will be refined once property-specific impacts/vibration study are known/completed.

Given that the buildings of built heritage resources and cultural heritage landscapes are within the Study Area, it is anticipated that in some locations vibrations limits will be

exceeded and therefore, the following mitigation measures for vibration impacts should be implemented:

- Prior to construction, determine which built heritage resource or cultural heritage landscape documented in this Cultural Heritage Report requires vibration mitigation and monitoring.
- Document (review and establish) the structural condition of a building to determine if it is vulnerable to vibration impacts from the Project.
- Establish vibration limits based on structural conditions, founding soil conditions and type of construction vibration (refer to the Noise and Vibration report).
- Implement vibration mitigating measures on the construction site and/or at the building (i.e., modify construction procedures, if required).

Construction and post-construction monitoring may be required for historic buildings that were determined subject to vibration damage. The following monitoring activities are recommended for vibration impacts:

- Monitor vibration during construction using seismographs, with notification by audible and/or visual alarms when limits are approached or exceeded; and
- Conduct regular condition surveys and reviews during construction to evaluate efficacy of protective measures. Implement additional mitigation as required.

5.3.2 Archaeology

Refer to Figure 18 in the Stage 1 Archaeology Assessment Report (available in **Appendix D**) for areas of archaeological potential.

5.3.2.1 Construction

The Stage 1 Archaeological Assessment resulted in the finding that there is high potential for pre- and post-contact Indigenous and 19th century Euro-Canadian archaeological resources to be present within the Study Area. Based on the results of background studies and a review of the City of Mississauga Official Plan, it has been determined that archaeological potential still exists within some small portions of the Study Area. In light of these results, prior to any ground disturbing activities, a Stage 2 Archaeological Assessment is recommended for all land identified as retaining archaeological potential.

There is one registered archaeological site located within the current Study Area boundaries, the Cherry Hill site (AjGv-18), that has been recommended for further work.

However, the latitude and longitude of the site provided in the Archaeological Sites Database places the site right on the boundaries of the current Study Area, within an area of documented previous extensive disturbance (in Figure 2 of the Supplementary Documentation, available in **Appendix D**). Once the land to be impacted by infrastructure improvements has been identified, should proposed construction activities impact any of the archaeological sites within an area that has not been subject to extensive disturbance, further Archaeological Assessment must be completed prior to ground disturbing activities.

The Stage 2 Archaeological Assessment for areas retaining archaeological potential must be conducted by a licensed archaeologist and must follow the requirements set out in the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011).

Given the sparse details provided in the Archaeological Sites Database, it is not clear from the previous archaeological assessment what further work is required or whether there is potential for deeply buried remains. Therefore, the Stage 2 Archaeological Assessment requirements will be applied in the area to determine the level of disturbance present. The Stage 2 must follow the requirements set out in the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011) as outlined above. If an undisturbed area in the vicinity of the coordinates provided in the Archaeological Sites Database is found and determined to be impacted by the Project, further archaeological work will be required in an attempt to relocate the site and assess for the potential.

- The existence of the Dundas-Dixie Cemetery is largely unknown, and it is unclear if any grave shafts exist below the current commercial structures on the property. It is also unlikely that any intact archaeological resources exist beneath the land alterations along Dundas Street adjacent to the property. Therefore, because the cemetery is illustrated on historic mapping, and any relating documentation may have been destroyed, it is recommended that should any development impacts to the property outside of the Dundas Street right-of-way be proposed, additional Stage 2 and Stage 3 cemetery investigation is required to confirm the level of disturbance, following Section 2.1.7 of the *Standards and Guidelines for Consultant Archaeologists*: If any archeological sites including cultural features are encountered, they must undergo assessment and documentation according to the 2011 *Standards and Guidelines*;
- If human remains are encountered during construction, work must cease immediately, the police or Regional Coroner should be contacted, as well as the Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer Services, the Bereavement Authority of Ontario, and the Ministry of Heritage,

Sport, Tourism and Culture Industries. If the remains are not determined to be of forensic interest, a Burials Site Investigation under the Funeral, Burial and Cremation Services Act, 2002 may be ordered;

- Given that the Bereavement Authority of Ontario is unaware of the possibility of a cemetery in this location, and it is not a formal licensed cemetery, a Cemetery Investigation Authorization may not be required. Consultation with the Ministry of Heritage, Sport, Tourism and Culture Industries and the Bereavement Authority of Ontario should occur prior to any ground disturbance; and
- A Stage 3 Cemetery Investigation report must be completed detailing the results of the investigation for each cemetery and submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries for review and acceptance into the Ontario Public Register of Archaeological Reports.

While there are currently no plans to impact the cemetery lands, if during detail design changes to include impacts by the Project, or any future impacts proposed within the fenced limits of the cemetery property, further Stage 1 Archaeological Assessment will be required to determine the potential to impact unmarked burials. Arrangements must be made with the cemetery owner/operator, the Bereavement Authority of Ontario and the Ministry of Heritage, Sport, Tourism and Culture Industries prior to any ground disturbing activities to determine an appropriate strategy for Stage 2 and 3 field methods within the fenced limits of this cemetery to ensure provisions under the Funeral, Burial, Cremations Services Act (Ontario Government 2002) are addressed. Any invasive Stage 2-4 archaeological fieldwork within the cemetery limits will also require a Cemetery Investigation Authorization from the Bereavement Authority of Ontario

If human remains are encountered during construction, work must cease immediately and the police or Regional Coroner should be contacted, in addition to the Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services, the Bereavement Authority of Ontario, and the Ministry of Heritage, Sport, Tourism and Culture Industries. If the remains are not determined to be of forensic interest, a Burials Site Investigation under the Funeral, Burial and Cremation Services Act, 2002 may be ordered.

The current Study Area crosses a number of 19th century settlement areas, including Summerville, Sydenham (later Dixie), and Cooksville. Based on our detailed map and background review, we have not identified any areas where deeply buried potential

remains. However, there is a possibility that structural remains could exist beneath the surface. Therefore, during construction, if historic structural remains are uncovered, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal.

It is pertinent to note that the Study Area evaluated in this report includes additional land that may not be impacted by the Project. A large area was assessed as part of this Stage 1 Archaeological Assessment in order to accommodate areas of possible infrastructure improvements. Once detail design is complete and the scope of construction activities has been determined, only those areas of archaeological potential that will be affected by this project will require Stage 2 Archaeological Assessment.

Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment as part of the Dundas Bus Rapid Transit Project, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries. Further, as unmarked Indigenous burials have been referenced in previous historical records (Ontario Genealogical Society 1997), local Indigenous Nations should be engaged in any impacts within the boundaries of the Dixie Union Cemetery/St. John's Dixie Cemetery & Crematorium.

Should additional land outside of the Study Area boundaries be included as part of the Dundas Bus Rapid Transit Project, the standard requirements for Archaeological Assessments to be conducted prior to land disturbance remain in place.

5.3.2.2 Operation

No impacts to areas with archaeological potential are anticipated during operation of the Project.

5.3.2.3 Mitigation Measures

Potential for the Disturbance of Unassessed or Documented Archaeological Resources

- Prior to construction, Proponent to develop and implement an Archaeological Risk Management Plan. The Archaeological Risk Management Plan will address 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, formerly the Ministry of Tourism, Culture and Sport (MTCS) Standards and Guidelines for Consultant Archaeologists (2011), and the Ministry of Heritage, Sport, Tourism and Culture Industries 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 Ministry of Heritage, Sport, Tourism and Culture Industries. 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 Ministry of Heritage, Sport, Tourism and Culture Industries, and further archaeological assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx/City of Mississauga should be contacted, and Applicable Law and/or any specific agreement between Metrolinx and Indigenous Nations 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 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 Ministry of Heritage, Sport, Tourism and Culture Industries 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/City of Mississauga should be contacted and all Applicable Law and/or any specific agreement between Metrolinx and Indigenous Nations must be adhered to.

- All archaeological assessment findings will be shared with Indigenous Nations, as per Metrolinx's Guide to Engaging with Indigenous Communities (2020).
- A Stage 2 Archaeological Assessment (and further stages of archaeological assessments, as recommended) will be undertaken/completed as early as possible during detailed design and prior to any ground disturbing activities. Recommendations from these archaeological assessments will be followed.
- The Stage 2 Archaeological Assessment for areas retaining archaeological potential must be conducted by a licensed archaeologist and must follow the requirements set out in the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011).
- Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries.
-
- A cemetery investigation may be required should impacts be proposed on the property within the marked cemetery limits.
- Consultation with the Bereavement Authority of Ontario as outlined below will be required prior to any work within the cemetery limits.
- Should any development impacts to the property outside of the right-of-way be proposed as part of the Project, additional Stage 2 Archaeological Assessment for deeply buried archaeological materials following Section 2.1.7 of the Standards and Guidelines for Consultant Archaeologists will be undertaken.
- If human remains are encountered during construction, work must cease immediately and the police or Regional Coroner should be contacted, in addition to

the Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services and the Bereavement Authority of Ontario

- If historic structural remains are uncovered, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal.

Ground Disturbing Activities

- A Stage 2 Archaeological Assessment (and further stages of archaeological assessments, as recommended) will be undertaken/completed as early as possible during detailed design and prior to any ground disturbing activities. Recommendations from these archaeological assessments will be followed.
- The Stage 2 Archaeological Assessment for areas retaining archaeological potential must be conducted by a licensed archaeologist and must follow the requirements set out in the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011).

St. John's Dixie Cemetery & Crematorium/Dixie Union Cemetery

- A cemetery investigation may be required should impacts be proposed on the property within the marked cemetery limits.
- Consultation with the Bereavement Authority of Ontario as outlined below will be required prior to any work within the cemetery limits.

Dundas-Dixie Cemetery

- Should any development impacts to the property outside of the right-of-way be proposed as part of the Project, additional Stage 2 Archaeological Assessment for deeply buried archaeological materials following Section 2.1.7 of the Standards and Guidelines for Consultant Archaeologists will be undertaken.

Human Remains

- If human remains are encountered during construction, work must cease immediately and the police or Regional Coroner should be contacted, in addition to the Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services and the Bereavement Authority of Ontario.

Structural Remains

- If historic structural remains are uncovered, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal.

5.3.2.4 Monitoring Activities

Potential for the Disturbance of Unassessed or Documented Archaeological Resources

- 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.

Ground Disturbing Activities

- Prior to any ground disturbing activities, the Stage 2 Archaeological Assessment must be completed in areas identified as retaining archaeological potential as outlined in the Stage 1 Archaeological Assessment.

Potential to Impact Cemetery Located in Proximity to the Project Footprint

- Further archaeological assessment may identify the need for monitoring during construction.

Structural Remains

- If historic structural remains are uncovered during construction, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal.

6. Climate Change and Sustainability

6.1 Background Information Review

Metrolinx has invested significant energy in planning for climate adaptation, resiliency and sustainability in recent years. Planning has included the development of a Climate Adaptation Strategy in 2018, which was stimulated by the document Planning for Resiliency: Toward a Corporate Climate Adaptation Plan, 2017. More recently, Metrolinx has created a Sustainable Design Standard. The application of the Sustainable Design Standards is mandatory for the design of all new, expanded, and reconstructed Metrolinx buildings and facilities in the future. Metrolinx also established an overarching Sustainability Strategy for 2015 to 2020, which identified several organization level sustainability goals and actions, some of which can also be applied to a project implementation level. The Metrolinx Sustainability Strategy was refreshed in 2021, and the revised goals and actions have a higher specificity and are more easily applied to individual projects. Within each of these Plans, Standards and Strategies there exist many opportunities to integrate sustainability action into the Project, and are highlighted in the following sections.

6.1.1 Metrolinx on Resilience and Climate Adaptation

Metrolinx is an agency of the Government of Ontario and is responsible for the coordination and integration of transportation in the Greater Toronto and Hamilton Area. Its operations consist of GO Transit regional bus and rail services (including Union Pearson Express), and its extensive assets include bus and train fleets, rail lines, stations, parking structures, maintenance facilities, and PRESTO, the electronic payment system (Metrolinx, 2017).

The Greater Toronto and Hamilton Area is already experiencing the effects of climate change and will continue to feel the impacts of the changing climate in the future. As climate change is driven by higher concentration of greenhouse gases in the atmosphere and concentrations are rising at alarming rates, Canada is likely to see its climate change more than the global average with increase in temperatures, precipitation, drought, wind gust events, freezing rain, and extreme weather events frequency throughout the Greater Toronto and Hamilton Area. Therefore, Metrolinx acknowledges the importance of adapting to the changing climate in order to increase resilience of infrastructure and the importance of being more mindful of the greenhouse gas emissions and the carbon footprint of their projects (Metrolinx, 2017).

Metrolinx has experienced firsthand how climate change can be costly and disruptive. In July 2013, the Greater Toronto and Hamilton Area experienced an extreme rainfall event with major repercussions in the region. During the event, more rain fell during rush hour that day than an entire typical July. Flooding occurred and caused a GO train to be partly submerged with passengers onboard. Insured damages across the Greater Toronto and Hamilton Area rose to over \$1 billion, making it the costliest weather event in Ontario's history. In December, the same year, another extreme weather event occurred. This time, the Greater Toronto and Hamilton Area was hit by an ice storm that left about 300,000 households without power for several hours, some even days. Metrolinx was impacted because the power outage caused important delays on GO trains, GO buses, Toronto Transit Commission subways and streetcars, and other municipal bus systems. These two events clearly show how impactful weather can be to transit systems and infrastructures (Metrolinx, 2017).

In response to the changing climate, Metrolinx developed resiliency initiatives and climate adaptation strategies. Metrolinx adopted a proactive approach by appointing a senior advisor position focused in resilience and adaptation in 2014 and publishing their Five Year Strategy 2015 to 2020 that committed the organization to establish a Corporate Climate Adaptation Plan covering facilities, practices and protocols, which was published in 2018. The Sustainability Strategy provides a framework for decision makers to make well thought and informed decision while keeping in mind Metrolinx's five sustainability goals:

1. Becoming climate resilient;
2. Reducing energy use and emissions;
3. Integrating sustainability in their supply chain;
4. Minimizing impact on ecosystems; and
5. Enhancing community responsibility (Metrolinx, 2016).

Their vision for resiliency considers a future where the impacts of climate change are more significant than those experienced in the past. Metrolinx hopes to apply robust solutions that are effective, economical, and efficient under a wide range of climate scenarios and plan for long term adaptations. Accompanied by stakeholder, decision makers and staff engagement, resiliency can be attained throughout four pillars:

1. Awareness, education, and communication;
2. Assessing risks and opportunities;
3. Building climate resilience across the enterprise, and
4. Monitoring and adaptive management (Metrolinx, 2018).

6.1.2 Regional Transportation in the Greater Toronto and Hamilton Area

The Greater Toronto and Hamilton Area is the economic engine of Ontario and is one of the fastest growing city-regions in North America. The rapid growing population is projected to grow from 7.2 million people in 2018 to 10.1 million people by 2041. It is essential that there be the development of an integrated regional transport system that serves the needs of businesses, residents, and institutions across the region. The 2041 Regional Transportation Plan works toward this objective and includes a range of new services, infrastructure projects and policies to keep the Greater Toronto and Hamilton Area moving as it undergoes significant growth in the coming decades (AECOM, 2020).

Transportation demands in the Greater Toronto and Hamilton Area are currently served by a network of regional and local transit services including:

- a) GO Transit commuter rail and bus network which connects cities and towns across the Greater Toronto and Hamilton Area;
- b) The Toronto Transit Commission operates its integrated subway, streetcar and bus network across the City of Toronto; and
- c) A series of other local transit options in municipalities surrounding the City of Toronto, which includes bus services operated by Brampton Transit (including Bus Rapid Transit), Burlington Transit, Durham Region Transit, Hamilton Transit, Mississauga Transit (including Bus Rapid Transit), Oakville Transit, and York Region Transit (including Bus Rapid Transit) (AECOM, 2020).

Congestion on the Greater Toronto and Hamilton Area road network is common due to a lack of transit services that connect destinations from outside of central Toronto to one another. Traffic and congestion on road networks are bound to increase as population and employment grows in the area, which leads to higher travel demand (AECOM, 2020).

The Project in the area would concentrate on adapting the Dundas Street Corridor, which comprised an approximately 40-kilometre transport corridor that connects Toronto, Mississauga, Oakville, Burlington and Hamilton. Investment in the transportation network seeks to make up for the lack of alternatives to the automobile in the hopes of contributing to the overall livability and economic development potential of the corridor. An efficient transportation network would imply better transit travel times and fewer transfers, detours, and double fares during inter municipal journeys (AECOM, 2020).

6.1.3 Bus Rapid Transit

The analysis done by Dundas Connects and the Initial Business Case indicates that the expected growth and demand is best met through Bus Rapid Transit and priority bus initiatives. Bus Rapid Transit offers the most competitive solution to deliver high-quality, high-frequency services along the Dundas Street Corridor for multiple reasons. The Bus Rapid Transit is advantageous and is the better transit solution because of:

- a) **Cost efficiency:** Bus Rapid Transit requires less capital investment and is cost saving relative to other transit infrastructure;
- b) **Better passenger capacity:** Bus Rapid Transit can be operated closer to its theoretical capacity as its fixed infrastructure is less expensive, and its services are more configurable to be within acceptable ranges of anticipated demand as compared to other higher-order transit;
- c) **Flexibility in service provision:** Bus Rapid Transit runs on existing roads which makes it a highly configurable system, and this provides flexibility in routing and levels of service provided;
- d) **High-speed and high frequency:** Bus Rapid Transit has a comparative advantage in the levels of speed that can be reached if dedicated right-of-way is implemented; and
- e) **Reliability:** a vast majority of the Project will operate on a segregated right-of-way, which is reliable when it comes to journey times and headway (AECOM, 2020).

In September 2020, Metrolinx approved the Dundas Bus Rapid Transit Initial Business Case which recommends a preferred Bus Rapid Transit alignment and supportive service concept along Dundas Street between Kipling Station in the City of Toronto, through the City of Mississauga, Halton Region, to Highway 6 in the City of Hamilton. Bus Rapid Transit on Dundas Street is recognized as a regional transit priority connection by Metrolinx, the City of Toronto, the Toronto Transit Commission, and the City of Mississauga as well as members of the public as it connects people through the western end of the Greater Toronto and Hamilton Area. The Project will provide faster, more reliable public transit, encourage more sustainable transit, improve connectivity to areas currently underserved and integrate land use and transportation to support economic growth by facilitating transit-oriented development around the Dundas Street Corridor. The preliminary design and Transit Project Assessment Process completion will identify the preferred approach to project delivery.

6.1.4 Climate Lens Report

The purpose of the Dundas Connects Climate Lens: Climate Change Resilience Assessment and Greenhouse Gas Mitigation Assessment is to provide guidance and is a horizontal requirement applicable to Investing in Canada Infrastructure Program, Disaster Mitigation and Adaptation Fund and Smart Cities Challenge.

The Climate Lens Assessment Report aims to assess climate change impacts on the Project and to evaluate the impacts of the Project's greenhouse gases emissions on climate change. The Climate Lens has two components:

1. The Climate Change Resilience Assessment, which employs a risk management approach to anticipate, prevent, withstand, respond to, and recover from a climate change related disruption or impact; and
2. The Greenhouse Gas mitigation assessment, which estimates the anticipated greenhouse gas emissions impact of an infrastructure project.

Overall, the Climate Lens Assessment is intended to help decision makers understand the climate change risks and impacts associated with the design, construction and operations of their infrastructure project.

The results of the climate change resilience assessment, resulted in the development of over 40 adaptation measures in the following three areas:

- **Design:** Measures to incorporate in the future design of assets for these to be resilient to future climate risks.
- **Operations and Maintenance (Operations and Maintenance):** Measures to incorporate for the facility to reach resiliency in its Operations and Maintenance.
- **Policy:** Measures to provide and maintain safe and healthy working conditions

The greenhouse gas assessment determined for the baseline case, emissions from the operation and maintenance phase are expected to be 349,921,868 tCO₂e. The Project is anticipated to emit approximately 64,193 tonnes of CO₂-equivalent (tCO₂e) during its construction phase from 2024 to 2026 and 349,689,471 tCO₂e during the operation and maintenance phase, spanning 60 years from 2027 to 2086. The greenhouse gas reduction cost for 2030 is 43,079 \$/tCO₂e (non-cumulative basis). Over the lifespan of the Project, the greenhouse gas reduction cost is 8,590 \$/tCO₂e.

6.2 Sustainability Initiatives

This section highlights some of the broader sustainability initiatives that Metrolinx is currently undertaking or has planned in relation to the construction and operation of the Project, with the goal of improving environmental and social outcomes. These broader sustainability initiatives are currently presented in Metrolinx's publicly available policy documents (Sustainability Strategy, 2016) and Metrolinx's Sustainable Design Standard and will focus on the unique urban nature of the Project. In addition, a brief discussion will highlight the potential application of Envision to the Project follows.

6.2.1 Metrolinx Climate Adaptation Strategy

The Metrolinx Climate Adaptation Strategy, 2018 identified forty key actions to improve the climate resiliency, climate adaptation and sustainability of existing operations and new projects. A selection of these are directly applicable to the Project:

- Embed climate resilience and sustainability as a key principle within Capital Projects Group technical standards and specifications.
 - While the development of the contract for the Project has not been completed due to the early stage, Metrolinx should embed applicable climate resilience and sustainability criteria into this procurement text as this represents a significant opportunity to integrate these considerations into the detailed design, construction and operation of the Project.
- Evaluate the viability of adopting a sustainability ratings framework (e.g., ENVISION) to a linear asset, station and/or facility.
 - An initial review of the Envision credits which may apply to the Project was completed and documented in the Climate Change and Sustainability Report (available under separate Cover, refer to **Appendix D**), setting the foundation for determining if it is feasible for the Project to pursue Envision certification.
- Prioritize culverts, bridges and embankments most vulnerable to climate extremes for increased monitoring and maintenance.
 - Riverine flooding has been identified as a climate risk to the Project, this climate assessment is intended to identify areas such as bridges and culverts which have increased vulnerability to riverine flooding impacts from climate change.

- Build upon the Public Infrastructure Engineering Vulnerability Committee Protocol climate vulnerability assessment for selected assets and develop an Adaptation Action Plan.
 - A Public Infrastructure Engineering Vulnerability Committee Protocol assessment is being conducted for the Project as part of this scope of work. The outcomes of this assessment will help to inform adaptation action for the project implementation.

6.2.2 Planning for Resiliency: Toward a Corporate Climate Adaptation Plan

Planning for Resiliency: Toward a Corporate Climate Adaptation Plan, 2017.2 was a precursor to the development of the Metrolinx Climate Adaptation Strategy, which identified several climate resiliencies, climate adaptation and sustainability elements that are applicable to the Project:

- Transit Project Assessment Process will include consideration of climate change resiliency.
 - This scope of work is being undertaken in support of the Transit Project Assessment Process and includes the identification of climate impacts on the Project through the execution of a climate risk assessment. The outcomes of the assessment will drive the identification of climate adaptation and resiliency considerations.
- The risk registry will include risk to climate change for various projections and time periods.
 - The Project risk register should include climate risk considerations.
- Project management requirements will include consideration of a workplan that outlines how climate change risks and resiliency are being considered.
 - Project management of climate change risks and responsibilities could be initially driven from the identification of risks within the risk register, allowing for planning regarding how to control climate change risks and integrate climate resiliency within the Project.
- Project specific sustainability plan should identify climate change risks and vulnerabilities and include the implementation of climate adaptation and resiliency measures where practicable. Climate change risks and vulnerabilities include, but are not limited to, riverine and overland flooding,

high winds (over 120 kilometres per hour), wind gusts, freeze-thaw cycles, snow accumulation, lightning strikes, tornadoes and ice storms.

- This requirement should be included in the future stages for the Project and should reference this Climate Change Risk Assessment as a resource that the Project can use to gather a baseline understanding of the potential climate change risks and vulnerabilities facing the Project.

6.2.3 Metrolinx Sustainable Design Standard

The Metrolinx Sustainable Design Standard, which was finalized and published in 2021, has been mandatory for the design of all new, expanded, and reconstructed Metrolinx buildings and facilities. The Project will not involve the construction of buildings; however, the Standard still includes actions and principles in several areas which could be applied to the Project to enhance sustainability.

6.2.4 Metrolinx Sustainability Strategy

The following goals and actions identified in the sustainability strategy (2021 to 2026) could be applied to the Project:

Goal 1: Improve our fleet fuel efficiency by 16%

- There is an opportunity to require minimum fuel efficiency levels for buses to be procured for use in the Project to align with the fleet fuel efficiency improvement target.

Goal 2: Capture climate resiliency benefits in 100% of major transit project business cases (\$50 million or more)

- The Project will evaluate climate resiliency options:
- Metrolinx should ensure that climate resiliency options identified in the Transit Project Assessment Process are carried over to design and construction through integration into project agreement language.

Goal 3: Divert waste from landfill by 75% at construction projects, 80% at office buildings and facility offices and reduce overall waste generation by 10% across streams

- Opportunity to require the implementation of construction waste diversion activities to achieve 75% construction waste diversion from landfill.

- Opportunity to require a minimum of 80% waste diversion from Bus and Station maintenance facilities.

Goal 4: Reduce our impact on the natural environment and decrease water use

- Require systems for monitoring of potable water use and salt use at facilities associated with the Project.
- Require 10 millimeters onsite retention of water from rainfall events at all new stations associated with the Project.

Goal 5: Achieve 64% of customers reaching a GO station using a sustainable mode of transportation by 2031

- Require the inclusion of bike parking facilities in the design of the Project.

6.2.5 City of Mississauga Climate Change Action Plan

The City of Mississauga is committed to decreasing their carbon footprint and to prepare the community for the effects of a changing climate. In this context, the City of Mississauga has put forward a Climate Change Action Plan that includes actions to both mitigate climate change by reducing emissions and adapt to climate change by managing the impacts (The Corporation of the City of Mississauga, 2019).

The Climate Change Action Plan is built around the central vision that Mississauga will be a low carbon and resilient community. The mitigation goals aim to reduce greenhouse gas emissions by 40% by 2030 and by 80% by 2050 below 1990 levels and position the City of Mississauga competitively in the emerging low carbon economy, with the long-term goal of becoming a net zero community. As for adaptation goals, the City of Mississauga wants to increase resilience and capacity to withstand and respond to current and future climate events by taking action on the highest climate related risks (The Corporation of the City of Mississauga, 2019).

Within the next 10 years, the City of Mississauga will focus its goals towards buildings and clean energy, resilient and green infrastructure, accelerating discovery and innovation, low emissions mobility and engagement and partnerships (The Corporation of the City of Mississauga, 2019).

6.3 Considering the Effects of the Transit Project on Climate Change (Climate Change Mitigation)

6.3.1 Baseline Case

6.3.1.1 Description

Without the Project, the most likely Baseline Scenario is the absence of any transit enhancement or public realm improvements in the Dundas Corridor. This baseline case represents the conditions most likely to occur in the absence of the proposed Project.

The main emission sources for the baseline are described in **Table 6-1**.

Table 6-1: Baseline Case Main Emissions Sources

Equipment/Emissions Category	Description
Operations and Maintenance Mobile Fuel Combustion	Fossil fuel for autos
Operations and Maintenance Electricity Consumption	Electricity for autos and buses

6.3.1.2 Construction Emission

No emission was estimated for construction because the corridor already exists.

6.3.1.3 Operations and Maintenance Emissions

Operations and Maintenance emissions are estimated based on the annual fuel consumption of vehicles travelling on the segment.

According to the vehicle kilometres travelled data of the Metrolinx model and using equations 5 and 7, the emissions associated with fuel and electricity consumptions by autos and buses are estimated.

This assumption has been made exclusively in the Sustainability and Climate Change Report for the purpose of quantifying greenhouse gases, and is deemed appropriate for this purpose due to the length of the assessment of the Project (to 2086) and the rapidly emerging technologies and anticipated changes in regulatory regimes.

The 2030 Operations and Maintenance baseline emissions inventory breakdown is presented in **Table 6-2**.

Greenhouse gases emissions from vehicles travelling through the Study Area are estimated to be 4,962,398 tCO₂eq in 2030.

For the whole 60 years of operation, greenhouse gases emissions from the Baseline Scenario are estimated to be 107,978,400 tCO₂eq for the Study Area.

Table 6-2: Baseline Operations and Maintenance Emissions

Consumption	Parameter	Unit	Value
Diesel Consumption – Vehicles on the Road Network	Annual Vehicle Kilometres Travelled	kilometre/y	7,039,709,551
Diesel Consumption – Vehicles on the Road Network	Average Fuel Consumption	L/kilometre	0.0691
Diesel Consumption – Vehicles on the Road Network	Vehicle Annual Fuel Consumption	L/y	486,443,930
Diesel Consumption – Vehicles on the Road Network	Emissions greenhouse gases = Fuel Consumption x Emission Factor	g CO ₂ e/L	
Diesel Consumption – Vehicles on the Road Network	CO ₂ Emission Factor	g CO ₂ /L	2,681
Diesel Consumption – Vehicles on the Road Network	CH ₄ Emission Factor	g CH ₄ /L	0.068
Diesel Consumption – Vehicles on the Road Network	N ₂ O Emission Factor	g NO ₂ /L	0.21
Diesel Consumption – Vehicles on the Road Network	CO ₂ Emissions	g CO ₂ /y	1,304,156,176,265
Diesel Consumption – Vehicles on the Road Network	CO ₂ Emissions	kg CO ₂ /d	3,573,031
Diesel Consumption – Vehicles on the Road Network	CH ₄ Emissions	g CH ₄ /y	33,078,187
Diesel Consumption – Vehicles on the Road Network	CH ₄ Emissions	kg CH ₄ /d	91
Diesel Consumption – Vehicles on the Road Network	N ₂ O Emissions	g N ₂ O/y	102,153,225
Diesel Consumption – Vehicles on the Road Network	N ₂ O Emissions	kg N ₂ O/d	280
Gasoline Consumption – Vehicles on the Road Network	Annual Vehicle Kilometres Travelled	kilometre/y	18,296,153,646
Gasoline Consumption – Vehicles on the Road Network	Average Fuel Consumption	L/kilometre	0.0804
Gasoline Consumption – Vehicles on the Road Network	Vehicle Annual Fuel Consumption	L/y	1,471,010,753
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emission Factor	g CO ₂ /L	2,307
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emission Factor	g CH ₄ /L	0.23
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emission Factor	g NO ₂ /L	0.47
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emissions	g CO ₂ /y	3,393,621,807,410
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emissions	kg CO ₂ /d	9,297,594
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emissions	g CH ₄ /y	338,332,473
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emissions	kg CH ₄ /d	927
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emissions	g N ₂ O/y	691,375,054
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emissions	kg N ₂ O/d	1,894
Electricity Consumption – Buses on the Road Network	Bus annual fuel consumption	kWh/y	65,388,200
Electricity Consumption – Buses on the Road Network	Emissions greenhouse gases = Fuel Consumption x Emission Factor	g CO ₂ e/kWh	30
Electricity Consumption – Buses on the Road Network	Total CO ₂ e	kg CO ₂ e/d	5,374
Electricity Consumption – Vehicles on the Road Network	Annual Vehicle Kilometres Travelled	kilometre/y	2,816,939,785
Electricity Consumption – Vehicles on the Road Network	Average Fuel Consumption	kWh/kilometre	0.2
Electricity Consumption – Vehicles on the Road Network	Vehicle Annual Fuel Consumption	kWh/y	563,387,957
Electricity Consumption – Vehicles on the Road Network	Emissions greenhouse gases = Fuel Consumption x Emission Factor	g CO ₂ e/kWh	30
BASELINE TOTAL EMISSIONS IN CO₂ EQUIVALENT	Total CO₂	kg CO₂/d	12,922,305
BASELINE TOTAL EMISSIONS IN CO₂ EQUIVALENT	Total CH₄	kg CH₄/d	1,018
BASELINE TOTAL EMISSIONS IN CO₂ EQUIVALENT	Total N₂O	kg N₂O/d	2,174
-	GWP CH ₄	-	25
-	GWP N ₂ O	-	298
Total CO ₂ e	-	kg CO₂e/d	13,595,611
Total CO ₂ e	-	tonnes CO₂e/y	4,962,398

6.3.2 Project Case

6.3.2.1 Description

The Project case involves the greenhouse gases emissions from the Project as planned for implementation. The Project case represents the construction and operation and maintenance of a 7.2 kilometre corridor segment extending from Confederation Parkway to the City of Toronto boundary at Etobicoke Creek, within the City of Mississauga.

The Project will assess several strategies to reduce net embodied carbon during design and preconstruction phases. A non-exhaustive list of the strategies considered is as follows:

- Define targets for reducing embodied carbon;
- Design and size the Project to reduce overall materials used;
- Use recycled or lower embodied carbon materials;
- Use local contractors to reduce transportation emissions;
- Consider maintenance and repair needs when selecting materials; and
- Minimize waste and provide sufficient space for waste separation and monitoring.

The main greenhouse gases emission sources for the Project are described in **Table 6-3**.

Table 6-3: Project Case Main greenhouse gases Emissions Sources

Equipment/Emissions Category	Description
Operations and Maintenance Mobile Fuel Combustion	Fuel for autos
Construction On-Road Vehicles	Trucks used for material transportation
Construction Non-Road Vehicles and Site Trailer	Equipment necessary for the construction of the Project
Operations and Maintenance Electricity Consumption	Electricity for autos and buses

6.3.2.2 Construction Emission

The main construction phase is scheduled to occur in January 2024 with an overall completion by December 2027. The construction cost for the entire Bus Rapid Transit Project was estimated in 2020 at \$460M. Without a precise planned timing of each construction phase activity, the total quantity of greenhouse gases emissions during construction is distributed equally between 2024 and 2026 according to the estimated

total construction costs. Greenhouse gases emissions are valued based on cost estimates using an energy intensity index related to construction value (**Table 6-4**).

Table 6-4: Project Construction Greenhouse Gases Emissions

Year	Construction Costs Year \$Million	Emissions Tonne CO ₂ e/y
2024	166	6,148
2025	169	6,148
2026	173	6,148

Greenhouse gases emissions during the construction phase are estimated at 18,443 tCO₂e.

6.3.2.3 Operations and Maintenance Emissions

Operations and maintenance emissions include the ongoing costs for operating the Bus Rapid Transit and for maintaining the infrastructure. These costs consider the implementation of Bus Rapid Transit and the reduction in frequency for local bus routes.

According to the results of the Metrolinx model and using equations 5 and 7, the emissions associated with fuel and electricity consumptions by autos and buses are estimated.

The Operations and Maintenance Project emissions inventory breakdown for year 2030 is presented in **Table 6-5**.

Greenhouse gases emissions from vehicles travelling through the Study Area are estimated to be 4,945,882 tCO₂eq in 2030.

For the whole 60 years of operation, greenhouse gases emissions from the Project scenario are estimated to be 107,637,943 tCO₂eq for the Study Area.

Table 6-5: 2030 Project Operations and Maintenance Emissions

Consumption	Parameter	Unit	Value
Diesel Consumption – Vehicles on the Road Network	Annual vehicle kilometres travelled	kilometre/y	7,015,878,054
Diesel Consumption – Vehicles on the Road Network	Average Fuel Consumption	L/kilometre	0.0691
Diesel Consumption – Vehicles on the Road Network	Vehicle Annual Fuel Consumption	L/y	484,797,174
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emission Factor	g CO ₂ /L	2,681
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emission Factor	g CH ₄ /L	0.068
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emission Factor	g NO ₂ /L	0.21
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emissions	g CO ₂ /y	1,299,741,222,279
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emissions	kg CO ₂ /d	3,560,935
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emissions	g CH ₄ /y	32,966,208
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emissions	kg CH ₄ /d	90
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emissions	g N ₂ O/y	101,807,406
Diesel Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emissions	kg N ₂ O/d	279
Gasoline Consumption – Vehicles on the Road Network	Annual vehicle kilometres travelled	kilometre/y	18,234,215,760
Gasoline Consumption – Vehicles on the Road Network	Average Fuel Consumption	L/kilometre	0.0804
Gasoline Consumption – Vehicles on the Road Network	Vehicle Annual Fuel Consumption	L/y	1,466,030,947
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emission Factor	g CO ₂ /L	2,307
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emission Factor	g CH ₄ /L	0.23
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emission Factor	g NO ₂ /L	0.47
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emissions	g CO ₂ /y	3,382,133,394,905
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CO ₂ Emissions	kg CO ₂ /d	9,266,119
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emissions	g CH ₄ /y	337,187,118
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	CH ₄ Emissions	kg CH ₄ /d	924
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emissions	g N ₂ O/y	689,034,545
Gasoline Consumption – Emissions greenhouse gases = Fuel Consumption x Emission Factor	N ₂ O Emissions	kg N ₂ O/d	1,888
Electricity Consumption – Buses on the Road Network	Bus Annual Fuel Consumption	kWh/y	74,621,406
Electricity Consumption – Buses on the Road Network	Emissions greenhouse gases = Fuel Consumption x Emission Factor	g CO _{2e} /kWh	30
Electricity Consumption – Buses on the Road Network	Total CO _{2e}	kg CO _{2e} /d	6,133
Electricity Consumption – Vehicles on the Road Network	Annual vehicle kilometres travelled	kilometre/y	2,807,403,611
Electricity Consumption – Vehicles on the Road Network	Average Fuel Consumption	kWh/kilometre	0.2
Electricity Consumption – Vehicles on the Road Network	Vehicle Annual Fuel Consumption	kWh/y	561,480,722
Electricity Consumption – Vehicles on the Road Network	Emissions greenhouse gases = Fuel Consumption x Emission Factor	g CO _{2e} /kWh	30
Electricity Consumption – Vehicles on the Road Network	Total CO _{2e}	kg CO _{2e} /d	46,149
PROJECT TOTAL EMISSIONS IN CO ₂ EQUIVALENT	Total CO ₂	kg CO ₂ /d	12,879,336
PROJECT TOTAL EMISSIONS IN CO ₂ EQUIVALENT	Total CH ₄	kg CH ₄ /d	1,014
PROJECT TOTAL EMISSIONS IN CO ₂ EQUIVALENT	Total N ₂ O	kg N ₂ O/d	2,167
-	GWP CH ₄	-	25
-	GWP N ₂ O	-	298
Total CO_{2e}	-	kg CO _{2e} /d	13,550,363
Total CO_{2e}	-	tonnes CO _{2e} /y	4,945,882

6.3.3 Estimated Net Reduction in Emissions

The cumulative emission reduction over the lifetime of the Project is summarized in **Table 6-6**.

Table 6-6: Summary of Greenhouse Gases Emissions for the Two Scenarios

Period	Year	Emissions (tCO ₂ e) Baseline Scenario	Emissions (tCO ₂ e) Project Scenario
Construction Phase	2024-2026	-	18,443
Year of Operation – Example	2030	4,962,398	4,945,882
Operation Phase (60 years)	2027-2086	107,978,400	107,637,943
Total Greenhouse Gases Emissions	2024-2086	107,978,400	107,656,386

As shown in **Table 6-6**, the Project will lower the greenhouse gases emissions by 16,516 tonnes of CO₂e in 2030 compared to the baseline scenario (non-cumulative). Over the Project’s lifecycle, the accumulated greenhouse gases reduction is expected to be 322,014 tonnes of CO₂e.

6.3.4 Conclusion of the Greenhouse Gases Reductions Assessment

The Project case has been shown to be the preferred option with respect to greenhouse gases emissions. The greenhouse gases assessment shows emission reductions comparing baseline and Project cases over a 63-year lifecycle of 322,014 tonnes of CO₂e. The Operations and Maintenance emissions drive the total greenhouse gases emissions.

6.4 Considering Potential Effects of Climate Change on the Transit Project (Climate Change Adaptation)

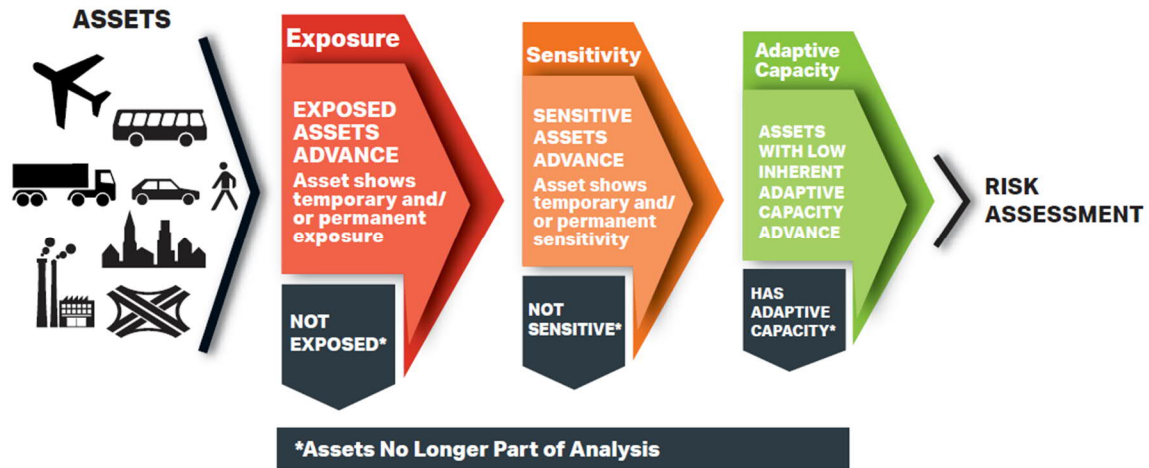
The effects of Climate Change on the Project are being determined by completing a Climate Change Risk Assessment based on the International Organization for Standardization 31000 Risk Management Standard and to review the existing condition of riverine flooding.

6.4.1 Risk Identification

Climate change vulnerability was first assessed, to determine the exposure, sensitivity, and adaptive capacity of each element to the 11 climate indicators, listed above. Climate vulnerability assessments evaluate an asset, community, ecosystem or region’s exposure to a particular climate-related hazard or extreme weather event, the sensitivity

to being exposed to the hazard or extreme weather event, and the asset entities' adaptive capacity. Assets and operations that are exposed, sensitive and have low inherent capacity to adapt proceed to the next stage of Risk Analysis.

Figure 6-1: Schematic of Climate Vulnerability Assessment Approach



6.4.2 Risk Analysis

A risk is defined as the product of the likelihood of an event to occur and the consequence or severity on an asset if the event were to occur. A risk assessment was conducted to evaluate the impacts of the climate indicators on each of the project components listed above, using an impact ranking matrix from *very low* to *very high* severity of consequences.

6.4.3 Climate Indicators' Likelihood of Occurrence

To determine the climate-related risks to the future Bus Rapid Transit system, relevant climate indicators were reviewed for the baseline (1981 to 2010) and in the context of the changing climate for the 2081 to 2100 timeframe. The probability/likelihood of occurrence scoring used is described in **Table 6-7**.

Table 6-7: Likelihood Scoring Description

Qualitative Score	Probability of Occurrence	Probability of Occurrence	Quantitative Score
Very high	Once every year or more	More than 70% (100%)	5
High	Once every 2 years	40% to 70% (50%)	4
Moderate	Once every 5 years	20% to 40% (20%)	3
Low	Once every 10 years	5% to 20% (10%)	2
Very low	Once every 30 years	5% or less (5%)	1

Considering climate 199elsiu and projected changes for the 2081 to 2100 timeframe, the Project Team associated the probability/likelihood of occurrence percentages that were previously calculated to a probability/likelihood score for each relevant and significant climate indicator. The climate indicator scoring is presented in **Table 6-8**.

Table 6-8: Climate Indicators Probability Scoring

Climate Indicator Category	Code	Climate Indicators	1981-2010	2081-2100
Temperature	T1	Hot temperature: Days with maximum temperature \geq 30 degrees Celsius	5	5
Temperature	T3	Heat wave: Instances of 3 days with minimum temperature \geq 20 degrees Celsius and maximum temperature \geq 33 degrees Celsius	4	5
Temperature	T5	Diurnal variation: Days with maximum temperature – minimum temperature \geq 20 degrees Celsius	4	5
Precipitation	P2	Heavy rainfall: Days with precipitation \geq 25 millimetres	5	5
Precipitation	P5	Winter rain on snow: Instances of precipitation \geq 25 millimetres within Jan-Feb-Mar	1	3
Precipitation	P9	Drought: Instance of precipitation $<$ 0.2 millimetres for 10 days	5	5
Wind	W1	Heavy wind: Days with wind \geq 65 kilometres per hour	5	5
Wind	PW1	Blowing rain: Instances of (precipitation \geq 5 millimetres) and (wind \geq 65 kilometres per hour)	5	5
Wind	PW2	Blowing snow: Instances of ((snow \geq 5 centimetres) or (snow depth \geq 5 centimetres)) and (wind \geq 65 kilometres per hour)	5	5
Other	H4	Freezing rain: Days with freezing rain	3	2
Other	H5	Fog: Days with fog	4	4

6.4.4 Estimate of Consequences of Risks

To estimate the level of consequences, four impact categories were identified based on what is considered most relevant when managing risks for the future Bus Rapid Transit system.

These four impact categories are defined as follows:

1. **Impacts on health and safety** include occupational illness and injury to staff or the public as a result of incidents for which the municipality may be liable.
2. **Infrastructure integrity** includes damages or deterioration of essential component materials.

3. **Operational impacts** include operational slow down or interruption of services.
4. **Financial impacts** include losses due to additional cost/expense directly attributed to the event, or damage to asset to be fixed immediately to maintain operations, or operations cannot be maintained. This category also includes financial impact caused by claims filed to Metrolinx due to flood events.

Each impact category was then defined on a scale of 1 (very low) to 5 (very high), as shown in **Table 6-9**. The table below presents the severity rating (1 – very low to 5 – very high) and impact categories which were used to guide the risk analysis.

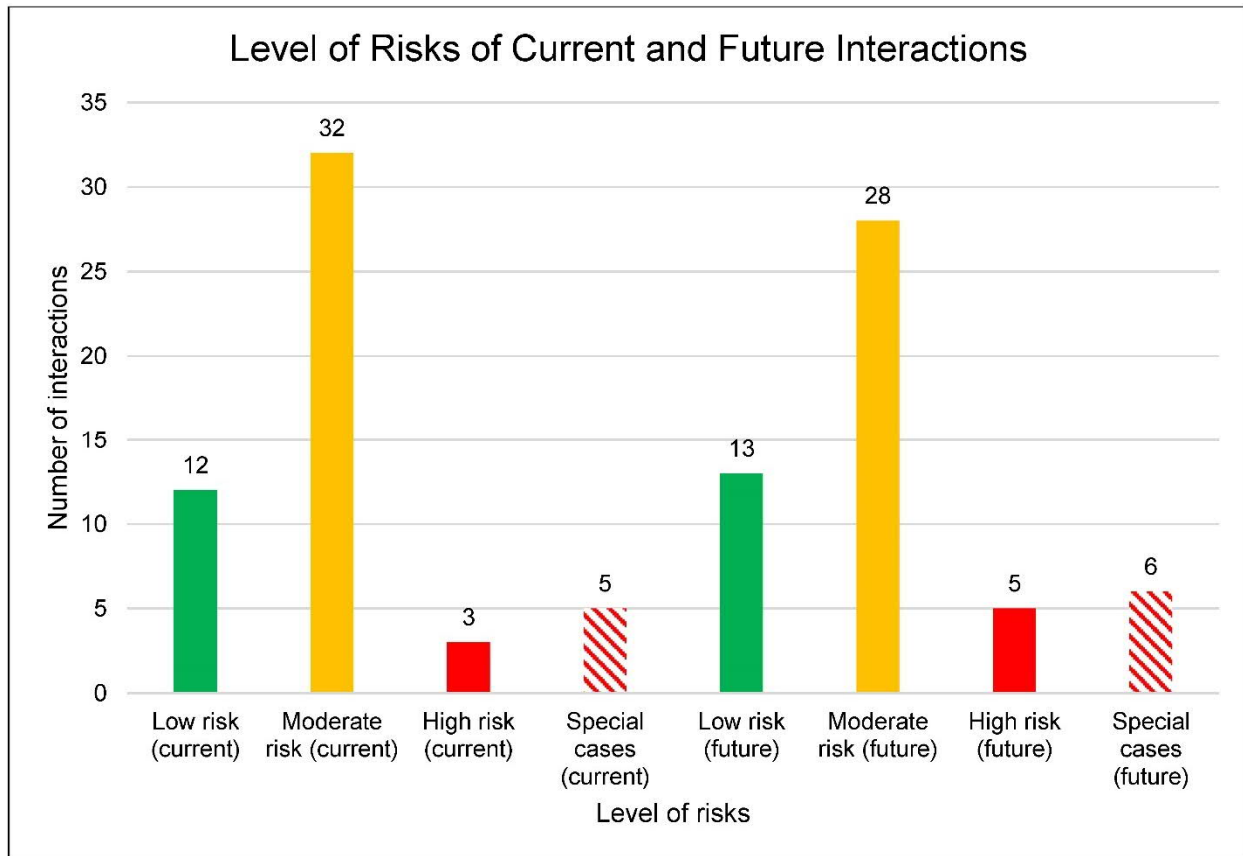
Table 6-9: Impact Severity Rating and Impact Categories

Impact Severity Rating	Consequences	Impact Category Health & Safety	Impact Category Infrastructure Integrity	Impact Category Operational impact	Impact Category Financial impact
1	Very low	First Aid Injury	Very low damage; repairable immediately	Operations slow down, requiring additional time (2 to 4 hours)	Less than \$1k – loss of revenue or refunds, minor cosmetic damage to asset to be fixed in next routine service
2	Low	Medical treatment for a minor injury	Minor damage to component materials; Reduction of the service life of the material	Operations slow down, requiring additional time (4 to 6 hours)	\$1k to \$5k – loss of revenue or refunds, damage to asset requiring service call of staff or third-party contractor on the next shift
3	Moderate	Bodily injury/Illness with work restrictions	Moderate damage to component materials; Slow deterioration of the materials of certain essential components	Operations slow down, requiring additional time (1 day)	\$5k to \$25k – loss of revenue or refunds, damage to asset requiring immediate service call of staff or third-party contractor
4	High	Permanent disabling injury or multiple people injured	Accelerated deterioration of the materials of certain essential components	Operations slow down, requiring additional time (1 to 3 days)	\$25k to \$50k – loss of revenue or refunds, damage to asset requiring immediate service call of staff or third-party contractor and partial shutdown of stop while repairs are completed
5	Very high	Fatality or significant irreversible disability	Deterioration of materials causing the failure of several elements essential to the functionality of the network	Operations slow down, requiring additional time (3 to 5 days)	More than \$50k – loss of revenue or refunds, damage to asset requiring immediate service call of staff or third-party contractor and complete shutdown of stop while repairs are completed

6.4.5 Risk Evaluation

The risk assessment revealed 52 interaction showing risks out of 66 possible interactions, between 11 climate indicators and the six project components (**Figure 6-2**).

Figure 6-2: Level of Risk of Current and Future Interactions



For the 1981 to 2010 timeframe, out of the 52 interactions:

- 12 interactions result in a low risk;
- 32 interaction result in a moderate risk;
- 3 interactions result in a high risk; and
- 5 interactions result in a special case.

For the 2081 to 2100 timeframe, the 52 interactions resulted in the following levels of risk:

- 13 interactions result in a low risk of which 1 interaction changed from low to moderate risk;

- 28 interactions result in a moderate risk of which 3 interactions changed from moderate risk to low risk;
- 5 interactions result in a high risk of which 2 interactions changed from moderate to high risk; and
- 6 interactions result in a special case of which 1 interaction changed from low risk to a special case.

Out of the 52 interactions, only the special cases and the ones presenting moderate and high risks were considered in the rest of the assessment, namely 40 in the current timeframe and 39 in the future timeframe. These were then analyzed further to recommend risk treatment and adaptation measures.

Interactions resulting in a risk rated “5” are considered special cases and are considered in the risk evaluation, as these can either be interactions with very low likelihood but very high severity or interactions with high likelihood and very low severity. While the former case may have very severe impacts, the latter case can trigger a slow deterioration of project components due to the high likelihood of the climate condition.

It is worth noting that the high and moderate risk interactions are due to increases in temperatures, precipitation, heavy wind, and drought.

Based on the findings of the risk assessment, the number of risks associated with heat wave is expected to increase between 1981 to 2010 and 2081 to 2100 for road network as well as for people. The number of risks associated with winter rain on snow is also expected to increase for transit network.

The detailed results of the risk evaluation are included in the matrix below in **Table 6-10**. The results are combined and presented with proposed mitigation and adaptation measures in the following section.

Only the interactions resulting in high and moderate risk and the special case interactions are included in the next step of the assessment, namely the recommendation of adaptation measures. Low risk interactions were discarded from further analysis.

The table below presents the summary of the risk analysis per climate indicators for each timeframe, namely the current timeframe based on 1981 to 2010 climate data and the 2081 to 2100 timeframe with RCP8.5 climate projections.

Table 6-10: Risk Evaluation Matrix

Infrastructure Elements	Hot Temperature 1981 to 2010	Hot Temperature 2081 to 2100	Heat Wave 1981 to 2010	Heat Wave 2081 to 2100	Diurnal Variation 1981 to 2010	Diurnal Variation 2081 to 2100	Heavy Rainfall 1981 to 2010	Heavy Rainfall 2081 to 2100	Drought 1981 to 2010	Drought 2081 to 2100	Heavy Wind 1981 to 2010	Heavy Wind 2081 to 2100	Blowing Rain 1981 to 2010	Blowing Rain 2081 to 2100	Blowing Snow 1981 to 2010	Blowing Snow 2081 to 2100	Freezing Rain 1981 to 2010	Freezing Rain 2081-2100	Fog 1981 to 2010	Fog 2081 to 2100	Winter Rain on Snow 1981 to 2010	Winter Rain on Snow 2081 to 2100	Total Number of Future Special Cases, Moderate and High Risks per Infrastructure Element
Road Network	15	15	16	20	4	5	20	20			5	5	5	5	10	10	9	6	4	4	2	6	7
Transit Network	10	10	8	10			20	20			5	5	10	10	10	10	9	6	4	4	3	9	7
Systems, Signalling and Equipment	10	10	8	10			5	5			10	10	10	10	10	10	6	4			1	3	6
Utilities	10	10	8	10			10	10			10	10	10	10	10	10	6	4					6
People	10	10	16	20			20	20			10	10	15	15	15	15	9	6	4	4	1	3	6
Surrounding Environment	5	5	8	10			10	10	10	10	10	10	10	10	10	10	6	4			1	3	7
Total Number of Risks per Climate Parameter and Horizon	6	6	6	6	2	2	6	6	1	1	6	6	6	6	6	6	6	6	3	3	5	5	-

Interactions resulting in a risk rated “5” are considered special cases and are considered in the risk evaluation, as these can either be interactions with very low likelihood but very high severity or interactions with high likelihood and very low severity. While the former case may have very severe impacts, the latter case can trigger a slow deterioration of project components due to the high likelihood of the climate condition.

Risk Evaluation Matrix Scoring

Severity of Consequences	Probability (Likelihood) Very Low (1)	Probability (Likelihood) Low (2)	Probability (Likelihood) Moderate (3)	Probability (Likelihood) High (4)	Probability (Likelihood) Very High (5)
Very High (5)	5	10	15	20	25
High (4)	4	8	12	16	20
Moderate (3)	3	6	9	12	15
Low (2)	2	4	6	8	10
Very Low (1)	1	2	3	4	5

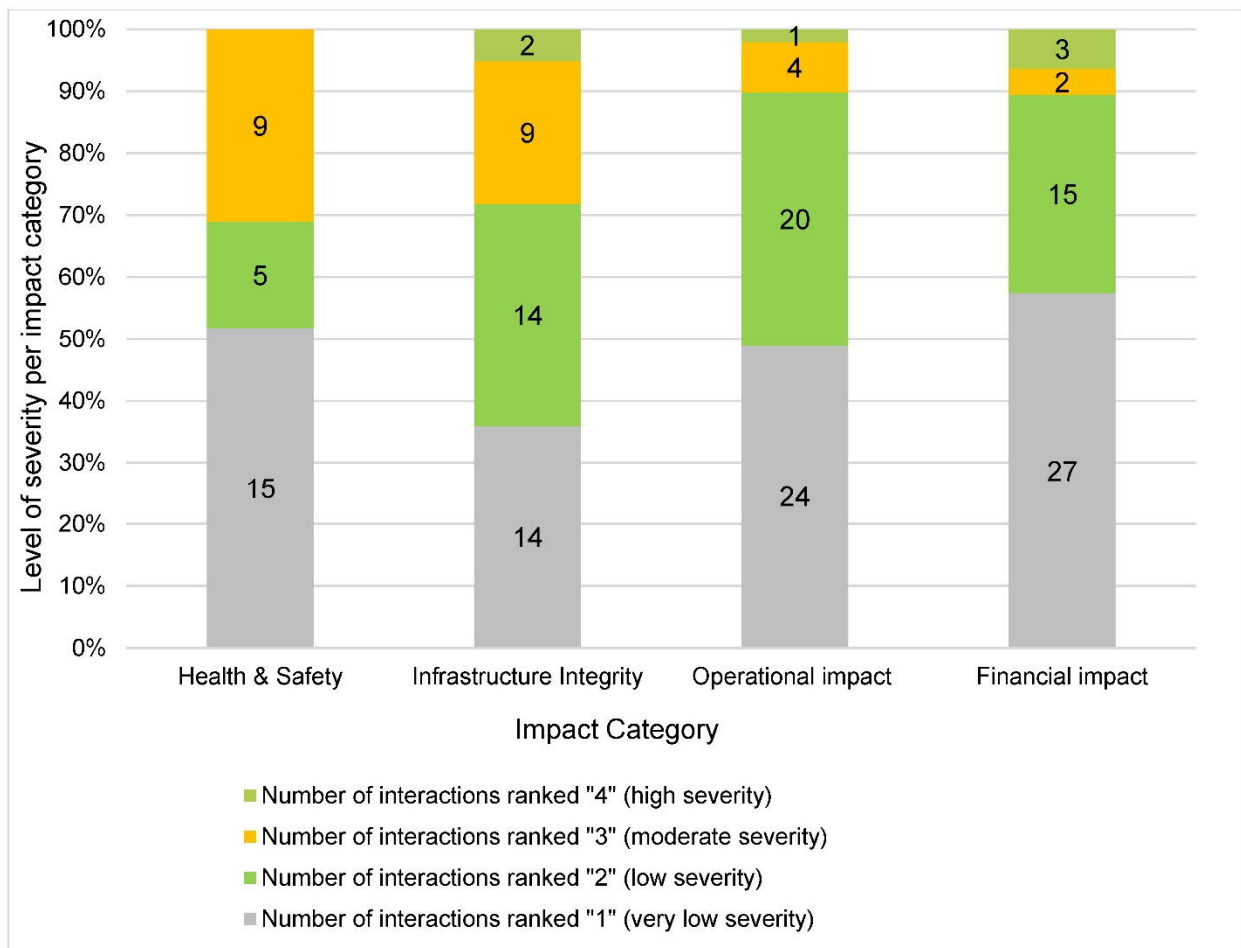
Risk Rating

Risk I = Probability (P) x Severity (G)	Control Measure
Low Risk: < 6	Controls likely not required
Moderate Risk: 7.2 < R < 16	Some controls required to reduce risks to lower levels
High Risk: R > 20	High priority control measures required
R = 5	Special Cases: Interactions resulting in a risk rated “5” are considered special cases and are considered in the risk evaluation, as these can either be interactions with very low likelihood but very high severity or interactions with high likelihood and very low severity. While the former case may have very severe impacts, the latter case can trigger a slow deterioration of project components due to the high likelihood of the climate condition.

6.4.5.1 Risk Assessed by Impact Categories

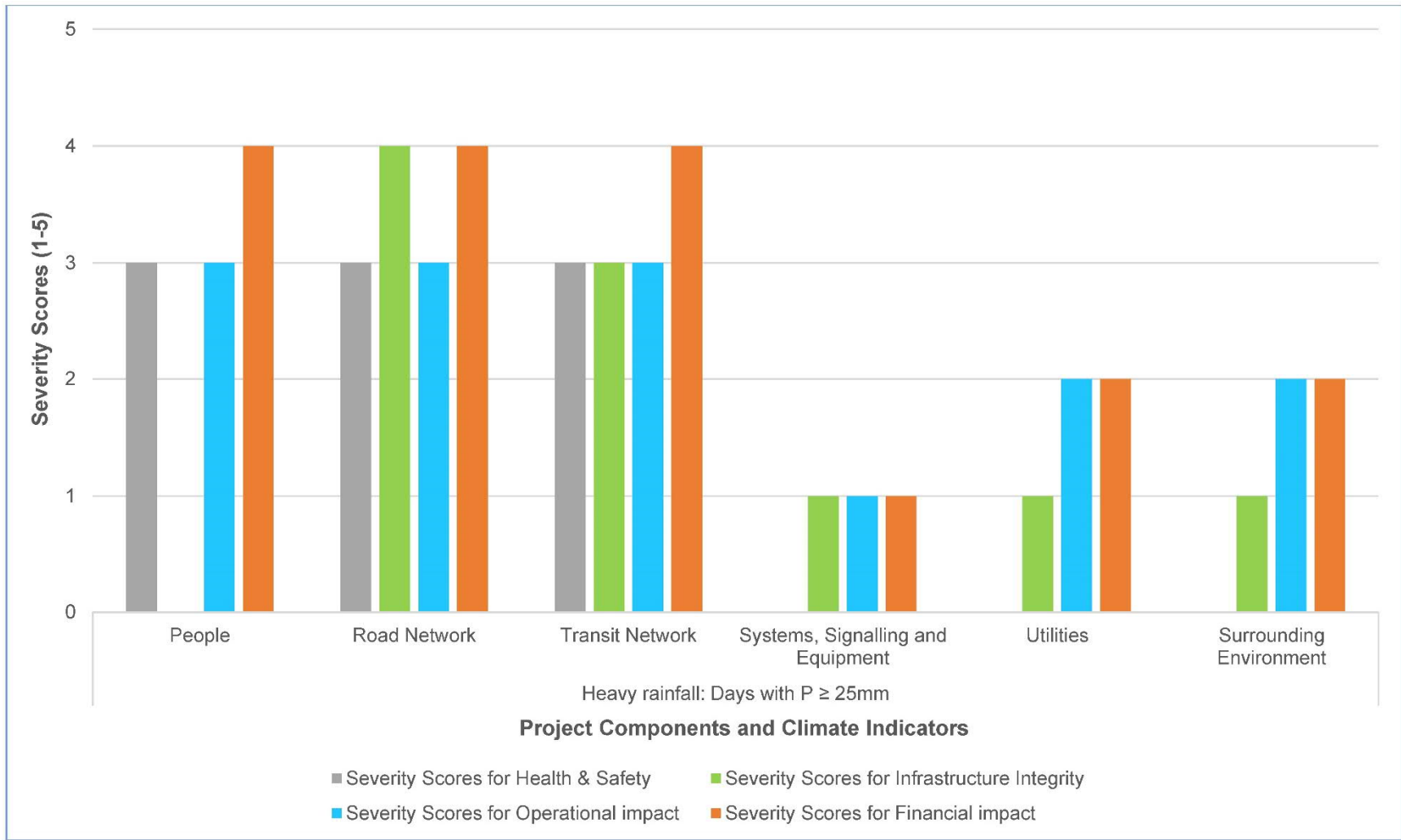
Figure 6-3 presents how climate risks will impact the five categories of impacts. This can be used to lead investment and help prioritize adaptation measures that will minimize financial impacts, health and safety impacts, operational impacts and infrastructure impacts. Four types of interaction were assessed in the risk analysis: very low severity interactions (ranked 1), low severity interaction (ranked 2), moderate severity interactions (ranked 3) and high severity interactions (ranked 4). No very high severity interactions (ranked 5) was identified in the risk analysis.

Figure 6-3: Number of Interaction per Level of Severity by Impact Category



In order to use these results further, a pivot table set up in Appendix E in the Climate Change and Sustainability Report, available under separate cover, will allow Metrolinx to select and visualize the level of severity for each climate indicator and each infrastructure component, as in the screenshot below (**Figure 6-4**).

Figure 6-4: Level of Severity for Each Climate Indicator and Each Infrastructure Component



6.5 Risk Treatment and Adaptation Measures

The project team identified risk treatment and adaptation measures for reducing unacceptable risks to acceptable levels. These are presented in **Table 6-11**, according to the risks results from the 2081 to 2100 timeframes which will bring most severe consequences. The first column presents the Moderate Risk Interactions and High-Risk Interactions combined by type of event, i.e. high-level risk events related to hot temperatures (+30° Celsius) and the number of heat waves were combined as their impacts are similar on asset components. Similarly, events related to heavy winds, blowing snow and blowing rain were combined. The last column describes potential impacts on the project and its elements if adaptation measures were not to be implemented.

Adaptation measures were identified based on the following three types of measures at this time and are anticipated to be refined as the Project proceeds to detail design and eventual operation:

- **Design:** Measures to incorporate in the future design of assets for these to be resilient to future climate risks.
- **Operations and Maintenance (Operations and Maintenance):** Measures to incorporate for the facility to reach resiliency in its Operations and Maintenance.
- **Policy:** Measures to provide and maintain safe and healthy working conditions.

6.6 Riverine Flooding

Riverine (or fluvial) flooding occurs when water levels of rivers, streams and creeks rise and overflow their banks and spill onto adjacent areas (Toronto and Region Conservation Authority, n.d.)¹. This section will present an overview of potential flood vulnerable areas within the Mississauga East Rapid Bus Transit Project.


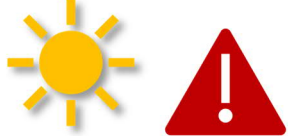
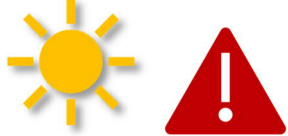
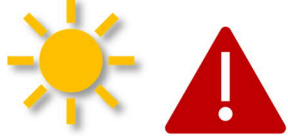

The riverine flooding along Dundas Street is indicative that the existing infrastructure cannot handle the existing climate let alone any future projected changes. If significant improvements to the infrastructure along Dundas Street are not planned to eliminate the flooding, the climate change adaptation measures included in **Table 6-11** would also




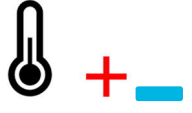


1. Toronto and Region Conservation Authority. (n.d.). Living in a flood vulnerable area: Dixie-Dundas. <https://trca.ca/conservation/flood-risk-management/flood-risk-area-dixie-dundas/>







apply in situations of riverine flooding along Dundas Street. In addition, the City of Mississauga is examining flooding along Dundas Street as Special Policy Areas.





The beginning of the Project Area near the Toronto/Mississauga boundary intersects with the Little Etobicoke Creek as shown in **Figure 6-5**. In spring, Little Etobicoke Creek can experience high flows as a result of heavy rainfall and accumulation of melting snow into the river. During the summer, Little Etobicoke Creek can flood as a result of heavy rainfall and thunderstorms. In the fall, heavy rainfall and saturated soils can also cause rivers to rise. (Toronto and Region Conservation Authority, n.d.)



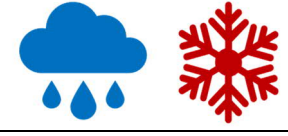



Table 6-11: Risk Treatment and Adaptation Measures

Risk Event	Project Components	Risk	Adaptation Measure or Risk Treatment	Comments
<p>MODERATE RISK:</p> <ul style="list-style-type: none"> ■ Hot temperature: Days with Tmax greater than or equal to 30 degrees Celsius ■ Heat wave: Instances of 3 days with Tmin greater than or equal to 20 degrees Celsius and Tmax greater than or equal to 33 degrees Celsius 	Road Network	15	<ul style="list-style-type: none"> ■ Design: Use light colored materials for pavement surfaces on sidewalks. ■ Design: Use heat resistant paving materials with higher solar reflectance to reduce damages (e.g., potholes and cracks) and urban heat island effect. Also consider use of additives in asphalt mix to reduce shoving/rutting. ■ Operations and Maintenance: Track impacts of extreme heat to identify “hot-spots” that may require an increased rate of inspection. ■ Operations and Maintenance: Conduct frequent inspections of pavement surfaces to ensure cracks are properly sealed. 	<ul style="list-style-type: none"> ■ Hot temperatures may cause premature deterioration to road pavements and pedestrian asphalt (e.g., potholes, rutting, cracking), particularly in high-traffic areas, which could result in increased maintenance costs.
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Hot temperature ■ Heat wave 	Transit Network	10	<ul style="list-style-type: none"> ■ Design: Use light colors or heat resistant materials for railings and bus shelter roofs to reduce solar heat gain. ■ Design: Provide adequate shade around bus shelters and platforms to reduce urban heat island effects. 	<ul style="list-style-type: none"> ■ Hot temperatures may cause bus shelters and railings to become very hot, which could have adverse effects on the health and safety of passengers waiting outside. Also, heat waves may exacerbate the urban heat island effect (UHI) near bus shelters and station infrastructure.
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Hot temperature ■ Heat wave 	Systems, Signaling and Equipment	10	<ul style="list-style-type: none"> ■ Operations and Maintenance: Increase inspection after hot temperature events to make sure systems are working correctly. 	<ul style="list-style-type: none"> ■ The heat may cause surveillance cameras to break down or cause them to erode away causing them to malfunction
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Hot temperature ■ Heat wave 	Utilities	10	<ul style="list-style-type: none"> ■ Design: Consider adding solar panels as an alternative source of power, on the roof of bus shelters. Solar panels can also be pole mounted. ■ Design: Install a backup generator or battery backup system to provide emergency power during an outage. Alternatively, have dedicated webpage/app for bus rapid transit operational impact that could be readily available to users. ■ Design: Use certified electrical and optical fiber components that are resilient to higher temperatures and humidity. 	<ul style="list-style-type: none"> ■ During heat waves and hot temperatures, there is an increase in energy demands and the efficiency and reliability of the power system is threatened. Heat waves and extreme temperatures can cause blackouts.
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Hot temperature ■ Heat wave 	People	10	<ul style="list-style-type: none"> ■ Operations and Maintenance: Communicate the health risks of extreme heat events with the public. For example, share heat wave warnings and health safety tips on digital display signs. 	<ul style="list-style-type: none"> ■ Hot temperatures could impact staff wellbeing and productivity and the health and wellbeing of passengers waiting in bus shelters (e.g., heat exhaustion and heat stroke, dehydration, heat stress)

Risk Event	Project Components	Risk	Adaptation Measure or Risk Treatment	Comments
MODERATE RISK ■ Hot temperature ■ Heat wave 	Surrounding Environment	10	<ul style="list-style-type: none"> ■ Design: Consider nature-based solutions, green infrastructure and landscape design, such as planting local species that have a greater heat tolerance or are drought resistant, retaining water. ■ Design: Use heat resistant materials for public benches. ■ Operations and Maintenance: Ensure proper maintenance of landscaping during summer months. 	<ul style="list-style-type: none"> ■ Hot temperatures and heat waves could cause vegetation to dry out, resulting in an increased demand for maintenance and water supply.
HIGH RISK ■ Heat wave: Instances of 3 days with Tmin greater than or equal to 20 degrees Celsius and Tmax greater than or equal to 33 degrees Celsius 	Road Network	20	<ul style="list-style-type: none"> ■ - Design: Use light colored materials for pavement surfaces on sidewalks and/or use heat resistant paving materials with higher solar reflectance to reduce damages (e.g., potholes and cracks) and urban heat island effect. Also consider use of additives in asphalt mix to reduce shoving/rutting . ■ Design: Increase roadside vegetation and trees to increase shade and decrease exposure to heat ■ Operations and Maintenance: Track impacts of extreme heat to identify “hot-spots” that may require an increased rate of inspection. ■ Operations and Maintenance: Conduct frequent inspections of pavement surfaces to ensure cracks are properly sealed. 	<ul style="list-style-type: none"> ■ Heat waves may cause premature deterioration to road pavements and pedestrian asphalt (e.g., potholes, rutting, cracking), particularly in high-traffic areas, which could result in increased maintenance costs. Also, heat waves may exacerbate UHI due to increased surface temperatures of the pavement.-high road-surface temperature due to heat waves can lead to dangerous driving conditions as tires blowouts and deformation induced by thermal stress on roads
HIGH RISK ■ Heat wave 	People	20	<ul style="list-style-type: none"> ■ Design: System of ventilation in buses. ■ Design: Drinking water fountains beside transit stops where feasible. ■ Design: The main walking and cycling paths should be shaded and greened. ■ Operations and Maintenance: Shift maintenance work to cooler parts of the day. ■ Operations and Maintenance: Communicate the health risks of extreme heat events with the public. For example, share heat wave warnings and health safety tips on digital display signs. ■ Policy: Implement worker safety measures to protect the health and safety of staff. 	<ul style="list-style-type: none"> ■ Increase in the number of heat waves could impact staff wellbeing and productivity and the health and wellbeing of passengers waiting in bus shelters(e.g., heat exhaustion and heat stroke, dehydration, heat stress) ■ Heat waves could result in potential delays in construction activities
SPECIAL CASE RISK- DIURNAL VARIATION 	Road Network	5	<ul style="list-style-type: none"> ■ Design: Use materials and pavements that are resistant to significant changes in temperature 	<ul style="list-style-type: none"> ■ Premature deterioration of pavement surfaces
MODERATE RISK ■ Heavy rainfall: Days with P greater than or equal to 25 millimetres 	Systems, Signaling and Equipment	5	<ul style="list-style-type: none"> ■ Operations and Maintenance: Increase inspections and maintenance following heavy rainfall events. 	<ul style="list-style-type: none"> ■ Over time, repeated exposure to heavy rain can damage almost any piece of electronic equipment, even if it is very well protected. This includes cameras. What’s more, if rainwater ends up on the lens of a camera, it may distort or partially obscure the image that the camera records
MODERATE RISK ■ Heavy rainfall 	Utilities	10	<ul style="list-style-type: none"> ■ Design: Consider adding solar panels as an alternative source of power, on the roof of bus shelters. Solar panels can also be pole mounted. ■ Design: Install a back-up generator or battery backup system to provide emergency power during an outage. ■ Operations and Maintenance: Conduct regular inspections of electrical components and equipment before winter and spring seasons to prevent water-related damages. 	<ul style="list-style-type: none"> ■ Heavy rainfall may cause water damages to transformers located outside. Electrical systems can be damaged as a result of flooding or standing water in the basement. ■ Potential power outages due heavy rainfall may cause delays in operations and services due to water getting into conduit/access exacerbated in low lying areas

Risk Event	Project Components	Risk	Adaptation Measure or Risk Treatment	Comments
MODERATE RISK ■ Heavy rainfall 	Surrounding Environment	10	<ul style="list-style-type: none"> Design: in order to limit runoff and erosion, design landscaping with plants that can help hold the soil firmly in place, such as fast-growing ground covers and even flower plants such as daylilies and sages. Make sure that the plants used can absorb a lot of water. Design: Mulching can help mitigate erosion on moderate slopes in the landscape. Applying mulch protects soil, increases surface area and improves water penetration 	<ul style="list-style-type: none"> Increased surface runoff and erosion of topsoil exacerbated in low lying areas Increased maintenance of vegetation and landscape around stations
HIGH RISK ■ Heavy rainfall: Days with P greater than or equal to 25 millimetres 	Road Network	20	<ul style="list-style-type: none"> Design: Design drainage systems to cope with heavy rainfall (P greater than or equal to 25 millimetres) with well-defined overland flow routes and/or Incorporate low impact development practices or green Infrastructure to manage stormwater runoff and prevent flood damages. Some examples include, bioretention planters, bioswales, etc. Design: Avoid new mass transit corridors in flood prone areas. Use cities' risk assessment plan for modelling flood risks & identify alternative routes Design: for transit station, avoid underground or low-lying depots prone to flooding for bus fleets Operations and Maintenance: Monitor water levels to assess the risk of flooding during heavy rainfall (see Toronto Region Conservation Authority's real-time flood monitoring website). Operations and Maintenance: Clear drainage systems of debris (e.g., objects, leaves) to prevent sewer back up. Operations and Maintenance: Plan alternative routes to provide redundancy in the event of a major flood. 	<ul style="list-style-type: none"> Heavy rainfall may result in flash floods, which could result in delays and reduced road safety. Heavy rainfall could cause premature deterioration to road pavements and pedestrian asphalt (e.g., potholes, rutting, cracking), particularly in high-traffic areas) exacerbated in low lying areas. Increased maintenance and repair costs
HIGH RISK ■ Heavy rainfall 	Transit Network	20	<ul style="list-style-type: none"> Design: Providing safe access for all (with ramps) to bus rapid transit stations Operations and Maintenance: Implement an early warning system that alert staff in advance so that necessary resources can be deployed on site before, during and after an extreme weather event. 	<ul style="list-style-type: none"> Heavy rainfall may result in localized flash floods, which could cause damages to bus shelters or station infrastructure, platforms, railings, and ramps and impact operations and people; exacerbated in low lying areas. Increased maintenance and repair costs
HIGH RISK ■ Heavy rainfall 	People	20	<ul style="list-style-type: none"> Policy: Provide real-time flood alerts so that commuters can plan their travel accordingly. Operations and Maintenance: Share weather information, climate-related risks and extreme events on digital display signs to alert commuters of potential delays in operations and services. Operations and Maintenance: Modify work schedules under conditions induced by climate-related disruptions. 	<ul style="list-style-type: none"> Heavy rainfall may cause disruption of construction work and maintenance work, resulting in delays in operations and services. Exacerbated in low lying areas. Heavy rainfall can cause flash floods. When this occurs, bus shelters, platforms and ramps may be difficult to access. Floods could reduce road safety for drivers, pedestrians and cyclists. Also, people may file claims to the city for damages caused by storm sewer overflows.
MODERATE RISK ■ Winter rain on snow: Instances of P greater than or equal to 25 millimetres within Jan-Feb-Mar 	Transit Network	9	<ul style="list-style-type: none"> Design: Design bus shelters with arched or sloped roof (no flat roof) to prevent snow loads. Design: Use corrosion resistant materials or treatments for metal railings to prevent premature deterioration. 	<ul style="list-style-type: none"> Winter rain on snow may result in damages to roofs of bus rapid transit stops due to heavy loads. There can be accumulation of slush on bus platforms and ramps. This can lead to increased snow removal costs.
MODERATE RISK ■ Drought: Instance of P less than 0.2 millimetres for 10 days 	Surrounding Environment	10	<ul style="list-style-type: none"> Design: Consider nature-based solutions, green infrastructure and landscape design, such as planting local species that have a greater heat tolerance or are drought resistant, retaining water. Operations and Maintenance: Ensure proper maintenance of landscaping during summer months. 	<ul style="list-style-type: none"> Drought can cause reduced soil quality, resulting in loss of vegetation and increased demand for water.

Risk Event	Project Components	Risk	Adaptation Measure or Risk Treatment	Comments
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Heavy wind: Days with W greater than or equal to 65 kilometres per hour ■ Blowing rain: Instances of (P greater than or equal to 5 millimetres) and (W greater than or equal to 65 kilometres per hour) ■ Blowing snow: Instances of ((S greater than or equal to 5 cm) or (SD greater than or equal to 5 cm)) and (W greater than or equal to 65 kilometres per hour) 	Road Network	10	<ul style="list-style-type: none"> ■ Operations and Maintenance: Clear sidewalks of debris or objects that may be blown away. ■ Operations and Maintenance: Conduct snow clearing of bus lanes to maintain good road conditions. 	<ul style="list-style-type: none"> ■ Blown objects may cause obstructions on pedestrian sidewalks and roadways. There can be accumulation of snow on road pavement which can lead to snow removal costs and reduced road safety due to slippery pavement and reduced visibility.
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Heavy wind ■ Blowing rain ■ Blowing snow 	Transit Network	10	<ul style="list-style-type: none"> ■ Design: Use wind resistant glass materials ($W \geq 65$ kilometres per hour) to prevent damages caused by flying objects. ■ Design: Consider adding heaters in bus shelters to provide thermal comfort for passengers. ■ Design: Install signs that indicate icy conditions near bus platforms to prevent slip and fall injuries. ■ Design: Install sign poles to withstand heavy winds ($W \geq 65$ kilometres per hour). Some examples include, increasing the installation depth, securing poles with an anchor base mounting or using concrete foundations. ■ Operations and Maintenance: Increase the frequency of inspections for bus shelter roofs to prevent water infiltration. 	<ul style="list-style-type: none"> ■ Blown objects may cause obstructions on pedestrian sidewalk. There can be accumulation of debris around bus shelters and station infrastructure due to heavy winds. Strong wind gusts could damage bus rapid transits stop elements. Blowing rain and blowing snow could result in water infiltration in bus shelters infrastructure All this can lead to increased maintenance costs and snow removal costs.
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Heavy wind ■ Blowing rain ■ Blowing snow 	Systems, Signaling and Equipment	10	<ul style="list-style-type: none"> ■ Design: Install traffic signal light poles that withstand heavy winds ($W \geq 65$ kilometres per hour). Some examples include, increasing the installation depth, securing poles with an anchor base mounting or using concrete foundations. ■ Operations and Maintenance: Conduct regular inspection during these extreme weather events and apply necessary measures (snow-clearing, debris clearing, use of abrasive material to de-ice) to maintain road safety and traffic signal lights visibility and prevent slippery pavement. 	<ul style="list-style-type: none"> ■ Streetlights and signs may be damaged by strong winds which can lead to reduced road safety and increased maintenance & operations costs. Snow and ice affect outdoor surveillance system cameras in optic and mechanical disruptions. An unshielded camera can be damaged by ice. If there is moisture around an outdoor camera below the temperatures drop below freezing, the frost that is formed by that moisture and temperature can form on the cameras lens and disallowing the viewer to see any activities going on outside besides the crystalline patterns from the snow.
<p>MODERATE RISK</p> <ul style="list-style-type: none"> ■ Heavy wind ■ Blowing rain ■ Blowing snow 	Utilities	15	<ul style="list-style-type: none"> ■ Design: Consider adding solar panels as an alternative source of power, on the roof of bus shelters. Solar panels can also be pole mounted. ■ Design: Install a backup generator or battery backup system to provide emergency power during an outage. Alternatively, have dedicated webpage/app for bus rapid transit operational impact that could be readily available to users. 	<ul style="list-style-type: none"> ■ Heavy winds may cause power outages which can cause disruption to the operations and reliance on back-up generator systems. Blowing rain and blowing snow may cause water damages (e.g., infiltration, corrosion) to transformers located outside. Snow accumulation may increase loads on transformers located outside, which may result in increased maintenance and snow removal costs.

Risk Event	Project Components	Risk	Adaptation Measure or Risk Treatment	Comments
MODERATE RISK ■ Heavy wind ■ Blowing rain ■ Blowing snow 	People	15	<ul style="list-style-type: none"> ■ Design: Consider directions of prevailing wind by strategically locating barriers or including enclosed areas on bus rapid transit stops to mitigate impacts of prevailing winds on passengers. ■ Design: Consider adding emergency push buttons within the bus rapid transit stop amenities to assist in safety related platform if someone trips and falls for instance. ■ Operations and Maintenance: Share weather information, climate-related risks and extreme events on digital display signs. ■ Operations and Maintenance: Remove debris from sidewalks and cycle tracks to ensure public safety. ■ Operations and Maintenance: Increase snow removal around bus platforms and ramps to ensure public safety. ■ Policy: Implement worker safety measures to protect the health and safety of staff working outdoors. 	<ul style="list-style-type: none"> ■ Blown objects could cause injuries to staff- Blowing snow can blow away debris or objects, which could cause injuries to pedestrians and cyclists or damage vehicles. Pedestrians may have trouble accessing bus platforms and sidewalks if they are not properly cleared.
MODERATE RISK ■ Heavy wind ■ Blowing rain ■ Blowing snow 	Surrounding Environment	15	<ul style="list-style-type: none"> ■ Design: Consider incorporating windbreaks (e.g., vegetation) in the landscape design. ■ Operations and Maintenance: Cover fragile trees, shrubs and other vulnerable plants with protective sheets. ■ Operations and Maintenance: Properly secure objects in public spaces (e.g., art, benches) before fall and winter seasons. 	<ul style="list-style-type: none"> ■ Trees and branches could blow away in the wind and heavy winds could damage objects in public spaces (e.g., benches, art, etc.)
MODERATE RISK ■ Freezing rain: Days with freezing rain 	Road Network	12	<ul style="list-style-type: none"> ■ Operations and Maintenance: Conduct ice clearing of bus lanes to maintain good road conditions. 	<ul style="list-style-type: none"> ■ Freezing rain may cause pavements to become slippery, which could compromise or reduce road passenger/pedestrian safety. Increased maintenance costs (e.g., de-icing)
MODERATE RISK ■ Freezing rain 	Transit Network	12	<ul style="list-style-type: none"> ■ Operation and Maintenance: Increase inspections and de-icing of bus shelter roofs and platforms to ensure public safety during freezing rain. Alternatively consider inground pavement de-icing systems 	<ul style="list-style-type: none"> ■ 'Freezing rain may cause ramps and platforms to become slippery, which could result in slips and falls. Increased maintenance of bus platforms and ramps (e.g., de-icing)
MODERATE RISK ■ Freezing rain 	Systems, Signaling and Equipment	8	<ul style="list-style-type: none"> ■ Operation and Maintenance: Increase inspections and maintenance on surveillance cameras 	<ul style="list-style-type: none"> ■ Ice affect outdoor surveillance system cameras in optic and mechanical disruptions. An unshielded camera can be damaged by ice. If there is moisture around an outdoor camera below the temperatures drop below freezing, the frost that is formed by that moisture and temperature can form on the cameras lens and disallowing the viewer to see any activities going on outside besides the crystalline patterns from the snow. Increase maintenance cost
MODERATE RISK ■ Freezing rain 	Utilities	8	<ul style="list-style-type: none"> ■ Design: Consider an alternate source of power in prevision of power outages. 	<ul style="list-style-type: none"> ■ Potential power outages due to freezing rain could cause delays in operations and services. Increased maintenance costs



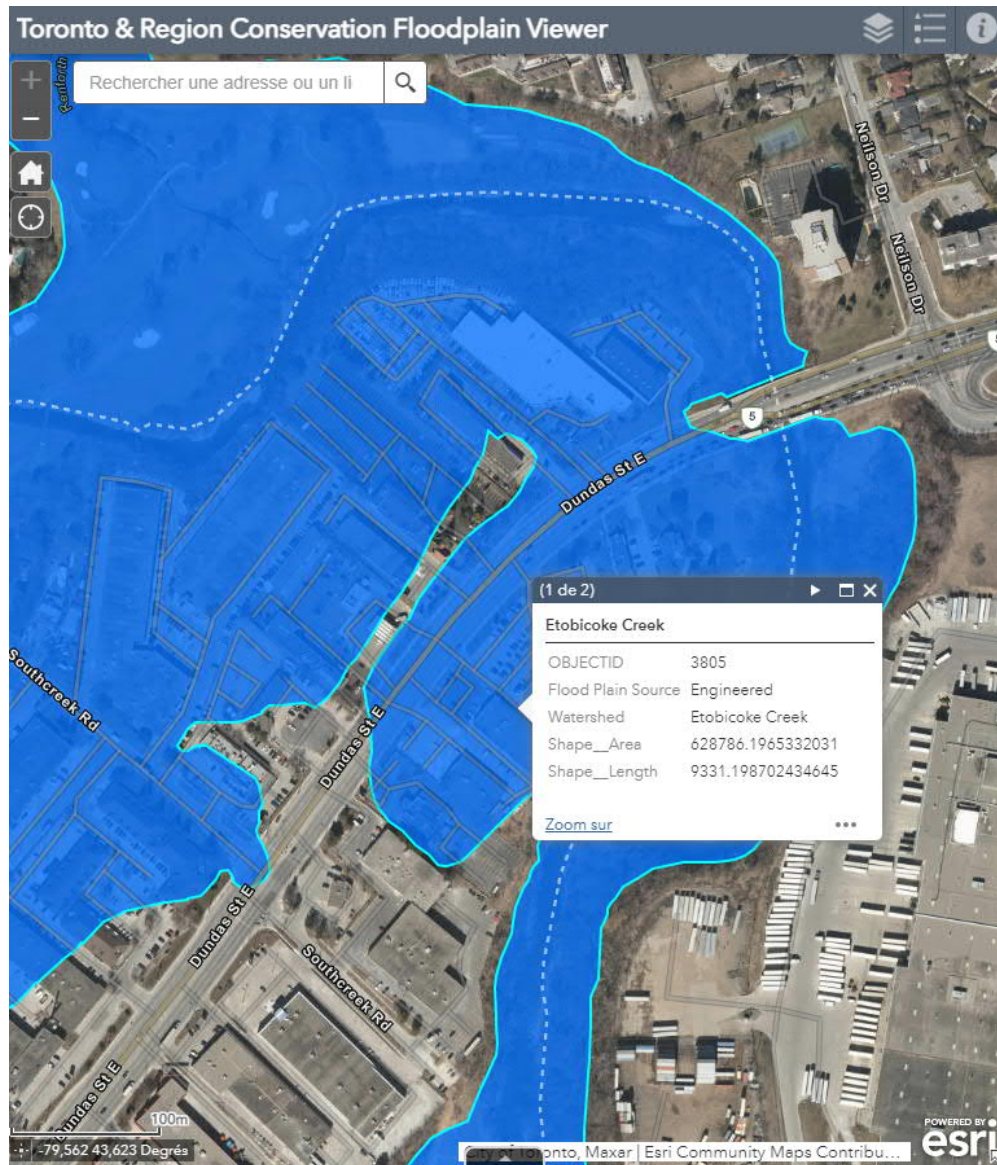
Risk Event	Project Components	Risk	Adaptation Measure or Risk Treatment	Comments
<p>MODERATE RISK ■ Freezing rain</p> 	<p>People</p>	<p>12</p>	<ul style="list-style-type: none"> ■ Design: Consider adding heaters in bus shelters to provide thermal comfort for passengers. ■ Design: Install signs that indicate icy conditions near bus platforms to prevent slip and fall injuries. ■ Operation and Maintenance: Show real-time weather information, climate-related risks and extreme events on digital display signs to alert commuters of potential delays in operations and services. ■ Operation and Maintenance: Modify work schedules under conditions induced by climate-related disruptions. ■ Operation and Maintenance: Implement an early warning system that alert staff in advance so that necessary resources can be deployed on site before, during and after an extreme weather event. ■ Operation and Maintenance: Clear sidewalks around bus platforms and ramps to reduce ice build-up. 	<ul style="list-style-type: none"> ■ Freezing rain could compromise the health and safety of workers conducting maintenance or construction (e.g., frostbites, hypothermia). Workers can slip or fall if pavement surfaces become too slippery due to freezing rain. Disruptions in construction and maintenance work, resulting in delays in operations and services. Freezing rain can cause ice to build up and fall from bus shelter roofs, which may result in injuries. People can slip or fall if ramps or platforms become too slippery due to freezing rain (reduced public safety).
<p>MODERATE RISK ■ Freezing rain</p> 	<p>Surrounding Environment</p>	<p>8</p>	<ul style="list-style-type: none"> ■ Operation and Maintenance: Cover fragile trees, shrubs and other vulnerable plants with protective sheets 	<ul style="list-style-type: none"> ■ Freezing rain may cause damages to trees and vulnerable plants.

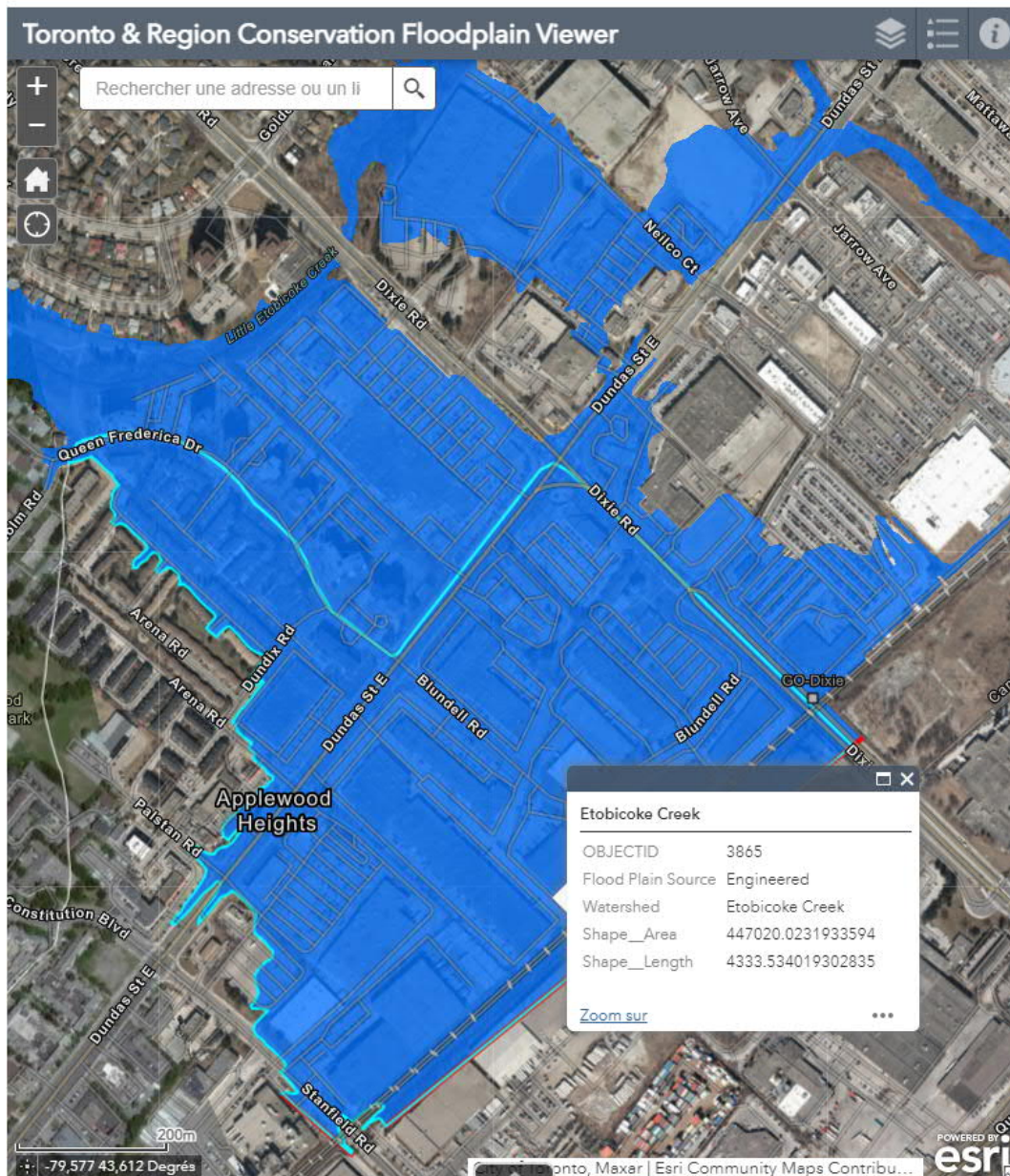
Figure 6-5: Intersection of Dundas Street East and Little Etobicoke Creek



Source: Toronto and Region Conservation Authority. (2021). Floodplain Viewer.

Further along Dundas Street towards the west, at the intersection with Dixie Street, the Project is located within the Etobicoke Creek Watershed as shown in **Figure 6-7**. This area is prone to flooding due to numerous factors, such as capacity constraints in the river channel, backwater from multiple culvert crossings, and severe thunderstorms (Toronto and Region Conservation Authority, n.d.). During the storm of July 8, 2013, the area experienced significant flooding when flows exceeded the capacity of the channel and began flowing south along Queen Frederica Drive (Toronto and Region Conservation Authority, n.d.).

**Figure 6-6: Intersection of Dundas Street East and Dixie Road
Located within Etobicoke Creek Watershed**

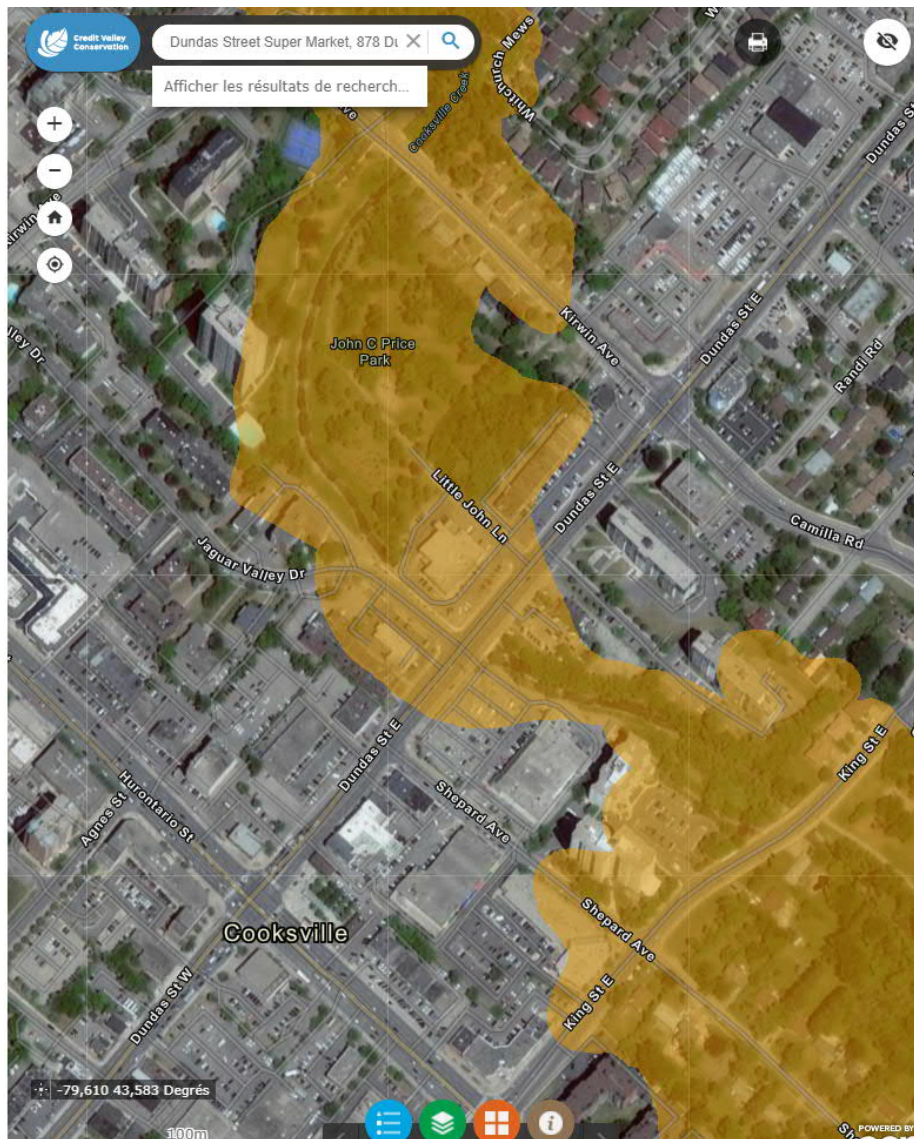


Source: Toronto and Region Conservation Authority. (2021). Floodplain Viewer.

Throughout Dundas Street, within the City of Mississauga, the Project intersects with the Credit River Watershed and other associated creeks at several locations. Those locations are vulnerable to riverine flooding and will be further reviewed by the AECOM's Water Resources team. The following figure demonstrate where Dundas Street is located within the regulatory floodplains of the Credit River Watershed for the Mississauga East Bus Rapid Transit Project.

The Credit River is almost 90 kilometres long and meanders southeast from its headwaters in Orangeville, Erin and Mono, through nine municipalities, eventually draining into Lake Ontario at Port Credit, Mississauga. The Credit River watershed is located in an urbanized area, with most people living in the lower part of the watershed in the Mississauga region. It is part of the Greater Toronto Area, which is one of North America's fastest growing areas. (Credit Valley Conservation, n.d.)²

Figure 6-7: Intersection of Dundas Street East and Cooksville Creek between Kirwin Avenue and Hurontario Street



Source: Credit Valley Conservation. (2021). Regulation Mapping

2. Credit Valley Conservation. (n.d.). Watershed Science: our watershed. <https://cvc.ca/watershed-science/our-watershed/>

As shown in **Figure 6-7**, Dundas Street East intersects with Cooksville Creek between Kirwin Avenue and Hurontario Street. The Cooksville Creek watershed is vulnerable to flooding and drainage issues in area where development has reduced channel conveyance and restricted floodplain capacity. In August 2009, significant flood damages occurred within the Cooksville Creek watershed where 68 millimeters of rainfall was recorded in one hour. The Majority of the lands within the Cooksville Creek watershed were developed without the benefits of stormwater management in terms of quantity and quality (Aquafor Beech Ltd., 2011³; Aquafor Beech Ltd., 2012⁴). The Project Team is working closely with the municipal Special Policy Areas and reviewing Environmental Assessments completed or ongoing in this watershed.

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3. Aquafor Beech Ltd. (2011). *Executive summary (phase 1): Cooksville creek watershed study and impact monitoring characterization report* (Report Reference No 64990). Credit Valley Conservation (CVC).
 4. Aquafor Beech Ltd. (2012). *Cooksville creek flood evaluation master plan EA final report*. City of Mississauga.

7. Engagement Process

7.1 Engagement Overview

7.1.1 Approach to Engagement

Metrolinx, in collaboration with the City of Mississauga, regularly conducts a wide range of communication activities and engagement opportunities to reach all interested members of the public, property owners, review agencies, Elected Officials, Indigenous Nations and other stakeholders and to solicit comments and feedback related to the Project, including:

- Project website ([click here to be directed to the project website](#));
- Project Engagement webpage ([click here to be directed to the Project Engagement webpage](#)) including: Regional Distribution List ([click here to be directed to the Distribution List](#))
- Mailings/notifications and postcards;
- E-newsletters;
- Newspaper advertisements;
- Elected Officials briefings;
- Engagement with Indigenous Nations;
- Meetings with technical stakeholders and other local community stakeholders and groups; and
- Online engagement via the Project Engagement webpage, including a series of Metrolinx Live meetings.

Further details regarding the engagement process are included in the subsections below and in **Appendix E**.

7.1.2 Record of Engagement

Metrolinx and the City of Mississauga are maintaining a record of all communication and engagement related to the Project from March 2021 onward. The record of engagement is divided into five separate appendices:

- **Appendix E1** provides the Project Distribution List used to facilitate notifications to stakeholders and interested parties.

- **Appendix E2** contains the summary reports for each round of public engagement - Public Engagement #1, Public Engagement #2 and Public Engagement #3 - which include summaries of public feedback received and all materials made available through the Project Engagement webpage ([click here to be directed to the Project Engagement webpage](#)).
- **Appendix E3** contains the complete pre-planning (up to December 9, 2021) record of engagement and correspondence, including newspaper advertisements and notices, and meetings with the public, community stakeholders and groups, government review agencies and other technical stakeholders and Elected Officials.
- **Appendix E4** contains the complete record of Transit Project Assessment Process (December 10, 2021 to February 16, 2022) engagement and correspondence, including newspaper advertisements and notices, and meetings with the public, community stakeholders and groups, government review agencies and other technical stakeholders and Elected Officials.
- **Appendix E5** contains the complete record of correspondence with Indigenous Nations throughout the pre-planning and Transit Project Assessment Process for the Project.

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

7.1.3 Identification of Interested Parties

At the outset of the Project, an initial Project Distribution List (**Appendix E1**) was developed to facilitate notifications to stakeholders and interested parties.

At anytime, interested individuals can sign up for Regional Metrolinx updates via the Metrolinx Engage website. Individuals may also connect with the dedicated Metrolinx Community Relations team for each region of the Project. They can be reached by email at:

- TorontoWest@metrolinx.com
- Peel@metrolinx.com
- HaltonRegion@metrolinx.com
- Hamilton@metrolinx.com

Additionally, interested individuals were invited to participate and ask questions through online engagement activities that took place between April 2021 and February 2022.

Appropriate contacts at review agencies (i.e., federal, provincial, municipal and conservation authorities) were confirmed through outreach during initial engagement activities. Elected Officials (i.e., City of Toronto, Mississauga, Hamilton, Halton, Burlington, Oakville Councillors, Members of Provincial Parliament and Members of Parliament) with jurisdiction in the Study Area were confirmed through online resources. Indigenous Nations were identified through consultation with the Ministry of Transportation and the Ministry of Environment, Conservation and Parks in accordance with Section 7 (4) of *Ontario Regulation 231/08: Transit Projects and Metrolinx Undertakings*.

The Project Distribution List is used to inform stakeholders including advisory groups (i.e., Technical Advisory Committee, Stakeholder Advisory Group) and technical and agency partners and reviewers of Project milestones (e.g., Notice of Commencement, Notice of Public Engagement #1, #2, and #3 and Notice of Completion).

All public contacts in the Project Distribution List have been removed from **Appendix E1** to protect personal information.

7.1.4 Influence of Consultation on the Transit Project Assessment Process/Environmental Project Report

Feedback gathered during Public Engagement #1 demonstrated general public support for the Project, along with strong interest in learning more about potential impacts as the Project progresses. The public identified opportunities to:

- Use existing traffic spaces;
- Improve cycling infrastructure; and
- Connect to future projects.

The public identified concerns about:

- Environmentally sensitive areas; and
- Cycling safety.

As a result, the pinch point (i.e., constrained area) considerations were updated to reflect the feedback provided by the public. New considerations include:

Geometric/Infrastructure Consideration

- Capital cost, including technical challenges and complexity and ability to stage construction with managed impacts to traffic and the community.

Mobility and Traffic Considerations

- Transit Service Reliability;
- Cyclist accessibility and connectivity;
- Pedestrian accessibility and connectivity; and
- Road safety.

Feedback gathered during Public Engagement #2 was neutral or positive of the Project overall.

The public identified opportunities to:

- Expand and improve cycling facilities on Dundas Street;
- Add more proposed stops along the corridor to connect riders to additional destinations (e.g., University of Toronto's Mississauga Campus, Erindale Park);
- Connect the Dundas Bus Rapid Transit line to other regional and express transit services (e.g., GO Transit, Hamilton Street Railway, Toronto Transit Commission);
- Provide a reliable transport service as a result of dedicated Bus Rapid Transit lanes; and
- Create an efficient transit system while maintaining traffic flow for all road users by implementing Alternative 1 at the Cooksville pinch point or implement Alternative 3 to include no left-turns at high-traffic intersections to avoid traffic delays.

The public identified concerns about:

- Potential noise and vibration impacts;
- Potential impacts to public and private properties;
- Environmental and community impacts as a result of project construction and operation;
- Traffic flow on Dundas Street as a result of modifications to the right-of-way (i.e., adding, removing traffic lanes);
- Preserving the existing buildings and community culture of the surrounding area; and
- Potential for Alternative 4 for Cooksville pinch point to negatively impact Bus Rapid Transit service reliability by operating buses in mixed traffic.

Feedback gathered during Public Engagement #3 was neutral or positive of the Project overall.

The public identified opportunities to:

- Connect with existing municipal and transit infrastructure;
- Introduce an integrated fare system with municipal partners;
- Create a community benefits program that promotes jobs, and economic and social inclusion for all community members;
- Use electric technology and vehicles to reduce greenhouse gas emissions and environmental impacts; and
- Incorporate cycling and active transportation amenities and infrastructure into Project design and operation.

The public identified concerns about:

- Potential for reductions to general-purpose traffic lane widths;
- Left turn and U-turn lanes during operation;
- Potential impacts to traffic congestion during operation in areas without designated bus lanes;
- Driver and pedestrian safety at crosswalks and station platforms; and
- Potential property impacts and compensation plans for businesses and property owners.

Feedback provided during virtual public engagement rounds 1, 2 and 3 has been and will continue to be considered to inform key Project decision-making. For example, to help mitigate potential impacts/concerns identified during Public Engagement #2, the Project Team has:

- Optimized the corridor alignment to minimize impacts to properties and built and natural heritage features (e.g., historical buildings and heritage plaques);
- Optimized the corridor design to minimize impacts to existing utilities, most notably the overhead hydro lines;
- Enhanced boulevard space reductions to minimize or eliminate property impacts where possible, including a reduction in the furniture/pole zone; and
- Applied minimum general-purpose through traffic lane (3.35 metres minimum) and sidewalk widths (1.5 metres minimum) to minimize or eliminate property impacts where possible.

7.2 Pre-Planning Engagement

Two rounds of engagement during the pre-planning phase included two virtual open houses that were held from April 19 to April 30, 2021 and September 2 to September 23, 2021 to reach residents and businesses located within the Study Area. Public Engagement #2 also included a virtual Metrolinx Live meeting and question and answer period held on September 22, 2021. The full Engagement Summary Reports, complete with appendices, are included in **Appendix E2**.

The first phase of communication and engagement focused on introducing the Project and Project Team, what Bus Rapid Transit is and what it means for the community, how the Project will be organized, and what best performing alternative in Mississauga East was identified and why. This first phase of engagement gathered feedback related to the pinch points (constrained areas), existing environmental conditions, proposed stop locations and best performing and alternative designs in Mississauga.

Virtual Public Engagement #1 and #2 are explained in further detail in **Sections 7.2.1.2.1 and 7.2.1.2.2** of this Report.

7.2.1 Public Engagement

7.2.1.1 Project Website

The Project website ([click here to be directed to the project website](#)) meets requirements outlined in the *Accessibility for Ontarians with Disabilities Act* and was created in both English and French to serve as an information and engagement hub. The website provides interested parties with:

- Project information;
- Links to background information such as the Initial Business Case and Public Engagement #1, #2 and #3 engagement materials;
- Ways to get involved; and
- Project Team contact information.

Metrolinx Engage also has a dedicated webpage for the Project ([click here to be directed to the Project Engagement webpage](#)). This site provides high-level Project information, key facts, official documents, public engagement materials and information for the public about how to get involved in the Project and how to contact Metrolinx. The webpage includes links to engagement materials (e.g., HTML display board content), the fillable 'Contact Us' form where participants provide their name, topic and comment/question for the Project Team, and includes a 'Stay Involved' section which

provides a list of dedicated Community Relations team emails for each region along the Dundas Bus Rapid Transit corridor:

- TorontoWest@metrolinx.com
- Peel@metrolinx.com
- HaltonRegion@metrolinx.com
- Hamilton@metrolinx.com

Following Public Engagement #2, Metrolinx developed a Dundas Bus Rapid Transit Environmental Assessment webpage on Metrolinx Engage, where information about the Environmental Assessment process (including the Transit Project Assessment Process) is hosted. This webpage also includes historical engagement materials (display boards) from previous rounds of engagement, as well as answers to frequently asked questions about the Project.

The City of Mississauga also developed a supporting webpage to share information and updates about the Project to residents and interested stakeholders ([click here to be directed to the City of Mississauga website](#)).

All webpages will continue to be updated as planning for the Project progresses. Screenshots of the Project webpages can be found in **Appendix E2**.

7.2.1.2 Public Meetings

7.2.1.2.1 Public Engagement #1

Prior to the Transit Project Assessment Process Notice of Commencement, a virtual open house was held from April 19 to April 30, 2021 to reach a broad spectrum of residents and businesses located within the Study Area.

Notification for virtual Public Engagement #1 was accomplished through the following:

- Postcards distributed via Canada Post mail to 78,969 addresses;
- Updates to the Project website ([click here to be directed to the project website](#)), Metrolinx Engage webpage ([click here to be directed to the Project Engagement webpage](#)) and the City of Mississauga's Project webpage ([click here to be directed to the City of Mississauga website](#));
- Emails to Indigenous Nations;
- Emails to stakeholders via the Project email address;
- Metrolinx blog posts and e-newsletters to individuals on the Project Distribution List; and

- Social media posts via the Metrolinx and City of Mississauga Facebook, Twitter, LinkedIn and Instagram accounts.

The April 2021 virtual open house included the following activities and materials:

- An introductory Project video;
- An option to sign up for Regional Metrolinx updates;
- Dundas Bus Rapid Transit maps;
- A presentation; and
- An online feedback form.

During the virtual open house, an online feedback form provided virtual open house attendees with an opportunity to share their thoughts and ideas related to key engagement questions and key elements of the Project. The feedback form questions were provided to attendees via the Metrolinx Engage webpage and returned to the Project Team via website submission or email. A total of 41 feedback form submissions (in addition to 14 emails and four comments/questions submitted via the 'Contact Us' webpage) were shared with AECOM by Metrolinx and are provided in **Appendix E2**, with personal information redacted.

In lieu of display boards, a presentation was available at the virtual open house on:

- The purpose of delivering the Dundas Bus Rapid Transit corridor;
- What a Bus Rapid Transit corridor is;
- Why the Dundas Bus Rapid Transit is needed;
- Initial Business Case;
- How the work will be divided (by section);
- Proposed Bus Rapid Transit infrastructure;
- Project process and key milestones;
- Key growth insights and pinch point (constrained areas) information per section;
- Service options analysed in the Initial Business Case;
- Pinch point screening considerations;
- Preliminary Design Business Case; and
- Next steps and Project contact information.

The public was given the opportunity to freely explore the online presentation during the virtual open house. The presentation is provided in **Appendix E2**.

7.2.1.2.2 Public Engagement #2

Prior to the Transit Project Assessment Process Notice of Commencement, a second virtual open house was held from September 2 to September 23, 2021 to reach a broad spectrum of residents and businesses located within the Study Area. This engagement included a Metrolinx Live meeting on September 22, 2021.

Notification for virtual Public Engagement #2 was accomplished through the following:

- Postcards distributed via Canada Post mail to 80,140 addresses;
- Updates to the Project website ([click here to be directed to the project website](#)), Metrolinx Engage webpage ([click here to be directed to the Project Engagement webpage](#)) and the City of Mississauga's Project webpage ([click here to be directed to the City of Mississauga website](#));
- Emails to Indigenous Nations;
- Emails to stakeholders via the Project email address;
- Metrolinx blog posts and e-newsletters to individuals on the Project Distribution List;
- Social media posts via the Metrolinx and City of Mississauga Facebook, Twitter, LinkedIn and Instagram accounts;
- Mobile road signage; and
- Newspaper advertisements published in English and French the Burlington Post, Etobicoke Guardian, Flamborough Review, Le Metropolitan (French), Mississauga News, Oakville Beaver.

The September 2021 virtual open house included the following activities and materials:

- A virtual Metrolinx Live meeting and question and answer period;
- An option to sign up for Regional Metrolinx updates and newsletters;
- Dundas Bus Rapid Transit maps, cross-sections and renderings;
- A presentation;
- An interactive map; and
- An online feedback form.

During the virtual open house, an online feedback form provided virtual open house attendees with an opportunity to share their thoughts and ideas related to key engagement questions and key elements of the Project. The feedback form questions were provided to attendees via the Metrolinx Engage website and returned to the

Project Team via website submission and email. A total of 32 feedback form submissions (in addition to five emails and seven comments/questions submitted via the 'Contact Us' webpage) were shared with AECOM by Metrolinx and are provided in **Appendix E2**, with personal information redacted. The interactive map also provided attendees the opportunity to share feedback related to the pinch points (i.e., constrained areas) and the proposed stops in Mississauga East.

In lieu of physical display boards that would be used at an in-person open house, a presentation was available at the virtual open house on:

- The purpose of delivering the proposed Project;
- What a Bus Rapid Transit corridor is;
- Why the Project is needed;
- How the work will be divided (by segments including Toronto, Mississauga East, Mississauga West, Halton and Hamilton, and processes including the Transit Project Assessment Process, Preliminary Design and Preliminary Design Business Case);
- Project timelines, key milestones and engagement opportunities available through each Project phase;
- How to provide feedback through the Public Engagement #2 period;
- What feedback was received from Public Engagement #1 and how it was incorporated into the study;
- An update on environmental studies, including study methods and existing environmental conditions for Toronto, Mississauga East and Mississauga West;
- Next steps for the Transit Project Assessment Process;
- An introduction to the Preliminary Design phase and the Preliminary Design Business Case;
- Preliminary design progressed for the Mississauga Bus Rapid Transit corridor and pinch point evaluation for Mississauga East and Mississauga West;
- The long list, short list and best performing alternative for the Cooksville pinch point in Mississauga East;
- Proposed Bus Rapid Transit stops and amenities in Mississauga East;
- An update on Halton and Hamilton segments;
- Future planning and electrification; and
- Next steps and Project contact information.

The Metrolinx Live meeting was hosted on September 22, 2021 from 6:30 pm to 7:30 pm, via an online live stream. Staff from the Project Team provided attendees with a presentation and a follow-up question and answer period. A total of 27 individuals registered for the Metrolinx Live meeting and 153 individuals attended the event and participated in the question-and-answer period.

The public was given the opportunity to freely explore the online presentation throughout the three-week virtual open house period and submit questions via the website or directly to the Project Team during the Metrolinx Live meeting. The presentation and the Metrolinx Live materials are provided in **Appendix E2**.

7.2.2 Engagement with Technical Stakeholders

In addition to engaging in frequent correspondence with technical stakeholders, Metrolinx formed a Technical Advisory Committee prior to the first round of public engagement. The Technical Advisory Committee meeting invitation was sent to various Ontario Ministries, municipalities within the Study Area, rail agencies and major utility companies that may be impacted by the Project, as well as Metrolinx and the City of Mississauga.

The first Technical Advisory Committee meeting was held on April 15, 2021. The Technical Advisory Committee was given a presentation on draft materials to be used at the virtual open house from April 19 to 30, 2021 for virtual Public Engagement #1. The Technical Advisory Committee was invited to review the materials and provide comments during the engagement period.

The purpose of this stage of Technical Advisory Committee engagement was introductory in nature; introducing the Project, the preliminary route for the Bus Rapid Transit, the identification of pinch point areas (areas that are constrained by the built or natural environment), providing background information, summarizing the study process and the decision-making process that will be followed.

Another Technical Advisory Committee meeting was held prior to virtual Public Engagement #2, on August 23, 2021. During this Technical Advisory Committee meeting, information was provided on the following topics for discussion, with opportunities to provide feedback:

- The organization of the Project;
- What we heard during the first round of engagement;
- Existing environmental conditions for Toronto and Mississauga;
- Bus Rapid Transit corridor design for Mississauga;

- Alternative designs being considered for the pinch point (constrained area) in Erindale Valley;
- Best performing design and other assessed designs for the pinch point in Cooksville;
- Proposed stop locations in Mississauga East; and
- Next steps.

Engagement with all interested government officials and agencies, including the Technical Advisory Committee members, will continue as the Project progresses. Correspondence and meeting materials related to the Technical Advisory Committee are included in this Environmental Project Report.

Table 7-1 provides a summary of engagement with technical stakeholders undertaken prior to the Transit Project Assessment Process Notice of Commencement for Mississauga East. All relevant correspondence and meeting summaries are also documented in **Appendix E3**.

Table 7-1: Summary of Engagement with Technical Stakeholders

Agency	Date	Summary
Federal – Fisheries and Oceans Canada	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for Fisheries and Oceans Canada’s review and comment by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021 ■ Fisheries and Oceans Canada confirmed electronic receipt of the draft Environmental Project Report and appendices ■ Fisheries and Oceans Canada asked Metrolinx not to mail a hard copy of the submission to any offices
Federal – Fisheries and Oceans Canada	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Federal – Transport Canada	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for Transport Canada’s review and comment by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Federal – Transport Canada	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Agriculture, Food and Rural Affairs	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Agriculture, Food and Rural Affairs	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the agenda and meeting presentation for the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Agriculture, Food and Rural Affairs	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the Ministry for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Provincial – Ministry of Agriculture, Food and Rural Affairs	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the Ministry’s attendance at the Technical Advisory Committee meeting #2, taking place on August 23, 2021
Provincial – Ministry of Agriculture, Food and Rural Affairs	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Provincial – Ministry of Economic Development, Job Creation and Trade	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of Economic Development, Job Creation and Trade’s review and comments by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Economic Development, Job Creation and Trade	October 18, 2021	<ul style="list-style-type: none"> ■ A representative from the Ministry noted that they are now the primary contact for the Project and asked Metrolinx to provide access to the draft Environmental Project Report documents ■ Metrolinx provided a link to access the Environmental Project Report documents
Provincial – Ministry of Economic Development, Job Creation and Trade	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021

Agency	Date	Summary
Provincial – Ministry of the Environment, Conservation and Parks	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of the Environment, Conservation and Parks	April 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the agenda and meeting presentation for the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of the Environment, Conservation and Parks	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked the Ministry for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Provincial – Ministry of the Environment, Conservation and Parks	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited the Ministry's attendance at the Technical Advisory Committee meeting #2, taking place on August 23, 2021
Provincial – Ministry of the Environment, Conservation and Parks	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Provincial – Ministry of the Environment, Conservation and Parks	October 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of the Environment, Conservation and Park's review and comment by November 10, 2021 Metrolinx provided a link to the appendices to the draft Environmental Project Report and noted that the documents can be downloaded and shared internally Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents Metrolinx noted that Appendix C is not yet available, however a working copy of the appendix can be provided upon request Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of the Environment, Conservation and Parks	October 29, 2021	<ul style="list-style-type: none"> The Ministry confirmed that their Noise Engineer reviewed the Noise and Vibration Report and has no further comments Metrolinx thanked the Ministry for their review
Provincial – Ministry of the Environment, Conservation and Parks	November 12, 2021	<ul style="list-style-type: none"> The Ministry informed Metrolinx that their comments may be provided a few days late
Provincial – Ministry of the Environment, Conservation and Parks	November 15, 2021	<ul style="list-style-type: none"> The Ministry provided the review and comment response table for the draft Environmental Project Report for the Project Metrolinx thanked the Ministry for their comments
Provincial – Ministry of the Environment, Conservation and Parks	November 17, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Notice of Commencement for the Ministry's review and noted that the Notice of Commencement is scheduled for December 10, 2021 Metrolinx requested the Ministry provide comments by November 24, 2021
Provincial – Ministry of the Environment, Conservation and Parks	November 24, 2021	<ul style="list-style-type: none"> The Ministry noted that comments will be provided shortly and to include another representative from the Ministry on all correspondence related to the Project
Provincial – Ministry of the Environment, Conservation and Parks	November 25, 2021	<ul style="list-style-type: none"> The Ministry confirmed no comments on the Notice of Commencement
Provincial – Ministry of the Environment, Conservation and Parks	November 26, 2021	<ul style="list-style-type: none"> Metrolinx provided the finalized version of the Notice of Commencement
Provincial – Ministry of the Environment, Conservation and Parks	December 3, 2021	<ul style="list-style-type: none"> The Ministry provided an additional comment on the draft Environmental Project Report regarding stormwater management infrastructure
Provincial – Ministry of the Environment, Conservation and Parks	December 6, 2021	<ul style="list-style-type: none"> Metrolinx thanked the Ministry for providing their feedback
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	April 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the agenda and meeting presentation for the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	April 28, 2021	<ul style="list-style-type: none"> The Ministry thanked Metrolinx for hosting the Technical Advisory Committee meeting #1 on April 15, 2021 The Ministry provided recommendations for the technical studies and level of detail required to address the cultural heritage component of the Project

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ The Ministry asked Metrolinx to provide the Cultural Heritage Report for review and comment in advance of the draft Environmental Project Report to ensure revisions are incorporated into the draft Environmental Project Report ■ The Ministry provided an excerpt of the most recent Project Tracking Sheet provided by Metrolinx on April 22, 2021. The Ministry asked Metrolinx to review the information for accuracy and provide updated information if required
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the Ministry for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	June 24, 2021	<ul style="list-style-type: none"> ■ The Ministry thanked Metrolinx for hosting the Technical Advisory Committee meeting #1 on April 15, 2021 and noted that the presentation was helpful in understanding the Project as it moves forward ■ The Ministry provided recommendations outlining the technical studies and level of detail required to address the cultural heritage component for transit projects under Ontario Regulation 231/08 ■ The Ministry asked that the Cultural Heritage Report be provided to them for review and comment as early as possible, prior to the release of the draft Environmental Project Report ■ The Ministry also attached an excerpt from the most recent Project Tracking Sheet provided by Metrolinx on April 22, 2021, with information highlighted for Metrolinx’s review ■ The Ministry noted looking forward to continuing to work with Metrolinx on the Project
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the Ministry’s attendance at the Technical Advisory Committee meeting #2, taking place on August 23, 2021
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of Heritage, Sport, Tourism and Culture Industries’ review and comments by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 5, 2021	<ul style="list-style-type: none"> ■ The Ministry asked Metrolinx to provide unlocked PDF versions of the draft Environmental Project Report ■ The Ministry noted that several Cultural Heritage Evaluation Reports are being prepared for directly impacted cultural heritage resources, and asked if Metrolinx can provide those reports for the Ministry’s review as well ■ The Ministry asked if their comments on the draft Environmental Project Report could be submitted later than initially requested
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx agreed that comments can be provided later than November 10, 2021 ■ Metrolinx confirmed that Cultural Heritage Evaluation Reports have not yet been initiated for this Project ■ Metrolinx provided a link to download an unlocked PDF version of the draft Environmental Project Report and the Cultural Heritage Report
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 10, 2021	<ul style="list-style-type: none"> ■ The Ministry confirmed access to the unlocked PDF version of the draft Environmental Project Report and the Cultural Heritage Report
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 18, 2021	<ul style="list-style-type: none"> ■ The Ministry noted that the review of the draft reports is completed, however the Ministry will be discussing details regarding Minister’s Consent and technical reports internally before providing comments to Metrolinx ■ Metrolinx noted that the anticipated timing of Minister’s Review is March 25 to April 29, 2022
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx followed-up regarding the Ministry’s comments on the draft reports ■ The Ministry noted that they would like to set up a meeting to discuss timing for Minister’s Consent, which may be required for the heritage resource at Dixie Union Chapel and Cemetery (Cultural Heritage Landscape 2) ■ Metrolinx agreed and asked the Ministry to provide availability for the meeting
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 24, 2021	<ul style="list-style-type: none"> ■ Metrolinx confirmed that the consultant has refined the design of the Project and there are no longer any direct impacts anticipated to Cultural Heritage Landscape 2 ■ Metrolinx explained that the only potential indirect impact to the property is related to vibration from adjacent construction activities during the construction phase

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx confirmed that this will be updated in the Environmental Project Report and Cultural Heritage Report and updated reports will be shared with the Ministry ■ The Ministry thanked Metrolinx for the update and noted that report comments will be provided soon
Provincial - Ministry of Heritage, Sport, Tourism and Culture Industries	November 26, 2021	<ul style="list-style-type: none"> ■ The Ministry provided comments on the draft Environmental Project Report and Cultural Heritage Report ■ The Ministry noted that the update to Cultural Heritage Landscape 2 has not been reflected in their comments as comments were made on the draft submission ■ The Ministry noted that many of their comments are related to timing of Cultural Heritage Evaluation Reports ■ Metrolinx thanked the Ministry for providing comments and noted they will be reviewed and be in contact if a meeting will be required to discuss the comments
Provincial – Infrastructure Ontario	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for Infrastructure Ontario’s review and comment by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Infrastructure Ontario	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Municipal Affairs and Housing	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Municipal Affairs and Housing	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the agenda and meeting presentation for the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Municipal Affairs and Housing	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the Ministry for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Provincial – Ministry of Municipal Affairs and Housing	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the Ministry’s attendance at the Technical Advisory Committee meeting #2, taking place on August 23, 2021
Provincial – Ministry of Municipal Affairs and Housing	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Provincial – Ministry of Municipal Affairs and Housing	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of Municipal Affairs and Housing’s review and comment by November 10, 2021 ■ Metrolinx provided a link to the appendices to the draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Municipal Affairs and Housing	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the agenda and meeting presentation for the Technical Advisory Committee meeting #1 on April 15, 2021

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Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited the Ministry's attendance at the Technical Advisory Committee meeting #2, taking place on August 23, 2021
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked the Ministry for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	October 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of Northern Development, Natural Resources and Forestry's review and comments by November 10, 2021 Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial - Ministry of Northern Development, Mines, Natural Resources and Forestry	October 15, 2021	<ul style="list-style-type: none"> The Ministry noted that they will be conducting a preliminary review of the information provided in the draft Environmental Project Report to determine the Ministry's interest in the Project The Ministry asked Metrolinx to provide access to the documents
Provincial - Ministry of Northern Development, Natural Resources and Forestry	October 18, 2021	<ul style="list-style-type: none"> Metrolinx provided a link to access the draft Environmental Project Report documents
Provincial - Ministry of Northern Development, Mines, Natural Resources and Forestry	November 9, 2021	<ul style="list-style-type: none"> Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	November 10, 2021	<ul style="list-style-type: none"> The Ministry confirmed that no further comments are anticipated and asked Metrolinx to continue to include the Ministry on correspondence for the Project
Provincial – Ministry of Northern Development, Mines, Natural Resources and Forestry	November 11, 2021	<ul style="list-style-type: none"> Metrolinx confirmed that the Ministry will be contacted for the Dundas Bus Rapid Transit Mississauga West and Dundas Bus Rapid Transit Toronto Projects
Provincial – Ministry of the Solicitor General	October 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of the Solicitor General's review and comments by November 10, 2021 Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of the Solicitor General	November 9, 2021	<ul style="list-style-type: none"> Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Transportation	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Transportation	April 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the agenda and meeting presentation for the Technical Advisory Committee meeting #1 on April 15, 2021
Provincial – Ministry of Transportation	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited the Ministry of Transportation to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021 The Ministry of Transportation requested the second Technical Advisory Committee meeting be rescheduled for after September 7, 2021 Metrolinx noted that rescheduling the second Technical Advisory Committee meeting would not be possible
Provincial – Ministry of Transportation	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked the Ministry for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Provincial – Ministry of Transportation	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards ■ The Ministry noted that staff from the Ministry were present during the Technical Advisory Committee meeting ■ The Ministry noted involvement in the Project would be for review/approval/permits for the portion of the Dundas Bus Rapid Transit corridor within the Ministry of Transportation permit control area and/or crossing any provincial highway ■ The Ministry noted that the Dundas Bus Rapid Transit design within Ministry of Transportation control areas and/or provincial highway crossings will require review by several Ministry of Transportation input offices to assess potential impacts to the Ministry of Transportation infrastructure and any future expansion of provincial highways ■ The Ministry requested design materials be forwarded early in the planning process so alternatives can be discussed if required ■ The Ministry provided specific contacts for future correspondence
Provincial – Ministry of Transportation	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for the Ministry of Transportation’s review and comments by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Transportation	October 14, 2021	<ul style="list-style-type: none"> ■ A representative at the Ministry of Transportation informed Metrolinx that they are the primary contact for the Project, and asked Metrolinx to circulate Appendix C of the draft Environmental Project Report when available ■ Metrolinx confirmed the contact has been updated and provided a link to the Environmental Project Report documents
Provincial – Ministry of Transportation	October 15, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that Appendix C of the draft Environmental Project Report and the design drawings will be updated on SharePoint and to let Metrolinx know if the Ministry has any issues accessing the documents
Provincial – Ministry of Transportation	November 2, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that Appendix C of the draft Environmental Project Report has now been uploaded to SharePoint
Provincial – Ministry of Transportation	November 3, 2021	<ul style="list-style-type: none"> ■ The Ministry thanked Metrolinx for sharing Appendix C ■ The Ministry asked Metrolinx to clarify if any of the information in the drawings impact any Ministry of Transportation infrastructure
Provincial – Ministry of Transportation	November 5, 2021	<ul style="list-style-type: none"> ■ Metrolinx explained that the Environmental Project Report focuses on the Mississauga East segment of the Project ■ Metrolinx provided the boundaries of the other segments of the Project, and noted that the Environmental Project Report for the Toronto and Mississauga West segments are still under development and will be provided to the Ministry for review
Provincial – Ministry of Transportation	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ministry of Transportation	December 1, 2021	<ul style="list-style-type: none"> ■ The Ministry provided meeting notes from a Working Group meeting with the Ministry of Transportation, Metrolinx and the Minister’s Office ■ Metrolinx asked the Ministry to confirm the dates for meetings with Member of Provincial Parliament Rudy Cuzzetto, Member of Provincial Parliament Kaleed Rasheed, and Councillor Dipika Damerla ■ The Ministry asked Metrolinx to confirm if they want to confirm dates for the meetings with Elected Officials or if Metrolinx will be providing meeting materials ■ Metrolinx confirmed that meeting dates just need to be confirmed and materials will be provided shortly after ■ Metrolinx provided an overview of the main discussion points in the upcoming meetings with Elected Officials ■ The Ministry confirmed that the Minister’s Office is not familiar with the discussion topics and would like to receive the materials prior to the meeting
Provincial – Ministry of Transportation	December 6, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft presentation materials regarding the Notice of Commencement that will be presented to the Member of Provincial Parliament Kaleed Rasheed and Councillor Dipika Damerla on December 10, 2021 ■ Metrolinx noted that only the two Elected Officials will be briefed as the Notice of Commencement is specific to Mississauga East ■ Metrolinx included a draft email and attachment outlining the Transit Project Assessment Process and upcoming engagement activities that will be sent to all Elected Officials along the Dundas Bus Rapid Transit alignment ■ The Ministry asked Metrolinx to provide a word version of the presentation materials and provided feedback on the Notice of Commencement attachment

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Provincial – Ministry of Transportation	December 6, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided packaged materials to be presented at Virtual Public Engagement #3, for review and comment by December 13, 2021 ■ Metrolinx informed the Ministry of Transportation of the Metrolinx Live meeting taking place on January 27, 2022
Provincial – Ministry of Transportation	December 7, 2021	<ul style="list-style-type: none"> ■ Metrolinx asked the Ministry to clarify what format the Ministry would like to receive the presentation materials and provided responses to the Ministry's feedback ■ Metrolinx provided a copy of the webpage that will be posted outlining the Transit Project Assessment Process for the Ministry's review ■ The Ministry provided comments on the presentation materials relating to language regarding collaboration with municipalities ■ Metrolinx provided the final clean versions of the presentation materials
Provincial – Ministry of Transportation	December 8, 2021	<ul style="list-style-type: none"> ■ Metrolinx asked the Ministry to confirm if there are any further comments relating to the final Notice of Commencement content and if Metrolinx can proceed with booking meetings with the Elected Officials
Provincial – Ministry of Transportation	December 9, 2021	<ul style="list-style-type: none"> ■ The Ministry provided comments on the Notice of Commencement presentation materials ■ Metrolinx provided the final version of the presentation materials and responses to the Ministry's comments
Provincial – Ontario Provincial Police	October 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Environmental Project Report for the Project for the Ontario Provincial Police's review and comment by November 10, 2021 ■ Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally ■ Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Provincial – Ontario Provincial Police	November 9, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the review period for the draft Environmental Project Report ends on November 10, 2021 and followed up regarding any comments from the agency ■ Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Municipal – Burlington Hydro	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Burlington Hydro	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Burlington Hydro	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked Burlington Hydro for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Burlington Hydro	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited Burlington Hydro to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Burlington Hydro	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – City of Burlington	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the City of Burlington to attend the first Technical Advisory Committee meeting scheduled for April 15, 2021
Municipal – City of Burlington	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – City of Burlington	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the City of Burlington for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – City of Burlington	July 12, 2021	<ul style="list-style-type: none"> ■ The City of Burlington noted that the Integrated Transportation Advisory Committee, Cycling Committee and Burlington for Accessible and Sustainable Transit should be notified of upcoming public engagement events in August 2021 ■ The City provided a contact name and email address to contact for further details on committee members
Municipal – City of Burlington	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the City of Burlington to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – City of Burlington	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – City of Burlington	August 30, 2021	<ul style="list-style-type: none"> ■ Metrolinx requested the City forward an attached email to the Integrated Transportation Advisory Committee and the Cycling Committee
Municipal – City of Burlington	September 1, 2021	<ul style="list-style-type: none"> ■ The City of Burlington confirmed the attached email will be forwarded to the Integrated Transportation Advisory Committee and the Cycling Committee
Municipal – City of Hamilton	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the City of Hamilton to attend the first Technical Advisory Committee meeting scheduled for April 15, 2021
Municipal – City of Hamilton	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – City of Hamilton	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the City of Hamilton for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021

Agency	Date	Summary
		<ul style="list-style-type: none"> Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – City of Hamilton	August 11 2021	<ul style="list-style-type: none"> Metrolinx invited the City of Hamilton to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – City of Hamilton	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – City of Hamilton	August 26, 2021	<ul style="list-style-type: none"> Metrolinx informed that the next round of engagement is scheduled to take place between September 2 to September 23, 2021 Metrolinx attached a copy of the virtual Public Engagement #2 postcard that will be delivered to residents and businesses along the corridor Metrolinx noted that Hamilton residents are encouraged to connect with the Hamilton-Niagara Community Relations office for more information or any questions
Municipal – City of Mississauga	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – City of Mississauga	April 12, 2021	<ul style="list-style-type: none"> Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – City of Mississauga	May 10, 2021	<ul style="list-style-type: none"> The City provided a planning report on the Dundas Connects Master Plan and associated presentation that went to the City's Planning and Development Committee. Dundas Bus Rapid Transit questions raised by the Councillors were noted
Municipal – City of Mississauga	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked the City for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – City of Mississauga	August 11, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to attend the second Dundas Bus Rapid Transit Technical Advisory Committee meeting #2
Municipal – City of Mississauga	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – City of Toronto	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – City of Toronto	April 12, 2021	<ul style="list-style-type: none"> Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – City of Toronto	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked the City for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – City of Toronto	July 19, 2021	<ul style="list-style-type: none"> Metrolinx requested a meeting to discuss targeted stakeholder outreach for the Project
Municipal – City of Toronto	July 28, 2021	<ul style="list-style-type: none"> Metrolinx confirmed that the date of Virtual Open House #2 has been rescheduled to take place between September 2 to September 24, 2021
Municipal – City of Toronto	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited the City of Toronto to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – City of Toronto	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – City of Toronto	October 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Environmental Project Report for the Project for the City of Toronto's review and comment by November 10, 2021 Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Municipal – City of Toronto	October 13, 2021	<ul style="list-style-type: none"> A City of Toronto staff member requested to be removed from the Project distribution list Metrolinx provided confirmation that the individual has been removed from the distribution list and the Draft Environmental Project Report has been sent to another contact
Municipal – City of Toronto	November 9, 2021	<ul style="list-style-type: none"> Metrolinx inquired if the City of Toronto had any comments or questions regarding the draft Environmental Project Report for the Project Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Municipal – Halton Region	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Halton Region	April 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the agenda and presentation boards for Technical Advisory Committee #1, taking place on April 15, 2021
Municipal – Halton Region	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked Halton Region for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Halton Region	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited the Region to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021

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Municipal – Halton Region	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards ■ The Region of Halton requested an organizational chart outlining the Dundas Bus Rapid Transit Project Technical Advisory Committee ■ Metrolinx provided the Region with the details of the Technical Advisory Committee membership
Municipal – Hamilton Utilities Corporation	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Hamilton Utilities Corporation	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Hamilton Utilities Corporation	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked Hamilton Utilities Corporation for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Hamilton Utilities Corporation	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the Hamilton Utilities Corporation to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Hamilton Utilities Corporation	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – Oakville Hydro	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Oakville Hydro	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Oakville Hydro	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked Oakville Hydro for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Oakville Hydro	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited Oakville Hydro to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Oakville Hydro	August 23, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – Region of Peel	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Region of Peel	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the agenda and presentation boards for Technical Advisory Committee #1, taking place on April 15, 2021
Municipal – Region of Peel	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the Region of Peel for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Region of Peel	August 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the Region to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Region of Peel	August 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided the presentation boards from Technical Advisory Committee meeting #2
Municipal – Region of Peel	September 16, 2021	<ul style="list-style-type: none"> ■ The Region thanked Metrolinx for including the Region in the Technical Advisory Committee and for the opportunity to comment on the information presented during the second Technical Advisory Committee meeting ■ The Region provided their comments as an attachment
Municipal – Region of Peel	September 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that correspondence had been forwarded to the Environmental Permits and Approvals team, including attachments
Municipal – Town of Oakville	March 29, 2021	<ul style="list-style-type: none"> ■ Metrolinx invited the Town of Oakville to attend the first Technical Advisory Committee meeting scheduled for April 15, 2021
Municipal – Town of Oakville	April 12, 2021	<ul style="list-style-type: none"> ■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Town of Oakville	April 26, 2021	<ul style="list-style-type: none"> ■ The Town requested the presentation materials from the Dundas Bus Rapid Transit Technical Advisory Committee meeting #1 ■ Metrolinx provided the requested presentation
Municipal – Town of Oakville	April 27, 2021	<ul style="list-style-type: none"> ■ The Town noted that the Town of Oakville and Oakville Transit are preparing coordinated comments on the information provided and discussed at the Technical Advisory Committee meeting held on April 15, 2021 and requested confirmation of who the comments should be addressed to ■ The Town inquired about whether an extension would be granted for comments to be submitted
Municipal – Town of Oakville	April 27, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted that the Town of Oakville and Oakville Transit are encouraged to send comments at any time during the Project and that the comments will be addressed and considered ■ Metrolinx noted that minutes from the Technical Advisory Committee meeting would be circulated
Municipal – Town of Oakville	May 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked the Town of Oakville for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Town of Oakville	July 19, 2021	<ul style="list-style-type: none"> ■ The Town provided comments via attached memo on the information presented during the Technical Advisory Committee meeting #1

Agency	Date	Summary
Municipal – Town of Oakville	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited the Town of Oakville to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Town of Oakville	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – Town of Oakville	September 15, 2021	<ul style="list-style-type: none"> Metrolinx thanked the Town for providing comments on the information presented during the Technical Advisory Committee meeting #1 Metrolinx provided responses to the Town’s comments
Municipal – Toronto Hydro	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Toronto Hydro	April 12, 2021	<ul style="list-style-type: none"> Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Toronto Hydro	April 15, 2021	<ul style="list-style-type: none"> Toronto Hydro inquired if the Project falls under the Go Expansion Project or any other major program currently ongoing at Metrolinx Toronto Hydro requested the key contacts from Metrolinx leading the Project to ensure communication is coordinated and streamlined
Municipal – Toronto Hydro	April 20, 2021	<ul style="list-style-type: none"> Metrolinx noted that the Project is not part of the GO Expansion program and that it is part of Metrolinx’s Rapid Transit expansion plan for the Greater Toronto Hamilton Area Metrolinx provided the contact details for the key Metrolinx staff managing the Project Metrolinx attached a copy of the presentation from the Technical Advisory Committee Meeting #1
Municipal – Toronto Hydro	April 21, 2021	<ul style="list-style-type: none"> Toronto Hydro inquired if the Durham-Scarborough Bus Rapid Transit program falls under the Rapid Transit expansion plan Toronto Hydro inquired if there are any other projects to be aware of associated with Rapid Transit expansion plan
Municipal – Toronto Hydro	April 21, 2021	<ul style="list-style-type: none"> Metrolinx confirmed that the Durham-Scarborough Bus Rapid Transit program falls under the Rapid Transit expansion plan Metrolinx provided materials noting which projects are ongoing as part of the Rapid Transit expansion plan
Municipal – Toronto Hydro	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked Toronto Hydro for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Toronto Hydro	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited Toronto Hydro to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Toronto Hydro	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #1 presentation boards
Municipal – Toronto Transit Commission	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Toronto Transit Commission	April 12, 2021	<ul style="list-style-type: none"> Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Toronto Transit Commission	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked the Toronto Transit Commission for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Municipal – Toronto Transit Commission	August 11, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to attend the second Dundas Bus Rapid Transit Technical Advisory Committee meeting The Toronto Transit Commission provided additional contacts to invite to the Dundas Bus Rapid Transit Technical Advisory Committee Metrolinx forwarded the Dundas Bus Rapid Transit Technical Advisory Committee meeting invitation to the appropriate contacts at the Toronto Transit Commission
Municipal – Toronto Transit Commission	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – Hamilton Transportation	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Municipal – Hamilton Transportation	April 12, 2021	<ul style="list-style-type: none"> Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Municipal – Hamilton Transportation	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited Hamilton Transportation to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Municipal – Hamilton Transportation	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Municipal – Hamilton Transportation	August 26, 2021	<ul style="list-style-type: none"> Metrolinx noted that the next upcoming virtual engagement event is scheduled for September 2 to September 23, 2022 Metrolinx provided the postcard that was delivered to residents along the corridor and encouraged Hamilton residents to connect with the Hamilton-Niagara Community Relations Office
Municipal – Credit Valley Conservation	October 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Environmental Project Report for the Project for Credit Valley Conservation’s review and comment by November 10, 2021 Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents

Agency	Date	Summary
		<ul style="list-style-type: none"> Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Municipal – Credit Valley Conservation	October 29, 2021	<ul style="list-style-type: none"> Metrolinx provided a link to the draft Environmental Project Report and encouraged Credit Valley Conservation to provide comments
Municipal – Credit Valley Conservation	November 9, 2021	<ul style="list-style-type: none"> Metrolinx inquired if Credit Valley Conservation had any comments or questions regarding the draft Environmental Project Report for the Project Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021 Credit Valley Conservation noted that their staff are still in the process of reviewing the documents, however noted that their focus of the review is the area around Cooksville Creek crossing of Dundas Street
Municipal – Credit Valley Conservation	November 10, 2021	<ul style="list-style-type: none"> Metrolinx thanked Credit Valley Conservation for their update
Municipal – Credit Valley Conservation	November 23, 2021	<ul style="list-style-type: none"> Credit Valley Conservation provided comments on the draft Environmental Project Report Metrolinx thanked Credit Valley Conservation for their input
Municipal – Toronto and Region Conservation Authority	October 12, 2021	<ul style="list-style-type: none"> Metrolinx provided the draft Environmental Project Report for the Project for the Toronto and Region Conservation Authority's review and comment by November 10, 2021 Metrolinx provided a link to the appendices to the Draft Environmental Project Report and noted that the documents can be downloaded and shared internally Metrolinx noted that access can be granted to the SharePoint link if any team members are unable to view the documents Metrolinx noted that the Notice of Commencement for the Transit Project Assessment Process is scheduled for December 10, 2021
Municipal – Toronto and Region Conservation Authority	October 13, 2021	<ul style="list-style-type: none"> Toronto and Region Conservation Authority asked Metrolinx to provide staff with access to the Environmental Project Report files Metrolinx confirmed access has been granted and provided a link to the documents
Municipal – Toronto and Region Conservation Authority	October 18, 2021	<ul style="list-style-type: none"> Toronto and Region Conservation Authority requested a copy of Appendix C and asked Metrolinx to confirm that the Project will be reviewed as part of the Metrolinx – Toronto and Region Conservation Authority Service Level Agreement
Municipal – Toronto and Region Conservation Authority	October 19, 2021	<ul style="list-style-type: none"> Metrolinx confirmed that the Project is included in the Metrolinx and Toronto and Region Conservation Authority Service Level Agreement and noted that Metrolinx will notify Toronto and Region Conservation Authority when Appendix C is uploaded to SharePoint Toronto and Region Conservation Authority asked Metrolinx to provide a Work Order Request Form
Municipal – Toronto and Region Conservation Authority	October 20, 2021	<ul style="list-style-type: none"> Metrolinx provided the Work Order Request Form
Municipal – Toronto and Region Conservation Authority	November 2, 2021	<ul style="list-style-type: none"> Metrolinx informed the Toronto and Region Conservation Authority that Appendix C has been uploaded to the SharePoint folder
Municipal – Toronto and Region Conservation Authority	November 15, 2021	<ul style="list-style-type: none"> Toronto and Region Conservation Authority provided a letter with their comments on the draft Environmental Project Report attached Metrolinx thanked Toronto and Region Conservation Authority for providing comments
Other Technical Stakeholders – Canadian National Railway	March 29, 2021	<ul style="list-style-type: none"> Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Other Technical Stakeholders – Canadian National Railway	April 12, 2021	<ul style="list-style-type: none"> Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting #1 taking place on April 15, 2021
Other Technical Stakeholders - Canadian National Railway	April 15, 2021	<ul style="list-style-type: none"> Canadian National Railway noted that they were not present at the Technical Advisory Committee #1 meeting Canadian National Railway noted that the Project has minimal impact on Canadian National Rail operations and that no work from Canadian National Railway would be required Canadian National Railway advised that the Project Team coordinate with the Region of Halton and provided contacts for staff at Canadian National Rail if required
Other Technical Stakeholders - Canadian National Railway	May 13, 2021	<ul style="list-style-type: none"> Metrolinx thanked Canadian National Railway for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Other Technical Stakeholders - Canadian National Railway	August 11, 2021	<ul style="list-style-type: none"> Metrolinx invited Canadian National Railway to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Other Technical Stakeholders - Canadian National Railway	August 23, 2021	<ul style="list-style-type: none"> Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards

Agency	Date	Summary
Other Technical Stakeholders– Canadian Pacific Railway	March 29, 2021	■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Other Technical Stakeholders - Canadian Pacific Railway	April 12, 2021	■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting #1 taking place on April 15, 2021
Other Technical Stakeholders - Canadian Pacific Railway	May 13, 2021	■ Metrolinx thanked Canadian Pacific Railway for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Other Technical Stakeholders - Canadian Pacific Railway	August 11, 2021	■ Metrolinx invited Canadian Pacific Railway to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Other Technical Stakeholders - Canadian Pacific Railway	August 23, 2021	■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Utilities – Alectra Utilities	March 29, 2021	■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Utilities – Alectra Utilities	April 12, 2021	■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Utilities – Alectra Utilities	April 26, 2021	■ Alectra Utilities requested to be contacted should information or support be required from Alectra Utilities for the Transit Project Assessment Process, preparatory activity or the Request for Proposal support for the Project
Utilities – Alectra Utilities	May 13, 2021	■ Metrolinx thanked Alectra Utilities for their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Utilities – Alectra Utilities	May 18, 2021	■ Metrolinx noted that the Technical Advisory Committee for the Project has been formed and the first meeting was held on April 15, 2021 ■ Metrolinx provided the minutes from the first Dundas Bus Rapid Transit Technical Advisory Committee meeting ■ Metrolinx noted that Alectra Utilities' information has been provided to the Project Team for future reference
Utilities – Alectra Utilities	May 20, 2021	■ Alectra Utilities thanked Metrolinx for providing the minutes to the first Technical Advisory Committee meeting
Utilities – Alectra Utilities	August 11, 2021	■ Metrolinx invited Alectra Utilities to attend the second Technical Advisory Committee meeting scheduled for August 23, 2021
Utilities – Alectra Utilities	August 23, 2021	■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards
Utilities – Bell, Enbridge Gas, Hydro One, Rogers Communications	March 29, 2021	■ Metrolinx provided an invitation to the Technical Advisory Committee meeting #1 on April 15, 2021
Utilities – Bell, Enbridge Gas, Hydro One, Rogers Communications	April 12, 2021	■ Metrolinx shared the agenda and presentation materials for the Technical Advisory Committee meeting taking place on April 15, 2021
Utilities – Bell, Enbridge Gas, Hydro One, Rogers Communications	May 13, 2021	■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx provided the minutes for the Technical Advisory Committee meeting #1 on April 15, 2021 ■ Metrolinx noted that the next Technical Advisory Committee meeting for the project is scheduled to take place prior to the next round of engagement
Utilities – Bell, Enbridge Gas, Hydro One, Rogers Communications	August 11, 2021	■ Metrolinx invited attendance at the second Technical Advisory Committee meeting scheduled for August 23, 2021
Utilities – Bell, Enbridge Gas, Hydro One, Rogers Communications	August 23, 2021	■ Metrolinx provided the Technical Advisory Committee meeting #2 presentation boards

7.2.3 Engagement with Elected Officials

The following Elected Officials participated in virtual Project briefings between December 17, 2020 and September 30, 2021 in which the Project was discussed:

Mississauga

- Representative from Member of Provincial Parliament Deepak Anand – April 15, 2021;
- Member of Provincial Parliament Kaleed Rasheed – April 15, 2021;
- Representative from Member of Provincial Parliament Natalia Kusendova – April 15, 2021 and August 26, 2021;
- Member of Provincial Parliament Nina Tangri – April 15, 2021 and August 26, 2021 (representative);
- Member of Provincial Parliament Rudy Cuzzetto – August 26, 2021;
- Representative from Member of Provincial Parliament Nina Tangri – August 26, 2021;
- Mississauga City Councillor Stephen Dasko (Ward 1) – August 31;
- Mississauga City Councillor Chris Fonseca (Ward 3) – August 31; and
- Mississauga City Councillor Dipika Damerla (Ward 7) – August 31.

Toronto

- Toronto City Councillor Mark Grimes (Ward 3) – December 17, 2020;
- Toronto City Councillor Stephen Holyday (Ward 2) – January 7, 2021 and September 15, 2021; and
- Member of Provincial Parliament Christine Hogarth – April 15, 2021.

Halton and Hamilton

- Member of Provincial Parliament Donna Skelly – April 14, 2021; and
- Hamilton City Councillor Judi Partridge (Ward 15) – April 22, 2021.

Table 7-2 provides a summary of engagement with Elected Officials undertaken prior to the Transit Project Assessment Process Notice of Commencement for Mississauga East. All relevant correspondence and meeting summaries are also documented in **Appendix E3. Table 7-2** (below) includes all correspondence and engagement with Elected Officials (including meeting invitations) whereas the above summary indicates which Elected Officials attended meetings and briefings.

Engagement with all interested Elected Officials will continue as the Project progresses. Correspondence and meeting materials related to these discussions will be included in future Environmental Project Reports.

Table 7-2: Summary of Engagement with Elected Officials

Stakeholder	Date	Summary
Toronto City Council Office of Councillor Mark Grimes (Ward 3)	December 17, 2020 Meeting	<ul style="list-style-type: none"> ■ Metrolinx introduced Councillor Grimes' office to the Dundas Bus Rapid Transit Initial Business Case, providing a high-level overview of the three different service option concepts and their benefits and associated costs ■ Metrolinx provided updates on the Project status and next steps
Toronto City Council Councillor Stephen Holyday (Ward 2)	January 7, 2021 Meeting	<ul style="list-style-type: none"> ■ Metrolinx introduced Councillor Holyday to the Dundas Bus Rapid Transit Initial Business Case, providing a high-level overview of the three different service option concepts and their benefits and associated costs ■ Metrolinx provided updates on the Project status and next steps
Mississauga City Council Councillor Stephen Dasko (Ward 1), Councillor Karen Ras (Ward 2), Councillor Chris Fonseca (Ward 3), Councillor John Kovac (Ward 4), Councillor Carolyn Parrish (Ward 5), Councillor Ron Starr (Ward 6), Councillor Dipika Damerla (Ward 7), Councillor Matt Mahoney (Ward 8), Councillor Pat Saito (Ward 9), Councillor Sue McFadden (Ward 10), Councillor George Carlson (Ward 11)	April 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to meet with the Councillors to provide a Project briefing ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
Member of Provincial Parliament Flamborough/Glanbrook Donna Skelly	April 14, 2021 Meeting	<ul style="list-style-type: none"> ■ Metrolinx provided Member of Provincial Parliament Donna Skelly a briefing on the April 19, 2021 Dundas Bus Rapid Transit Virtual Open House #1 ■ Metrolinx provided a high-level overview of the Project, including updates on the Project status and next steps ■ Metrolinx and the Project Team presented the materials developed for the Virtual Open House #1 and answered questions from the Member of Provincial Parliament's office
Halton Region Gary Carr, Regional Chair and CEO's office, Halton	April 14, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to meet with the Regional Chair to provide a Project briefing ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
City of Hamilton Councillor Judi Partridge (Ward 15)	April 14, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to meet with the Councillor to provide a Project briefing ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
City of Hamilton Mayor's Office Mayor Fred Eisenberger	April 14, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and public engagement ■ Metrolinx offered to meet with the Mayor to provide a Project briefing ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
Mississauga City Council Councillor John Kovac (Ward 4)	April 15, 2021	<ul style="list-style-type: none"> ■ The Councillor's office acknowledged receipt of Metrolinx's April 13, 2021 email regarding Virtual Open House #1
Toronto-Mississauga Members of Provincial Parliament Kaleed Rasheed (Member of Provincial Parliament Mississauga East-Cooksville), Maaz Ali (Office of Member of Provincial Parliament Mississauga East-Cooksville), Nina Tangri (Member of Provincial Parliament Mississauga-Streetsville), Sonia Benjamin (Office of Member of Provincial Parliament Mississauga-Milton), Natalia Kusendova (Member of Provincial Parliament Mississauga-Centre), Christine Hogarth (Member of Provincial Parliament Etobicoke-Lakeshore)	April 15 Meeting	<ul style="list-style-type: none"> ■ Metrolinx provided Members of Provincial Parliament a briefing on the April 19, 2021 Dundas Bus Rapid Transit Virtual Open House #1 ■ Metrolinx provided a high-level overview of the Project including updates on the Project status and next steps ■ Metrolinx and the Project Team presented the materials shown at the Virtual Open House #1 and answered questions from the MPPs' offices

Stakeholder	Date	Summary
Toronto City Council Office of Councillor Mark Grimes (Ward 3)	April 15, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to meet with the Councillor to provide a Project briefing ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
Toronto City Council Office of Councillor Mark Grimes (Ward 3)	April 15, 2021	<ul style="list-style-type: none"> ■ The Councillor's office accepted Metrolinx's briefing invitation and requested details for when the meeting would take place
Toronto City Council Councillor Stephen Holyday (Ward 2)	April 15, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to meet with the Councillor to provide a Project briefing ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
City of Burlington Heather MacDonald, Executive Director of Community Planning, Regulation and Mobility	April 15, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to collaborate with the City of Burlington to share messages about the Project through the City's communications and social media channels ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
Town of Oakville Jill MacInnes, Senior Communications Advisor, Town of Oakville	April 15, 2021	<ul style="list-style-type: none"> ■ In response to a phone call made from the Town to Metrolinx, Metrolinx provided an outreach e-mail to provide an update on the Project and associated public engagement ■ Metrolinx offered to collaborate with the Town of Oakville to share messages about the Project through the Town's communications and social media channels ■ Metrolinx attached a postcard with information for the April 19, 2021 Virtual Open House #1
City of Hamilton Councillor Judi Partridge (Ward 15)	April 22, 2021 Meeting	<ul style="list-style-type: none"> ■ Metrolinx provided Councillor Partridge a briefing on the April 19, 2021 Dundas Bus Rapid Transit Virtual Open House #1 ■ Metrolinx provided a high-level overview of the Project including updates on the Project status and next steps ■ Metrolinx and the Project Team presented the materials shown at the Virtual Open House #1 and answered questions from the Councillor's office
Members of Parliament Yvan Baker (Etobicoke Centre) and James Maloney (Etobicoke-Lakeshore)	July 20, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx provided information about the next round of engagement and invited the Member of Parliament to attend the September 2, 2021 Virtual Open House #2 ■ Metrolinx offered to meet with the Members of Parliament to provide a Project briefing and to review the materials to be presented at the next round of public engagement
Members of Provincial Parliament Christina Hogarth (Etobicoke-Lakeshore) and Kinga Surma (Etobicoke Centre)	July 20, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and public engagement ■ Metrolinx provided information about the next round of engagement and invited the Member of Provincial Parliament to attend the September 2, 2021 virtual public consultation ■ Metrolinx offered to meet with the Members of Provincial Parliament to provide a Project briefing and to review the materials to be presented at the next round of public engagement
Toronto City Council Office of Councillor Mark Grimes (Ward 3) and Councillor Stephen Holyday (Ward 2)	July 20, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an outreach email to provide an update on the Project and associated public engagement ■ Metrolinx offered to a meet with the Councillors to provide a Project briefing and to review the materials to be presented at the next public consultation ■ Metrolinx attached postcard with information for Virtual Open House #2
Toronto City Council Councillor Stephen Holyday's Office (Ward 2)	July 27, 2021	<ul style="list-style-type: none"> ■ The Councillor's office accepted Metrolinx's briefing invitation and requested details for when the meeting would take place
Members of Provincial Parliament Kinga Surma (Etobicoke Centre)	July 28, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted the August 2021 Dundas Bus Rapid Transit public consultation had been rescheduled to September 2 to September 24, 2021
Members of Provincial Parliament Kinga Surma (Etobicoke Centre)	July 28, 2021	<ul style="list-style-type: none"> ■ Member of Provincial Parliament Surma acknowledged receipt of the July 28, 2021 email regarding the rescheduling of Dundas Bus Rapid Transit public consultation
Toronto City Council Councillor Stephen Holyday's Office (Ward 2)	July 28, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted the August 2021 Dundas Bus Rapid Transit public consultation had been rescheduled to September 2 to September 24, 2021 ■ Metrolinx set up a date and time to meet with the Councillor's office to provide a Project briefing
Toronto City Council Office of Councillor Mark Grimes (Ward 3)	July 28, 2021	<ul style="list-style-type: none"> ■ Metrolinx noted the August 2021 Dundas Bus Rapid Transit public consultation had been rescheduled to September 2 to September 24, 2021

Stakeholder	Date	Summary
Toronto City Council Councillor Stephen Holyday's Office (Ward 2)	August 6, 2021	<ul style="list-style-type: none"> Metrolinx noted the Councillor briefing had been delayed and a new briefing date would be forthcoming
Toronto City Council Councillor Stephen Holyday's Office (Ward 2)	August 11, 2021	<ul style="list-style-type: none"> Councillor Holyday's office requested to be keep updated on a new briefing date
Mississauga City Council Councillor Karen Ras (Ward 2), Councillor John Kovac (Ward 4), Councillor Carolyn Parrish (Ward 5), Councillor Ron Starr (Ward 6), Councillor Matt Mahoney (Ward 8), Councillor Pat Saito (Ward 9), Councillor Sue McFadden (Ward 10), Councillor George Carlson (Ward 11).	August 25, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about the next round of engagement and invited the Councillors to participate in the September 2, 2021 to September 23, 2021 Virtual Open House #2 Metrolinx offered to meet with the Councillors to provide a Project briefing and to review the materials to be presented at the next round of public engagement
Mississauga Members of Provincial Parliament Nina Tangri (Member of Provincial Parliament Mississauga-Streetsville), Sheref Sabawy (Member of Provincial Parliament Erin Mills), Kaleed Rasheed (Member of Provincial Parliament Mississauga East-Cooksville), Rudy Cuzzetto (Member of Provincial Parliament Mississauga-Lakeshore), Natalia Kusendova (Member of Provincial Parliament Mississauga Centre)	August 26 Meeting	<ul style="list-style-type: none"> Metrolinx provided Members of Provincial Parliament a briefing on the September 2021 Dundas Bus Rapid Transit Virtual Open House #2 Metrolinx provided a high-level overview of the Project including updates on the Project status and next steps Metrolinx and the Project Team presented the materials shown at the Virtual Open House and answered questions from the Member of Provincial Parliament offices
Members of Provincial Parliament Donna Skelly (Flamborough/Glanbrook), Stephen Crawford (Oakville), Effie J. Triantafilopoulos (Oakville North-Burlington)	August 26, 2021	<ul style="list-style-type: none"> Metrolinx provided an update on service increases coming to the Hamilton GO and West Harbour GO stations Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx attached a postcard with information for the September 2021 Virtual Open House #2
Halton Region Gary Carr, Regional Chair and CEO's office, Halton	August 26, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx offered to meet with the Chair to provide a project briefing and to review the materials to be presented at the next round of public engagement Metrolinx attached a postcard with information for the September Virtual Open House #2
City of Hamilton Mayor's Office - Mayor Fred Eisenberger	August 26, 2021	<ul style="list-style-type: none"> Metrolinx provided an update on service increases coming to the Hamilton GO and West Harbour GO stations Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx attached a postcard with information for the September 2021 Virtual Open House #2
Hamilton City Council Councillor Judi Partridge (Ward 15)		
City of Burlington Heather MacDonald, Executive Director of Community Planning, Regulation and Mobility	August 26, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx offered to a meet with the Mayor and members of Council to provide a project briefing and to review the materials to be presented at the next round of public engagement Metrolinx attached a letter to be included in the next Council Information Package with information for the September 2021 Virtual Open House #2
Town of Oakville Jill MacInnes, Senior Communications Advisor, Town of Oakville	August 26, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx attached a postcard with information for the September 2021 Virtual Open House #2
Members of Provincial Parliament Kinga Surma (Etobicoke Centre), Christina Hogarth (Etobicoke-Lakeshore),	August 27, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about the next round of engagement and invited the Members of Provincial Parliament to attend the September 2021 Virtual Open House #2
Members of Parliament Yvan Baker (Etobicoke Centre) and James Maloney (Etobicoke-Lakeshore)	August 27, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about the next round of engagement and invited the Members of Parliament to attend the September 2021 Virtual Open House #2

Stakeholder	Date	Summary
Toronto City Council Office of Councillor Mark Grimes (Ward 3)	August 27, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about the next round of engagement and invited the Councillor to attend the September 2021 Virtual Open House #2
Mississauga City Council Councillor John Kovac (Ward 4)	August 27, 2021	<ul style="list-style-type: none"> The Councillor's office acknowledged receipt of the invitation to attend the Dundas Bus Rapid Transit Virtual Open House #2
Mississauga City Council Councillor Stephen Dasko (Ward 1), Councillor Chris Fonseca (Ward 3), Councillor Dipika Damerla (Ward 7)	August 31, 2021 Meeting	<ul style="list-style-type: none"> Metrolinx provided the Councillors with a briefing on the September 2021 Dundas Bus Rapid Transit Virtual Open House #2 Metrolinx provided a high-level overview of the Project including updates on the project status and next steps Metrolinx and the Project Team presented the materials developed for the Virtual Open House and answered questions from the Councillors Metrolinx noted that more information will be provided to the Councillor's office and residents about upcoming public engagements
Toronto City Council Councillor Stephen Holyday's Office (Ward 2)	September 15, 2021 Meeting	<ul style="list-style-type: none"> Metrolinx provided Councillor Holyday a briefing on the September 2021 Dundas Bus Rapid Transit Virtual Open House #2 Metrolinx provided a high-level overview of the Project including updates on the project status and next steps Metrolinx and the Project Team presented the materials shown at the Virtual Open House #2 and answered questions from the Councillor's office Metrolinx noted that more information will be provided to the Councillor's office and residents about upcoming public engagements
Mississauga City Council Councillor Karen Ras (Ward 2), Councillor John Kovac (Ward 4), Councillor Carolyn Parrish (Ward 5), Councillor Ron Starr (Ward 6), Councillor Matt Mahoney (Ward 8), Councillor Pat Saito (Ward 9), Councillor Sue McFadden (Ward 10), Councillor George Carlson (Ward 11)	September 17, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about virtual Public Engagement #2 and invited the Councillors to attend the September 22, 2021 Metrolinx Live meeting Metrolinx offered to meet with the Councillors to provide a project briefing and to review the materials being presented during virtual Public Engagement #2
Member of Provincial Parliament Natalia Kusendova (Mississauga Centre), Kaleed Rasheed (Mississauga East-Cooksville), Sheref Sabawy (Erin Mills), Deepak Anand (Mississauga-Milton), Nina Tangri (Streetsville), Christina Hogarth (Etobicoke-Lakeshore).	September 17, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about the current round of engagement and invited the Members of Provincial Parliament to attend the September 22, 2021 Metrolinx Live meeting Metrolinx offered to meet with the Members of Provincial Parliament to provide a project briefing and to review the materials being presented during virtual Public Engagement #2
Mississauga City Council Councillor Stephen Dasko (Ward 1), Councillor Chris Fonseca (Ward 3), Councillor Dipika Damerla (Ward 7)	September 20, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx thanked the Councillors for attending a meeting held on August 31, 2021 to learn more about the Project Metrolinx provided information about virtual Public Engagement #2 and invited the Councillors to attend the September 22, 2021 Metrolinx Live meeting
City of Brampton Mayor Patrick Brown	September 21, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about virtual Public Engagement #2 and invited the Mayor to attend the September 22, 2021 Metrolinx Live meeting Metrolinx offered to meet with the Mayor to provide a Project briefing and to review the materials to be presented at the next round of public engagement
City of Mississauga Mayor Bonnie Crombie	September 21, 2021	<ul style="list-style-type: none"> Metrolinx provided an outreach email to provide an update on the Project and associated public engagement Metrolinx provided information about virtual Public Engagement #2 and invited the Mayor to attend the September 22, 2021 Metrolinx Live meeting Metrolinx offered to meet with the Mayor to provide a project briefing and to review the materials to be presented at the next round of public engagement
Representative from the Office of Member of Provincial Parliament Mississauga-Lakeshore Rudy Cuzzetto	November 3, 2021	<ul style="list-style-type: none"> Member of Provincial Parliament Rudy Cuzzetto requested information on the projected Light Rail Transit plans on Dundas Street that can be shared with the public at an event that he is attending Member of Provincial Parliament Rudy Cuzzetto requested information on the Mississauga Ramp/QEW construction project
Representative from the Office of Member of Provincial Parliament Mississauga-Lakeshore Rudy Cuzzetto	November 5, 2021	<ul style="list-style-type: none"> Metrolinx noted that they do not have information on the Mississauga Ramp/QEW project as it is being carried out by the Ministry of Transportation, but can provide messaging for the Sherwood Forrest Ratepayers Association's upcoming meeting Metrolinx provided an overview of the Dundas BRT Project and community engagement activities

Stakeholder	Date	Summary
		■ Metrolinx noted that the Sherwood Forrest Ratepayers Association has a member who is part of the Dundas BRT Mississauga Stakeholder Advisory Group and provided contact information for questions or comments relating to the Project

7.2.4 Engagement with Other Stakeholder Groups

Engagement with all stakeholder groups was undertaken during pre-planning activities through email correspondence and virtual stakeholder meetings and will continue as the Project progresses. Correspondence and meeting materials (if applicable) related to these discussions will be included in future Environmental Project Reports and outlined in the subsections below.

7.2.4.1 Stakeholder Advisory Group

Metrolinx formed a Stakeholder Advisory Group for Mississauga to give community leaders, advocates and experts the chance to learn about and provide input into the study process. As Project planning progresses, Stakeholder Advisory Groups for other neighbourhoods within the Study Area will be formed as needed. The Mississauga Stakeholder Advisory Group meeting invitation was sent to groups including school boards, law enforcement, lands corporation and local neighbourhood/community associations. The first Stakeholder Advisory Group meeting for Mississauga was held on August 24, 2021 prior to the September virtual open house (virtual Public Engagement #2) to provide initial Project information, share preliminary design updates for Mississauga, specifically regarding the pinch point analysis for Mississauga East and Mississauga West and proposed stop locations in Mississauga East, and address any questions as they arose prior to engaging with the general public.

The purpose of this stage of engagement was to provide the opportunity for feedback on the structure of the Project (i.e., the four separate study areas (Toronto, Mississauga East, Mississauga West, and Halton and Hamilton), three separate Transit Project Assessment Processes for Toronto, Mississauga East and Mississauga West, and the Preliminary Design Business Case), feedback collected from the public and stakeholders to-date, existing environmental conditions, best performing and alternative design considerations for constrained areas in Mississauga, and proposed stop locations in Mississauga East.

A record of minutes of the Mississauga Stakeholder Advisory Group meeting #1 along with the presentation provided is contained in **Appendix E3**.

7.2.5 Summary of Comments and Responses

The majority of comments received from stakeholders and the public during the first and second rounds of pre-planning engagement for the Project were neutral or positive overall, with three individuals opposing the Project. Comments and questions received generally related to connectivity of the Project to other existing local and express transit systems as well as active transit prioritization. There were several questions and

concerns received related to potential property impacts as a result of changes to the Mississauga right-of-way.

All public comments and issued responses during Pre-Planning activities are detailed in **Appendix E3**. Public input received via email submissions received up to September 30, 2021 fell into the following general themes:

- Project details and information clarification;
- Cycling infrastructure opportunities;
- Potential impact to parks and green spaces; and
- Project opposition.

Project details and information clarification

- Several individuals requested clarification regarding construction timelines, public engagement opportunities, and additional information about the Project timelines.
- A few individuals requested information about the design of the Project, including the Bus Rapid Transit stop locations.
- One individual requested clarification regarding whether the Project would expand traffic lanes, increase road capacity, or leverage tunneling to avoid causing further traffic congestion.
- One individual noted that current traffic studies do not take into account the impact of individuals working from home due to the Covid-19 pandemic.
- One individual requested to join the Stakeholder Advisory Group.
- One individual requested existing private property access be maintained and untouched during implementation of the Project.

Cycling infrastructure opportunities

- Two individuals identified opportunities to improve local cycling corridors to accommodate cycling commuters along Dundas Street.

Potential impact to parks and green spaces

- One individual expressed concern about the potential impacts to green spaces and playgrounds during construction of the Project.

Project Opposition

- One individual expressed concern that the current infrastructure is already underutilized and that implementing the proposed Project would not be the best allocation of funds.
- One individual expressed concern that the time required to travel along Dundas Street to connect to the Toronto Transit Commission is unreasonable.
- One individual expressed concern regarding the name of the Project and the affiliation with Henry Dundas.

7.3 Engagement through the Transit Project Assessment Process

7.3.1 Notice of Commencement

The Notice of Commencement of the Transit Project Assessment Process for the Project was issued on December 10, 2021. The Notice of Commencement was provided via the following:

- Project website ([click here to be directed to the project website](#));
- Project Engagement webpage ([click here to be directed to the Project Engagement webpage](#)) including: Regional Distribution List ([click here to be directed to the Distribution List](#))
- Mailings/notifications to 1,514 property owners within 30 metres of the Mississauga East Study Area and approximately 21,787 properties (i.e., apartments, houses and businesses) within and surrounding the Mississauga East Study Area;
- Emails via the Project email address;
- E-newsletters to individuals on the Project Distribution List; and
- Newspaper advertisements (Mississauga News in English and Le Metropolitan in French) on December 9, 16 and 23, 2021.

The Notice of Commencement is included in **Appendix E4**.

7.3.2 Public Engagement

7.3.2.1 Project Website

At the commencement of the Transit Project Assessment Process, Metrolinx updated the Project website ([click here to be directed to the project website](#)) and the Metrolinx Engage Project webpage ([click here to be directed to the Project Engagement webpage](#)) by adding an Environmental Assessment webpage where information about the Environmental Assessment process (including Transit Project Assessment Process) is hosted. This webpage also includes historical engagement materials (display boards) from previous rounds of engagement, as well as answers to frequently asked questions about the Project. At the outset of virtual Public Engagement #3, the Project website and Metrolinx Engage webpage were also updated to include information and presentation materials for the public to review and provide feedback until February 1, 2022.

The City of Mississauga also updated their supporting webpage to share information and updates about the Project and Public Engagement #3 to residents, businesses and interested stakeholders ([click here to be directed to the City of Mississauga website](#)).

Both webpages will continue to be updated as planning for the Project progresses. Screenshots of the Project webpages can be found in **Appendix E2**.

7.3.2.2 Public Meetings

7.3.2.2.1 Public Engagement #3

Following the Notice of Commencement of the Transit Project Assessment Process for the Project, a virtual open house was held from January 18 to February 1, 2022 with a Metrolinx Live meeting held on January 27, 2022 to update individuals on the status of the Project and next steps.

Notification for virtual Public Engagement #3 was accomplished through the following:

- Postcards distributed via Canada Post mail to 21,787 addresses;
- Updates to the Project website ([click here to be directed to the project website](#)), Metrolinx Engage webpage ([click here to be directed to the Project Engagement webpage](#)) and the City of Mississauga's Project webpage ([click here to be directed to the City of Mississauga website](#));
- Emails to Indigenous Nations;
- Emails to stakeholders via the Project email address;

- Metrolinx blog posts and e-newsletters to individuals on the Project Distribution List;
- Social media posts via the Metrolinx and City of Mississauga Facebook, Twitter, LinkedIn and Instagram accounts;
- Mobile road signage; and
- Newspaper advertisements published in English and French in the Mississauga News and Le Metropolitain (French).

The Public Engagement #3 virtual open house included the following activities and materials:

- A virtual Metrolinx Live meeting, presentation and question and answer period;
- An option to sign up for Project updates;
- Dundas Bus Rapid Transit cross-sections, renderings and maps;
- A presentation of information displayed in HTML format through multiple tabs on the Metrolinx Engage webpage; and
- An online feedback form.

During the virtual open house, an online feedback form provided participants with an opportunity to share their thoughts and ideas related to key engagement questions and key elements of the Project. The feedback form questions were provided to participants via the Metrolinx Engage website and returned to the Project Team via website submission or email. A total of nine feedback form submissions (in addition to two phone calls, four emails and three comments/questions submitted via the 'Contact Us' webpage) were shared with AECOM by Metrolinx and are provided in **Appendix E2** with personal information redacted.

In lieu of display boards, a presentation of information displayed in HTML format through multiple tabs on the Metrolinx Engage webpage was available and focused on:

- The purpose of delivering the proposed Project;
- The purpose of Round 3 engagement activities;
- How the work will be divided (by segments including Toronto, Mississauga East, Mississauga West, Halton and Hamilton, and processes including the Transit Project Assessment Process, Preliminary Design and Preliminary Design Business Case);

- Project timelines, key milestones and engagement opportunities available through each Project phase;
- Round 3 public engagement activities;
- What feedback was received from Public Engagement #2 and how it was incorporated into the study;
- Engagement with the Technical Advisory Committee and Stakeholder Advisory Groups;
- A map showing the Mississauga East Project Area;
- Matters of Provincial Importance considered during the Transit Project Assessment Process (including Indigenous Relations, Natural Environment, and Cultural Heritage and Archaeology);
- An update on environmental studies, including existing environmental conditions, potential impacts and proposed mitigation measures for Mississauga East;
- Next steps for the Transit Project Assessment Process;
- An update on the Preliminary Design phase progress for Mississauga East;
- An update on the evaluations of key considerations for the Cooksville pinch point; and
- Next steps for Mississauga East and Project contact information.

The Metrolinx Live meeting was hosted on January 27, 2022 from 6:30 pm to 7:30 pm via an online live stream. Staff from the Project Team provided attendees with a presentation and a follow-up question and answer period. A total of 48 individuals registered for the Metrolinx Live meeting and 111 individuals visited the event webpage during the event.

The public was given the opportunity to freely explore the online presentation throughout the two-week virtual open house period. The presentation and Metrolinx Live materials are included in **Appendix E2**.

7.3.3 Engagement with Technical Stakeholders

The third Technical Advisory Committee meeting for the Project was held on January 6, 2022, where the Technical Advisory Committee was provided with an update on:

- What was heard during Public Engagement #2 and how feedback was incorporated;

- The Transit Project Assessment Process commencement and 30-day public review period for Mississauga East;
- Key findings, potential impacts and proposed mitigation measures from the Draft Environmental Project Report for Mississauga East;
- How the design of the constrained area (pinch point) in Cooksville and remaining Mississauga East segment has progressed/been optimized to reduce potential impacts; and
- Next steps for Mississauga East and the Project as a whole.

Engagement with all interested government officials and agencies will continue as the Project progresses. Correspondence and meeting materials related to the Technical Advisory Committee are, and will continue to be, included in future Environmental Project Reports.

Table 7- provides a summary of engagement with technical stakeholders undertaken during the Transit Project Assessment Process for the Project, commencing on December 10, 2021. All relevant correspondence and meeting summaries are also documented in **Appendix E4**.

Table 7-3: Summary of Engagement with Technical Stakeholders

Agency	Date	Summary
Provincial – Ministry of Agriculture, Food and Rural Affairs	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Provincial – Ministry of Agriculture, Food and Rural Affairs	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Ministry of Economic Development, Job Creation, and Trade	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting, focused on the Mississauga East segment of the corridor, taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Ministry of Economic Development, Job Creation, and Trade	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Provincial – Ministry of the Environment, Conservation and Parks	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Provincial – Ministry of the Environment, Conservation and Parks	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Provincial – Ministry of the Environment, Conservation and Parks	January 19, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked the Ministry of the Environment, Conservation and Parks for providing comments on the draft Environmental Project Report and provided an overview of the City of Mississauga’s responses to comments from November 15, 2021 and December 3, 2021 ■ Metrolinx noted that the Transit Project Assessment Process for this Project commenced on December 10, 2021 with virtual Public Engagement #3 scheduled from January 18 to February 1, 2022 ■ Metrolinx encouraged the Ministry to participate in the virtual live session on January 27, 2022
Provincial – Ministry of the Environment, Conservation and Parks	January 21, 2022	<ul style="list-style-type: none"> ■ The Ministry noted that comment responses from the Toronto and Region Conservation Authority, Ministry of Heritage, Sport, Tourism and Culture Industries, Metrolinx, and City of Mississauga were not attached to a previous email and asked Metrolinx to provide the comments ■ Metrolinx apologized and provided comment responses
Provincial – Ministry of the Environment, Conservation and Parks	January 21, 2022	<ul style="list-style-type: none"> ■ The Ministry asked Metrolinx if the updated Environmental Project Report with comments addressed is ready ■ Metrolinx noted that the updated Environmental Project Report will be ready February 1, 2022 and posted online for public review beginning February 23, 2022
Provincial – Ministry of the Environment, Conservation and Parks	January 25, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided the draft Notice of Completion for the Dundas Bus Rapid Transit Environmental Project Report for the Ministry’s review and noted that the Notice of Completion is planned for February 22, 2022, but will be published on February 17 and February 24, 2022 ■ Metrolinx asked the Ministry to provide comments and confirm contact details on the draft Notice of Completion by February 2, 2022
Provincial – Ministry of the Environment, Conservation and Parks	February 1, 2022	<ul style="list-style-type: none"> ■ Metrolinx followed up with the Ministry regarding their review of the draft Notice of Completion for the Dundas Bus Rapid Transit Environmental Project Report ■ The Ministry provided edits to the draft Notice of Completion, specifically to the ending date of the 30-day review period and Project map
Provincial – Ministry of the Environment, Conservation and Parks	February 2, 2022	<ul style="list-style-type: none"> ■ Metrolinx confirmed that the Notice of Completion was revised per the Ministry’s comments

Agency	Date	Summary
Provincial – Ministry of the Environment, Conservation and Parks	February 4, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided responses to the Ministry’s and other agency comments on the draft Environmental Project Report ■ Metrolinx provided a link to the revised Environmental Project Report, Air Quality Report, Noise and Vibration Report, Cultural Heritage Report, and Natural Environment Report ■ Metrolinx noted there are ongoing updates to the cultural heritage appendix and Section 7 of the Environmental Project Report ■ Metrolinx requested additional comments to be provided as soon as possible as the Notice of Completion is planned for February 22, 2022
Provincial – Ministry of the Environment, Conservation and Parks	February 16, 2022	<ul style="list-style-type: none"> ■ Metrolinx asked if the Ministry was available for a meeting to confirm Metrolinx’s responses to the Ministry’s comments ■ The Ministry provided an updated comment response table and noted that they are waiting for input from one additional reviewer ■ Metrolinx thanked the Ministry for providing the updated comment response table
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	January 19, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked the Ministry of the Environment, Conservation and Parks for providing comments on the draft Environmental Project Report and provided an overview of Metrolinx’s and the City of Mississauga’s responses to comments from November 26, 2021 ■ Metrolinx noted that the Transit Project Assessment Process for this Project commenced on December 10, 2021 with virtual Public Engagement #3 scheduled from January 18 to February 1, 2022 ■ Metrolinx encouraged the Ministry to participate in the Metrolinx Live meeting on January 27, 2022
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	February 4, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided responses to the Ministry’s and other agency comments on the draft Environmental Project Report ■ Metrolinx provided a link to the revised Environmental Project Report and Cultural Heritage Report ■ Metrolinx noted there are ongoing updates to the cultural heritage appendix and Chapter 7 of the Environmental Project Report ■ Metrolinx requested additional comments to be provided as soon as possible as the Notice of Completion is planned for February 22, 2022
Provincial – Ministry of Heritage, Sport, Tourism and Culture Industries	February 16, 2022	<ul style="list-style-type: none"> ■ Metrolinx followed up regarding responses to the Ministry’s comments on the draft Environmental Project Report ■ Metrolinx asked the Ministry to confirm the responses are satisfactory ■ The Ministry noted that they are reviewing the responses and will be providing follow-up comments or questions ■ Metrolinx thanked the Ministry for their response
Ministry of Municipal Affairs and Housing	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Ministry of Municipal Affairs and Housing	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Ministry of Northern Development, Mines, Natural Resources and Forestry	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Ministry of Northern Development, Mines, Natural Resources and Forestry	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Provincial – Ministry of Transportation	December 13, 2021	<ul style="list-style-type: none"> ■ The Ministry of Transportation provided comments on the display boards for virtual Public Engagement #3

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx provided the final boards with comments addressed, the feedback form and fact sheet, and confirmed that Metrolinx is up to date with all materials for Virtual Public Engagement #3
Provincial – Ministry of Transportation	December 14, 2021	<ul style="list-style-type: none"> ■ The Ministry of Transportation provided approval to proceed with all virtual Public Engagement #3 materials
Provincial – Ministry of Transportation	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided a link to the Dundas Bus Rapid Transit Mississauga East roll maps for the Ministry's review and comment and noted the maps will be posted on the Project webpage ■ The Ministry thanked Metrolinx for providing the roll maps and agreed to provide comments or approval the following week
Provincial – Ministry of Transportation	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Provincial – Ministry of Transportation	December 22, 2021	<ul style="list-style-type: none"> ■ Metrolinx followed up regarding the Ministry's feedback or approval on the roll maps ■ The Ministry provided approval on the roll map, but asked Metrolinx to avoid posting during the holiday season ■ Metrolinx agreed and noted that the materials are all planned to be posted online as part of virtual Public Engagement #3 beginning on January 18, 2022
Provincial – Ministry of Transportation	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Provincial – Ministry of Transportation	January 25, 2022	<ul style="list-style-type: none"> ■ The Ministry provided a draft agenda for the Metrolinx and Ministry of Transportation Communications Update meeting on January 26, 2022 ■ Metrolinx provided the draft Notice of Completion and noted that the Notice of Completion for the Dundas Bus Rapid Transit Environmental Project Report is planned for February 17, 2022 and asked the Ministry to review and provide comments by January 31, 2022
Municipal – Burlington Hydro	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Burlington Hydro	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – City of Burlington	December 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx informed that the Notice of Commencement for the Mississauga East portion of the Project was issued on December 10, 2021 ■ Metrolinx noted that stakeholders are able to share feedback as part of the third round of online public engagement from January 18 to February 1, 2022
Municipal – City of Burlington	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – City of Burlington	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – City of Hamilton	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx encouraged participants to attend a virtual Metrolinx Live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the City to discuss any of the materials for the Project
Municipal – City of Hamilton	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – City of Hamilton	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – City of Mississauga	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – City of Mississauga	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – City of Toronto	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – City of Toronto	January 7, 2022	<ul style="list-style-type: none"> ■ City of Toronto requested the slide deck from the January 6, 2022 Technical Advisory Committee meeting for internal discussions on the Project ■ City of Toronto noted that any advancement on the transition from Mississauga East to Toronto near The West Mall will require updates to the Environmental Project Report
Municipal – City of Toronto	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided the slide deck from the Technical Advisory Committee meeting #3 ■ Metrolinx noted the City’s concern and ensured Metrolinx will keep the City updated on the progress of the Project
Municipal – Halton Region	December 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx informed that the Notice of Commencement for the Mississauga East portion of the Project was issued on December 10, 2021 ■ Metrolinx noted that stakeholders are able to share feedback as part of the third round of online public engagement from January 18 to February 1, 2022
Municipal – Halton Region	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Halton Region	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Hamilton Utilities Corporation	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Hamilton Utilities Corporation	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Oakville Hydro	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Oakville Hydro	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Oakville Hydro	January 17, 2022	<ul style="list-style-type: none"> ■ A representative from Oakville Hydro requested that an additional contact be added to the Technical Advisory Committee list
Municipal – Region of Peel	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Region of Peel	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Region of Peel	February 9, 2022	<ul style="list-style-type: none"> ■ The Region of Peel provided comments on the Technical Advisory Committee meeting #3 slides and thanked Metrolinx for the opportunity to review
Municipal – Toronto Transit Commission	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Toronto Transit Commission	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Toronto Hydro	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Toronto Hydro	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Toronto Transit Commission	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Toronto Transit Commission	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Town of Oakville	December 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx informed that the Notice of Commencement for the Mississauga East portion of the Project was issued on December 10, 2021

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx noted that stakeholders are able to share feedback as part of the third round of online public engagement from January 18 to February 1, 2022
Municipal – Town of Oakville	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Municipal – Town of Oakville	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Municipal – Credit Valley Conservation	January 19, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided comment responses to Credit Valley Conservation’s comments on the draft Environmental Project Report provided on November 23, 2021 ■ Metrolinx noted that the Transit Project Assessment Process began on December 10, 2021 and the third round of virtual public engagement is scheduled to take place from January 18, 2022 to February 1, 2022 ■ Metrolinx encouraged Credit Valley Conservation’s participation in the Metrolinx Live event scheduled for January 27, 2022
Municipal – Credit Valley Conservation	February 1, 2022	<ul style="list-style-type: none"> ■ Metrolinx followed up with Credit Valley Conservation on the comment responses provided on January 19, 2022 ■ Metrolinx noted that the Notice of Completion is scheduled for February 22, 2022 and the start of the 30-day review period of the Environmental Project Report will be on February 23, 2022
Municipal – Credit Valley Conservation	February 9, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided comment responses to Credit Valley Conservation’s comments on the draft Environmental Project Report provided on January 19, 2022 ■ Metrolinx provided a link to access the revised Environmental Project Report and technical studies, however noted that Chapter 7 is still under development to reflect the recent Public Engagement #3 ■ Metrolinx requested confirmation of comment responses or additional comments as soon as possible as the Notice of Completion is scheduled for February 22, 2022
Municipal – Credit Valley Conservation	February 15, 2022	<ul style="list-style-type: none"> ■ Credit Valley Conservation provided a follow-up question to Metrolinx’s comment responses provided on February 9, 2022, relating to flood risks resulting from climate change
Municipal – Credit Valley Conservation	February 16, 2022	<ul style="list-style-type: none"> ■ Metrolinx explained that climate indicators and climate change adaption measures are already provided as part of the flood risk assessment ■ Credit Valley Conservation noted that they believe the 100-year or recent historic flood be considered in the risk assessment and to ensure Credit Valley Conservation’s comments and responses are properly documented
Municipal – Credit Valley Conservation	February 17, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked Credit Valley Conservation for their review and comment on the Project
Municipal – Toronto and Region Conservation Authority	January 19, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided responses to the Toronto and Region Conservation Authority’s comments on the draft Environmental Project Report ■ Metrolinx noted that the Transit Project Assessment Process began on December 10, 2021, with the third virtual public engagement scheduled from January 18 – February 1, 2022 ■ Metrolinx encouraged the Toronto and Region Conservation Authority to participate in the January 27 virtual live event and provide feedback and comments
Municipal – Toronto and Region Conservation Authority	February 1, 2022	<ul style="list-style-type: none"> ■ Metrolinx inquired if the Toronto and Region Conservation Authority was satisfied with the responses to its comments on the draft Environmental Project Report ■ Metrolinx asked that any further questions, comments or concerns be provided as soon as possible ■ Metrolinx noted that it is currently finalizing reporting for the Notice of Completion on February 22, 2022 and the start of the 30-day Public Review period on February 23, 2022
Municipal – Toronto and Region Conservation Authority	February 7, 2022	<ul style="list-style-type: none"> ■ Metrolinx provided comment responses to Toronto and Region Conservation Authority’s comments on the draft Environmental Project Report provided on January 19, 2022 ■ Metrolinx provided a link to access the revised Environmental Project Report and technical studies, however noted that Chapter 7 is still under development to reflect the recent Public Engagement #3

Agency	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx requested confirmation of comment responses or additional comments as soon as possible as the Notice of Completion is scheduled for February 22, 2022 ■ Toronto and Region Conservation Authority noted they will provide confirmation of Metrolinx’s comment responses by February 16, 2022
Municipal – Toronto and Region Conservation Authority	February 9, 2022	<ul style="list-style-type: none"> ■ Toronto and Region Conservation Authority provided follow-up comments to Metrolinx’s comment responses provided on February 7, 2022 ■ Metrolinx thanked Toronto and Region Conservation Authority for their review and comments and confirmed they will be responded to shortly
Other Technical Stakeholders – Canadian National Railway	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Other Technical Stakeholders – Canadian National Railway	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form
Other Technical Stakeholders – Canadian Pacific Railway	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Other Technical Stakeholders – Canadian Pacific Railway	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022. ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments. ■ Metrolinx encouraged continued feedback and support through the online feedback form
Utilities – Alectra Utilities, Beanfield, Bell, Enbridge Gas, Hydro One, Rogers Communications, Telus, Zayo	December 17, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an invitation to the Dundas Bus Rapid Transit Technical Advisory Committee meeting focused on the Mississauga East segment of the corridor taking place on January 6, 2022 ■ Metrolinx provided an overview of the Project and an outline of the topics to be discussed during the Technical Advisory Committee meeting ■ Metrolinx encouraged meeting attendees to ask questions, address issues and provide advice on the development of the Project ■ Metrolinx asked attendees to confirm their attendance or identify a representative from their organization to attend on their behalf
Utilities – Alectra Utilities, Beanfield, Bell, Enbridge Gas, Hydro One, Rogers Communications, Telus, Zayo	January 13, 2022	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance at the Technical Advisory Committee meeting on January 6, 2022 ■ Metrolinx provided the slide deck and noted that the Metrolinx Community Relations team is available for any additional questions or comments ■ Metrolinx encouraged continued feedback and support through the online feedback form

7.3.4 Engagement with Elected Officials

The following Elected Officials participated in virtual Project briefings between December 10, 2021 and February 1, 2022 in which the Project was discussed:

Mississauga

- Member of Provincial Parliament Rudy Cuzzetto – January 10, 2022
- Member of Provincial Parliament Deepak Anand – January 10, 2022
- Mississauga City Councillor Stephen Dasko (Ward 1) – January 11, 2022
- Mississauga City Councillor Chris Fonseca (Ward 3) – January 11, 2022
- Mississauga City Councillor Ron Starr (Ward 6) – January 11, 2022
- Mississauga City Councillor Dipika Damerla (Ward 7) – January 11, 2022

Elected Officials were sent a formal notification of the Notice of Commencement for Mississauga East. **Table 7-4** provides a summary of engagement with Elected Officials undertaken throughout the Transit Project Assessment Process for Mississauga East. All relevant correspondence, notifications and meeting summaries are also documented in **Appendix E4. Table 7-4** (below) includes all correspondence and engagement with Elected Officials (including meeting invitations) during the Transit Project Assessment Process and the above summary indicates which Elected Officials attended meetings and briefings during this time.

Engagement with all interested Elected Officials will continue as the Project progresses. Correspondence and meeting materials related to these discussions will be included in future Environmental Project Reports.

Table 7-4: Summary of Engagement with Elected Officials

Stakeholder	Date	Summary
Members of Parliament Yvan Baker (Etobicoke Centre), James Maloney (Etobicoke-Lakeshore)	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Members of Parliament to discuss any of the materials for the Project
Members of Provincial Parliament Kinga Surma (Etobicoke Centre), Christina Hogarth (Etobicoke-Lakeshore), Deepak Anand (Mississauga-Milton), Rudy Cuzzetto (Mississauga-Lakeshore), Natalia Kusendova (Mississauga Centre), Kaleed Rasheed (Mississauga East-Cooksville), Sheref Sabawy (Erin Mills), Nina Tangri (Streetsville), Donna Skelly (Flamborough/Glanbrook)	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Members of Provincial Parliament to discuss any of the materials for the Project
Toronto City Council Councillor Stephen Holyday (Ward 2), Office of Councillor Mark Grimes (Ward 3).	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Councillors to discuss any of the materials for the Project
Hamilton City Council Councillor Judi Partridge (Ward 15)	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Councillor to discuss any of the materials for the Project
City of Hamilton Mayor's Office Mayor Fred Eisenberger	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Mayor to discuss any of the materials for the Project
City of Hamilton Steve Molloy Manager - Transportation Management, Public Works	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Mississauga East Project will begin on December 10, 2021

Stakeholder	Date	Summary
		<ul style="list-style-type: none"> ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the City to discuss any of the materials for the Project
Mississauga City Council Councillor Stephen Dasko (Ward 1), Councillor Karen Ras (Ward 2), Councillor Chris Fonseca (Ward 3), Councillor John Kovac (Ward 4), Councillor Carolyn Parrish (Ward 5), Councillor Ron Starr (Ward 6), Councillor Matt Mahoney (Ward 8), Councillor Pat Saito (Ward 9), Councillor Sue McFadden (Ward 10), Councillor George Carlson (Ward 11).	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Councillors to discuss any of the materials for the Project
Mississauga City Council Councillor Dipika Damerla (Ward 7)	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx offered to meet with the Councilor to discuss the Project and Notice of Commencement ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022
City of Mississauga Mayor Bonnie Crombie	December 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx provided an overview of a Transit Project Assessment Process ■ Metrolinx provided a copy of the Notice of Commencement and noted that the Transit Project Assessment Process for the Project will begin on December 10, 2021 ■ Metrolinx informed that the third round of public engagement, focused the Mississauga East segment, will be available online from January 18 to February 1, 2022 ■ Metrolinx provided a summary of what participants can learn about during virtual Public Engagement #3 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx offered to meet with the Mayor to discuss any of the materials for the Project
Members of Provincial Parliament Effie J. Triantafilopoulos (Oakville North-Burlington), Stephen Crawford (Oakville)	December 13, 2021	<ul style="list-style-type: none"> ■ Metrolinx informed that the Notice of Commencement for the Mississauga East segment of the Project has been issued ■ Metrolinx encouraged stakeholders in Halton Region to share feedback and comments as part of the third round of online public engagement from January 18 to February 1, 2022
Members of Provincial Parliament Deepak Anand (Mississauga-Milton) and Rudy Cuzzetto (Mississauga-Lakeshore)	January 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance and participation in the Member of Provincial Parliament Briefing for the Project ■ Metrolinx noted that the materials shown at the briefing will be made available for public review and comment on the Project webpage on January 18, 2022 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback
Members of Provincial Parliament Natalia Kusendova (Mississauga Centre), Kaleed Rasheed (Mississauga East-Cooksville), Sheref Sabawy (Erin Mills), Nina Tangri (Streetsville)	January 10, 2021	<ul style="list-style-type: none"> ■ Metrolinx recognized that the Members of Provincial Parliament were not able to attend the Member of Provincial Parliament Briefing for the Project and noted that the materials shown at the briefing will be made available for public review and comment on the Project webpage on January 18, 2022 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback
Mississauga City Council Councillor Stephen Dasko (Ward 1), Councillor Ron Starr (Ward 6), Councillor Dipika Damerla (Ward 7)	January 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx thanked their attendance and participation in the Councillor Briefing for the Project. ■ Metrolinx noted that the materials shown at the briefing will be made available for public review and comment on the Project webpage on January 18, 2022 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx attached the postcard that was mailed to residents along the Mississauga East corridor and encouraged the Councilor to promote the upcoming engagement to residents

Stakeholder	Date	Summary
Mississauga City Council Councillor Karen Ras (Ward 2), Councillor Chris Fonseca (Ward 3), Councillor John Kovac (Ward 4), Carolyn Parrish (Ward 5), Councillor Matt Mahoney (Ward 8), Councillor Pat Saito (Ward 9), Councillor Sue McFadden (Ward 10), Councillor George Carlson (Ward 11)	January 11, 2021	<ul style="list-style-type: none"> ■ Metrolinx recognized that the Councillors were not able to attend the Councillor Briefing for the Project, and noted that the materials shown at the briefing will be made available for public review and comment on the Project webpage on January 18, 2022 ■ Metrolinx encouraged participants to attend a virtual live meeting on January 27, 2022 and provide feedback ■ Metrolinx attached the postcard that was mailed to residents along the Mississauga East corridor and encouraged the Councillors to promote the upcoming engagement to residents
Hamilton City Council Councillor Judi Partridge (Ward 15)	January 24, 2022	<ul style="list-style-type: none"> ■ Councillor Partridge forwarded an email request from a member of the public to Metrolinx regarding plans for the Project through Waterdown, clarifications regarding the possibility of expropriation of properties in Waterdown on Dundas Street, travel time on the Dundas Bus Rapid Transit between Waterdown and Toronto, impacts to traffic congestion in the area and the potential use of High Occupancy Vehicle Lanes and Highway 403 for the Project ■ Councillor Partridge requested the Project Team provide a response to the individual ■ Councillor Partridge requested to be copied on Metrolinx's response to the individual
Hamilton City Council Councillor Judi Partridge (Ward 15)	February 7, 2022	<ul style="list-style-type: none"> ■ Metrolinx copied Councillor Partridge on the response to the email request from a member of the public regarding plans for the Project through Waterdown, clarifications regarding the possibility of expropriation of properties in Waterdown on Dundas Street, travel time on the Dundas Bus Rapid Transit between Waterdown and Toronto, impacts to traffic congestion in the area and the potential use of High Occupancy Vehicle Lanes and Highway 403 for the Project ■ Metrolinx thanked the individual for their interest in the Project and ensured their request will be recorded ■ Metrolinx confirmed that the Preliminary Design for Halton/Hamilton and results of the Bus Rapid Transit Routing and Service Plan will be presented to the public during Public Engagement #4, scheduled to take place in Summer/Fall of 2022 ■ Metrolinx noted that impacts to properties in the Waterdown area, as part of the Project, are not envisioned at this time ■ Metrolinx noted that the Project is proposing a priority bus corridor within Halton Region and the City of Hamilton, which includes the addition of High Occupancy Vehicle or bus-only lanes within Halton Region and bus priority measures for the segment in the City of Hamilton ■ Metrolinx noted that the Project is focused on improving bus transit directly along Dundas Street through to Highway 6 and is expected to include potential improvements to bus stops and traffic signals (to facilitate transit priority) ■ Metrolinx noted that anticipated travel time between Waterdown and the Kipling Transit Hub has not yet been determined as the Routing and Service Plan is currently in development and details will be provided during Round 4 Engagement later in 2022 ■ Metrolinx thanked the individual for their comment regarding the potential use of High Occupancy Vehicle Lanes and Highway 403 for the Project and noted that the comment will be provided to the Project Team for consideration
Member of Provincial Parliament - Kaleed Rasheed (Mississauga East-Cooksville)	February 10, 2022	<ul style="list-style-type: none"> ■ Metrolinx informed that the Notice of Completion for the Environmental Project Report will be issued on February 22, 2022, which will initiate the 30-day public review period followed by a 35-day Minister's review period ■ Metrolinx offered to set up a meeting to provide an overview of the Notice of Completion process, what was heard during virtual Public Engagement #3 and next steps
Mississauga City Council Councillor Dipika Damerla (Ward 7)	February 10, 2022	<ul style="list-style-type: none"> ■ Metrolinx informed that the Notice of Completion for the Environmental Project Report will be issued on February 22, 2022, which will initiate the 30-day public review period followed by a 35-day Minister's review period ■ Metrolinx offered to set up a meeting to provide an overview of the Notice of Completion process, what was heard during virtual Public Engagement #3 and next steps ■ Councillor Damerla confirmed that she would like to set up a meeting
Mississauga City Council Councillor Dipika Damerla (Ward 7)	February 11, 2022	<ul style="list-style-type: none"> ■ A representative from the office of Councillor Damerla informed Metrolinx of Councillor Damerla's availability on February 17, 2022 ■ Metrolinx noted that a 30-minute meeting will be set up during the requested time

7.3.5 Engagement with Other Stakeholder Groups

Engagement with all stakeholder groups during the Transit Project Assessment Process for Mississauga East was undertaken through email correspondence and virtual stakeholder meetings and will continue as the Project progresses. Correspondence and meeting materials (if applicable) related to these discussions are included in **Appendix E4** and outlined in the subsections below.

7.3.5.1 Stakeholder Advisory Group

The second Stakeholder Advisory Group meeting for the Project was held on January 13, 2022, following the issuance of the Notice of Commencement and prior to virtual Public Engagement #3. The meeting consisted of a presentation and question and answer period demonstrating:

- What was heard during virtual Public Engagement #2 and how feedback was incorporated;
- The Transit Project Assessment Process commencement and 30-day public review period for the Environmental Project Report for Mississauga East;
- Key findings, potential impacts and proposed mitigation measures from the Draft Environmental Project Report for Mississauga East;
- How the design of the constrained area (pinch point) in Cooksville and remaining Mississauga East segment has progressed/been optimized to reduce potential impacts; and
- Next steps for Mississauga East and the Project as a whole.

A record of minutes of the second Stakeholder Advisory Group meeting along with the presentation provided is contained in **Appendix E4**.

7.3.6 Summary of Comments and Responses

The majority of comments received from stakeholders and the public to-date during the Transit Project Assessment Process were neutral or positive overall. Comments and questions received generally related to Project design and plans for operation, potential environmental impacts, connectivity of the Project to other existing infrastructure, active transportation prioritization, and potential property impacts.

All public comments and issued responses during the Transit Project Assessment Process are detailed in **Appendix E4**. Public input received via email submissions

received between January 18, 2022 and February 4, 2022 fell into the following general themes:

- Public engagement events/participation;
- Potential environmental impacts;
- Connectivity to surrounding municipal and transit infrastructure;
- Project design and plans for operation;
- Active transportation prioritization; and
- Potential property impacts.

Public engagement events/participation

- One individual requested to be kept informed of Project updates.
- Two individuals requested a link for the recording of the virtual live meeting held on January 27, 2022.
- One individual requested a meeting be held with their neighbourhood to discuss the Project and explain the need for Bus Rapid Transit in the area. This individual also requested to review the environmental assessment for the Project.

Potential environmental impacts

- One individual inquired about electrification of the buses used for the Project and noted that the number of cars on the road should be minimized during operation to reduce greenhouse gas emissions.
- One individual expressed concern about the number of trees and green spaces that may be impacted by construction in the area, and the potential impacts to ecosystems from use of salt on roadways in the winter, specifically the salt that would flow into the Etobicoke Creek. This individual noted the community values tree protection.

One individual expressed concern about air pollution impacts as a result of the Project.

Connectivity to surrounding municipal and transit infrastructure

- One individual inquired about the replacement of an existing culvert in Cooksville Creek, as per the Preliminary Design roll plans, and whether the design will accommodate the connection of existing cycling trails along the north and south sides of Dundas Street.

- One individual noted that the implementation of better public transit is essential and expressed the importance of having easy access to shops, parks, community resources and public transit along the corridor.
- Three individuals requested to know more information about how the Dundas Bus Rapid Transit would connect with other transit infrastructure, specifically the TTC's Kipling Station, existing and future Light Rail Transit and other GO Transit systems in the area. They requested transit interchange stops be placed at main junction points to help riders connect from one mode of transit to another more easily.

Project design and plans for operation

- Two individuals expressed concern regarding designated bus lanes and impacts to traffic congestion as a result of reducing the number of general-purpose traffic lanes to implement dedicated Bus Rapid Transit lanes.
- Two individuals expressed support for the Dundas Street corridor to be used only for a Bus Rapid Transit or elevated metro.
- One individual requested to know if the plan to prohibit left-turn lanes at high traffic intersections is in relation to the Cooksville pinch point area or all high-traffic intersections along the Dundas Street corridor. This individual also requested clarification as to whether the intersection of Dundas Street and Dixie Road is intended to maintain left-turn lanes in all directions.
- One individual suggested using electric "off-wire" technology along the proposed Dundas Bus Rapid Transit corridor to reduce greenhouse gas emissions and potential impacts to heritage buildings as a result of noise.
- One individual noted that there are ongoing parking issues along Dunbar Road as a result of transit and expressed concern that the Dundas Bus Rapid Transit will add to this problem.
- One individual requested more information regarding the plans for the Dundas Bus Rapid Transit through Waterdown and the predicted travel time between Waterdown to Toronto during operation. This individual expressed concerns about increased traffic congestion in Waterdown during operation and noted that Metrolinx should plan to use the Waterdown Bypass and High Occupancy Vehicle lanes as part of the Project.

Active transportation prioritization

- Several individuals expressed concern about pedestrian and cyclist safety on the multi-use path and at intersections in the area. They also expressed

support for the inclusion of cycling lanes in the plans for the Project. One of these individuals suggested preventing right-hand turns on red lights along the entirety of Dundas Street to improve traffic and pedestrian safety and consistency at crossings.

- A few individuals suggested barriers such as guards or planters be installed along the Dundas Bus Rapid Transit corridor between vehicle lanes, cycling lanes and sidewalks to improve cyclist safety. One of these individuals also suggested including cyclist traffic lights at intersections in cases where cyclists may have a different right-of-way than pedestrians or vehicles. Another participant suggested that dedicated bus lanes should be implemented in curb-side traffic lanes only, to provide cyclists with more room and enhanced safety.
- One individual noted that the pinch point area is likely to continue to have high cycle traffic and confirmed that dedicated cycle tracks will be necessary during operation of the Dundas Bus Rapid Transit.
- One participant requested cycle tracks that meet the guidelines in the Ontario Traffic Council's Ontario Traffic Manual (OTM) Book 18: Cycling Facilities (June 2021) be included along the entire length of the proposed Dundas Bus Rapid Transit corridor to allow for safe and convenient travel, reduce greenhouse gas emissions, and reduce traffic congestion.

Potential property impacts

- Three individuals requested more information about potential property impacts. One of these individuals specified potential impacts to the building located at 700 Dundas Street East in Mississauga and the other referred to properties in the Waterdown neighbourhood in Hamilton. Another individual inquired about potential expropriation of buildings in the pinch point area adjacent to proposed sidewalks, cycle tracks and the multi-use path shown in the Preliminary Design roll plans, and asked why the cycle tracks and sidewalks intersect at some locations.

7.3.7 Notice of Completion

The Notice of Completion of the Environmental Project Report for the Project was issued on February 22, 2022. The Notice of Completion was provided via the following:

- Project website ([click here to be directed to the project website](#));

- Project Engagement webpage ([click here to be directed to the Project Engagement webpage](#)) including: Regional Distribution List ([click here to be directed to the Distribution List](#))
- Mailings/notifications to 1,514 property owners within 30 metres of the Mississauga East Study Area and approximately 21,759⁵ properties (i.e., apartments, houses and businesses) within and surrounding the Mississauga East Study Area;
- Emails via the Project email address;
- E-newsletters to individuals on the Project Distribution List; and
- Newspaper advertisements (Mississauga News in English and Le Metropolitan in French) published on February 17 and February 24, 2022.

The Notice of Completion begins the 30-day public review process for the Environmental Project Report. The Environmental Project Report for Mississauga East is available on the Project webpage starting on February 23, 2022 and ending on March 25, 2022. The Notice of Completion is included in **Appendix E4**.

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 referenced above, the Minister is required to consider any written objections to the transit project that he may receive within 30 days after the Notice of Completion and the Environmental Project Report is first published. All submissions must clearly indicate that an objection is being submitted and describe any negative impacts to matters of provincial importance related to natural or cultural environment or Aboriginal treaty rights. Objections must be received within 30 days after the Notice of Completion of the Environmental Project Report is first published.

⁵ The property list has been updated for the Notice of Completion since the Notice of Commencement from 21,787 to 21,759 to accommodate the most recent Canada Post mail routes, which are updated on a monthly basis.

7.4 Engagement with Indigenous Nations

Metrolinx is committed to building meaningful and long-term relationships with Indigenous Nations. Through its Indigenous Relations Office, Metrolinx engages with Indigenous Nations on several projects on an ongoing basis. The purpose of this section of the Report is to provide an overview of the engagement that has taken place with Indigenous Nations to-date in support of the Project and meeting Environmental Assessment requirements.

7.4.1 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 Indigenous Relations Office was established in 2019 with a mandate to build and grow relationships with Indigenous Nations, organizations, businesses and customer-residents. As part of this work, the Indigenous Relations Office 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.

7.4.2 Engagement with Indigenous Nations and Organizations

In 2020, the Indigenous Relations Office became the sole point of contact for Indigenous Nations within Metrolinx and, in that capacity, supports the organization in coordinating engagement and communication with Nations related to all projects and Metrolinx activities. The Indigenous Relations Office is working to identify best practices for engagement with each Indigenous Nation that has Treaty rights and/or territorial interests where Metrolinx operates. General feedback from Indigenous 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; and
- Indigenous 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 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 Nations requires moving beyond simply sharing information regarding Project milestones and technical reports that are largely related to the Environmental Assessment process, and is actively working toward deeper engagement with Indigenous Nations on matters of interest to each 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 Nations by:

- Establishing the Indigenous Relations Office 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 Nations;
- Preparing and sending monthly forecasts consolidating requests for feedback and reminders of deadlines to help Indigenous Nations plan for upcoming engagement activities;
- Establishing administrative tools and strategies for sharing and tracking the review of materials and associated comments; and
- 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 Nations across all Metrolinx projects often means that engagement can occur in both formal and informal ways, which are summarized in the sections below.

7.4.3 List of Indigenous Nations and Organizations

The following Indigenous Nations were identified as being potentially interested in the Project. The Indigenous Relations Office supported the development of this list, which was sent to the Ministry of Transportation and Ministry of Environment, Parks for feedback and approval, includes:

- Haudenosaunee Confederacy Chiefs Council;
- Huron Wendat Nation;

- Mississaugas of the Credit First Nation; and
- Six Nations of the Grand River.

7.4.4 Formal Notices and Reports

As part of engagement on the Dundas Bus Rapid Transit, the Indigenous Relations Office shared the following Project notices and reports with identified Indigenous Nations:

- Project Introduction – May 3, 2021;
- Draft Environmental Project Report, including Draft Natural Environment and Arborist Reports (Mississauga East Project) - October 15, 2021; and
- Notice of Commencement – December 10, 2021 (sent again to Haudenosaunee Development Institute on December 16, 2021).

Feedback:

- On April 4, 2021 Mississaugas of the Credit First Nation responded that they looked forward to receiving an archaeological update.
- On November 22, 2021 Mississaugas of the Credit First Nation responded that they had no comments to share on the Draft Environmental Project Report.
- On December 13 and December 16, 2021, the Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated that the Nation would require further information and capacity funding in order to be able to respond to the materials.
- On January 25, January 28 and February 4, 2022 - the Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated that the Nation would require further information and capacity funding in order to be able to respond to the materials.

7.4.4.1 Natural Heritage

7.4.4.1.1 Archaeology

Metrolinx recognizes the significance of archaeology to many Indigenous Nations. As such, Metrolinx endeavors to offer opportunities for participation of Indigenous Nations in archaeological fieldwork. Metrolinx has also made commitments to share archaeological assessments with Indigenous Nations for feedback in draft form prior to submission to the Ministry of Heritage, Sport, Tourism and Culture Industries. Metrolinx

aims to incorporate comments and feedback from Indigenous Nations into archaeological assessments.

For the Project, Indigenous Nations have been sent the following archaeological reports for review and comment:

- Draft Stage 1 Archaeological Assessment – August 26, 2021.

Feedback:

- On February 11, 2022, in a phone call with Metrolinx’s Indigenous Relations Office, Six Nations of the Grand River indicated that they had revised the report and had no comments to share.

Metrolinx made a commitment to Indigenous Nations to include Indigenous monitors in all archaeological fieldwork being completed for the Project. Stage 2 Archaeology has yet to occur, and therefore a formal invitation to participate has not been sent. Metrolinx expects additional Indigenous Nations to express an interest in participation once a formal invitation is sent. A letter inviting participation in the Stage 2 Archaeological assessment will be sent once more details regarding the Project footprint and design are determined.

7.4.4.1.2 Cultural Heritage

For the Project, Indigenous Nations have been sent the following Cultural Heritage reports for review and comment:

- Cultural Heritage Reports – August 26, 2021; and
- Cultural Heritage Evaluation Reports - January 25, 2022, January 28, 2022, February 4, 2022.

Feedback:

- On January 25, January 28 and February 4, 2022, the Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated that the Nation would require further information and capacity funding in order to be able to respond to the materials.

7.4.4.2 Natural Environment

During the course of this Project, Metrolinx learned that many Nations had an interest in participating in natural environment field studies and environmentally sensitive construction activities, including 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 Metrolinx committed to ensuring opportunities for Indigenous Nations to participate in such activities for the Project.

As Metrolinx continues to develop its Indigenous Relations Program, all Indigenous 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 Nations.

7.4.5 Meetings

The Indigenous Relations Office canvassed interest in meetings, but at this time no Nations have specifically requested a meeting to discuss the Project. Metrolinx will continue to offer opportunities to meet as the Project progresses.

7.4.6 Formal Feedback

A summary of feedback received from Indigenous Nations regarding the Project, and Metrolinx's responses are provided in **Table 7-5** below

Table 7-5: Summary of Feedback Received from Indigenous Nations

Indigenous Nation	Formal Feedback	Metrolinx Response
<p>Haudenosaunee Development Institute, on behalf of the Haudenosaunee Confederacy Chiefs Council</p>	<p>Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, have expressed concerns surrounding the Project, stating that consent from the Nation has not been given and has requested all work including any environmental assessments cease and desist.</p>	<p>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 will continue to welcome opportunities to meet with Haudenosaunee Confederacy Chiefs Council to discuss the 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 Project.</p>
<p>Huron-Wendat Nation</p>	<p>Huron-Wendat Nation expressed interest in being engaged throughout all stages of the Project, and specifically related to archaeology.</p>	<p>Metrolinx will continue to meet with Huron-Wendat Nation to discuss and provide regular updates on the Project. Metrolinx will continue to provide information and technical reports to Huron-Wendat Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities.</p>
<p>Mississaugas of the Credit First Nation</p>	<p>Mississaugas of the Credit First Nation have expressed an interest in being engaged throughout the Project, including opportunities participate in all archaeological and natural environment field studies, as well as environmentally sensitive construction activities.</p>	<p>Metrolinx will continue to meet with Mississaugas of the Credit First Nation to discuss the Project. Metrolinx will continue to provide information, updates and technical reports to Mississaugas of the Credit First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Project.</p>
<p>Six Nations of Grand River</p>	<p>Six Nations of the Grand River have expressed an interest in being engaged throughout the Project, including opportunities to participate in all archaeological and natural environment field studies, as well as environmentally sensitive construction activities. Six Nations of the Grand River indicated that they have limited capacity to meaningfully engage with Project materials.</p>	<p>Metrolinx will continue to meet with Six Nations of the Grand River to discuss the Project. Metrolinx will continue to provide information, updates and technical reports to Six Nations of the Grand River and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Project. Metrolinx continues to engage in discussions with Six Nations of the Grand River to evaluate potential capacity supports.</p>

7.4.7 Additional Engagement with Indigenous Nations

In addition to the formal engagement outlined above, the Indigenous Relations Office contacted or communicated with Indigenous Nations on the Project through:

- Forecasting upcoming communication across all projects to each Nation on a monthly basis;
- Providing regular email reminders to each Nation regarding deadlines across all projects; and
- Receiving feedback and answering questions over the phone or during non-project specific meetings or engagements.

All relevant correspondence is documented in **Appendix E5**.

Engagement with all interested Indigenous Nations will continue as the Project progresses. Correspondence and meeting materials (if applicable) related to these discussions will be included in future Environmental Project Reports.

7.5 Future Communication and Engagement Requirements

Metrolinx is committed to continuing communication and engagement with stakeholders, the public and Indigenous Nations beyond the regulatory requirements set out in Section 8 of *Ontario Regulation 231/08*. Specifically, Metrolinx will:

- Maintain the Project website and Project Engagement webpage ([click here to be directed to the Project Engagement webpage](#)) so interested parties can access updated Project information;
- Maintain the Project Distribution List to help ensure all interested parties receive Project updates; and
- Continue discussions with members of the public, local stakeholders and Indigenous Nations with respect to potential impacts and mitigation throughout Project planning and design, as appropriate.

8. Permits and Approvals

The following section outlines anticipated permits and approvals that may be required to construct and operate the Project. This list is not exhaustive and is subject to requirements arising from further design refinement. A final list of permits and approvals needed will therefore be determined during detailed design.

8.1 Federal

Table 8-1 provides a summary of federal permits, the regulatory authority, legislation and a general description of the activities covered with respect to the natural heritage system. It is anticipated that possibly the implementation of design considerations to avoid death of fish or Harmful Alternative, Disruption or Destruction of fish habitat that a Fisheries and Oceans Canada review will be required. It is recommended that the project not be submitted for review until additional details and drawings are available to complete the Request for Review form and assess anticipated impacts associated with these watercourse crossings.

Table 8-1: Federal Permits, the Regulatory Authority, Legislation, and a General Description with Respect to Natural Heritage Features

Permit Name	Regulatory Authority	Legislation	General Description
N/A	Environment and Climate Change Canada – Canadian Wildlife Service	Migratory Birds Convention Act, 1994	<ul style="list-style-type: none"> ■ Protects migratory birds, their eggs, and their nests from destruction, including incidental take. ■ Visual search and clearance required from a qualified avian biologist during the bird breeding window (i.e., April 1 – August 31).
Request for Review	Fisheries and Oceans Canada	Fisheries Act Authorization	<ul style="list-style-type: none"> ■ Identify the potential risks of the Project to the conservation and protection of fish and fish habitat.

No other permits under Federal statutes or regulation are anticipated to be required at this time.

8.1.1 Canadian Environmental Assessment Act 2012 (CEAA 2012) Review

The Regulations Designating Physical Activities under the *Canadian Environmental Assessment Act (CEAA) 2012* identify the physical activities (i.e., types of projects) that constitute “designated projects” that may require a Federal EA. A review of the Regulations was carried out by Metrolinx with respect to the Project. Based on this review, this Project does not constitute a designated project under *CEAA 2012*.

The Federal Government introduced proposed legislation in February 2018 to replace *CEAA 2012* with a new act (the *Impact Assessment Act*). The proposed *Impact Assessment Act* requires early planning and engagement, enhanced Indigenous engagement, increased public participation, and legislated timelines. As part of these changes, the Federal Government is also reviewing the types of projects that will be subject to the new act. Once the new act is in place, Metrolinx will review to confirm applicability.

8.1.2 Navigation Protection Program

It has been determined that the following structures over watercourses will need to be replaced as part of the Project:

- Dundas Street East over Etobicoke Creek Bridge
- Dundas Street East over Little Etobicoke Creek Culvert

A recommendation for a third structure, Dundas Street East over Cooksville Creek Culvert, has not yet been finalized.

The navigability of watercourses is governed by the *Canadian Navigable Waters Act, 2019*, including impacts to navigability as a result of construction. Where a watercourse is considered navigable, for the purposes of the Act, any works within the watercourse or its banks must be screened through the Navigation Protection Program for further action.

Neither Little Etobicoke Creek nor Cooksville Creek appear navigable by small watercraft, and likely do not fall within the Act’s definition of a navigable waterway. Etobicoke Creek may be navigable by small watercraft during high flow periods, however, as characterization of this watercourse was minimal under this Environmental Assessment, there is insufficient data to conclusively determine this and adequately screen this watercourse. A proper screening is therefore recommended at the start of detailed design to determine whether any further steps are required.

8.2 Provincial

Table 8-2 provides a summary of provincial permits, the regulatory authority, legislation and a general description of the activities covered.

Table 8-2: Provincial Permits, the Regulatory Authority, Legislation, and a General Description

Permits, Approvals and Other Requirements	Regulatory Authority	Legislation	General Description
Environmental Compliance Approval	Ministry of Environment, Conservation and Parks	Environmental Protection Act, 1990, and Ontario Water Resources Act, 1990, as amended	<ul style="list-style-type: none"> Mainly required for the implementation of new or extension/replacement of existing sewage works and/or stormwater management infrastructure, and watermains over 1,500 mm in diameter
Environmental Activity and Sector Registration	Ministry of Environment, Conservation and Parks	Environmental Protection Act, 1990 and <i>Ontario Regulation 245/11</i>	<ul style="list-style-type: none"> Required for construction activities with impacts below Environmental Compliance Approval or Permit to Take Water Thresholds.
Permit To Take Water	Ministry of Environment, Conservation and Parks	Ontario Water Resources Act, 1990, as amended	<ul style="list-style-type: none"> Required for any dewatering of groundwater during construction over prescribed limits.
Part III of Ontario Regulation 830/21 Barn Swallow	Ministry of Environment, Conservation and Parks	Endangered Species Act, 2007	<ul style="list-style-type: none"> Required for construction and design of the Etobicoke Creek bridge, where Barn Swallow is known to be present. Requires a mitigation plan which must be prepared by one or more persons with expertise in relation to every species that is the subject of the plan, using the best available information on steps that may help minimize or avoid adverse effects on the species.
Encroachment Permit	Ministry of Transportation	Public Transportation and Highway Improvement Act, 1990	<ul style="list-style-type: none"> Required for any construction activities that affect the Ministry of Transportation Right of Way at Highway 27.

Archaeology

Archaeological assessments must be undertaken by an archaeologist licensed under the *Ontario Heritage Act*, who will then submit the report for the Ministry of Heritage, Sport, Tourism and Culture Industries' review. Archaeological concerns have not been addressed until reports have been entered into the Ontario Public Register of Archaeological Reports where those reports recommend that:

- The archaeological assessment of the project area is complete and/or;
- All archaeological sites identified by the assessment are either of no further cultural heritage value or interest (as per Section 48(3) of the Ontario Heritage Act) or that mitigation of impacts has been accomplished through excavation or an avoidance and protection strategy.

Approval authorities typically wait to receive the ministry's review letter for an archaeological assessment report before issuing a decision on the application as it can be used, for example, to document that due diligence has been undertaken.

8.3 Conservation Authority

The Project falls under the jurisdiction of two Conservation Authorities, Toronto and Region Conservation Authority and Credit Valley Conservation Authority. Both Conservation Authorities have permitting authority for activities that impact their respective regulated areas, in the form of Application for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses under Ontario Regulations 166/06 and 160/06 respectively.

Toronto and Region Conservation Authority further undertakes a Voluntary Project Review program to review projects for potential impacts within their jurisdiction, which will be pursued as needed if Metrolinx / City of Mississauga advances the Project to completion.

8.4 Municipal

It is yet to be determined which of the co-proponents, Metrolinx or the City of Mississauga, will lead the undertaking of construction of the Project. As Metrolinx is a Provincial Crown Agency and the City of Mississauga is a lower-tier municipality, there are jurisdictional differences between the two entities and therefore differences in how municipal permitting and approvals would be approached depending on which entity will ultimately be the construction lead.

As a Crown Agency, Metrolinx is not generally subject to municipal permitting and approval requirements. In the role of the proponent, Metrolinx would nonetheless work in co-operation with local municipalities to adhere to the intent of the relevant permit/approval requirements to the extent possible.

Should the City of Mississauga take the lead on construction, any constructor engaged to undertake the works would be expected to adhere to all municipal by-laws and obtain all permits, exemptions and approvals as required.

A determination of who will lead construction will be made at a future date. **Table 8-3** provides a summary of common permits that may be required to undertake the Project.

Table 8-3: Municipal Permits and a General Description

Permit Name	General Description
Road Occupancy Permit	■ Required whenever there is a plan to occupy, obstruct or close a City road, sidewalk or boulevard.
Tree Removal Permit	■ Required whenever trees are being removed within the City of Mississauga
Building Permit	■ Required for any designated structures constructed within the City of Mississauga. Examples on the Project may include the stop shelters.
Heritage Permit	■ Heritage alteration permits for alterations and/or demolitions to properties designated under the Ontario Heritage Act or Listed on the Heritage Register may be required if directly impacted by this Project. For any physical impact to a built heritage resource or cultural heritage landscape documented in the Dundas Bus Rapid Transit Cultural Heritage Report, consultation with the City of Mississauga Heritage Planner is required.
Erosion and Sediment Control Permit	■ Required whenever topsoil is being removed
Nuisance Lighting By-law Exemption	■ The City of Mississauga Nuisance Lighting By-law sets out acceptable limits of lighting, including limitations on lighting that may cause Glare or Light Trespass. In situations where work may be in contravention of this By-law, an exemption must be granted by Council.
Noise By-Law Exemption	■ Schedule 2 of the City of Mississauga's Noise Control By-Law sets out prohibited periods of time for loud activities, including the operation of construction equipment. Where work needs to occur past these times, an exemption must be granted by Council.

The following tables summarize the separate tree permit acquisitions and/or permissions that are required prior to the recommended tree removals and injuries being undertaken within the City of Mississauga/Region of Peel (**Table 8-4**) and the City of Toronto (**Table 8-5**), respectively.

Table 8-4: Summary of Tree Permits Required within the City of Mississauga/Region of Peel

Category	Description	Total Removals	Removal Permits Required	Total Injuries	Injury Permits Required	Total Permits Required
City of Mississauga	Trees of all diameters situated on City-owned property within the Study Area	599	577	54	54	-
Private	Trees with diameters of greater or equal to 15 centimetres located on private property within the Study Area	242	157	69	60	-
City of Mississauga Totals	-	841	734	123	114	848
Region of Peel*	Trees of all diameters situated on Region-owned property within the Study Area	61	61	0	0	-
Region of Peel Totals	-	61	61	0	0	61

Note: * Permission from the Region of Peel for the injury or removal of Region-owned trees must be obtained for the Project.

Table 8-5: Summary of Tree Permits Required within the City of Toronto

Category	Description	Total Removals	Removal Permits Required	Total Injuries	Injury Permits Required	Total Permits Required
1	Trees with diameters of 30 centimetres or more situated on private property within the Project Area	0	0	0	0	
2	Trees with diameters of 30 centimetres or more situated on private property within the Study Area	0	0	0	0	
3	Trees of all diameters situated on City-owned parkland within the Study Area	0	0	0	0	
4	Trees of all diameters that are located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	0	0	0	0	
5	Trees of all diameters situated on City's road allowance, as well as other City-owned property, within the Project Area and Study Area	0	0	0	0	
Shared (1,4)	Trees of all diameters situated on private property within the Project Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	14	14	0	0	
Shared (2,4)	Trees of all diameters situated on private property within the Study Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	6	6	10	10	
Shared (3,4)	Trees of all diameters situated on City-owned parkland within the Study Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection	0	0	0	0	
Shared (5,4)	Trees of all diameters situated on City's road allowance, as well as other City-owned property, within the Study Area that are also located within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection within the Study Area	0	0	0	0	
Totals	-	20	20	10	10	30

8.5 Other

Further permissions may be required from non-governmental or crown corporations. These requirements are likely to include the following:

- A pipeline crossing agreement with Trans-Northern Pipelines for an oil pipeline crossing Dundas Street at Stanfield Road.
- One or more agreements with Canadian Pacific Railway to permit the construction and operation of the Project over Canadian Pacific Railway tracks located west of Cawthra Road.
- Notifications or Permissions from Enbridge Gas, Alectra, Bell, Rogers, and other utilities as required.
- Where temporary access to private property is required to carry out the Project, permission will be obtained from the relevant owner in advance through Permit to Enter agreements or other means as appropriate.

8.6 Timing Windows and Preventive Measures

There are several pertinent timing windows that must receive attention during the course of project works. An overview of these timing windows are outlined in the table below.

Table 8-6: Overview of Timing Windows

Type	Range	Description
Bird Breeding	April 1 to August 31	<ul style="list-style-type: none"> ■ Vegetation and tree removals must have consideration for the bird breeding window (i.e., April 1 – August 31), as outlined under the Migratory Birds Convention Act. ■ If vegetation and tree removals occur within this timing window, a visual inspection of the area proposed for clearing must be conducted by a qualified avian biologist.
Species at Risk Bat	April 30 to September 30	<ul style="list-style-type: none"> ■ Vegetation and tree removals within the Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite must occur outside of the Species at Risk bat active window, as outlined under the Endangered Species Act.

8.7 Ecological Compensation

If compensation is required in association with approvals from the Toronto Region Conservation Authority as a result of construction activities, the Toronto and Regional Conservation Authority’s Guideline for Determining Ecosystem Compensation (2018) should be applied with respect to ecological compensation.

8.8 Summary of Permits, Approvals and Other Requirements

The following table lists potential permits and approvals required for execution of the Project. Final permit and approval requirements will be assessed during detailed design.

Table 8-7: Potential Permits, Approvals and Other Requirements Required for Execution

Type	Permits, Approvals and Other Requirements
Federal	<ul style="list-style-type: none"> ■ Fisheries Act Authorization anticipated. ■ Activities undertaken must comply with migratory bird protections outlined in the Migratory Birds Convention Act, 1994. ■ Screening under the Navigation Protection Program recommended for the Dundas Street East crossing of Etobicoke Creek.
Provincial	<ul style="list-style-type: none"> ■ Ministry of the Environment, Conservation and Parks <ul style="list-style-type: none"> – Environmental Compliance Approval under the Environmental Protection Act and Ontario Water Resources Act – Environmental Activity and Sector Registration under <i>Ontario Regulation 245/11</i> – Permit To Take Water under the Ontario Water Resources Act – Section 23.5 of <i>Ontario Regulation 242/08</i> Barn Swallow ■ Ministry of Transportation <ul style="list-style-type: none"> – Encroachment Permit under the Public Transportation and Highway Improvement Act
Conservation Authority	<ul style="list-style-type: none"> ■ Toronto and Region Conservation Authority <ul style="list-style-type: none"> – Application for Development, Interference with Wetlands and Alterations of Shorelines and Watercourses under <i>Ontario Regulation 166/06</i> – Voluntary Project Review – Ecological Compensation ■ Credit Valley Conservation Authority <ul style="list-style-type: none"> – Application for Development, Interference with Wetlands and Alterations of Shorelines and Watercourses under <i>Ontario Regulation 160/06</i>
Municipal	<ul style="list-style-type: none"> ■ Metrolinx, as a Provincial Crown Agency, is not generally subject to municipal permitting and approval requirements; regardless, Metrolinx works in co-operation with local municipalities to adhere to the intent of the relevant permit/approval requirements to the extent possible. The following is a summary of relevant Municipal permits and approvals. ■ City of Mississauga <ul style="list-style-type: none"> – Road Occupancy Permit – Tree Removal Permit – Building Permit – Heritage Permit
Private	<ul style="list-style-type: none"> ■ Trans-Northern Pipelines <ul style="list-style-type: none"> – Pipeline Crossing Agreement for pipeline at Stanfield Road ■ Enbridge Gas, Alectra, Bell, Rogers and other utilities and telecommunication providers <ul style="list-style-type: none"> – Notifications or Permissions, as required ■ Canadian Pacific Railway <ul style="list-style-type: none"> – One or more agreements to permit construction and operation of system over Canadian Pacific Railway line west of Cawthra Road

9. Future Commitments

9.1 Commitments and Future Work

Tables 9-1 and **9-2** summarize the environmental concerns and mitigation measures and commitments to future work to be undertaken and confirmed during future phases of the Project. **Table 5-8** is to be read in conjunction with **Tables 9-1** and **9-2**

9.1.1 Natural Environment

- All Indigenous Nations will be provided the opportunity to participate in any future natural environment studies or environmentally sensitive construction activities.
- Additional assessment of impacts to fish and fish habitat will be required once more details regarding the footprint and associated works is detailed.

9.1.2 Air Quality

- Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan.
- Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.
- Develop and implement Weekly Air Quality Monitoring Reports during construction.
- Potential re-assessment of Air Quality Impacts during detailed design phase. Submission of an EA Addendum may be required for significant design changes from draft 10% design affecting Air Quality.

9.1.3 Noise and Vibration

- The assessment of potential noise and vibration impacts was completed based on the draft 10% design of the planned Bus Rapid Transit corridor. Therefore, the assessment is recommended to be updated during detailed design to confirm the findings of this study since changes may occur design process. Further, it is recommended that an updated pre-construction vibration study and building inspections be completed for fragile or heritage buildings identified along the corridor.

- Prior to commencement of construction, develop and submit a detailed Construction Noise Management Plan.
- Develop and implement a detailed Construction Vibration Management Plan prior to commencement of construction by Proponent for Metrolinx and/or City of Mississauga review and approval.

9.1.4 Built Heritage Resources and Cultural Heritage Landscapes

- Six built heritage resources, listed in **Table 5-8**, are anticipated to be directly, adversely impacted by the Project. Cultural Heritage Evaluation Reports have been completed by a qualified person, in consultation with the City of Mississauga Heritage Planning staff, and incorporated into the Environmental Project Report, to determine if the properties meet the criteria of Ontario Regulation 9/06 or Ontario Regulation 10/06 of the Ontario Heritage Act.
- Should a Cultural Heritage Evaluation Report conclude that a property meets one or more of the criteria outlined in the Ontario Regulation 9/06 and/or Ontario Regulation 10/06 of the Ontario Heritage Act, then a Heritage Impact Assessment should be completed by a qualified person during detailed design to assess direct, adverse impacts of the construction activities related to the Project on the identified heritage attributes of a resource.
- Six properties were subject to a Cultural Heritage Evaluation Report, and the following properties were determined to have cultural heritage value or interest and therefore will require a Heritage Impact Assessment: Built Heritage Resource 1 - 202 Dundas Street West, Built Heritage Resource 4 - 51, 55-57 Dundas Street West, Built Heritage Resource 5 - 47 Dundas Street West and Built Heritage Resource 7 - 14 Dundas Street East.

9.1.5 Archaeology

- A Stage 2 Archaeological Assessment (and further stages of archaeological assessments, as recommended) will be undertaken/completed as early as possible during detailed design and prior to any ground disturbing activities. Recommendations from these archaeological assessments will be followed.
- A letter inviting Indigenous Nations to participate in the Stage 2 Archaeological assessment will be sent once more details regarding the project footprint and design are determined.

- Prior to construction, Proponent to develop and implement an Archaeological Risk Management Plan. The Archaeological Risk Management Plan will address any recommendations resulting from archaeological assessments and documents all protocols for the discovery of human remains and undocumented archaeological resources.
- Should the Project Area change as the Project progresses, areas that are potentially undisturbed will require Stage 2 Archaeological Assessment.

9.1.6 Excavated Materials and Groundwater Management

- Develop a Soil and Excavated Materials Management Plan prior to commencement of construction.
- Develop a Groundwater Management and Dewatering Plan prior to commencement of construction to guide the handling, management, and disposal of groundwater encountered during the works.

9.1.7 Stormwater Management

- Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings during detailed design in accordance with the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003), the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, and the guidelines and regulatory requirements of the Conservation Authority having jurisdiction.
- A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements.
- A hydraulic assessment of each crossing and any proposed bridge expansions (replacements) 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 the local Conservation Authority to assess the hydraulic impacts along regulated watercourses.
 - Develop a Spill Prevention and Response Plan before work commences and implement during construction.

9.1.8 Socio-Economic and Land Use

An access management plan will be developed and updated as needed by the constructor and operator prior to the commencement of construction. Access Management Plans are living documents that outline control measures that will be utilized during construction and operation of the Project to protect the public worker.

A Streetscaping and Urban Design Study is to be undertaken by AECOM during the 30% design stage and made under separate cover to further develop and build on streetscaping and urban design recommendations made in the Dundas Connects Master Plan and Vision Cooksville.

During detailed design, property requirements shall be reassessed in an attempt to eliminate or further reduce anticipated impacts to private properties, where possible.

9.1.9 Environmental Mitigation and Monitoring Plan

The Environmental Mitigation and Monitoring Plan will be completed in detailed design by AECOM 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.

9.1.10 Fluvial Geomorphological Assessment

A review of any existing Fluvial Geomorphological data will be conducted at the 30% design stage. Where there is insufficient data available, a further assessment will be carried out.

Table 9-1: Summary of Environmental Concerns, Mitigation Measures and Commitments during Construction

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
<p>Aquatic Environment</p>	<p>Aquatic Environments</p>	<ul style="list-style-type: none"> ■ Release of Sediment or other deleterious substances from the work zone and stabilization of riparian area during and after construction 	<ul style="list-style-type: none"> ■ When possible, schedule work to avoid wet and rainy periods that may increase the risk of erosion and sedimentation. ■ Plan access points to minimize the amount of riparian vegetation lost or disturbed. ■ Uncured concrete and other materials used for grouting culverts shall be prevented from entering water bodies using appropriate barriers and should be stored a minimum of 30 metres from watercourses. ■ Develop a spill response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance. All spills of deleterious substances (as defined by the Fisheries Act) must be reported to the Ontario Spill's Action Center (click here to report pollution and spills) and the Fisheries and Oceans Canada (click here to email the Fisheries and Oceans Canada) if the spill results in <i>the Harmful Alteration, Damage or Destruction</i> to fish or fish habitat. An emergency spill kit shall be kept on-site at all times. ■ Erosion and sediment control measures shall be installed prior to starting work to prevent sediment from entering the watercourse and will be removed at the completion of construction as per Ontario Provincial Standards Specification 804 – Construction Specification for Temporary Erosion Control and Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control. ■ It is recommended that cover be utilized as per Ontario Provincial Standards Specification 804 – Construction Specifications for Temporary Erosion Control, as a part of the contract for areas where seeding is required. Recommended covers included in Ontario Provincial Standards Specification 804 –which should be considered for inclusion in the Contract Package include: <ul style="list-style-type: none"> – Straw mulch (where conditions permit); – Bonded Fibre Matrix or Fibre Reinforced Matrix (where conditions permit), and or erosion control blankets which are constructed of 100% biodegradable materials with non-plastic biodegradable mesh or sewn together with biodegradable thread; and – Fibre rolls which consist of an open—weave, biodegradable mesh or netting that securely contains the fibres (i.e., biodegradable material such as shredded straw, wood fibres or compost). ■ Alternatively, rock protection or rip-rap may also be used to stabilize highway embankments adjacent to the watercourse following completion of project works (anticipated to provide more rapid stabilization but little value to vegetation directly) as per Ontario Provincial Standards Specification 804 and Ontario Provincial Standards Specification 805. ■ All stockpiles of erodible construction materials and excess or surplus materials within 30 metres of a waterbody shall be protected from erosion within 48 hours of being built until they are required for construction or removed from the site as per Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ Where grubbing is required adjacent to a watercourse, temporary cover shall be applied prior to any forecasted precipitation and less than 48 hours after any grubbing as per Ontario Provincial Standards Specification 804 – Construction Specification for Temporary Erosion. ■ Temporary sediment control shall be removed, and associated excavations backfilled and compacted when the area being protected has been completely 	<ul style="list-style-type: none"> ■ Erosion and sediment control measures shall be inspected for effectiveness regularly throughout construction and deficiencies corrected as per Ontario Provincial Standards Specification 804 – Construction Specification for Temporary Erosion Control and Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ The installation, monitoring, maintenance, and removal of temporary erosion and sediment control measures shall be according to Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control; ■ Additional assessment of impacts to fish and fish habitat and Fisheries and Oceans Canada Request for Review are anticipated to be required for works associated with Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek once details, including drawings etc. have been completed for these crossings.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>stabilized by final cover placement. When the final cover is vegetated, and placement could not be advanced to allow establishment and stabilization of the site prior to Contract Completion, temporary sediment control shall be left in place as per Ontario Provincial Standards Specification 805 – Construction Specification for Temporary Sediment Control;</p> <ul style="list-style-type: none"> ■ Equipment shall not enter the watercourse as per Ontario Provincial Standards Specification 182 – General Specification for Environmental Protection for Construction in Waterbodies and on Waterbody Banks unless specified in the Contract Documents. All equipment shall be operated on or from dry land in a way that minimizes the disturbance of waterbody banks and riparian vegetation; ■ Ensure mobile industrial equipment is stored/fueled at least 30 metres away from the watercourse. In circumstances where it is not possible (e.g., non-mobile equipment), fueling and maintenance must be carried out in a controlled manner to prevent any discharge of equipment fuels and fluids onto the ground or into water bodies as per Ontario Provincial Standards Specification 182; and ■ Ensure machinery is not leaking fuels or lubricants as per Ontario Provincial Standards Specification 182. 	
<p>Aquatic Environment</p>	<p>Wetlands and Waterbodies</p>	<ul style="list-style-type: none"> ■ Vegetation Removal and Site Rehabilitation – Removal or impacts to wetland, aquatic and riparian vegetation; erosion and sedimentation to wetlands/waterbodies from construction; risk of contamination to wetlands/waterbodies as a result of spills. 	<ul style="list-style-type: none"> ■ Construction activities will maintain the buffers established during the design phase to minimize potential negative impacts to wetlands and waterbodies. ■ 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 <i>Metrolinx Vegetation Guideline (2020)</i>. ■ An Erosion and Sediment Control Plan, in accordance with the <i>Erosion and Sediment Control Guide for Urban Construction</i> (Toronto and Region Conservation Authority 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. ■ Design consideration will follow the Toronto and Region Conservation Authority's <i>Crossing Guideline for Valley and Stream Corridors (2015)</i>, and will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. ■ 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 License to Collect Fish for Scientific Purposes from the Ministry of Northern Development, Mines, Natural Resources and Forestry. ■ Removal of riparian vegetation shall be in accordance with Ontario Provincial Standards Specification 182 and Ontario Provincial Standards Specification 804 – Construction Specifications for Seed and Cover; ■ Disturbance of riparian vegetation should be minimized; ■ Herbicides will not be used unless for the control of Invasive/Noxious plants. Herbicides shall not be sprayed where invasive or noxious vegetation is located in standing water. Locations to be sprayed with herbicide as specified in the Contract Drawings shall be visually inspected for the presence of standing water on a 	<ul style="list-style-type: none"> ■ Onsite 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. ■ Equipment coming on-site shall be inspected as close to the site entrance as possible for debris, and if present debris shall be removed entirely and shall be collected and managed as specified prior to the equipment proceeding to the Working Area. ■ Equipment shall also be inspected for debris prior to leaving the Working Area. Any debris shall be removed and managed as specified and in a manner that prevents equipment from coming into further contact with standing, sprayed or cut invasive or noxious vegetation. ■ Vegetation re-seeding should be inspected during all applicable phases of the project, up to 2 years following project completion to ensure vegetation uptake. ■ Compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to 2 years, following planting.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>weekly basis and documented for the life of the Contract until or until the standing water is no longer present and herbicide spraying can commence;</p> <ul style="list-style-type: none"> ■ Replace vegetative cover with topsoil and seed as per Ontario Provincial Standards Specification– 803 – Construction Specification for Vegetative Cover and Ontario Provincial Standards Specification 802 – Topsoil. ■ Though the Study Area is located within an urban area, several “natural” areas exist adjacent to the Study Area watercourses, and these areas provide direct groundwater discharge to the Study Area watercourses. As such, it is recommended that a seed mix comprised of native species be utilized for all re-vegetation activities within the Study Area watercourses and riparian areas. ■ The Northern Ontario Mix, as per Ontario Provincial Standards Specification 803, offers similar qualities for re-establishment within a roadside environment (and reduced long-term maintenance). This mix contains mostly native species with some non-native legumes included to help with the establishment of the planting; however, only native species should be used. ■ Alternatively though not specified in Ontario Provincial Standards Specification 803, a seed mix such as the Ontario Seed Company Rural Ontario Roadside Native Seed Mixture 8145 (click here for the Ontario Seed Company Native Seed Mixture 8145) may also be utilized as this seed mix contains a variety of native plant species able to establish and grow within a roadside environment. ■ It is recommended that cover be utilized as a part of the Contract for areas where seeding is required, given the sensitivities associated with the Study Area wetlands in particular. Recommended covers included in Ontario Provincial Standards Specification 803 which should be considered for inclusion in the Contract Package include: <ul style="list-style-type: none"> ■ Straw mulch (where conditions permit); ■ Bonded Fiber Matrix or Fiber Reinforced Matrix (where conditions permit), and or ■ Erosion control blankets made of natural fiber (i.e., with no nylon or synthetic netting/materials, etc.). ■ If there is insufficient time in the growing season for the seed to sprout, the site shall be stabilized with temporary erosion and sediment control measures and seeded in the following spring. It is important to note that many of the seed mixes outlined above are best established through fall seeding to allow normal dormancy and then germination the following spring as these species are adapted to the Ontario environment; ■ Where clearing and grading is required within 30 metres of a watercourse a tree inventory should be completed prior to grading activities and any trees removed be replaced in accordance with applicable tree compensation ratios to ensure function of riparian habitat remains. Native species should be selected which are tolerant of the urban environment to ensure function of the riparian area is maintained. ■ Planting of native shrubs is also recommended within riparian areas disturbed during construction. Use of native shrubs may be appropriate for areas close to the traveled portion of Dundas Street (i.e., newly regraded embankment) as they will generally stay smaller to avoid conflicts with utilities etc. ■ Debris, including earth clods and invasive noxious vegetation material attached to the outside surfaces of the equipment, is prohibited from entering the Working Area. 	

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Aquatic Environment	Fish and Fish Habitat	<ul style="list-style-type: none"> ■ Potential for direct, in-water impacts to fish and fish habitat. 	<ul style="list-style-type: none"> ■ All requirements of the <i>Fisheries Act</i> and the <i>Endangered Species Act</i> will be met. ■ Additional assessment of impacts to fish and fish habitat and Fisheries and Oceans Canada Request for Review are anticipated to be required for works associated with Etobicoke Creek, Little Etobicoke Creek and Cooksville Creek once details including drawings, etc. have been completed for these crossings. Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a License to Collect Fish for Scientific Purposes from the Ministry of Northern Development, Mines, Natural Resources and Forestry. 	<ul style="list-style-type: none"> ■ Onsite 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.
Terrestrial Environment	Wildlife Travel Corridors, Vegetation Removal and Compensation Plans	<ul style="list-style-type: none"> ■ Temporary vegetation disturbance and limited vegetation removal 	<ul style="list-style-type: none"> ■ Vegetation re-seeding with native vegetation, with specific emphasis on areas adjacent to Etobicoke and Little Etobicoke Creek. ■ Sediment and erosion control fencing. ■ Upgrades to the terrestrial corridor associated with the Little Etobicoke Creek valley should be consistent with the Dundas Connects project. ■ Design consideration will follow the Toronto and Region Conservation Authority's <i>Crossing Guideline for Valley and Stream Corridors</i> (2015), and will be developed and implemented in adherence with best practices, standards and regulations on safety, environmental and wildlife protections. ■ It is recommended that any ditch line which is constructed that is not part of a watercourse (i.e., does not convey permanent flow) should be seeded with an appropriate moisture tolerating seed mix. It is important to note that none of the seed mixes included in Ontario Provincial Standard Specification 804 are suitable for re-seeding areas that are seasonally wet. Suitable seed mixes for this application include but are not limited to: <ul style="list-style-type: none"> ■ Seed mix containing 100% Canada bluejoint. Canada bluejoint (a native grass species) is well adapted for growth within the Dundas Street Right-of-Way in areas where moist soils are present. As a native moisture (able to grow in areas of seasonal standing water) and salt-tolerant species, Canada bluejoint has many growth properties similar to invasive phragmites and is often considered an aggressive spreading native species able to colonize sites quickly. This may also provide benefits to minimize the establishment and spread of invasive phragmites within the Study Area. These properties make it an ideal candidate for use within the Right-of-Way to re-seed ditch line areas following ditch cleanout or other activities which disrupt the exiting vegetation cover; ■ Creek Bank Native Seed Mixture (Wet Meadow Type) (click here for the Ontario Seed Company Native Seed Mixture Type 8215); ■ Standard OBL Wetland Native Seed Mixture (click here for the Ontario Seed Company Native Seed Mixture Type 8185), or ■ Low Maintenance Retention Basin Native Seed Mixture 8220 (click here for the Ontario Seed Company Native Seed Mixture Type 8220). 	<ul style="list-style-type: none"> ■ Vegetation re-seeding should be inspected during all applicable phases of the project, up to 2 years following project completion to ensure vegetation uptake. ■ Installation of sediment and erosion control fencing in areas requiring grading during construction. Sediment and erosion control fencing should be inspected weekly, or during precipitation events that are >10 millimetres.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Terrestrial Environment	Wildlife Travel Corridors, Vegetation Removal and Compensation Plans	<ul style="list-style-type: none"> Tree/Vegetation removal, injury and protection. 	<ul style="list-style-type: none"> If a tree requires removal or injury, compensation and registration/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020). Adhere to all applicable bylaws for tree removals outside of Metrolinx properties (e.g., City of Mississauga's Public and Private Tree Bylaws (0254-2012)). Pruning of branches will be conducted through the implementation of proper arboricultural techniques. Tree Protection Zone 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 for tree removals outside of Metrolinx properties (e.g., City of Mississauga's Public and Private Tree Bylaws (0254-2012)). Vegetation removals will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and Species at Risk, and features, e.g., Designated Natural Areas and Significant Wildlife Habitat. 	<ul style="list-style-type: none"> 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). Outside of Metrolinx properties, compensation trees should be inspected as per applicable tree bylaws enforced by the City of Mississauga, up to 2 years, following planting. 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 corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management Program within the Metrolinx Vegetation Guideline (2020).
Terrestrial Environment	Vegetation Removal and Compensation Plans	<ul style="list-style-type: none"> Disturbance, injury and/or removal of Species at Risk vegetation, including Butternut. 	<ul style="list-style-type: none"> As part of the Arborist Report, all trees within or adjacent to the Study Area that will be removed or injured as part of the Project will be inventoried, including Butternut and any other Species at Risk vegetation. Species at Risk vegetation will be subject to authorization and approval requirements under Applicable Law, prior to the commencement of construction. Each Butternut that may potentially be removed or impacted must be assessed by a qualified Butternut Health Assessor, in accordance with Ministry of Northern Development, Mines, Natural Resources and Forestry Butternut Assessment Guidelines (2014). The Assessor will prepare a Health Assessment Report for submission to Ministry of the Environment and Parks to determine the next course of action. 	<ul style="list-style-type: none"> On-site inspection will be undertaken to confirm the implementation of the mitigation measures.
Terrestrial Environment	Integrated Vegetation Management	<ul style="list-style-type: none"> Footprint Impacts and potential for the establishment of invasive species and other incompatible species. 	<ul style="list-style-type: none"> An Integrated Vegetation Management Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020) and the Integrated Vegetation Management 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. 	<ul style="list-style-type: none"> 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.
Terrestrial Environment	Tree Removal Strategy	<ul style="list-style-type: none"> Potential for the spread of emerald ash borer, <i>Agrilus planipennis</i> (Fairmaire) associated with removal, handling and transport of ash trees. 	<ul style="list-style-type: none"> 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, <i>Agrilus planipennis</i> (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. 	<ul style="list-style-type: none"> 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.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Tree Inventory	Tree Protection	<ul style="list-style-type: none"> ■ Impacts to trees (removal or injury) during construction 	<p>Tree Protection Fencing and Ground Compaction Mitigation</p> <ul style="list-style-type: none"> ■ Tree protection fencing shall be installed around trees recommended for protection and retention, where retained trees are in close proximity to the Project Area (i.e., where a retained tree's tree protection zone is within the Study Area but is not touching or intersecting the Project Area), prior to the any work activities taking place within the Study Area. ■ The tree protection fencing shall be installed in accordance with the City of Mississauga's and the City of Toronto's respective tree protection guidelines and standards. ■ The tree protection fencing around the tree protection zone shall be installed with orange safety fencing and framed with lumber at 5 centimetres x 10 centimetres (2 inches x 4 inches) dimensions. ■ Alternatively, steel T-bars can also be used to erect the orange safety fencing. All tree protection fencing shall remain in place prior to any construction activity and in good repair until construction is complete. ■ It is recommended that tree protection zone signage be installed on the fence. Tree protection signage shall be installed by the contractor to clearly delineate tree protection zones. The sign shall be a minimum of 40 centimetres (15.75 inches) x 60 centimetres (23.5 inches), made of white gator board and outline the following: <ul style="list-style-type: none"> - That no grade change, storage of materials or equipment is permitted within the tree protection zone; - Contact information of the municipal forestry department; and - The potential fine for contravention of disobeying by-laws in which the tree protection zone was installed. ■ For any trees recommended for preservation there shall be no storage or movement of equipment or hoarding of materials within the tree protection zone. If work must be completed within the tree protection zone, 10 centimetres to 15 centimetres (4 inches to 6 inches) of mulch shall be spread over the area which is to be worked upon. Additionally, sheets of 2 centimetres (0.75 inches) thick plywood (minimum) or steel plating shall be applied on the mulch in order to help distribute the weight of the heavy equipment to avoid soil compaction. After construction, these measures shall be removed to allow proper aeration and water infiltration to the soil. This shall include removing the bulk of mulch so that only 5 centimetres to 10 centimetres (2 inches to 4 inches) remain. It is recommended that a Certified Arborist be on-site when work that could impact trees is required within the tree protection zone of trees identified for preservation. <p>Vegetation Clearing and Management</p> <ul style="list-style-type: none"> ■ Vegetation removal, including tree removal will be limited to the specified activity areas and shall not commence until required permits and approvals are obtained. ■ Clearing of vegetation outside of the breeding bird season is recommended to reduce potential impacts to migratory birds and avoid contravention of the Migratory Birds Convention Act. ■ Searching for nests by a qualified biologist are not recommended within complex habitats, as the ability to detect nests is low while the risk of disturbance to active nests is high. This disturbance increases the risk of nest predation or abandonment by adults. ■ Nests searches may be completed during the nesting period (April 1st to August 31st) by a qualified biologist within 'simple habitats' (Environment and Climate Change Canada, 2018) which refer to habitats that contain few likely nesting spots or a small community of migratory birds. 	<ul style="list-style-type: none"> ■ It is recommended that a Certified Arborist be retained to regularly monitor the Project's construction activities in order to ensure that all trees that are recommended for protection and retention are being maintained adequately, in relation to standard arboricultural practices and the aforementioned respective City protocols. ■ Additionally, no grading, excavation or restoration-related activities are to occur within the tree protection zone of any protected or retained trees, if it cannot be avoided, without the supervision of a Certified Arborist. ■ Should the limits of the proposed excavation areas change, a Certified Arborist will be retained to review trees with tree protection zones intersecting new excavation area limits in order to determine whether trees shall be recommended for removal, injury and protection or retention.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ Clearing in simple habitats during the nesting season can only occur if a qualified biologist has confirmed it would not affect the nest or young of a protected species. ■ Where works are proposed within a tree protection zone of a tree proposed for preservation, clearing of vegetation shall be performed manually to reduce soil compaction and mechanical damage to the tree. <p>Branch Pruning</p> <ul style="list-style-type: none"> ■ Where branches are likely to be damaged during construction, they shall be pruned accordingly, prior to construction activities, in order to avoid unnecessary damage to the tree. ■ Pruning should be completed in a three-step process: <ul style="list-style-type: none"> – The first step of this process is to cut through approximately one-third of the branch’s diameter from the bottom side. – The second step of the process is to remove the majority of the branch and its lateral weight, through proceeding to make a cut on the top side, which is to be approximately half the diameter from the cut on the bottom side. This cut is to be made approximately 2.5 centimetres to 5 centimetres (1 inch to 2 inches) further out on the branch from the first cut in order to reduce the risk of tearing. – Once the weight (majority of the branch) has been removed, the final step of the process is to remove the remaining stub by completing the final cut at the branch bark ridge. This final cut must be a smooth surface with no jagged edges or torn bark. <p>Roots</p> <ul style="list-style-type: none"> ■ Root damage shall be minimized by restricting equipment in the vicinity of the existing tree protection zone and limiting equipment within the construction limits. This will help minimize damage if there is any excavation in the areas of a preserved tree. ■ It is critical to avoid damage to the structural root plate in order to prevent affecting tree stability and thus creating a hazard tree. In general, most of the fibrous roots of the tree are contained in the top 30 centimetres (11.75 inches) of the soil and may easily be severed during excavation, whilst structural roots are located deeper. ■ Hand digging, low pressure hydro-vac or air spade exploratory digging will aid in determining the damage of the tree root system. ■ All opportunities to avoid root and grade damage within the tree protection zone shall be taken – this shall include limiting machinery within the tree protection zone as much as possible and the employment of horizontal hoarding where work is proposed within the tree protection zone of a tree recommended for preservation. ■ Any roots that are severed during construction shall be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, mulch, wet burlap or soil shall be applied as soon as possible and watered regularly to prevent roots from drying-out, under the supervision of a Certified Arborist. <p>Excavation</p> <ul style="list-style-type: none"> ■ Methods of excavation within tree protection zone of trees proposed for protection or retention shall include those which cause the least harm to the tree, such as pneumatic or hydraulic excavation. These methods include tools which use high-pressure air or water to remove the soil around the roots without damaging the larger roots. ■ Fill within the tree protection zone shall not be permitted unless it is mitigated in a way that maintains air and water availability for roots. 	

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> All grade changes within and adjacent to tree protection zones shall be undertaken in accordance with the previously specified tree protection guidelines. Access routes shall be established away from the tree protection zone. The existing grades within the tree protection zone shall not be disturbed to avoid damage to trees and soil compaction. 	
Species at Risk	General	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to Species at Risk. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> All requirements of the <i>Endangered Species Act</i> and <i>Species at Risk Act</i> will be met. Species-specific mitigation measures will be implemented based on any recommended studies undertaken prior to construction, and in consultation with Ministry of the Environment, Conservation and Parks/Ministry of Northern Development, Mines, Natural Resources and Forestry. If Species at Risk is present and conservation strategies have been developed by Ministry of Northern Development, Mines, Natural Resources and Forestry/Ministry of the Environment, Conservation and Parks, 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 Species at Risk onsite, the identification of the Species at Risk species and the procedure(s) to follow if an individual is encountered or injured. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 authorization requirements under the <i>Endangered Species Act</i>.
Species at Risk	Barn Swallow	<ul style="list-style-type: none"> Potential nest destruction and/or harm. Habitat loss, disturbance and/or mortality to Barn Swallow. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> Field surveys will be undertaken prior to construction to confirm the number of nests present at the known locations and whether the nests remain active. Where loss or disturbance cannot be avoided (e.g., due to work on bridges or banks), all requirements under the <i>Endangered Species Act</i> will be met, including any compensation, replacement structures and/or authorization requirements. If construction activities are scheduled during the nesting season for Barn Swallow (April 1st to August 31st), a nest search will be undertaken by a qualified biologist to confirm that no Barn Swallow 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, following Ministry of the Environment, Conservation and Parks approved guidance. Bridge works should be completed outside of the bird breeding season (i.e., April 1 to August 31), if possible, to ensure incidental take or harm to Barn Swallows and their nests does not occur. Mitigation and sustainability measures outlined in the <i>Operational Guidance for Migratory Bird nests Under Bridges and in Culverts, 2018</i> prepared by the Transportation Association of Canada should be implemented during construction. The new bridge design should, where possible, incorporate opportunities for Barn Swallow nesting, including but not limited to placing nesting cups. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required. Authorization to the Ministry of the Environment, Conservation and Parks under Part III of the Ontario Regulation 830/21. Authorization to the Ministry of the Environment, Conservation and Parks requires the preparation of a Barn Swallow mitigation and restoration record, which includes habitat compensation (if nests are removed and/or destroyed) and monitoring. Authorization would also be required if Barn Swallows are identified as nesting within any other structure that requires disturbance as part of the project works (e.g., structural culverts etc.).
Species at Risk	Chimney Swift	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to Chimney Swift. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> If repair, maintenance or demolition of buildings/structures with suitable roosting/nesting habitat (e.g., chimneys) is to take place, targeted surveys for Chimney Swift will be completed by a qualified avian biologist as per the <i>Bird Studies Canada Chimney Swift Monitoring Protocol (2009)</i>. Repair, maintenance, or demolition of an identified roosting/nesting structure may constitute destruction of habitat and would be discussed in advance with the Ministry of the Environment, Conservation and Parks and requirements of the <i>Endangered Species Act</i> will be met. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> Register activities for Chimney Swift under the <i>Endangered Species Act</i> and consult with Ministry of the Environment, Conservation and Parks to fulfil requirements the <i>Endangered Species Act</i> and its associated regulations. 	
Species at Risk	Species at Risk Bats	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to Species at Risk Bats. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> Disturbance to bat roosting habitat, with specific emphasis on the Deciduous Woodland and the Dry – Fresh Oak Deciduous Woodland Ecosite, will be avoided during the bat roosting period of April 30th to September 30th in accordance with Ministry of the Environment, Conservation and Parks requirements. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required. Should vegetation and tree removals occur within the active period for Species at Risk bats, discussion with the Ministry of the Environment, Conservation and Parks is required to ensure contravention of the Endangered Species Act does not occur. Sites documented as being used by Species at Risk bats are not removable under the Endangered Species Act.
Species at Risk	Aquatic Species at Risk ¹	<ul style="list-style-type: none"> Habitat loss, disturbance and/or mortality to aquatic Species at Risk. 	<p>General Considerations and Mitigation Measures(s)</p> <ul style="list-style-type: none"> Specific mitigation measures identified through the Aquatic Habitat and Fish Community Assessment, and/or any other studies, will be implemented. If aquatic Species at Risk is present, design and construction will occur in accordance with Ministry of the Environment, Conservation and Parks requirements. Register activities that fall under the notice of activity for aquatic species for works within habitat of certain fish or mussels. 	<p>Monitoring and Authorization Requirements</p> <ul style="list-style-type: none"> Onsite 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 Ministry of the Environment, Conservation and Parks, if required.
Wildlife and Wildlife Habitat	Wildlife	<ul style="list-style-type: none"> Disturbance, displacement, or mortality of wildlife 	<ul style="list-style-type: none"> Prior to construction, investigation of the Project Footprint for all wildlife and wildlife habitat that may have established following the completion of previous surveys will be undertaken, as appropriate. Erect exclusionary fencing in linkage areas within close (i.e., 30 metres) proximity of wildlife habitat. Fencing will be designed prior to construction. If wildlife is encountered, conservation strategies 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. If wildlife is able to be handled safely (e.g., non-Species at Risk herpetofauna), the qualified biologist will follow safe handling-techniques, as approved by the province, to relocate and move individuals out of harms way. 	<ul style="list-style-type: none"> 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 to all wildlife encountered.
Wildlife and Wildlife Habitat	Migratory Breeding Birds and Nests	<ul style="list-style-type: none"> Disturbance or destruction of migratory birds and/or nests. 	<ul style="list-style-type: none"> All works must comply with the Migratory Birds Convention Act, including timing windows for the general nesting period (April 1st to August 31st in Ontario). Vegetation removals should occur outside of the bird breeding season (i.e., April 1 – August 31), if possible, to ensure incidental take or harm to migratory birds and their nests does not occur. Mitigation and sustainability measures outlined in the Operational Guidance for Migratory Bird nests Under Bridges and in Culverts, 2018 prepared by the Transportation Association of Canada should be implemented during construction. 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 a 	<ul style="list-style-type: none"> Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites. If vegetation removal occurs during the bird breeding season (i.e., April 1 – August 31), a visual inspection of the proposed removals is required by a qualified avian biologist to ensure that no birds are using the area for the purposes of nesting. If migratory bird breeding and/or nesting activity is encountered at any time of year within the Study Area, an appropriate setback distance should be maintained from

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>qualified biologist with experience conducting nest searches will be required no more than 48 hours prior to vegetation removal.</p> <ul style="list-style-type: none"> ■ If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection. 	<p>the nest/nesting birds. Works should not continue in the location of the nest until after it has been determined by an avian specialist that the young have fledged and vacated the nest and work areas.</p>
<p>Air Quality</p>	<p>Human Health and Wellbeing</p>	<ul style="list-style-type: none"> ■ Construction related air pollution may pose risks to human health and wellbeing 	<ul style="list-style-type: none"> ■ Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan. The Air Quality Management Plan will: <ul style="list-style-type: none"> – Demonstrate compliance with the specific air quality criteria and limits in the Metrolinx <i>Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment</i> (2019). – Define the Project’s air quality impact zone and identify all sensitive receptors within this area. – Assess the baseline air quality by continuous measurement of local ambient concentrations of PM_{2.5} and PM₁₀ 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. – 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. – Monitor continuously any contaminant, in addition to PM_{2.5} and PM₁₀, which is predicted to exceed its relevant air quality exposure criterion during any phase of the Project and at any receptor. – Include explicit commitment to the implementation of all applicable best practices identified in the Environment Canada document, <i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities</i> (2005). ■ Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. 	<ul style="list-style-type: none"> ■ Develop and implement Weekly Air Quality Monitoring Reports during construction 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: <ul style="list-style-type: none"> – 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 PM₁₀ – particulate matter of less than 2.5 and 10 micron in diameter, respectively. 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. – The criteria for PM_{2.5}, PM₁₀ and crystalline silica are provided in Metrolinx’s <i>Environmental Guide for Air Quality and Greenhouse Gas Emissions Assessment</i> (2019). The applicable criteria for all other air contaminants of concern are to be found in Ontario Ambient Air Quality Criteria (AAQC, 2020). ■ Siting of the monitors should generally follow the guidelines provided in the Ministry of the Environment, Conservation and Parks <i>Operations Manual for Air Quality Monitoring in Ontario</i> (2018).
<p>Air Quality</p>	<p>Increased Traffic Congestion and Construction Vehicular Emissions Fugitive Particulate Emissions</p>	<ul style="list-style-type: none"> ■ Increased NO₂, CO, SO₂, particulate, and VOC impact levels at nearby receptors from vehicular emissions. ■ Increased particulate emissions, including dust, from construction activities. 	<ul style="list-style-type: none"> ■ On-site construction vehicle activity shall be managed to control emissions of odorous contaminants and diesel exhaust, including benzene and benzo(a)pyrene emissions from exhaust, including benzene and benzo(a)pyrene emissions from exhaust. An Air Quality Management Plan will be developed prior to construction to ensure consistent attention to mitigation of dust and particulates, including silica, from the construction site. The following mitigation measures should be considered in the Air Quality Management Plan: <ul style="list-style-type: none"> – All equipment complies with Canadian engine emissions standards. – All equipment visually inspected prior to use and properly maintained. – Implement a no idling policy on site (unless necessary for equipment operation). – Use of electricity from the grid over diesel generators wherever possible. – Retrofitting of combustion engines with specific exhaust emission control measures such as particulate traps. – If applicable, follow guidelines on hot mix asphalt outlined in the Ontario Hot Mix Producers Association’s <i>Environmental Practices Guide: Ontario Hot Mix Asphalt Plants, Fifth Edition</i> (Ontario Hot Mix Producers Association, 2015). ■ Applicable mitigation measures from Environment Canada’s <i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities</i> (Cheminfo Services Inc., 2005) and the Ministry of Environment, Conservation and Parks’ <i>Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources</i>, shall be followed. The following mitigation measures should be considered in the Air Quality Management Plan: <ul style="list-style-type: none"> – Complete earthwork grading within 10 days of ceased active construction. 	<ul style="list-style-type: none"> ■ The following monitoring activities should be considered in the development of the Air Quality Management Plan: <ul style="list-style-type: none"> – Baseline conditions should be established prior to construction for longer than one week to capture representative concentrations under varying meteorological conditions. – On-site meteorological monitoring in conjunction with real-time particulate monitoring representative of receptor impacts. – Place monitors both upwind and downwind of construction activities, where possible. – Application of threshold “Action Level” triggers for implementation of specific and increasing intensity mitigation activities linked to specific construction activities. – Reporting detailed results of ongoing monitoring and mitigation activities. – Monitoring at locations where there are persistent complaints, as required. ■ In addition, relevant construction monitoring activities from the following recommended guidelines will be implemented during construction:

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> - Temporary seeding or mulching of bare soil and storage piles. - Compression or clodding of soil surfaces and storage piles to reduce erosion. - Confine storage pile activity to downwind side of piles. - Reduction of activities during high wind conditions. - Full or partial enclosure of demolition activities. - Wind screens or barriers where possible or necessary. - Scheduling certain construction activities (i.e., site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel, and uncovered soil storage piles) to periods of time when exposure to dust is expected to be limited (e.g., avoid scheduling activities during dry, windy weather conditions). - Landscaping materials ordered close to time of use to reduce on-site storage. - Application of soil stabilizers or dust control polymers where feasible. - Daily removal of accumulated mud, dirt and debris deposits on-site, and regular truck washing. - Paved and unpaved roadway cleaning, watering or application of a non-chloride dust suppressant. - Minimize drop height of materials on-site. - Covering surface area of hauled bulk material. - Methods and equipment for cleanup of accidental spill of dusty materials. - Limit travel speeds on-site to a maximum of 16-24 kilometres per hour. ■ If disruption of contaminated soils is anticipated at any time, ensure that contaminants are not released. ■ Develop a communications protocol which includes timely resolution of complaints. 	<ul style="list-style-type: none"> - Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005); and, ■ Operations Manual for Air Quality Monitoring in Ontario (Ministry of the Environment, Conservation and Parks, 2018).

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
<p>Noise and Vibration</p>	<p>Noise</p>	<ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> – 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 style="list-style-type: none"> ■ Prior to commencement of construction, develop and submit a detailed Construction Noise Management Plan. ■ The Construction Noise Management Plan shall: <ul style="list-style-type: none"> – Document and commit to all measures to be taken for meeting the noise exposure limits documented in the Metrolinx <i>Guide for Noise and Vibration Assessment (2020)</i> 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 <i>Guide for Noise and Vibration Assessment (2020)</i> 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: <ul style="list-style-type: none"> ✓ 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 as part of the Construction Noise Management Plan. ■ Replace standard vehicle backup alarms with broadband alarms ■ Inform local residents as practicable of construction activities identifying type of construction and duration ■ Use acoustic enclosures and mufflers for site power generators ■ Use activity or equipment specific noise barriers ■ Minimize simultaneous operation of equipment where possible ■ Implement no idling policy where practical ■ The replacement of tonal backup alarms for equipment to broadband type for all construction activities with the exception of culvert construction; and ■ Addition of 3 metres high and 45 metres long hoarding or barrier on the north side of Dundas for bridge construction located near Cawthra Road and Dundas Street. 	<ul style="list-style-type: none"> ■ Develop a Construction Noise Management Plan and incorporate the following requirements: ■ The Constructor will monitor noise where the management plan indicates that noise exposure limits may be exceeded. The Constructor will submit reports to the Contracting Authority describing the monitoring conducted and summarize the data collected for the reporting period. ■ The Constructor will make provision for monitoring for investigation of persistent complaints. ■ 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 <i>Guide for Noise and Vibration Assessment (2020)</i> 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. ■ The specifics of monitoring duration and location will depend on the activity location, type of activity, receptor location, etc. as per the Metrolinx Guide.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
<p>Noise and Vibration</p>	<p>Vibration</p>	<ul style="list-style-type: none"> ■ Exposure to vibration may result in public annoyance and complaints. Vibration may also cause damage to buildings and other structures. 	<ul style="list-style-type: none"> ■ Adhere to the following vibration exposure limits: <ul style="list-style-type: none"> – Vibration, as a human irritant, is assessed in terms of its average level. Vibration velocity should not exceed 0.14 millimetres per second or current conditions (whichever is higher) by more than 25%. – 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 millimetres per second. Vibration velocity should be limited to 8 to 22 millimetres per second, 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). ■ 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). ■ Develop and implement a detailed Construction Vibration Management Plan prior to commencement of construction by Proponent for Metrolinx and/or City of Mississauga review and approval with minimum requirements outlined below: <ul style="list-style-type: none"> – 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). – 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. – Identify any heritage structures and other sensitive structures, buildings or infrastructure vulnerable to vibration damage, assess requirements and, if necessary, develop mitigation measures. – Identify buildings, where vibration sensitive activities such as sound recording or medical image processing take place, assess requirements and, if necessary, develop mitigation measures. – 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. – Select construction/maintenance methods and equipment with the least vibration impacts. ■ In the presence of persistent complaints and subject to the results of a field investigation, identify alternative vibration control measures, where reasonably available. ■ Reduction in vehicle speed ■ Changes to operational sequencing ■ Changes to equipment layout or access routes ■ Utilize equipment with low vibration emissions where possible ■ Operate construction equipment on lower vibration settings where available ■ Maximize distance between equipment and Receptors where feasible ■ Review vibration assessment based upon refined site staging, construction areas, and equipment prior to the commencement of construction, and update if necessary. 	<ul style="list-style-type: none"> ■ Develop a Construction Vibration Management Plan and incorporate the following requirements: <ul style="list-style-type: none"> ■ Pre-construction building inspections of the potentially impacted buildings adjacent to construction are to be undertaken. ■ The Constructor will monitor vibration where the management plan indicates that vibration limits may be exceeded. The Constructor will submit reports to the Contracting Authority describing the monitoring conducted and summarize the data collected for the reporting period. ■ The Constructor will make provision for monitoring for investigation of persistent complaints. ■ The Construction Vibration Management Plan will incorporate the following requirements related to monitoring of vibration and vibration related complaints: <ul style="list-style-type: none"> – 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/City of Mississauga. – 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: <ul style="list-style-type: none"> ✓ 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 metres 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 metres of the boundary of the construction site). ■ Establish a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction. ■ The specifics of monitoring duration and location will depend on the activity location, type of activity, receptor location, etc. as per the Metrolinx Guide.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Property: Temporary property effects, such as property takings for laydown areas, are unknown at this time and will be determined as design progresses 	<ul style="list-style-type: none"> Temporary property takings for construction of the Project will be confirmed as design progresses. Where property takings are identified, consultation and negotiation with the property owner will be initiated well in advance to secure the required property and identify site-specific mitigations. Where access to property is required, ongoing consultation with affected landowners will help identify appropriate site-specific mitigation measures. Temporary property takings near residential and institutional uses should be avoided if possible. The construction of the Project may cause private signs or billboards to be removed temporarily. The owner shall be consulted in advance to determine an appropriate mitigation approach. Select staging/laydown areas in accordance with Metrolinx/City of Mississauga procedures. Staging/laydown areas should be located in areas that minimize adverse effects to sensitive receptors. 	<ul style="list-style-type: none"> Follow Metrolinx/City of Mississauga guidance with respect to monitoring requirements at construction staging/laydown areas.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Nuisance effects from construction activities 	<ul style="list-style-type: none"> Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. An Erosion and Sediment Control Plan will be developed in accordance with the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways. 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 	<ul style="list-style-type: none"> When applicable, monitoring related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration commitment tables. Erosion and sediment control monitoring to be conducted Number and resolution of complaints received
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Construction work may necessitate the temporary closure of driveways or building entrances; precise impacts are unknown at this time and will be determined as design progresses 	<ul style="list-style-type: none"> Closures of driveways and building entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Provide well connected, clearly delineated, and appropriately signed walkways and cycling route options, with clearly marked detours where required. Provide temporary lighting and wayfinding signs and cues for navigation around the construction site. Access to businesses during working hours will be maintained, where feasible. Where regular access cannot be maintained, alternative access and signage will be provided. 	<ul style="list-style-type: none"> Temporary access paths, walkways, cycling routes and fencing should be monitored. Number and resolution of complaints received.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Light trespass, glare and light pollution effects 	<ul style="list-style-type: none"> Comply with all local applicable municipal by-laws and Ministry of Transportation practices for lighting in areas near or adjacent to highways and roadways regarding outdoor lighting for both permanent and temporary construction activities, and incorporate industry best practices provided in American National Standards Institute/ Illuminating Engineering Society <i>RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting</i> Light trespass, glare and pollution effects will be minimized through the implementation of best practices (i.e., full cut-off fixtures) to mitigate or avoid unnecessary and obtrusive light. Perform the work 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. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans. Number and resolution of complaints received.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Increased noise, dust and vibration emanating from construction work 	<ul style="list-style-type: none"> Monitoring and mitigation of noise and vibration effects shall be undertaken as described in the Noise and Vibration Report, available under separate cover. 	<ul style="list-style-type: none"> In accordance with the Noise and Vibration Report.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> ■ Businesses on the corridor may experience lower visitation volumes if the corridor is 	<ul style="list-style-type: none"> ■ The constructor is also encouraged to assist local businesses, such as by permitting businesses to advertise on construction enclosures (i.e., “We’re still open!” signs) and coordinating the implementation of wayfinding/navigation with local businesses. 	<ul style="list-style-type: none"> ■ N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> ■ Streetscaping and Urban Design Study 	<ul style="list-style-type: none"> ■ A Streetscaping and Urban Design Study is to be undertaken by AECOM during the 30% design stage and made under separate cover to further develop and build on streetscaping and urban design recommendations made in the Dundas Connects Master Plan and Vision Cooksville. 	<ul style="list-style-type: none"> ■ N/A
Socio-Economic and Land Use	Visual Characteristics	<ul style="list-style-type: none"> ■ Visual effects from construction areas/activities ■ Temporary degradation of aesthetic quality of the streetscape. ■ perceived to be difficult to access and navigate 	<ul style="list-style-type: none"> ■ To mitigate impact to the visual environment, screened enclosures should be considered as required, particularly for storage areas. Temporary landscaping may also be implemented, especially at the borders of the construction site between site fencing and walkways where space allows. Site enclosures should take into account wayfinding and safety considerations (particularly accidental egress onto a construction site). ■ A screened enclosure for the development site will be provided, with particular attention to the waste disposal and material storage areas. ■ Consideration will be given to providing temporary landscaping along the borders of the construction site between site fencing/enclosure and walkways, where space allows, and where necessary. 	<ul style="list-style-type: none"> ■ 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.
Socio-Economic and Land Use	Transit and Transportation Network	<ul style="list-style-type: none"> ■ Construction may result in traffic flow reductions ■ Construction may result in the access restrictions to local bus routes and temporary disruptions 	<ul style="list-style-type: none"> ■ Avoid simultaneous major closures and construction activities at adjacent major intersections along the corridor. ■ Install and provide advance advisory signage, such as: <ul style="list-style-type: none"> – Installation of roadway closure information signs at least two weeks in advance of the closing; and – Distribution of notices to affected residents and business establishments to advise of the upcoming road closure(s) in their area. ■ Prepare and implement emergency response and incident management plans during construction to assist emergency service providers (i.e., Fire, Police and Ambulance) in responding to incidents and emergencies within the construction area (i.e., an incident causing closure of a crossing adjacent to the construction site where the Contractor is able to permit emergency service vehicles to cross the crossing location under construction). ■ Conduct pre-construction planning meetings with representatives of the City of Mississauga Fire, Police, and Ambulance providers, other relevant City of Mississauga and Peel Region divisions, and affected local transit authorities (e.g., MiWay); and ■ Prepare Traffic and Transit Management Plans and Traffic Control Plans for each construction stage. ■ The following will be done once a Contractor has been selected and a construction schedule developed: <ul style="list-style-type: none"> – Coordinate the work with other planned road projects that may impact construction, so construction may be staged to minimize traffic impacts. Prior to construction, local municipalities (i.e., Peel Region) will be consulted to coordinate with their Capital Works Programs; – Conduct a haul route analysis to confirm haul routes via public roads; – Maintain existing residential and commercial property access through the work zone to the extent practical or provide alternative temporary access or detour; and ■ Strive to accommodate local events and festivals by coordinating and consulting with local communities and event organizers to find mutually feasible options. 	<ul style="list-style-type: none"> ■ Construction activities will be monitored by a qualified Inspector/Contract Administrator with extensive knowledge of Ontario Traffic Manual Book 7 (Temporary Conditions to confirm that all activities are conducted in accordance with mitigation plans. ■ Traffic impacts to be monitored in accordance with the Traffic and Transit Management Plans and adjust the Traffic Control Plans as necessary during the construction period. ■ Transit impacts to be monitored and mitigation measures to be adjusted as necessary during the construction period.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Socio-Economic and Land Use	Public Transit	<ul style="list-style-type: none"> Construction may result in access restrictions to local bus routes and temporary disruptions 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Traffic impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and adjusted as necessary during the construction period.
Socio-Economic and Land Use	Pedestrian and Cycling Network	<ul style="list-style-type: none"> Bike lanes, multi-use paths and sidewalks may be temporarily restricted or eliminated Temporary sidewalks/paths may have a rough or bumpy surface that creates discomfort for those with assisted mobility devices, strollers, etc. 	<ul style="list-style-type: none"> Maintain pedestrian/cyclist access through the work zone whenever possible. Where a sidewalk or path needs to be removed, provide a safe and accessible temporary path in accordance with the applicable municipal and/or provincial guidelines and standards. Provide clear signage at decision points to pedestrians and cyclists informing of closures. For instance, a sidewalk closure should be indicated at an intersection and not mid-block. Ensure detours can be observed through line of sight and provide adequate signage where not possible. 	<ul style="list-style-type: none"> Temporary access paths, walkways, cycling routes and fencing should be monitored. Cycling network impacts to be monitored in accordance with the Construction Traffic Control and Management Plan and mitigation adjusted as necessary during the construction period.
Socio-Economic and Land Use	Pedestrian and Cycling Network	<ul style="list-style-type: none"> Operation of construction equipment and large construction trucks in corridor may pose safety and comfort challenges for pedestrians and cyclists 	<ul style="list-style-type: none"> Develop a safety program that implements safety best practices in a construction zone and addresses pedestrian/cyclist movement through the corridor. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Socio-Economic and Land Use	Community Amenities	<ul style="list-style-type: none"> Noise, vibration and dust generated by construction activity 	<ul style="list-style-type: none"> Construction noise is subject to the City of Mississauga Noise Control Bylaw. Where work is required outside of permitted times, an exemption shall be applied for in advance of this work. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Socio-Economic and Land Use	Community Amenities	<ul style="list-style-type: none"> Temporary access restrictions, such as driveway, trail or entrance closures due to nearby construction 	<ul style="list-style-type: none"> Closures of driveways, trails and entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Alternate means of access (ex. Temporary driveway) shall be provided where a driveway is temporarily removed. 	<ul style="list-style-type: none"> Temporary access paths, walkways, cycling routes and fencing should be monitored.
Socio-Economic and Land Use	Future Development	<ul style="list-style-type: none"> Noise, vibration and dust generated by construction activity 	<ul style="list-style-type: none"> Construction noise is subject to the City of Mississauga Noise Control Bylaw. Where work is required outside of permitted times, an exemption shall be applied for in advance of this work. Best Management Practices regarding construction air quality will be implemented. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Environmental Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Socio-Economic and Land Use	Future Development	<ul style="list-style-type: none"> Temporary access restrictions, such as driveways or sidewalk closures may also affect residents and visitors to the Study Area 	<ul style="list-style-type: none"> Closures of driveways, trails and entrances shall be avoided whenever possible during construction and shall be kept to a minimum when required. Alternate means of access (ex. Temporary driveway) shall be provided where a driveway is temporarily removed. 	<ul style="list-style-type: none"> Temporary access paths, walkways, cycling routes and fencing should be monitored.
Utilities	Utilities Planning and Construction	<ul style="list-style-type: none"> Utility serviceability effects due to design requirements and construction 	<ul style="list-style-type: none"> Develop and implement a detailed Utility Infrastructure Relocation Plan that identifies all utilities anticipated to be impacted by the construction works, all relevant utility agencies and authorities, and outlines the approach to the utility relocation process. Additional surveys shall be performed prior to construction to field locate and verify the existing utilities within the project area and document their condition. Perform all work identified in the Utility Infrastructure Relocation Plan to protect, support, safeguard, remove, and relocate all Utility Infrastructure. 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. 	<ul style="list-style-type: none"> Maintain regular communication and coordination through issuance of regular progress reports and updates to applicable utility agencies. Record all installation tolerances and how they are to be monitored. Perform inspection and testing to ensure successful utility relocation and safe and efficient installation. In the event of potential impacts to critical utilities, instrumentation and monitoring shall be carried out to protect the critical utilities and structures and reduce risks of damage due to construction activities.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Utilities	Public Utilities	<ul style="list-style-type: none"> In general, existing public utilities are typically located at either side of the future guideway which is anticipated to significantly reduce the need for utility relocations during construction. Utility shut off is therefore mainly expected to be due to end-of-life or precautionary replacement undertaken as part of the Project. 	<ul style="list-style-type: none"> Effects of utility work on the community should be minimized through utility shut off best practices. These include minimizing the duration of shut offs, scheduling shut-offs during off-peak times (and avoiding early morning, evening, and weekend shut-offs whenever possible), and communicating shut-offs to affected residents and business in advance of the proposed shut-off. Special consideration should be given to the impact of shut-offs on sensitive locations such as schools, healthcare providers, and long-term care/seniors residences, and such locations should be identified early and engaged with in advance to minimize impacts to them. Public utility works shall not commence until all required permits and approvals have been obtained, which may include Environmental Compliance Approvals, Environmental Activity and Sector Reports, Road Occupancy Permits, and any other permits required. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Utilities	Private Utilities	<ul style="list-style-type: none"> In general, existing private utilities are typically located to either side of the future guideway which is anticipated to significantly reduce the need for utility relocations during construction. Utility shut off is therefore mainly expected to be due to end-of-life or precautionary replacement undertaken as part of the Project, or to install additional capacity at the request of a private utility service provider. 	<ul style="list-style-type: none"> Engagement with all private utility providers in the corridor should be undertaken early in and throughout the detailed design phase to ensure that their needs and requirements are taken into account in the project design. Private utility providers may wish to take advantage of construction to increase capacity in the corridor. Impacts of utility work on the community should be minimized through utility shut off best practices. These include minimizing the duration of shut offs, scheduling shut-offs during off-peak times (and avoiding early morning, evening, and weekend shut-offs whenever possible), and communicating shut-offs to affected residents and business in advance of the proposed shut-off. Special consideration should be given to the impact of shut-offs on sensitive locations such as schools, healthcare providers, and long-term care/seniors residences, and such locations should be identified early and engaged with in advance to minimize impacts on them. 	<ul style="list-style-type: none"> Construction activities will be monitored by a qualified Inspector to confirm that all activities are conducted in accordance with mitigation plans.
Utilities	Utilities Post-Construction Phase	<ul style="list-style-type: none"> Future Utility Maintainability 	<ul style="list-style-type: none"> Where new utility crossings are proposed, application for a new utility crossing agreement will be required. Where modifications to an existing utility crossing takes place, updates to an existing utility crossing will be needed. Post- construction inspections of the new utility infrastructure shall be undertaken by qualified inspectors for applicable works upon completion of the construction works to document condition. Obtain as-built plans of the relocated infrastructure from utility agencies per as-built preparation standards Canadian Standards Association S250-11 – Mapping of Underground Utility Infrastructure (2011), as amended from time to time. 	<ul style="list-style-type: none"> Develop and implement tracking system for as-built deliverables.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Indirect or direct impacts to the heritage attribute(s) of a property of known or potential Cultural Heritage Value or Interest due to installation of new/modified infrastructure 	<ul style="list-style-type: none"> All work shall be performed in accordance with Applicable Law, including but not limited to the <i>Ontario Heritage Act</i>, the Ministry of Heritage, Sport, Tourism and Culture Industries <i>Standards and Guidelines for Provincial Heritage Properties: Metrolinx Identification and Evaluation (I&E) Process (2014)</i>, the Ministry of Heritage, Sport, Tourism and Culture Industries guidance on <i>Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (2019)</i> (Cultural Heritage Report), and the forthcoming <i>Standards and Guidelines for Provincial Heritage Properties: Metrolinx Identification and Evaluation (I&E) Process (2020)</i>. In the event that the <i>Metrolinx I&E Process (2020)</i> is not approved, follow the <i>Metrolinx Interim Cultural Heritage Management Process (2013)</i>. Follow the process and recommendations outlined in the Cultural Heritage Report completed as part of this Project. For known and potential properties of Cultural Heritage Value or Interest that will experience indirect or direct impacts and where no previous assessment has been completed or a Statement of Cultural Heritage Value has not been approved by Metrolinx, undertake a Cultural Heritage Evaluation Report as per the forthcoming 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p><i>Metrolinx I&E Process (2020)</i>. In the event that the <i>Metrolinx I&E Process (2020)</i> is not approved, follow the <i>Metrolinx Interim Cultural Heritage Management Process (2013)</i>.</p> <ul style="list-style-type: none"> Given the importance and location of some Cultural Heritage Resources, consultation with Municipal heritage staff and other jurisdictions will be undertaken as appropriate to determine if proposed infrastructure will be subject to specific policies within heritage districts or conservation areas (including parks). 	
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Direct impacts to the heritage attribute(s) of a known or potential Provincial Heritage Property or Provincial Heritage Properties of Provincial Significance due to installation of new/modified infrastructure 	<ul style="list-style-type: none"> The following directly impacted properties were subject to a Cultural Heritage Evaluation Report and determined to have cultural heritage value or interest and therefore will require a Heritage Impact Assessment: <ul style="list-style-type: none"> Built Heritage Resource 1 - 202 Dundas Street West, Built Heritage Resource 4 - 51, 55-57 Dundas Street West, Built Heritage Resource 5 - 47 Dundas Street West, and Built Heritage Resource 7 - 14 Dundas Street East. Given the importance and location of some Cultural Heritage Resources, consultation with Municipal heritage staff and other jurisdictions will be undertaken as appropriate to determine if proposed infrastructure will be subject to specific policies within heritage districts or conservation areas (including parks). 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Potential indirect impacts on known or potential properties of Cultural Heritage Value or Interest resulting from construction activities 	<ul style="list-style-type: none"> Selection of construction staging and laydown areas will follow Metrolinx/City of Mississauga's selection procedures which include avoiding heritage attributes wherever possible or effectively mitigating impacts where not possible. 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> For any additional potentially affected Cultural Heritage Resources/properties not previously identified within a previous Metrolinx and/or City of Mississauga Environmental Assessment/Transit Project Assessment Process /Other Study 	<ul style="list-style-type: none"> If the project study limits change or there is a change in impact that is not captured or documented in previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and/or Environmental Study Reports post EA/ Transit Project Assessment Process, and which causes any additional heritage properties to be impacted by the proposed design/infrastructure, all applicable legislation will be followed to carry out additional impact assessment work and heritage studies to identify any known or potential built heritage resources and cultural heritage landscapes, and to identify potential impacts and appropriate mitigation measures. 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per the recommendations contained in any/all of the following documents: Cultural Heritage Reports, CHARs, Heritage Impact Assessment.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Management of Cultural Heritage Resources/Properties 	<ul style="list-style-type: none"> Develop and implement a Strategic Conservation Plan that addresses built heritage resources and cultural heritage landscapes according to Ministry of Heritage, Sport, Tourism and Culture Industries <i>Information Bulletin No. 2: Preparing Strategic Conservation Plans for Provincial Heritage Properties (2017)</i> and as outlined in the Project Agreement. 	<ul style="list-style-type: none"> Implement and comply with monitoring requirements and commitments pertaining to Cultural Heritage Resources/properties as per previously completed Metrolinx and/or City of Mississauga Environmental Project Reports and the recommendations contained in any/all of the following documents: Cultural Heritage Reports, Heritage Impact Assessments and Strategic Conservation Plans.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> Indirect Impacts to Cultural Heritage Plaques 	<ul style="list-style-type: none"> If avoidance of cultural heritage plaque locations (CHL 2A, CHL 2B, BHR 16) within the Project Area is not feasible or is directly adjacent to construction activities then: <ul style="list-style-type: none"> Incorporate the location on design drawings and indicate that the plaque is to be protected during construction: Mark the plaque on the Detailed Design as "To be retained: Implement protection measures prior to construction" or if applicable, mark on Detailed Design as "To be retained, stored and reinstated post-construction" Apply the following steps to the project construction plan: 	<ul style="list-style-type: none"> N/A

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ Install plaque protection (i.e., fence hoarding), prior to construction or store during construction. ■ If applicable, during construction, monitor the protection of the plaque. Post construction, remove hoarding and confirm the condition of the plaque is as was prior to construction. 	
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> ■ Vibration Impact 	<ul style="list-style-type: none"> ■ Prior to construction, determine which built heritage resource or cultural heritage landscape documented in this Cultural Heritage Report requires vibration mitigation and monitoring. ■ Document (review and establish) the structural condition of a building to determine if it is vulnerable to vibration impacts from the Project. ■ Establish vibration limits based on structural conditions, founding soil conditions and type of construction vibration (refer to the Noise and Vibration report). ■ Implement vibration mitigating measures on the construction site and/or at the building (i.e., modify construction procedures, if required). 	<ul style="list-style-type: none"> ■ Construction and post-construction monitoring may be required for historic buildings that were determined subject to vibration damage. The following monitoring activities are recommended for vibration impacts: ■ Monitor vibration during construction using seismographs, with notification by audible and/or visual alarms when limits are approached or exceeded; and ■ Conduct regular condition surveys and reviews during construction to evaluate efficacy of protective measures. Implement additional mitigation as required.
Built Heritage Resources and Cultural Heritage Landscapes	-	<ul style="list-style-type: none"> ■ Construction Activities 	<ul style="list-style-type: none"> ■ Construction activities and staging areas should be suitably planned in detailed design to avoid any adverse impacts to the identified known, previously identified and potential built heritage resources and cultural heritage landscapes. 	<ul style="list-style-type: none"> ■ N/A
Archaeology	Archaeological Resources	<ul style="list-style-type: none"> ■ Potential for the disturbance of unassessed or documented archaeological resources 	<ul style="list-style-type: none"> ■ Prior to construction, Proponent to develop and implement an Archaeological Risk Management Plan. The Archaeological Risk Management Plan will address 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 <i>Ontario Heritage Act</i>, the Ministry of Heritage, Sport, Tourism and Culture Industries, formerly the Ministry of Tourism, Culture and Sport (MTCS) <i>Standards and Guidelines for Consultant Archaeologists</i> (2011), and the Ministry of Heritage, Sport, Tourism and Culture Industries document, <i>Engaging Aboriginal Communities in Archaeology: A Draft Bulletin for Consultant Archaeologists in Ontario</i> (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 Ministry of Heritage, Sport, Tourism and Culture Industries. 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 Ministry of Heritage, Sport, Tourism and Culture Industries, and further archaeological assessment of the resources may be required. If it is determined that there is a potential for Indigenous artifacts, Metrolinx/City of Mississauga should be contacted, and Applicable Law and/or any specific agreement between Metrolinx and Indigenous Nations 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 	<ul style="list-style-type: none"> ■ 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.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<p>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.</p> <ul style="list-style-type: none"> ■ 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 and the Ministry of Heritage, Sport, Tourism and Culture Industries 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 Ministry of Heritage, Sport, Tourism and Culture Industries will also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the <i>Ontario Heritage Act</i>. If the human remains are determined to be of Indigenous origin, Metrolinx/City of Mississauga should be contacted and all Applicable Law and/or any specific agreement between Metrolinx and Indigenous Nations must be adhered to. ■ All archaeological assessment findings will be shared with Indigenous Nations, as per Metrolinx's <i>Guide to Engaging with Indigenous Communities (2020)</i>. ■ Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries. 	
Archaeology	Area of Archaeological Potential	<ul style="list-style-type: none"> ■ Ground disturbing activities 	<ul style="list-style-type: none"> ■ A Stage 2 Archaeological Assessment (and further stages of archaeological assessments, as recommended) will be undertaken/completed as early as possible during detailed design and prior to any ground disturbing activities. Recommendations from these archaeological assessments will be followed. ■ The Stage 2 Archaeological Assessment for areas retaining archaeological potential must be conducted by a licensed archaeologist and must follow the requirements set out in the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011). 	<ul style="list-style-type: none"> ■ Prior to any ground disturbing activities, the Stage 2 Archaeological Assessment must be completed in areas identified as retaining archaeological potential as outlined in the Stage 1 Archaeological Assessment. Should Indigenous Nations express interest in participating in the Stage 2 Archaeological Assessment, an invitation should be extended by the proponent for representatives of the Indigenous Nations to join the archaeological team during fieldwork. Additionally, the Stage 2 report should be made available to the Indigenous Nations for review prior to submission of the report to the Ministry of Heritage, Sport, Tourism and Culture Industries.
Archaeology	St. John's Dixie Cemetery & Crematorium/Dixie Union Cemetery)	<ul style="list-style-type: none"> ■ Ground disturbing activities 	<ul style="list-style-type: none"> ■ There are currently no plans to impact the cemetery lands. A cemetery investigation will be required should the design change and result in proposed impacts to the property within the marked cemetery limits. ■ Consultation with the Bereavement Authority of Ontario as outlined below will be required prior to any work within the cemetery limits. 	<ul style="list-style-type: none"> ■ N/A
Archaeology	Dundas-Dixie Cemetery	<ul style="list-style-type: none"> ■ Ground disturbing activities 	<ul style="list-style-type: none"> ■ Should any development impacts to the property outside of the Dundas Street right-of-way be proposed, additional Stage 2 and Stage 3 cemetery investigation is required 	<ul style="list-style-type: none"> ■ N/A

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
			<ul style="list-style-type: none"> ■ If any archeological sites including cultural features are encountered, they must undergo assessment and documentation according to the 2011 Standards and Guidelines; ■ Given that the Bereavement Authority of Ontario is unaware of the possibility of a cemetery in this location, and it is not a formal licensed cemetery, a Cemetery Investigation Authorization may not be required. Consultation with the Ministry of Heritage, Sport, Tourism and Culture Industries and the Bereavement Authority of Ontario should occur prior to any ground disturbance; and ■ A Stage 3 Cemetery Investigation report must be completed detailing the results of the investigation for each cemetery and submitted to the Ministry of Heritage, Sport, Tourism and Culture Industries for review and acceptance into the Ontario Public Register of Archaeological Reports. 	
Archaeology	Human Remains	■ Ground disturbing activities	<ul style="list-style-type: none"> ■ If human remains are encountered during construction, work must cease immediately, the police or Regional Coroner should be contacted, as well as the Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer Services, the Bereavement Authority of Ontario, and the Ministry of Heritage, Sport, Tourism and Culture Industries. If the remains are not determined to be of forensic interest, a Burials Site Investigation under the Funeral, Burial and Cremation Services Act, 2002 may be ordered; ■ 	■ N/A
Archaeology	Structural Remains	■ Ground disturbing activities	<ul style="list-style-type: none"> ■ If historic structural remains are uncovered, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal. 	<ul style="list-style-type: none"> ■ If historic structural remains are uncovered during construction, a licensed archaeologist should be contacted to examine the find and determine if any documentation is required prior to its removal.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
<p>Excavated Materials and Groundwater Management</p>	<p>Excavated Materials</p>	<ul style="list-style-type: none"> ■ Construction operations could expose contaminated materials and/or result in the spreading of contaminated materials 	<ul style="list-style-type: none"> ■ Develop a Soil and Excavated Materials Management Plan prior to commencement of construction for the handling, management and disposal of all excavated material (i.e., soil, rock, and waste) that is generated or encountered during the work. The plan will be overseen by a Qualified Person pursuant to <i>Ontario Regulation 153/04</i> under the Environmental Protection Act (QP) and will comply with <i>Ontario Regulation 406/19</i> (On-Site and Excess Soil Management – to be enacted into law on July 1, 2020), the Ministry of the Environment, Conservation and Parks, formerly the Ministry of the Environment and Climate Change’s Management of Excess Soils: A Guide for Best Management Practices (April 2019, as amended) and all Applicable Law. The plan will describe how to address the management of the excavated materials, imported materials, contaminated materials, and impacted railway ties, including handling, transportation, testing, documentation and reuse and disposal of excavated materials generated as part of the works and in accordance with applicable regulatory requirements. ■ Non-soil materials encountered during the earthworks will also require waste classification as documented by testing where applicable to determine management and disposal requirements as per <i>Ontario Regulation 347</i> (as amended) and all Applicable Law. ■ The Soil and Excavated Materials Management Plan will be reviewed and approved prior to construction. 	<ul style="list-style-type: none"> ■ A Soil and Excavated Material Monthly Dashboard Report will be developed by the Constructor for review that includes monitoring and performance data related to the management of excavated materials for the preceding month. ■ Upon completion of the work, the Constructor will submit a Soil and Excavated Material Management Implementation Report.
<p>Excavated Materials and Groundwater Management</p>	<p>Groundwater</p>	<ul style="list-style-type: none"> ■ Construction operations could expose groundwater and associated contamination 	<ul style="list-style-type: none"> ■ Develop a Groundwater Management and Dewatering Plan prior to commencement of construction 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 handling, transfer, testing, monitoring, disposal of groundwater generated as part of the works and in accordance with applicable regulatory requirements. The Groundwater Management and Dewatering Plan will outline general groundwater monitoring considerations during the works and provide guidance for groundwater monitoring following the works where considered applicable. ■ 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 Ministry of the Environment, Conservation and Parks. ■ 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 prior to construction. 	<ul style="list-style-type: none"> ■ A Groundwater Management Monthly Dashboard Report will be developed by the Constructor for 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.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Stormwater Management	Potential Impacts and Proposed Mitigation Measures for Stormwater and Site Drainage	<ul style="list-style-type: none"> ■ 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). 	<ul style="list-style-type: none"> ■ Prepare and implement a Drainage and Stormwater Report, an Erosion and Sediment Control Plan, detailed drainage design and erosion and sediment control drawings during detailed design in accordance with the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003), the updated Toronto and Region Conservation Authority Erosion and Sediment Control Guideline for Urban Construction (2019), as amended from time to time, and the guidelines and regulatory requirements of the Conservation Authority having jurisdiction. ■ 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 Conservation Authorities having jurisdiction. ■ The quantity control criteria for the Study Area within Toronto and Regional Conservation Authority's Etobicoke Creek Watershed will be acquired from 2013 Etobicoke Creek Watershed Hydrology Update report. ■ The water balance requirement for the Study Area within Toronto and Regional Conservation Authority's jurisdiction is onsite retention of a minimum of 5 mm runoff from the impervious areas through some Low Impact Development measures, if feasible. ■ A detailed assessment of proposed ditches along the rail corridor is required to ensure adequate drainage conveyance in accordance with municipal requirements. ■ Infiltration requirements for municipalities will be determined as per the design guidelines and standards. ■ Any proposed bridge expansions and 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. ■ A hydraulic assessment of each crossing and any proposed bridge expansions (replacements) 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 the local Conservation Authority to assess the hydraulic impacts along regulated watercourses. ■ Develop a Spill Prevention and Response Plan before work commences and implement during construction. 	<ul style="list-style-type: none"> ■ 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. ■ Obtain 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. Obtain 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), will be assessed. ■ Stormwater quality measures will be assessed to provide a minimum 80% Total Suspended Solids (TSS) removal as per the Ministry of the Environment, Conservation and Parks Stormwater Management Planning and Design Manual (2003).
Environmental Mitigation and Monitoring Plan	General and Project Specific Environmental Protection Measures	<ul style="list-style-type: none"> ■ Avoid and/or Minimize Construction Impact 	<ul style="list-style-type: none"> ■ The Environmental Mitigation and Monitoring Plan will be completed in detailed design by AECOM 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. 	<ul style="list-style-type: none"> ■ N/A

*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.

Monitoring should be undertaken by a qualified biologist, as needed, when works are conducted in suitable wildlife habitat, including bird nest sweeps ahead of vegetation clearing. Daily discussion amongst environmental inspector and staff to determine if a biologist is needed on-site.

¹Aquatic Species at Risk and terrestrial vegetation, including Butternut were not observed within the Study Area; however, because of their prevalence within the broader landscape have been included for comprehensiveness and should be appropriately mitigated.

Table 9-2: Summary of Environmental Concerns, Mitigation Measures and Commitments during Operation

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
Air Quality	Operating Conditions: Increased Traffic Vehicular Emissions	<ul style="list-style-type: none"> Increased NO₂, CO, SO₂, particulate, and VOC impact levels at nearby receptors. 	<ul style="list-style-type: none"> Continued promotion of increased electric vehicle purchase and infrastructure within Ontario. Implementation of vegetation within the Study Area to decrease ground level dispersion of particulates. 	<ul style="list-style-type: none"> No other specific monitoring implementation recommended at this time.
Noise	Operational Noise	<ul style="list-style-type: none"> Noise impact during operation to nearby noise sensitive receptors 	<ul style="list-style-type: none"> In accordance with the Metrolinx Guide, noise attenuation barriers up to 5 metre in height may be considered. Based on the Mississauga Policy No. 09-03-03, barriers should span a complete block to ensure their effectiveness. 	<ul style="list-style-type: none"> Complete regular or routine maintenance on fleet vehicles to reduce the potential for undesired sound characteristics (e.g., tonal or cyclical) that may cause an overall increase in noise missions. Maintain Bus Rapid Transit laneways with smooth surface to avoid additional noise that may be caused by rough or uneven (e.g., potholes) surfaces as vehicles drive along the corridor.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Property: Based on the 10% design, it is estimated that approximately 2 hectares of private lands fronting Dundas Street are required for the operation of the Project 	<ul style="list-style-type: none"> Permanent property acquisition requirements for the operation of the Project will be confirmed as design progresses. During detailed design, the property requirements shall be reassessed in an attempt to eliminate or further reduce anticipated impacts to private properties, where possible. Where property takings are identified, consultation and negotiation with the property owner will be initiated in advance to secure the required property and identify site-specific mitigations. Where operation will affect a private sign or billboard and cause it to be removed permanently, the owner shall be consulted in advance to determine an appropriate mitigation approach. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Permanent closure of driveways or building entrances 	<ul style="list-style-type: none"> Closures of driveways and building entrances shall be avoided whenever possible and shall be kept to a minimum when required. Where possible, alternate means of access shall be provided where a driveway is permanently removed. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Excess light spillage onto neighbouring properties 	<ul style="list-style-type: none"> Lighting should be designed to minimize trespass, glare and pollution effects through the implementation of best practices to mitigate or avoid unnecessary and obtrusive light. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Increased noise, dust and vibration emanating from Project operations 	<ul style="list-style-type: none"> Operations activities such as corridor maintenance should be minimized in duration and footprint to the extent possible. 	<ul style="list-style-type: none"> Operator to monitor operations.
Socio-Economic and Land Use	Land Use and Built Form Patterns	<ul style="list-style-type: none"> Negative aesthetic quality if not designed appropriately 	<ul style="list-style-type: none"> To mitigate impact to the visual environment, screened enclosures should be considered as required, particularly for storage areas. The visual effects of project structures (e.g., retaining walls, etc.) should be mitigated by considering their location, building materials, architectural design, and surrounding landscape treatments. Municipal departments and the public should be engaged as Project planning and design progresses. 	<ul style="list-style-type: none"> N/A
Socio-Economic and Land Use	Transit and Transportation Network	<ul style="list-style-type: none"> Existing on-street parking may be reduced or eliminated as needed Left turns across the median may be restricted (“right-in/right-out” operation only) Through travel at minor intersections may be restricted, requiring a U-turn at nearby major intersections 	<ul style="list-style-type: none"> The Project is anticipated to result in an improved experience for transit users, providing faster and more frequent connections to major destinations along Dundas Street and beyond. In communities where U-turns are not common movements at intersections, consider information campaigns to clearly explain the new movement to residents. In general, it is good practice to reduce overall parking availability around higher-order transit corridors, however, significant loss of on-street parking may be compensated for by designating some new off-corridor parking spaces as appropriate and desired. Introduce appropriate signage and signaling to guide driver movement through corridor. 	<ul style="list-style-type: none"> City of Mississauga to monitor collision data to ensure driver guidance is achieving desired outcomes.

Environment	Environmental Component	Potential Impacts	Mitigation Measures(s)	Monitoring Activities
		<ul style="list-style-type: none"> ■ New turning movements (“U-turns”) may be introduced at major intersections 		
Socio-Economic and Land Use	Pedestrian and Cycling Network	<ul style="list-style-type: none"> ■ Left turns across the median may be restricted for cyclists (“right-in/right-out” operation only) ■ Through travel at minor intersections may be restricted, requiring a detour to a nearby crosswalk 	<ul style="list-style-type: none"> ■ The project is expected to result in an improved experience for pedestrians and cyclists with new active transportation infrastructure. The Project should be designed to improve access to key destinations. ■ A public information campaign may be required to educate residents on Bus Rapid Transit and to avoid crossing the median. 	■ N/A
Socio-Economic and Land Use	Community Amenities	<ul style="list-style-type: none"> ■ Potential property impacts to community amenities 	<ul style="list-style-type: none"> ■ No effects to community amenities are anticipated as a result of the operation of the Project, except where property may be required. Property acquisition will be confirmed as design progresses. Where effects are anticipated, the property owner should be consulted with as soon as property impacts are understood. Property impacts to community amenities that serve vulnerable populations should be avoided. 	■ N/A
Socio-Economic and Land Use	Future Development	<ul style="list-style-type: none"> ■ Potential property impacts to planned future development 	<ul style="list-style-type: none"> ■ The Project should be designed to minimize effects to future development, where possible. Where effects are anticipated, the property owner should be consulted with as soon as property impacts are understood. ■ Overall, the Project is expected to have a positive effect on the Dundas Street corridor and spur additional development which is consistent with provincial and municipal planning policies. 	■ N/A

9.2 Environmental Mitigation and Monitoring Plan

The Environmental Mitigation and Monitoring Plan will include both general and project specific environmental protection measures based on the Dundas Bus Rapid Transit components and Study Area, current industry best management practices and both federal and provincial construction management practices. These protection measures are based on the mitigation proposed in Transit Project Assessment Process and summarized in **Tables 9-1 and 9-2**. The Environmental Mitigation and Monitoring Plan will be completed in detailed design by AECOM 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. The Environmental Mitigation and Monitoring Plan will also identify criteria for monitoring the implementation of the required mitigation measures as well the timing and responsible party for each task.

An Environmental Monitor should be hired as a third party to enact the Environmental Mitigation and Monitoring Plan. It is not the responsibility of the Environmental Monitor to create monitoring plans, implement mitigation measures, contact regulatory agencies or provide warnings to the contractor. The Environmental Monitor will observe the construction work and will report monthly to Metrolinx Planning Office and/or City of Mississauga on the status of each mitigation measure, providing a record of due diligence. In the case of an emergency (i.e. spills, or sediment release) the responsibility of contacting the client (Metrolinx and/or City of Mississauga) and regulatory agency is that of the contractor. In the case of an emergency the Environmental Monitor will report on the compliance and actions taken in the monthly reports as well as answer any questions by the client if asked.

Discussions of non-compliance to mitigation measures outlined in the Environmental Mitigation and Monitoring Plan and that of legislative requirements is the responsibility of the contractor and Metrolinx and/or City of Mississauga.

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Appendix A

Figures



Appendix B

Design Criteria Report



Appendix C

**Dundas Bus Rapid Transit –
Mississauga East Design**



Appendix D

Technical Reports

- Air Quality Impact Assessment Report
- Arborist Report
- Climate Change and Sustainability Report
- Cultural Heritage Report
- Cultural Heritage Evaluation Reports
- Limited Phase I Environmental Site Assessment Report
- Natural Environment Report
- Noise and Vibration Report
- Socio-Economic and Land Use Report
- Stage 1 Archaeology Report



Air Quality Impact Assessment Report

AECOM

Arborist Report



Climate Change and Sustainability Report



Cultural Heritage Report





Cultural Heritage Evaluation Reports



Limited Phase I Environmental Site Assessment Report



Natural Environment Report



Noise and Vibration Report



Socio-Economic and Land Use Report



Stage 1 Archaeology Report



Appendix E

Engagement Summary Report

AECOM

Appendix F

Composite Utility Plan



Appendix G

Pinch Point Analysis, Segment B Cooksville



Appendix H

Mississauga East Segment Pinch Point – Traffic Input Memorandum