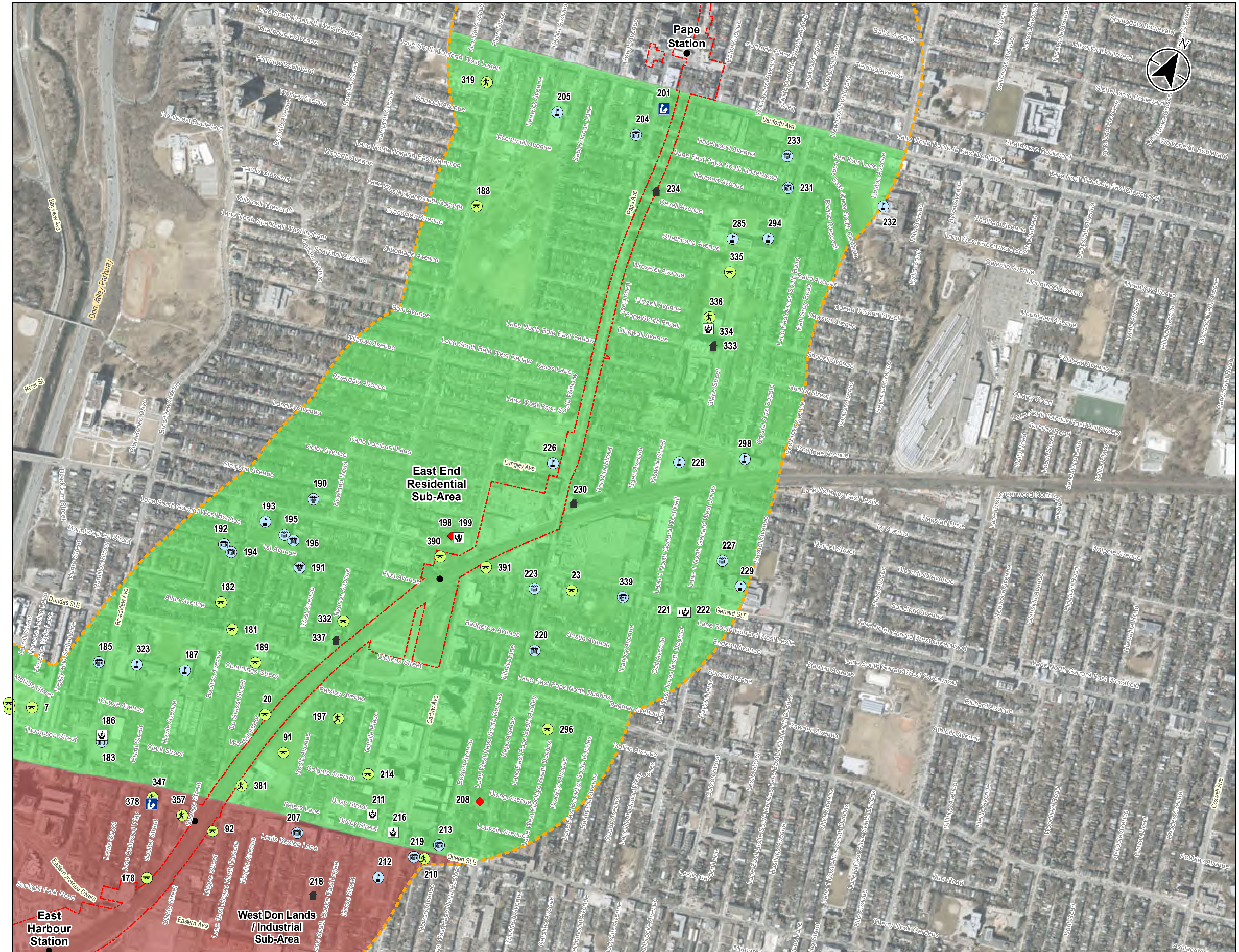

Stantec

Legend

- Project Footprint
- Study Area (500 m Buffer)

Socio-Economic Key Features

- Community Resources
- Daycare
- Emergency Services
- Housing
- Library
- Park and Open Space
- Place of Worship
- School

OLS

- West Don Lands / Industrial Sub-Area
- East End Residential Sub-Area

0 250 500 Metres

1:10,000 (At original document size of 11x17)

Notes

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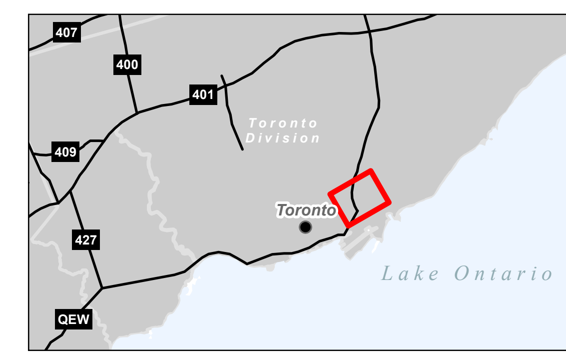

Project Location
City of Toronto, ON

160560009 REV4
Prepared by BCC on 2022-01-31

Client/Project
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ONTARIO LINE TA

Figure No.
4-35-3

Title
Community Amenities in the OLS Study Area

Neighbourhood Demographics

The OLS Study Area contains 7 neighbourhoods: Bay Street Corridor, Church-Yonge Corridor, Moss Park, Regent Park, South Riverdale, North Riverdale, and Blake-Jones. This subsection provides a demographic analysis of the OLS Study Area. All data in the subsection was sourced from the 2016 Census Profiles (Statistics Canada 2019) and 2011 National Household Survey Profiles (Statistics Canada 2015), (City of Toronto 2021b).

Demographic Profile

On average, the 7 neighbourhoods in the OLS Study Area have experienced a greater population increase between 2011 and 2016 than the City of Toronto overall. This growth was greatest in the Bay Street Corridor and Moss Park neighbourhoods which grew by one third and one quarter, respectively. Only North Riverdale and Blake-Jones experienced a decrease in population, which was relatively minor in both neighbourhoods.

In 2016, the 25 to 64 age group formed the largest portion of the total population in the OLS Study Area, accounting for more than half of the total. North Riverdale, Regent Park, and Blake-Jones have a higher population of children than the City-wide average.

The population in the OLS Study Area is divided relatively evenly between females and males, which is consistent with the distribution in each neighbourhood as well as the City of Toronto. Church-Yonge Corridor and Moss Park have about 5% more males in each neighbourhood.

Compared with the City of Toronto overall, the Bay Street Corridor, Church-Yonge Corridor, Moss Park, South Riverdale, North Riverdale, and Blake-Jones neighbourhoods have generally attained a higher level of education, especially in Bay Street Corridor. The Regent Park neighbourhood has a slightly lower higher education level than the City of Toronto average.

The average household size in the OLS Study Area neighbourhoods is lower than the average household size in the City of Toronto. The OLS Study Area neighbourhoods have experienced slight increases or decreases in household size from 2011 to 2016, with the most notable difference being an 11.2% decrease in household size in Regent Park.

On average, the OLS Study Area is comparable to the average household income across the city, with the exception of Regent Park, which has a mean income well below the City of Toronto average. North Riverdale is the highest earning neighbourhood.

Economic Profile

EMPLOYMENT

Two thirds of the population of the OLS Study Area are employed and approximately one third are not in the labour force. The highest percentage of employed population is in the North Riverdale neighbourhood. Most of the neighbourhoods are relatively similar in terms of employment, all exceeding the City's employment rate, with the exception of the Bay Street Corridor. Although the entire OLS Study Area shares a similar percentage of unemployed

population, the percentage of people not in the labour force is slightly lower than the City's average across all neighbourhoods, with the exception of the Bay Street Corridor.

COMMUTING PATTERNS

Neighbourhoods in the OLS Study Area have a high utilization of public transit and active transportation. The OLS Study Area has the same public transit usage as the City as a whole (within 1%), but about half of the rate of automobile use, and almost triple the rate of active transportation (walking and cycling). Commutes vary between the seven neighbourhoods, with Bay Street Corridor, Church-Yonge Corridor, Regent Park, and Moss Park having relatively low automobile usage, and high active transportation usage; whereas South Riverdale, North Riverdale and Blake-Jones have relatively high automobile usage and low active transportation usage. This speaks to the relative location of the neighbourhoods to job locations.

Future Development

There were 397 active development applications in the OLS Study Area as of March 2022. Similar to the OLW Study Area, the majority of the developments (254 of the 397) are in the Downtown East Sub-Area and are primarily for residential (condominium) and commercial uses. The active applications are mostly concentrated north of Queen Street East between Bond Street and George Street and south of Dundas Street East. Additionally, there is a second concentration in the Downtown East Sub-area south of Queen Street East, between Sherbourne Street and Berkeley Street and north of King Street East. The West Don Lands/Industrial Sub-Area has 122 active applications primarily for mixed-use buildings. Like the applications in the Downtown West Sub-Area, proposed development in the Downtown East and West Don Lands/ Industrial Sub-Areas is expected as Downtown Toronto is the most populous "urban growth centre" in Ontario.

There are 21 proposed developments located in the East End Residential Sub-Area, comprised of low-rise residential developments such as modifications to houses and apartment buildings under 5 storeys and mixed-use development over 15 storeys.

Of the 397 applications in the OLS Study Area, 28 have been approved.

4.7.4 Ontario Line North

Land Use Designations

Pape Sub-Area

The Pape Sub-Area stretches from the Danforth mixed-use corridor to just north of the Don River. Properties along the corridor south of Gamble Avenue are designated Mixed-Use Areas and the rear lot lines are immediately adjacent to lands designated Neighbourhoods. An exception to this pattern exists where the corridor crosses Cosburn Avenue which is designated Apartment Neighbourhoods from Donlands Avenue West to Broadview Avenue. North of Gamble Avenue the corridor is designated as Neighbourhoods. There are multiple parkettes throughout the Sub-Area, an Institutional Area, an Other Open Space Area, as well as a larger

portion of land designated Natural Areas at the northern edge of the Sub-Area, which corresponds with the Don River and its associated natural features.

Thorncliffe Employment Sub-Area

The Thorncliffe Employment Sub-Area is comprised of lands north of Overlea Boulevard, between Millwood Road and the Charles H. Hiscott Bridge. The majority of lands in this Sub-Area are designated Employment Area and Utility Corridor, with pockets of Natural Areas throughout. The Employment Area runs along the majority of Overlea Boulevard and Beth Nelson Drive and backs onto both the Utility Corridor and Natural Areas associated with the Don River West Branch and E.T. Seton Park.

Thorncliffe Park Sub-Area

On the south side of Overlea Boulevard is the Thorncliffe Park Sub-Area, which also stretches from Millwood Road to Charles H. Hiscott Bridge. This Sub-Area is comprised mainly of land designated as Apartment Neighbourhoods with a cluster of Mixed-Use Areas fronting Overlea Boulevard. Several large parks are designated towards the centre and western edges of the neighbourhood. The neighbourhood is bound to the west, south, and east by Natural Areas of the Don River Valley.

Flemingdon Park Sub-Area

The Flemingdon Park Sub-Area is bounded by the Don River valley to the west and south, and the Don Valley Parkway to the east. This Sub-Area is situated along Don Mills Road, from Gateway Boulevard to the south, reaching north approximately a block past Eglinton Avenue East. The lands south of Eglinton Avenue East in this Sub-Area contain a mix of land use designations, including Neighbourhoods and Apartment Neighbourhoods, Mixed-Use Areas, Institutional Areas, and Parks and Natural Areas. The portion of land north of Eglinton Avenue East is designated as a General Employment Area, which extends beyond the OLN Study Area boundary. However, the Don Mills Crossing Secondary Plan amended the City of Toronto Official Plan to introduce Mixed-Use designations both at the southwest corner of Eglinton Avenue East and Don Mills Road, and on the northwest side of this intersection, tucked behind the Don Mills Road frontage. This Secondary Plan also re-designated the area just north of Wynford Drive and west of Don Mills Road from an Employment Area to Parks. This northwest quadrant also contains land designated Utility Corridor, being the rail line, which extends north from the Thorncliffe Employment Sub-Area.

Secondary Plans

Further to the Official Plan's city-wide policies, Chapter 6 of the Official Plan is dedicated to Secondary Plans, which are more detailed local development policies to guide growth and change in a defined area of the City (City of Toronto 2015). Each Secondary Plan focuses on a key area, community, or neighbourhood to implement visions and objectives specific to these areas. All the policies of the Official Plan apply to the areas subject to Secondary Plans contained in Chapter 6, except in the case of a conflict, where the Secondary Plan policy will

prevail. The Don Mills Crossing Secondary Plan is the only Secondary Plan applicable to the OLN Study Area.

Physical Neighbourhood Composition

The OLN Study Area contains 10 neighbourhoods: Playter Estates-Danforth, Danforth, Danforth – East York, Broadview North, Leaside-Bennington, Old East York, Thorncliffe Park, Flemingdon Park, O'Connor-Parkview, and Banbury – Don Mills. These communities contain a variety of existing uses, from residential and commercial, to office and industrial, and a network of institutional uses and open spaces. The land use and built form of these communities reflect the eras in which they were developed, varying in terms of density and built form characteristics. While Employment Areas are relatively homogenous in form, there is a great degree of variety in residential development which ranges from row housing and townhomes to high-rise apartments.

Some of the notable local landmarks in the various neighbourhoods include:

- Ontario Science Centre;
- Aga Khan Museum;
- Evergreen Brick Works;
- Leaside Bridge;
- Charles H. Hiscott Bridge;
- East York Town Centre;
- Flemingdon Park Shopping Centre;
- Lower Don Valley;
- Leaside Park;
- E.T. Seton Park; and
- Don River West Branch.

Pape Sub-Area

The Pape Avenue Corridor was developed in the first half of the 20th century across a grid of streets with a fine-grained pattern of generally uniform lots. The corridor is characterised by its small-scale, main street retail and service uses, some of which are provided in a mixed-use format with residential uses on the upper storeys. These buildings are about 2-3 storeys in height and line the majority of Pape Avenue with little setback, providing direct frontage and orientation onto the street. The main-street, mixed-use pattern is broken at several points along the corridor including between Lipton Avenue and Browning Avenue and north of Gamble Avenue which are comprised of mainly low-rise residential forms. While the houses between Lipton Avenue and Browning Avenue maintain limited setbacks found across much of the corridor, houses north of O'Connor Drive have greater setbacks, driveways and landscaping which separate the building frontage from the street.

PUBLIC REALM CHARACTERISTICS

The Pape Sub-Area is characterized by a well-defined public realm with buildings oriented toward the street with consistent street setbacks. Despite more tree-lined neighbourhood streets, Pape Avenue itself lacks street trees. This lack of street trees is the result of buildings having been developed at or close to the lot line with limited 3-4 metre setbacks from the curb and the presence of overhead utilities which restrict tree growth. However, this pattern along Pape Avenue changes north of Gamble Avenue, where there is a more residential characteristic with larger setbacks. Sidewalk space along Pape Avenue is limited with little or no room for street furnishings.

Thorncliffe Employment Sub-Area

The Thorncliffe Employment Sub-Area is situated to the north side of Overlea Boulevard, between Millwood Road and Don Mills Road. This area contains predominately employment uses, ranging from more industrial uses such as electric power distribution, storage and manufacturing facilities, to low-rise industrial offices and business parks. Examples include the Costco development and integration of the former Coca Cola headquarters heritage building on the site. These employment uses are primarily contained in 1-2 storey buildings built in the 1960s and 1970s on larger lots. The majority of buildings have large footprints, are set back from Overlea Boulevard, and are oriented along a network of side and secondary streets. Commercial and retail uses are dispersed throughout the area to support the employment uses.

PUBLIC REALM CHARACTERISTICS

Public realm characteristics in the Thorncliffe Employment Sub-Area reflect the nature of employment uses and industrial activity that characterize the area. Although buildings are oriented toward the street, they are often set back 10-15 metres from the street edge or sidewalk (when present) and separated from the street by landscaping or parking lots. While these large setbacks contribute to the streetscapes along Millwood Road and Overlea Boulevard; they are left unplanted along other streets in the Sub-Area.

Thorncliffe Park Sub-Area

The Thorncliffe Park Sub-Area is characterised by a mix of larger-scale commercial, residential, and institutional uses developed between the late 1950s and late 1970s. The largest development in the Sub-Area is the East York Town Centre. This mall and associated plaza are situated in the centre of the neighbourhood and comprise a large portion of the Overlea Boulevard frontage in the OLN Study Area. The Mall is set back from the street and surrounded by large areas of surface parking.

PUBLIC REALM CHARACTERISTICS

Similar to the Thorncliffe Employment area, the majority of buildings in this Sub-Area are oriented toward the street yet largely set back from the right-of-way by landscaping or parking lots. Setbacks are larger along Overlea Boulevard than they are along Thorncliffe Park Drive. The East York Town Centre is set back by large parking areas along most of its Overlea Boulevard frontage. The townhouse complex at Overlea Boulevard and Leaside Park Drive has

the smallest setback from Overlea Boulevard. The complex is separated from the street by a fence which lines most of the frontage. Additionally, some residential uses along Thorncliffe Park Drive are oriented internally off of cul-de-sacs or driveways, creating courtyard-like spaces between buildings.

Flemingdon Park Sub-Area

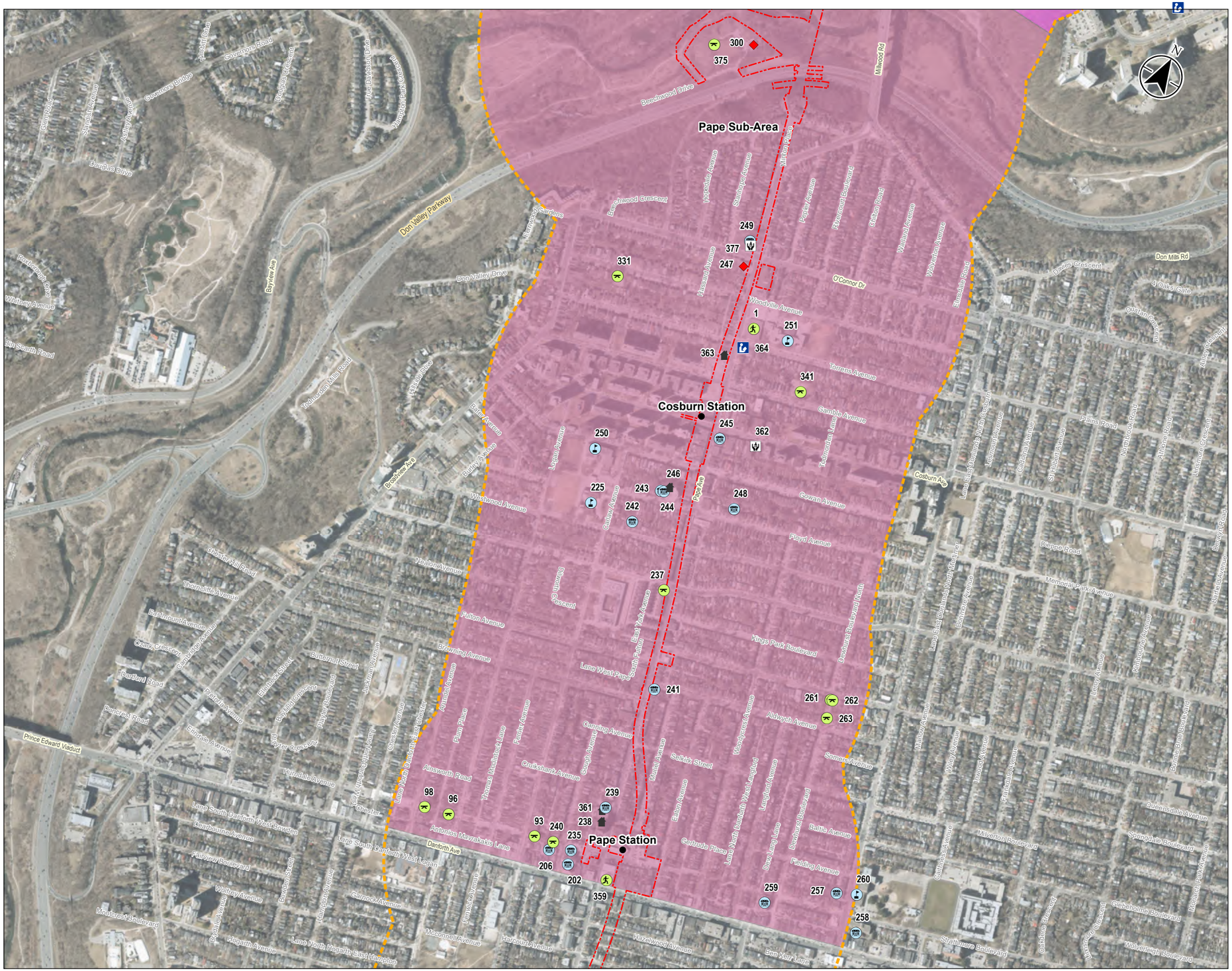
The Flemingdon Park Sub-Area is situated along Don Mills Road and comprised of residential, commercial, and institutional uses developed for the most part in the 1960s and 1970s. The neighbourhood is connected to Thorncliffe Park by Charles H. Hiscott Bridge, which passes over the Don River West Branch. This river valley open space system comprises much of the western edge of this neighbourhood, and is backed onto by the Marc Garneau Collegiate Institute, Valley Park Middle School, and the Ontario Science Centre. A portion of the open space network has direct frontage onto Don Mills Road. The neighbourhood is divided into northern and southern sections by the large hydro corridor, which crosses Don Mills Road from the Don River Valley to the west and runs east towards the Don Valley Parkway. The land in the corridor is used for a range of recreational uses including playing fields, running tracks, ball diamonds, and outdoor seating areas.

PUBLIC REALM CHARACTERISTICS

The Flemingdon Park Sub-Area is situated along Don Mills Road, a six-lane arterial road with a central landscaped median along certain portions of the corridor and a 3-metre, tree-lined landscape strip running mostly along both sides of the road. Unlike the other sub-areas, most buildings are not oriented toward this central corridor but instead are oriented internally around secondary connections, driveways, parking areas, and plazas. In several areas, buildings do orient towards the corridor – these include Marc Garneau Collegiate Institute, Valley Park Middle School, and a few commercial / office buildings. In these areas, buildings frame the street but provide less room for street furnishing. Bus stops, garbage / recycling bins, and lamp posts are provided but are less common than in Thorncliffe Park.

Community Amenities

Figure 4-36 provides an overview of available community amenities in the OLN Study Area. There are 12 schools, three libraries, 28 places of worship, and three emergency services (ambulance and police facilities) located in the OLN Study Area. There are 16 parks and open spaces in the OLN Study Area. The most notable parks and open spaces, in size and history, include: Lower Don Parklands in the Pape Sub-area; E.T. Seton Park and Flemingdon Park in the Flemingdon Park Sub-Area; and Leaside Park and R.V. Burgess Park in the Thorncliffe Park Sub-Area. Community resources in the OLN Study Area provide a range of services and assistance and include daycares, supportive housing, non-profit organizations, and business associations. There are 24 community resources in the OLN Study Area. A full list of community amenities in the OLN Study Area is available in Section 5.1.3, 5.2.3, and 5.3.3 of **Appendix A4.**



Stantec

Legend

- ⬚ Project Footprint
- ⬚ Study Area (500 m Buffer)

Socio-Economic Key Features

- Community Resources
- Daycare
- ◆ Emergency Services
- Housing
- Library
- Park and Open Space
- Place of Worship
- School

OLN

- ■ Pape Sub-Area
- ■ Thorncliffe Park Sub-Area

0 250 500 Metres

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Notes

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Project Location
City of Toronto, ON

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Client/Project
HDR CORPORATION
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Figure No.
4-36-1

Title
Community Amenities in the OLN Study Area

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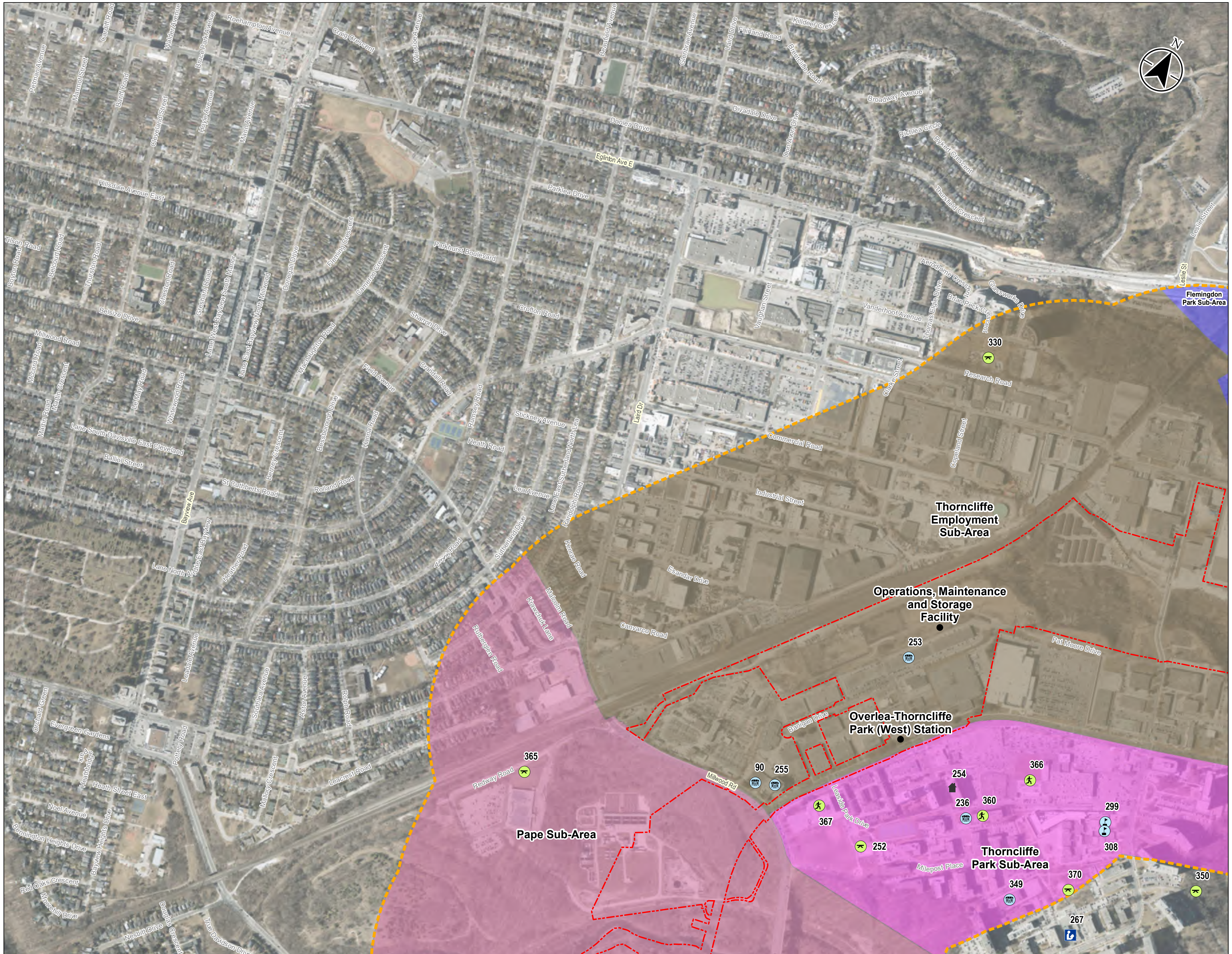

Stantec

Legend

- Project Footprint
- Study Area (500 m Buffer)

Socio-Economic Key Features

- Community Resources
- Housing
- Library
- Park and Open Space
- Place of Worship
- School

OLN

- Pape Sub-Area
- Thorncliffe Park Sub-Area
- Thorncliffe Employment Sub-Area
- Flemingdon Park Sub-Area

0 250 500 Metres

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Notes

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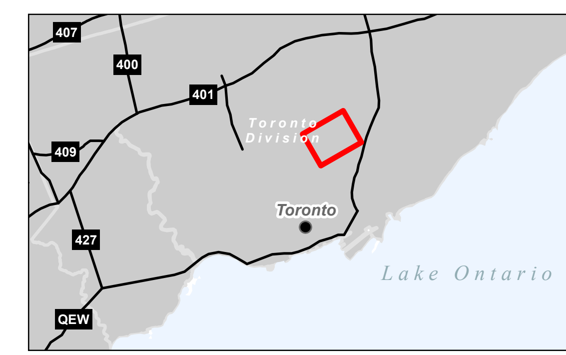


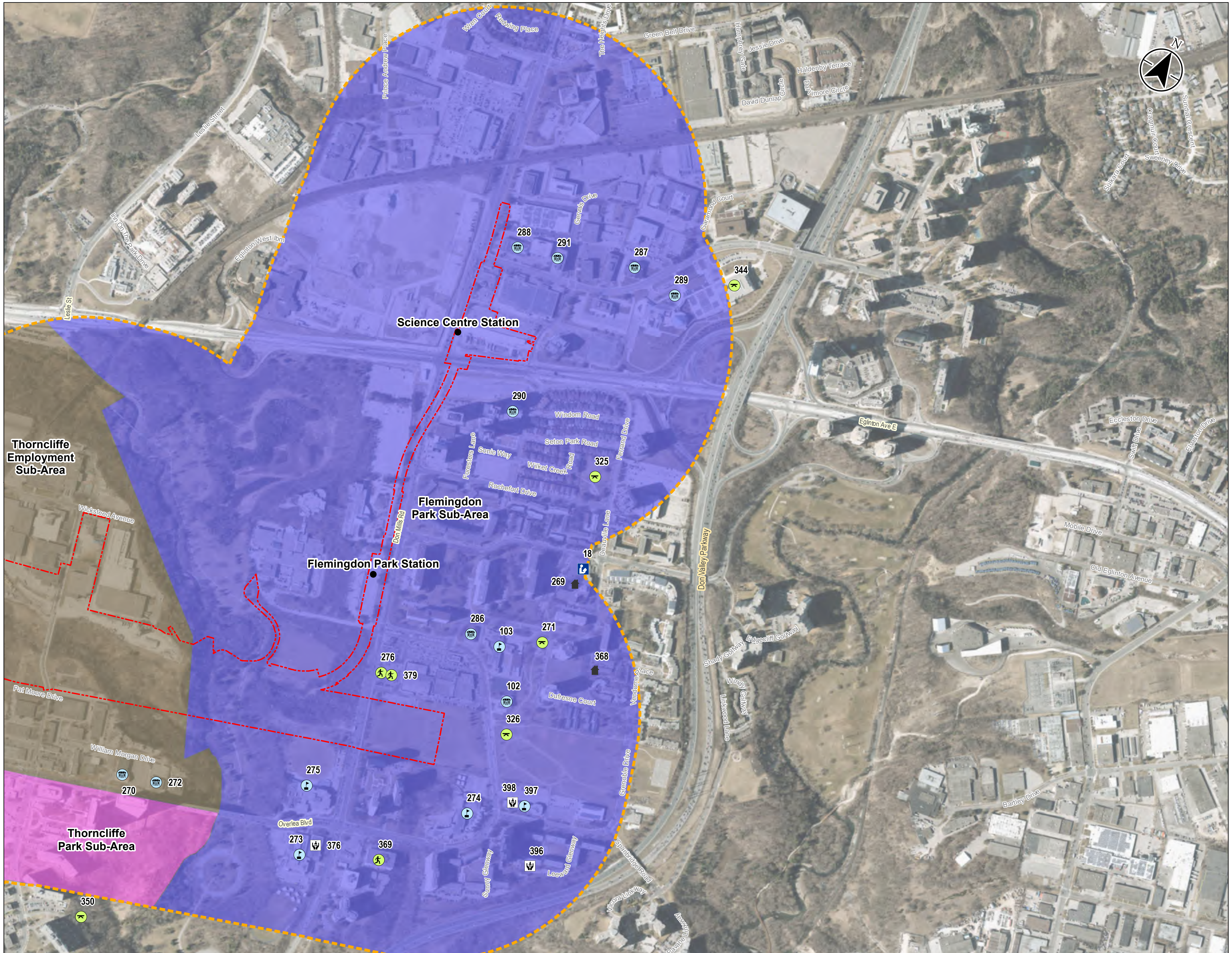
Project Location
City of Toronto, ON

160560009 REV4
Prepared by BCC on 2022-01-20

Client/Project
HDR CORPORATION
ONTARIO LINE TA

Figure No.
4-36-2

Title
Community Amenities in the OLN Study Area



![Stantec]

Stantec

Legend

Project Footprint

Study Area (500 m Buffer)

Socio-Economic Key Features

Community Resources

Daycare

Housing

Library

Park and Open Space

Place of Worship

School

OLN

Thorncliffe Park Sub-Area

Thorncliffe Employment Sub-Area

Flemingdon Park Sub-Area

0 250 500 Metres

1:10,100 (At original document size of 11x17)

Notes

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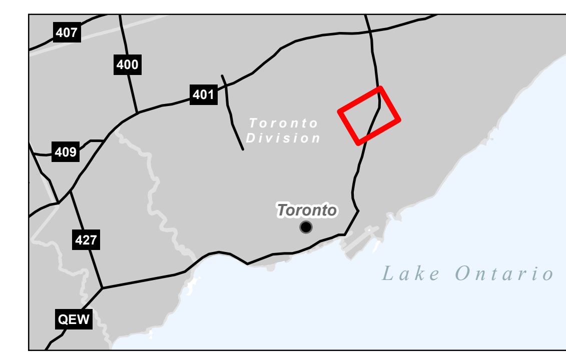

Project Location
City of Toronto, ON

160560009 REV4
Prepared by BCC on 2022-01-20

Client/Project
HDR CORPORATION
ONTARIO LINE TA

Figure No.
4-36-3

Title
Community Amenities in the OLN Study Area

Neighbourhood Demographics

The OLN Study Area contains 10 neighbourhoods: Playter Estates - Danforth, Danforth, Danforth - East York, Broadview North, Leaside-Bennington, Old East York, Thorncliife Park, Flemingdon Park, O'Connor-Parkview and Banbury-Don Mills. This subsection provides a demographic analysis of the OLN Study Area. All data in the subsection was sourced from the 2016 Census Profiles (Statistics Canada 2019) and 2011 National Household Survey Profiles (Statistics Canada 2015), (City of Toronto 2021b).

Demographic Profile

The City of Toronto experienced a total population growth of approximately 4.5% between 2011 and 2016. Most neighbourhoods along the Project's north alignment experienced growth in the range of 1-3%. The total population of Thorncliffe Park grew by 9.8%, while the populations of Broadview North, Leaside-Bennington, and Flemingdon Park fell slightly.

In 2016, the 25 to 64 age group formed the largest portion of the total population with more than half of the total population for neighbourhoods in the OLN Study Area. The 15 to 24 age group formed the smallest portion of the population in this segment. These population distributions are consistent across each neighbourhood, as well as the City of Toronto as a whole. The Broadview North, Old East York, and Banbury-Don Mills neighbourhoods contain a larger percentage of people aged 65+ when compared to the City of Toronto. Every neighbourhood except Broadview North and Banbury-Don Mills contain a higher percentage of people between the ages of 0 to 14 than the City of Toronto average.

The population in the neighbourhoods in the OLN Study Area were divided relatively evenly between females and males, which is consistent with the distribution in each neighbourhood as well as the City of Toronto.

The level of educational attainment for the City of Toronto and the neighbourhoods along the north alignment were relatively unchanged between 2011 and 2016. Just over half of the population in the neighbourhoods in the OLN Study Area were post-secondary degree holders, which aligns with the distribution observed throughout the City. Similarly, almost the same percentage of the population in the neighbourhoods in the OLN Study Area and the City had a secondary school certificate or did not hold a certificate. These distributions are generally consistent in each neighbourhood, though there were slightly fewer post-secondary degree holders in the Thorncliffe Park Flemingdon Park, and O'Connor-Parkview neighbourhoods than in other OLN neighbourhoods and the City of Toronto as a whole.

Most neighbourhoods in the OLN Study Area had a 2016 average household size that was slightly above the City of Toronto average. Playter Estates-Danforth, Broadview North, and Banbury-Don Mills were slightly below the City of Toronto average. While the average household size decreased in the City between 2011 and 2016, it increased in all of the OLN Study Area neighbourhoods except for Broadview North and Banbury-Don Mills.

In 2016, the average income in Playter Estates-Danforth, Danforth, Leaside-Bennington, Old East York, and Banbury-Don Mills was above the City of Toronto average. In contrast, Danforth - East York, Broadview North, Thorncliffe Park, Flemingdon Park, and O'Connor-Parkview were below the City average.

Economic Profile

EMPLOYMENT

In 2016, over half of the population of the OLN Study Area were employed, with Thorncliffe Park and Flemingdon Park having 44% of their populations not in the labour force. The highest percentage of employed population was in the Playter Estates - Danforth neighbourhood, which exceeded the City's employment rate. Danforth – East York, Thorncliffe Park, Flemingdon Park, Banbury-Don Mills, and O'Connor-Parkview all have lower rates than the city's average at 62%, 49%, 51% 56%, and 56%, respectively. Thorncliffe Park Flemingdon Park, and O'Connor-Parkview also exceed the city's average unemployment rate at 12.7% 10.6%, and 10.1%, respectively.

COMMUTING PATTERNS

Across the neighbourhoods, there is a higher use of public transit than the city average, aside from three neighbourhoods: Leaside-Bennington, Old East York, and Banbury-Don Mills. Those three neighbourhoods have a higher rate of automobile drivers at 60%, 52% and 63%, respectively.

With regard to active transportation, neighbourhoods in the OLN Study Area had slightly less commutes by this mode than the City as a whole, with only Playter Estates-Danforth meeting the city's average. In regard to walking, only Playter Estates-Danforth met the city's average, all other neighbourhoods were below the average. Six of the nine neighbourhoods exceeded or met the city's average for cycling, while Thorncliffe Park, Flemingdon Park, O'Connor-Parkview, and Banbury-Don Mills have only 1% of the population who cycle for their commute.

Future Development

There were 42 active development applications in the OLN Study Area as of March 2022. These applications are mostly for residential uses, which range from townhomes to condominiums across a spectrum of tenure, including purpose-built rental and long-term care facilities, as well as two Housing Now sites[2]. Other proposed and approved uses include retail and office developments as well as daycares and parks.

Most of the proposed developments in the OLN Study Area are in the Pape Sub-Area (25 of the 42 active applications), consisting primarily of proposals for residential and mixed-use development. The Flemingdon Park Sub-Area, which has 13 active development applications, is in close proximity to Don Mills Road and Eglinton Avenue East. Development activity here has

2. Housing Now is an initiative to activate City-owned sites for the development of affordable housing within mixed-income, mixed-use, transit-oriented communities (City of Toronto 2020b).

been influenced by the introduction of the Eglinton Crosstown LRT. They are larger in scale than other applications throughout this Study Area, spanning multiple blocks and propose a mix of new uses, public parks, pedestrian paths, and privately-owned public spaces[3]. These new developments have the potential to significantly transform this part of the Study Area with thousands of new residents and employees and include two CreateTO Housing Now sites that will introduce affordable housing in the area, in proximity to major transit infrastructure.

There are four active applications in the Thorncliffe Employment Sub-Area, which consist of residential (condominium) and office building development.

Of the 42 applications in the OLN Study Area, six have been approved.

4.8 Air Quality

Air quality refers to the presence or absence of substances in the outdoor air that, if present in large enough quantities, could cause harm to humans or other flora and fauna in the area being studied. These include substances in gaseous or solid (particulate) form.

4.8.1 Methodology

An Air Quality Impact Assessment Report was prepared by Stantec in 2022 (see **Appendix A5**). The findings of the Air Quality Assessment Environmental Conditions Report (AECOM 2020j), completed in support of the Environmental Conditions Report, were reviewed and updated as appropriate to reflect the current Project understanding, scope, and footprint.

The objectives of this assessment were to:

- establish the study area
- identify the air contaminants of interest, and the regulatory framework
- assess and establish existing conditions
- identify air emissions sources
- assess potential impacts
- provide recommendations for mitigation measures and monitoring activities

Where applicable, guidance from the MTO Environmental Guide for Assessing and Mitigating the Air Quality Impacts of Greenhouse Gas Emissions of Provincial Transportation Projects (MTO 2020) were followed.

Further details regarding air quality can be found in **Appendix A5**.

3. A privately-owned public space is a specific type of open space which the public is welcome to enjoy but remains privately owned. The City often negotiates with private developers to include these as part of the development application and review process, to provide open space within Toronto's dense urban landscape (City of Toronto 2020c).

4.8.2 Ontario Line West

Existing conditions in the Study Area were established through a review of background information, and determining air contaminants of interest, air emission sources, background ambient air quality concentrations, receptors, land use, and meteorological conditions.

The OLW Study Area consists of a mix of land uses including Employment Industrial, Residential, Commercial Residential, Open Space, and Utility and Transportation zones.

Meteorological conditions from the Toronto City Centre station (Station ID 71265) are representative of the OWL Study Area. The most frequent single wind direction measured at the Toronto City Centre station is from the east-northeast but with winds blowing most frequently from westerly directions (northwest to southwest) (AECOM 2020j).

Activities that generate air contaminants of interest in the OLW, OLN, and OLS sections are similar. Air contaminants of interest in the OLW Study Area are associated with road traffic emissions from buses and passenger vehicles, emissions from diesel locomotives travelling along the rail corridors, and industrial emissions.

Background ambient air quality concentrations were assessed using data from the nearby National Air Pollution Surveillance Network or MECP stations (ECCC 2020 and AECOM 2020j). Stations were selected near the Study Area to be representative of ambient concentrations in the three sections (OLW, OLS and OLN). Background levels for contaminants of interest in the OLW Study Area are well below their applicable objectives, with the noted exception of benzene and benzo(a)pyrene. The annual background concentration of benzene exceeds the criteria by 36%. Background concentrations of benzo(a)pyrene for both 24-hour and annual averaging periods are more than twice and six times the criteria, respectively. Exceedances are common in southern Ontario (including rural areas), and they are not unique to the study area. Based on the Air Quality in Ontario 2017 Report (MECP 2019a), the mean annual benzene concentrations measured at the seven MECP monitoring stations ranged from 0.34 µg/m^3 to 0.60 µg/m^3, and they exceeded the annual ambient air quality criteria of 0.45 µg/m^3 at two of the seven monitoring stations. However, the trend in the ambient benzene concentration in Ontario over the ten-year period, from 2008 to 2017, is downward, where measured concentrations have decreased 24% during that time period (MECP 2019a).

Current and potential future sensitive (residential dwellings) and critical receptors (including schools, childcare centres, and institutional buildings) were identified in the OLW Study Area (see **Figure 4-37** and **Figure 4-38**).

4.8.3 Ontario Line South

Land uses in the OLS Study Area include commercial, residential, residential, open space, employment industrial, residential, and utility and transportation zones.

Weather conditions at the Toronto Pearson International Airport station (Station ID 61587) are reasonably representative of the OLS Study Area. The predominant wind directions measured at the Toronto Pearson International Airport are from the north-northwest and west, with lower windspeeds occurring for winds predominantly blowing from the southwest (AECOM 2020j).

The activities that generate air contaminants of interest, and the background ambient air quality concentrations for OLW, OLS and OLN sections, are similar and are presented in **Section 4.8.2**.

Current and potential future sensitive (residential dwellings) and critical receptors (including schools, hospitals, childcare centres, and institutional buildings) were identified in the OLS Study Area (see **Figure 4-37** and **Figure 4-38**).

4.8.4 Ontario Line North

The OLN Study Area contains a mix of residential, commercial residential, open space, institutional, residential apartment, employment industrial, and utility and transportation zones.

Weather conditions at the Toronto Pearson International Airport station (Station ID 61587) are representative of the OLN Study Area. The predominant wind directions measured at the Toronto Pearson International Airport are from the north-northwest and west, with lower windspeeds occurring for winds predominantly blowing from the southwest (AECOM 2020j).

The activities that generate air contaminants of interest, and the background ambient air quality concentrations for OLW, OLS and OLN sections, are similar and are presented in **Section 4.8.2**.

Current and potential future sensitive (residential dwellings) and critical receptors (including schools, retirement homes, and childcare centres) were identified in the OLN Study Area (see **Figure 4-37** and **Figure 4-38**).

Stantec

Legend

- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

0 250 500 Metres

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Notes

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HDR CORPORATION
ONTARIO LINE TA

Figure No.
4-37-1

Title
Locations of Current Critical and Sensitive Receptors

Stantec

Legend
- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

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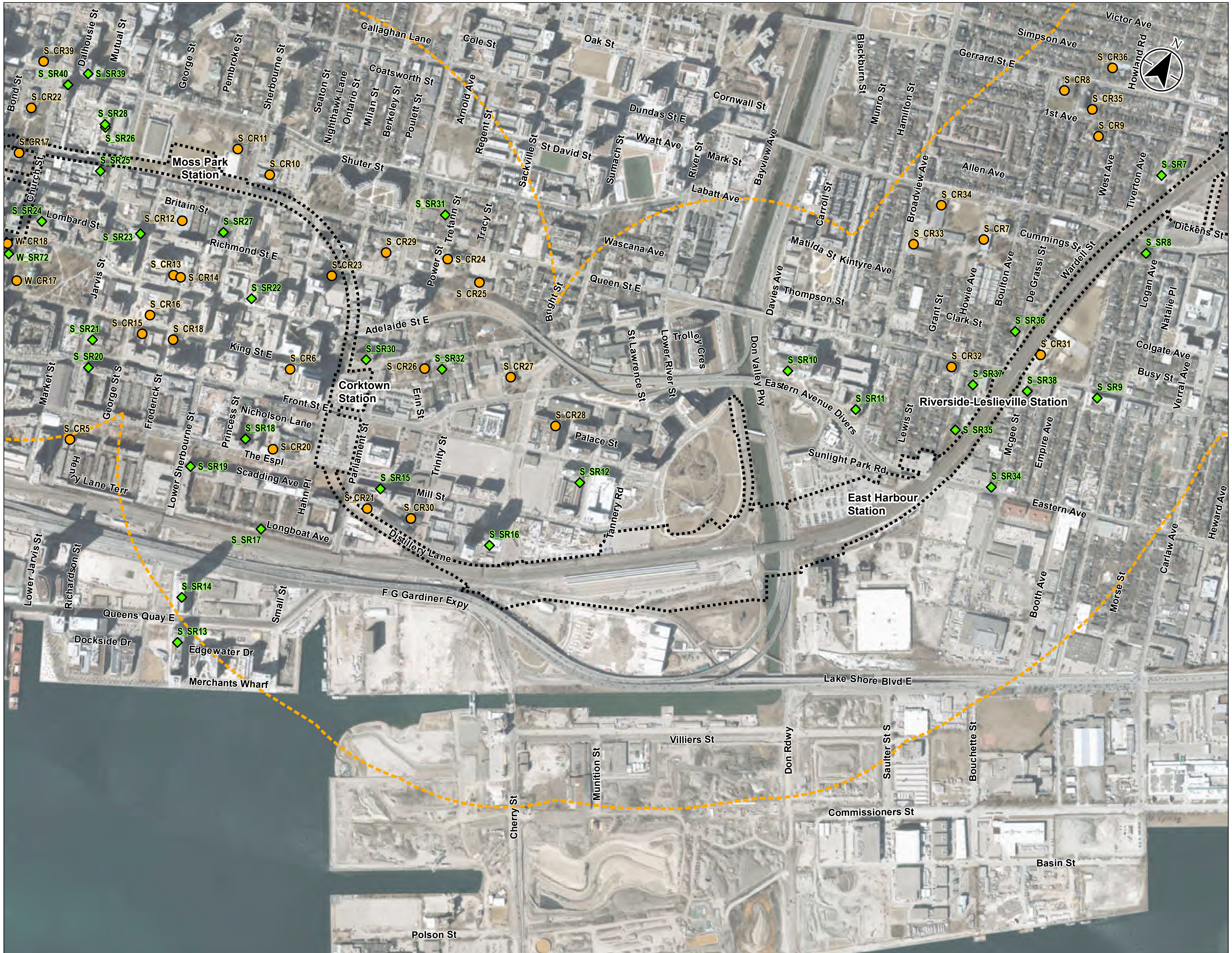
Figure No.
4-37-2

Title
Locations of Current Critical and Sensitive Receptors



Legend
- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

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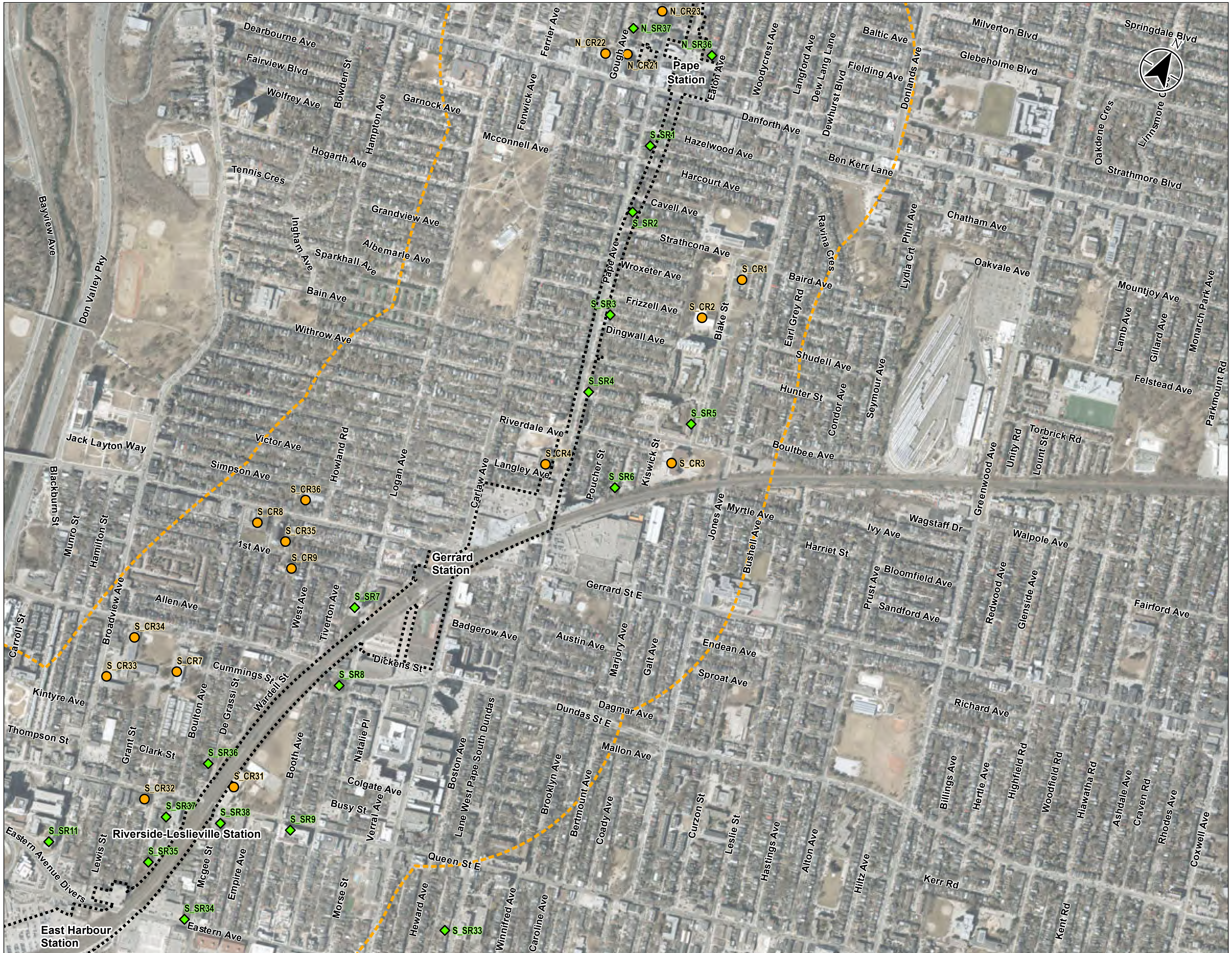
Figure No.
4-37-3

Title
Locations of Current Critical and Sensitive Receptors



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Legend

- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

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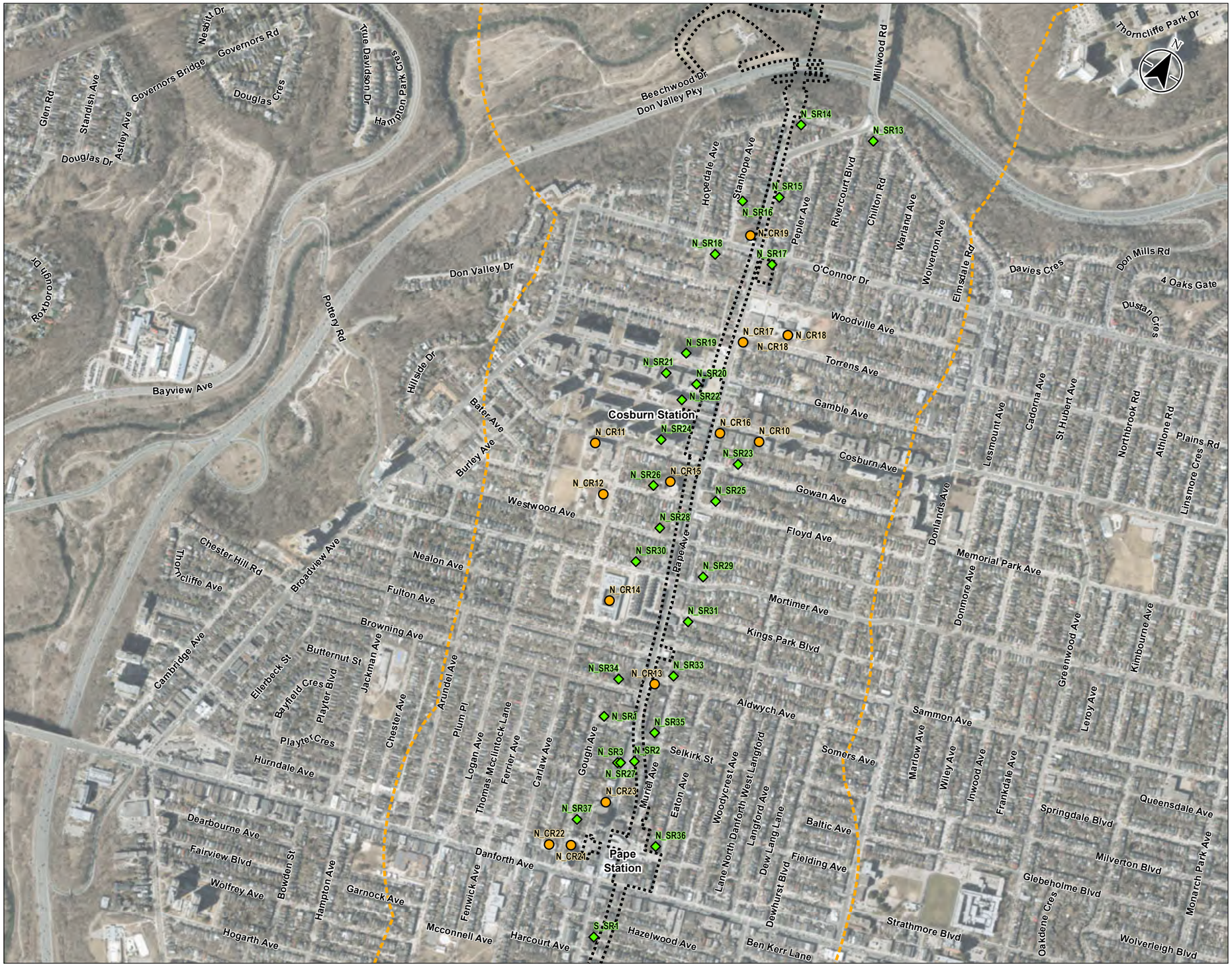
Figure No.
4-37-4

Title
Locations of Current Critical and Sensitive Receptors



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- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

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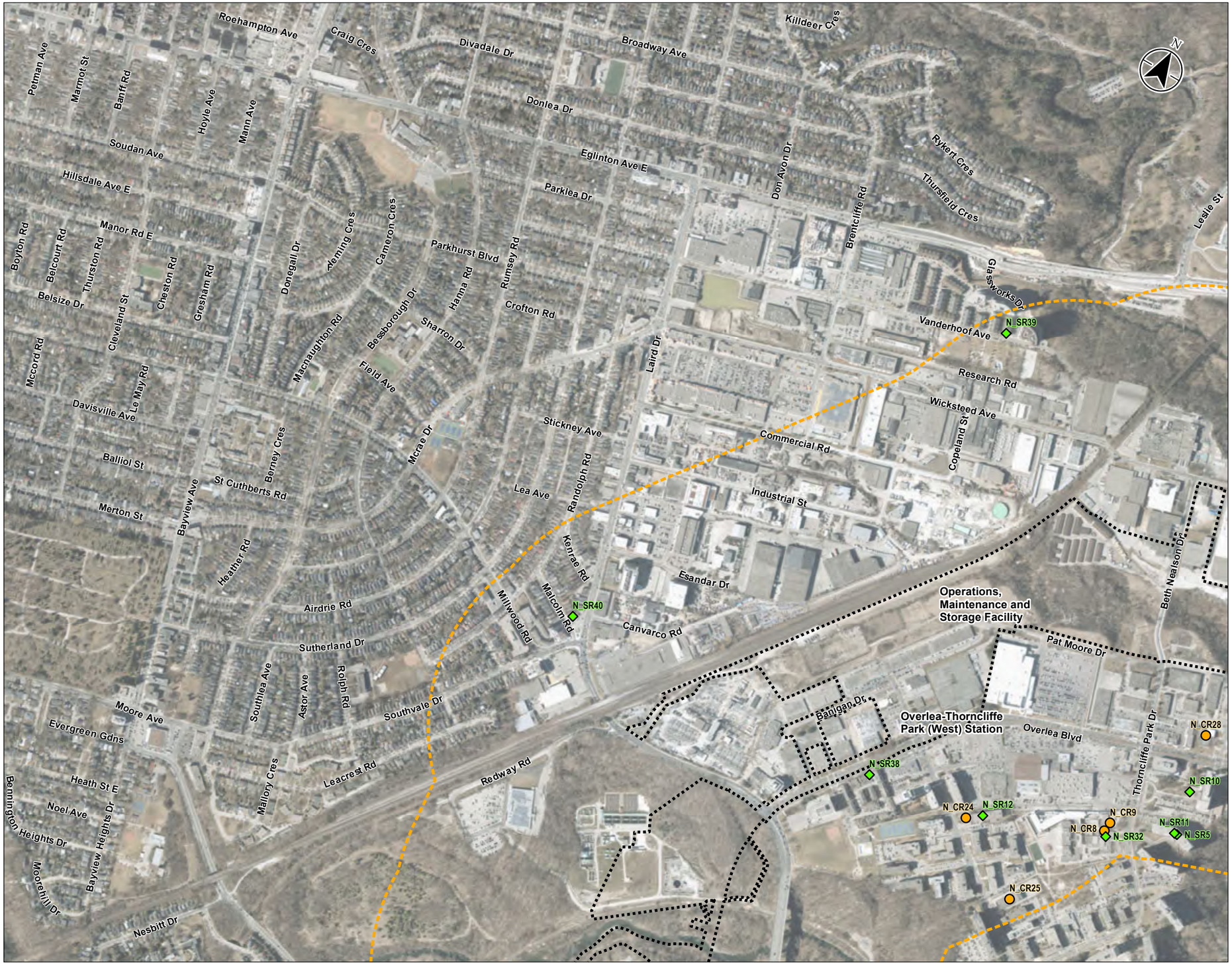
Figure No.
4-37-5

Title
Locations of Current Critical and Sensitive Receptors



Stantec

Legend
- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

0 250 500 Metres

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Figure No.
4-37-6

Title
Locations of Current Critical and Sensitive Receptors

Stantec

Legend
- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

0 250 500 Metres

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Figure No.
4-37-7

Title
Locations of Current Critical and Sensitive Receptors

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Legend

- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

Notes
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Figure No.
4-38-1

Title
Locations of Potential Future Critical and Sensitive Receptors

Stantec

Legend

- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

Notes

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Figure No.
4-38-2

Title
Locations of Potential Future Critical and Sensitive Receptors

(At original document size of 11x17)

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Stantec

Legend

- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

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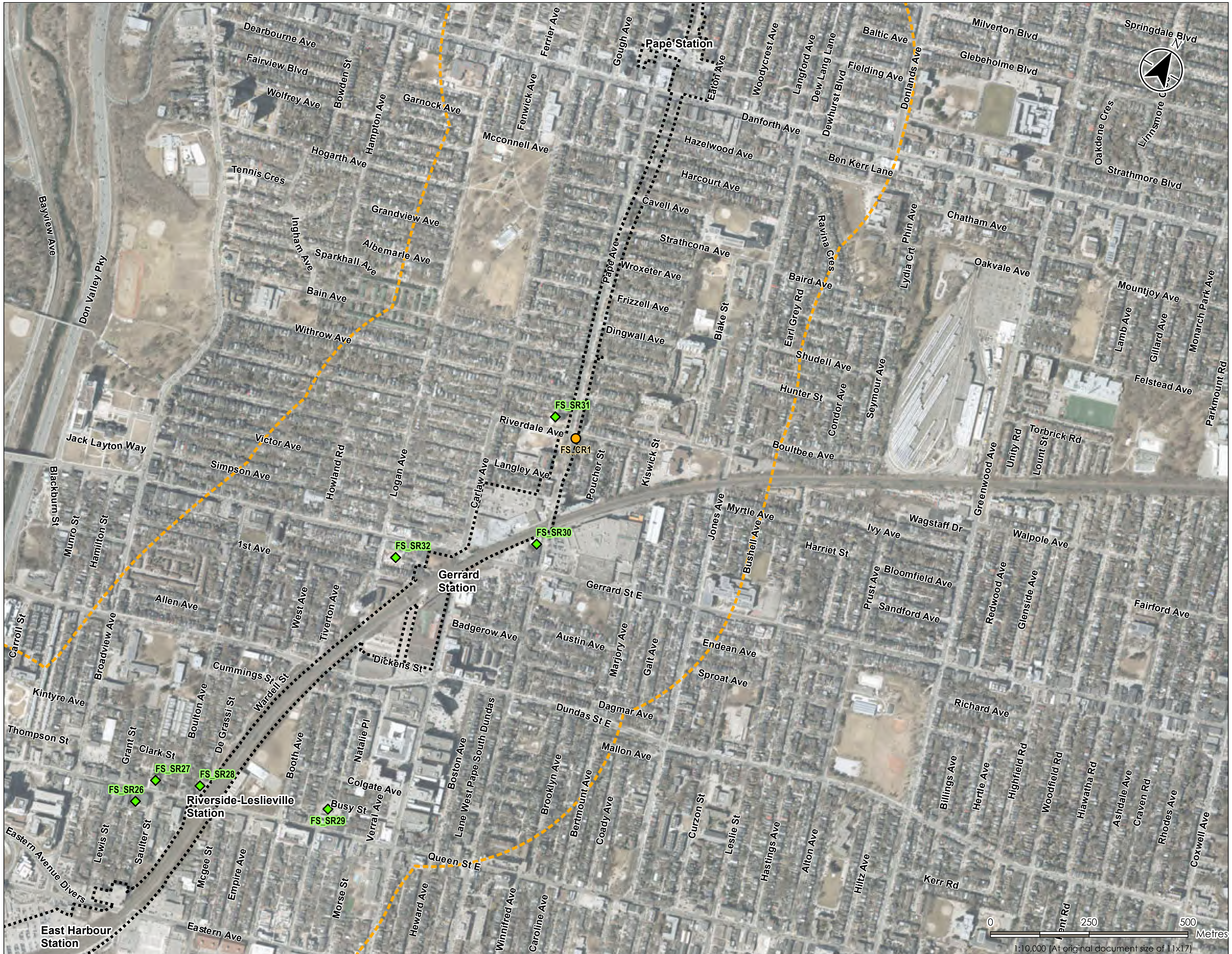
ONTARIO LINE TA

Figure No.
4-38-3

Title
Locations of Potential Future Critical and Sensitive Receptors

Stantec



Legend

- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

Notes

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Figure No.
4-38-4

Title
Locations of Potential Future Critical and Sensitive Receptors

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Legend

- Project Footprint
- Study Area (500 m Buffer)

Notes

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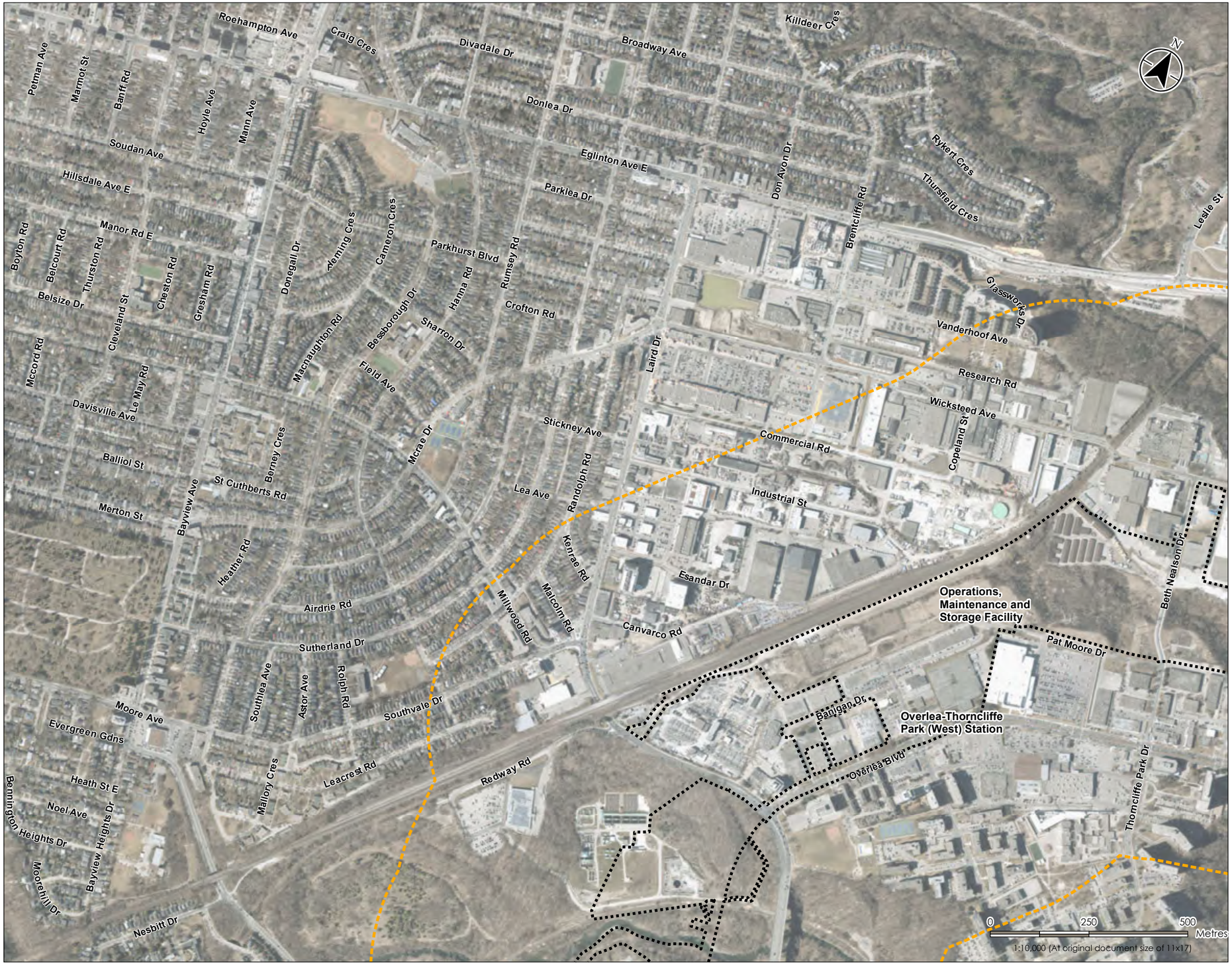
Figure No.
4-38-5

Title
Locations of Potential Future Critical and Sensitive Receptors

Revised: 2022-01-31 By: bcowper



Stantec

Legend
- Project Footprint
- Study Area (500 m Buffer)

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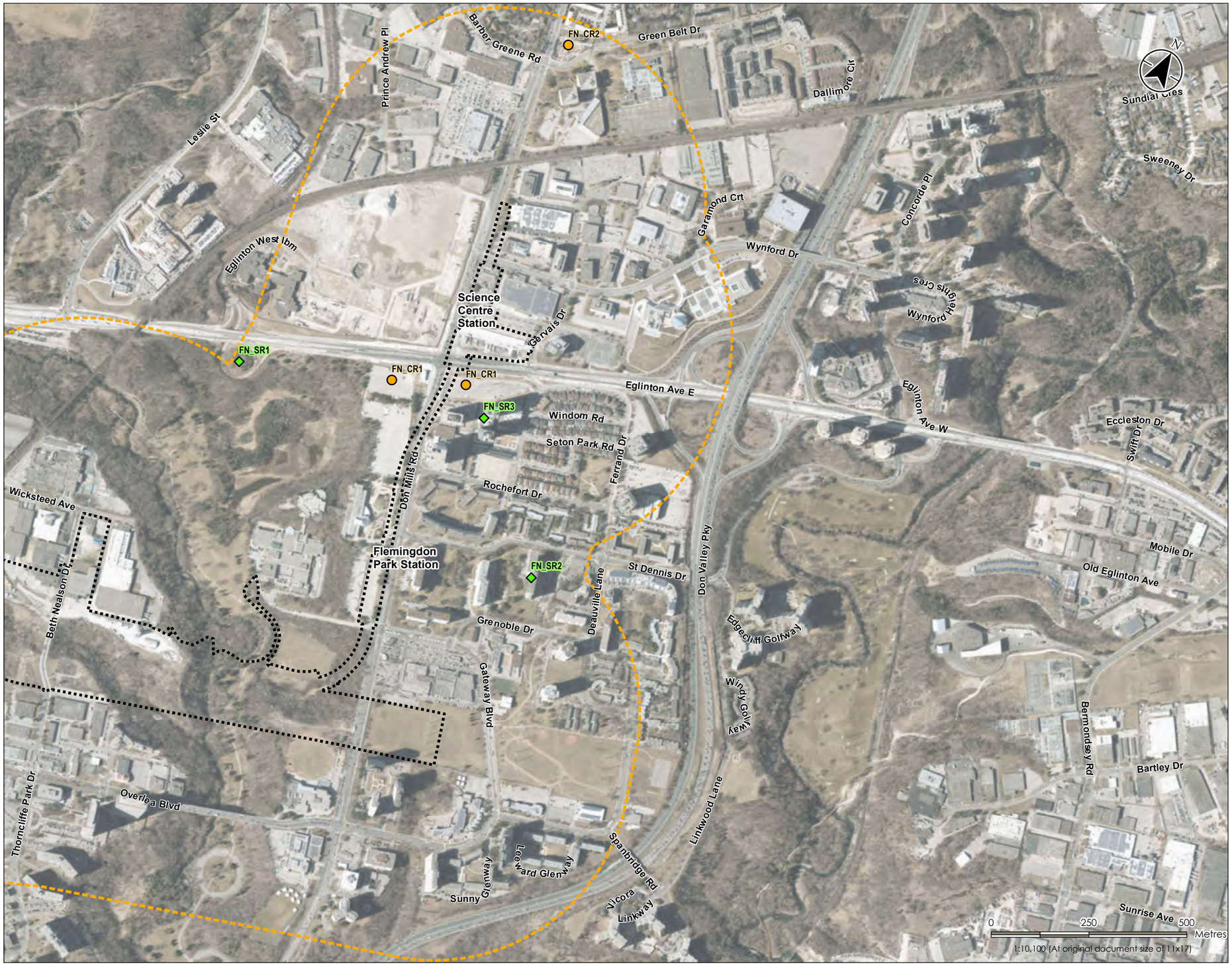
Figure No.
4-38-6

Title
Locations of Potential Future Critical and Sensitive Receptors



Stantec

Legend
- Project Footprint
- Study Area (500 m Buffer)
- Critical Receptor
- Sensitive Receptor

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ONTARIO LINE TA

Figure No.
4-38-7

Title
Locations of Potential Future Critical and Sensitive Receptors

4.9 Noise and Vibration

Sound is vibration (i.e., particles that move back and forth) in the air that we hear and interpret as sound. Noise is the sound that is unwanted. Ambient noise is the existing sound in the environment (e.g., from traffic and industrial sources). The train noise as it passes by is known as airborne noise. Vibration (described below) that generates noise is known as ground-borne noise, and vibration that generates noise in a structure is known as structure-borne noise.

Vibration is when a material other than air vibrates (e.g., soil, structures). When this moves through the soil, from a vibrating source (e.g., trains on a track) to a building, it is called ground-borne vibration. Ground-borne vibration can sometimes be felt in a structure.

4.9.1 Methodology

A detailed summary of the existing noise and vibration conditions in the Study Area is presented in the Noise and Vibration Impact Assessment Report in **Appendix A6**.

The existing noise and vibration conditions presented in this report were characterized using measurement data previously collected at representative noise sensitive receptors near the Project and presented in the Ontario Line Noise & Vibration Environmental Conditions Report (AECOM 2020k), as well as from additional monitoring data collected in November and December 2020. In addition to the measurement data collected at representative noise sensitive receptors near the Project, a ground truthing verification study was conducted to identify the potentially sensitive noise receptors in the Study Area to be considered in the noise impact assessment. Further details on these activities are described below.

As part of the Noise and Vibration Environmental Conditions Report (AECOM 2020k), noise measurements were collected in 2019 at 17 locations representative of the noise-sensitive receptors near the Project. The measurements were collected at a height of approximately 3 metres above the ground, as this would represent higher floors (e.g., 2nd storey bedrooms). Noise data was collected over multiple days to confirm that sufficient data was available to represent the baseline after being processed to remove noise samples that may have been influenced by high winds (i.e., wind speeds greater than 20 kilometre/hr) or precipitation which would generate false noise readings. Periods of activity not representative of the typical acoustic environment (i.e., construction) were excluded from the noise data. Supplemental noise monitoring was conducted in November and December 2020 at five locations.

The 2020 daytime ($L_{eq, 16hr}$ (day)) and nighttime ($L_{eq, 8hr}$ (night)) average noise levels were between 2 to 18 decibles (dB) lower than those recorded in 2019. This difference was attributed to COVID-19 pandemic-related travel restrictions, and the associated reduction in road vehicle traffic. As pandemic-related reductions in road vehicle traffic are expected to be temporary, with the expectation that future sound levels will recover to at least those recorded in 2019, the 2019 noise monitoring results have been replied upon to define the baseline noise conditions for the Project.

The Four Seasons Centre for the Performing Arts was also identified as a unique sensitive receptor with additional concerns in the Study Area. A review of acoustic design requirements of the facility identified that it requires stringent indoor noise levels to be met for acceptable performance. Therefore, indoor noise level measurements were collected at this location to establish its baseline.

Vibration measurements were also previously collected in support of the Environmental Conditions Report (AECOM 2020k) at eleven sites identified to be particularly sensitive to vibration, including four theatres (including the Four Seasons Center for the Performing Arts), one concert hall, one recording studio, one recreation centre, one hospital as well as three locations near portal entrances. At each measurement site, one to three locations were selected for the installation of the vibration monitoring equipment (i.e., accelerometers), in potentially sensitive indoor locations as well as outdoor locations closer to the planned alignment of the Project. Supplementary vibration monitoring was also conducted at four additional outdoor locations, and within the Four Seasons Center for Performing Arts.

In addition to noise and vibration monitoring, a receptor identification study was conducted to identify points of reception in the Study Area to be considered in the noise and vibration impact assessment. The receptor identification study initially consisted of an aerial map review of potential receptors. However, for completeness to identify existing receptors, potential future receptors (e.g., future developments) and receptors not identified by aerial maps (e.g., mixed-use buildings), a ground truthing exercise was conducted. This included staff walking the entire alignment and cataloging all receptors (over 3000 in all), such that a list of representative receptors (over 250) could be identified for the noise and vibration impact assessments. To ease the noise and vibration analysis while still maintaining accurate impact assessment, these receptors were grouped together in clusters of similar type and impact. The baseline noise and vibration monitoring were then assigned to each receptor cluster in proximity to the baseline monitoring location.

For the vibration impact assessment, as the measured vibration levels were below the criteria in the United States Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (US FTA 2018) for human annoyance and building damage, baseline vibration levels will not be applied in the vibration impact assessment to determine compliance. Therefore, a list of vibration receptors for which to apply measured baseline levels has not been produced. Instead, vibration impacts from the Project were assessed against the applicable criteria, considering the building type (e.g., residential, commercial/institutional, highly sensitive buildings such as TV studios/concert halls, heritage buildings) and the zone of influence of vibration from construction and operations.

A summary of the existing noise and vibration conditions in each of the Project's three sections are presented below, and further details can be found in the Noise and Vibration Impact Assessment Report in **Appendix A6**.

4.9.2 Ontario Line West

In OLW Study Area, daytime (7 am to 7 pm) baseline noise monitoring data ranged from 58 decibel A-weighted (dBA) to 67 dBA, evening levels (7 pm to 11 pm) from 59 dBA to 61 dBA, and night-time levels (11 pm to 7 am) from 54 dBA to 59 dBA. Baseline vibration measurements in the OLW Study Area were below perceptible vibration levels (i.e., less than 0.1 millimetres per second).

4.9.3 Ontario Line South

In the OLS Study Area, daytime (7 am to 7 pm) baseline noise monitoring data ranged from 59 dBA to 66 dBA, evening levels (7 pm to 11 pm) from 55 dBA to 63 dBA, and night-time levels (11 pm to 7 am) from 43 dBA to 55 dBA. Baseline vibration measurements in the OLS Study Area were below perceptible vibration levels (i.e., less than 0.1 millimetres per second).

Indoor noise and vibration levels were also measured at the Four Seasons Centre for Performing Arts. The interior noise level measurements in the Four Seasons are presented in Table 3-3 of **Appendix A6.** Observations by acoustic engineers indicate surface transportation as well as TTC subway are inaudible in the main auditorium at stage level. Measured maximum one-second average root mean square velocity levels ranged from less than 0.02 to 0.04 millimetres per second.

4.9.4 Ontario Line North

In the OLN Study Area, daytime (7 am to 7 pm) baseline noise monitoring data ranged from 48 dBA to 61 dBA, evening levels (7 pm to 11 pm) from 48 dBA to 65 dBA, and night-time levels (11 pm to 7 am) from 44 dBA to 56 dBA. Baseline vibration measurements in the OLN Study Area were below perceptible vibration levels (i.e., less than 0.1 millimetres per second).

4.10 Traffic and Transportation

Traffic (i.e., vehicular, cyclist, and pedestrian) and transportation elements of the environment encompass all infrastructure and activities that help people move from place to place.

4.10.1 Methodology

A Transportation and Traffic Analysis Report was prepared by HDR in 2022 (see **Appendix A7**). The report relied upon the findings of the Traffic and Transportation Environmental Conditions Report (AECOM 2020l), completed in support of the Environmental Conditions Report.

Available mapping was reviewed to better understand the existing transportation conditions within the Traffic and Transportation Assessment Area. The latest available Turning Movement Counts at signalized intersections, signal timing plans, travel time data, and collision data were provided by the City of Toronto. Additional data was collected in December 2019, which included roadway geometry, up-to-date turning movement counts at key intersections in the Assessment Area.

The following aspects of traffic and transportation were assessed:

- Road network;
- Traffic volumes and operations (quantitative and qualitative);
- Transit network and operations;
- Pedestrian network and operations; and,
- Cycling network and operations

For intersections that were assessed quantitatively, intersection capacity analyses were completed. A model was developed to replicated traffic operations during the AM and PM peak hours on a typical weekday. A qualitative assessment was undertaken for the intersections where the necessary traffic data to complete a quantitative assessment was not available. The qualitative assessment involved a review of such items as lane configurations, active transportation facilities and locations, and transit stops to identify any potential operational and/or safety concerns. In addition, the impact of adjacent intersections on the qualitatively assessed intersections was discussed (e.g., queue spillover).

Further details regarding traffic and transportation can be found in **Appendix A7**.

4.10.2 Ontario Line West

Existing Road Network

The existing road network, road classification, and the traffic control devices were assessed. Below is a detailed description of each road in the OLW Study Area.

Queen Street is a major east-west arterial road with a four-lane cross-section including a shared vehicular and streetcar lane running along the left-most lane of each direction. In the OLW Study Area, Queen Street has a posted speed of 40 kilometres per hour and on-street parking is generally prohibited during the weekday peak periods along both sides.

Richmond Street is a major arterial road which runs one-way in the westbound direction. In the OLW Study Area, Richmond Street has a three-lane cross-section and a cycle track running along the north side and includes a streetcar track which is not currently used for any active routes. Richmond Street has a posted speed of 40 kilometres per hour and on-street parking is generally prohibited during the weekday peak periods along both sides.

Adelaide Street is a major arterial road which runs one-way in the eastbound direction with a posted speed of 40 kilometres per hour. In the OLW Study Area, Adelaide Street has a three-lane cross-section and a cycle track running along the south side and includes a streetcar track which is not currently used for any active routes. On-street parking is prohibited at all times along the south side and only during the morning peak period (7 am to 9 am) along the north side.

King Street is a major east-west arterial road with a four-lane cross-section. The King Street section in the OLW Study Area is a transit priority corridor which prohibits vehicles from completing through and left-turn movements at the intersections except for TTC vehicles, emergency vehicles, road maintenance vehicles, and bicycles. King Street has a posted speed of 40 kilometres per hour and on-street parking is generally prohibited for regular traffic at all times along both sides, with curb lanes being utilized as loading zones and spaces for taxi idling.

University Avenue is a major north-south arterial road with a posted speed of 40 kilometres per hour. In the OLW Study Area, University Avenue has an eight-lane cross-section between Queen Street and Adelaide Street and a six-lane cross-section south of Adelaide Street. Protected cycle tracks are located north of Adelaide to Bloor Street. On-street parking is prohibited at all times along both sides between Queen Street and Front Street.

Spadina Avenue is a major north-south arterial road with a posted speed of 40 kilometres per hour. In the OLW Study Area, Spadina Avenue has a four-lane cross-section between Queen Street and Adelaide Street and a six-lane cross-section south of Adelaide Street. In addition, Spadina Avenue maintains a dedicated streetcar facility running in both directions along its centreline. On-street parking is generally prohibited, however, there are dedicated parking spaces at street level.

Bathurst Street is a major north-south arterial road with a posted speed of 40 kilometres per hour. In the OLW Study Area, Bathurst Street has a four-lane cross-section between Queen Street and Adelaide Street and a five-lane cross-section south of Adelaide Street, including a shared vehicular and streetcar lane running along the left-most lane of each direction. On-street parking is prohibited during the afternoon peak period (4 pm to 6 pm) along the east side of the Bathurst Street section between Lakeshore Boulevard and King Street and during the morning peak period (7 am to 9 am) along the west side of the noted section. Parking is prohibited along both sides of Bathurst Street from King Street to Queen Street.

Fort York Boulevard is a minor east-west arterial road with a four-lane cross-section and on-street bike lanes running along either side of the street. In the OLW Study Area, Fort York Boulevard does not have a posted speed and hence a statutory speed limit of 30 kilometres per hour is assumed. On-street parking is generally prohibited at all times along both sides of Fort York Boulevard.

Front Street is a minor east-west arterial road with a four-lane cross-section and a posted speed of 40 kilometres per hour.

Dufferin Street is a minor north-south arterial road with a four-lane cross-section including a shared vehicular and streetcar lane running along the left-most lane of each direction that ends at Queen Street West. In the OLW Study Area, Dufferin Street has a posted speed of 50 kilometres per hour and on-street parking is prohibited during the afternoon peak period (4 pm to 6 pm) along the east side of Dufferin Street in proximity to Liberty Street and during the morning peak period (7 am to 9 am) along the west side of the noted section.

Strachan Avenue and **Beverley Street** are minor north-south arterial roads with two-lane cross-section and on-street bike lanes running along either side of both streets. Strachan Avenue has a posted speed of 40 kilometres per hour while Beverley Street has a posted speed of 30 kilometres per hour.

Peter Street, **Portland Street**, **Duncan Street, Simcoe Street**, and **St. Patrick Street** are north-south collector roads with two-lane cross-sections. In the OLW Study Area, a statutory speed limit of 30 kilometres per hour is assumed along the noted streets due to the absence of posted speeds.

Augusta Avenue and **McCaul Street** are north-south collector roads with two-lane cross-sections and posted speeds of 40 kilometres per hour.

John Street and **Niagara Street** are north south collector roads with two-lane cross-sections and posted speeds of 30 kilometres per hour.

Wellington Street is an east-west collector road which runs one-way in the westbound direction between Portland Street and Niagara Street. In the OLW Study Area, it has a two-lane cross-section and has a posted speed of 30 kilometres per hour.

Liberty Street and **East Liberty Street** are east-west collector roads with two-lane cross-sections and posted speeds of 40 kilometres per hour.

Springhurst Avenue is an east-west collector road with a two-lane cross-section and a posted speed of 30 kilometres per hour.

Ace Lane, Bulwer Street, Camden Street, Fort Rouille Street, Housey Street, Ordnance Street, Oxley Street, Stewart Street, Temple Avenue, Thorburn Avenue, Western Battery Road, and Willis Street are east-west local roads with two-lane cross-sections and posted speeds of 30 kilometres per hour.

Atlantic Avenue, Brant Street, Tecumseth Street, Cameron Street, Denison Avenue, Fraser Avenue, Hanna Avenue, Jefferson Avenue, John Street, Maud Street, Morrison Street, Mowat Avenue, Pardee Avenue, Pirandello Street, Portugal Square, Ryerson Avenue, Soho Street, Vanauley Street, and **Widmer Street** are north-south collector roads with two-lane cross-sections and posted speeds of 30 kilometres per hour.

Existing Transit Network

The OLW Study Area is served by both local and regional transit networks through a range of train, subway, streetcar, and bus options. All transit routes that can be accessed in the OLW Study Area are described in Table 4-1 of Appendix B4 in the Environmental Conditions Report (AECOM 2020l).

The majority of the intersection approaches and overall intersections operate at Transit Level of Service that meets the targets for the studied corridors. However, transit vehicles experience notable delays at the following intersections:

- Adelaide Street and Spadina Avenue; and
- Bathurst Street and Fort York Boulevard.

Existing Pedestrian and Cycling Network

Pedestrians are accommodated in the OLW Study Area through sidewalks provided on both sides of the majority of the streets. In addition, painted crosswalks are provided across all legs of the Study Area intersections. Sidewalks are generally 1.5 to 2.0 metres wide, with a mix of monolithic and boulevard separated facilities. The South Liberty Trail extends from Dufferin Street to the existing Exhibition GO Transit Station at the south side of Atlantic Avenue. No notable gaps in the pedestrian network in the OLW Study Area are identified.

In addition to transit, the Study Area contains both on-street cycling facilities and trails. The area north of the rail corridor to Osgoode Station contains a significant east-west cycling corridor along Richmond and Adelaide, allowing cyclists and pedestrians a dedicated corridor to travel across the downtown core. University Avenue has protected cycle tracks north of Adelaide to Bloor Street.

The Liberty Village area pedestrian and cycling network is primarily served by trails spanning through the Fort York Historical Site and crossing under the Gardiner Expressway and over the Metrolinx rail tracks. Moving west, Liberty Village does not have any dedicated cycling facilities

but does have a wide network of roadways and pathways to allow for cycling and pedestrian access.

Notable gaps in the cycling network in the OLW Study Area include:

- No major north-south bicycle route/facility in the vicinity of Exhibition GO Transit Station which would link the growing Liberty Village neighbourhood to Exhibition GO Transit Station and the amenities and destinations south of the railway corridor; and
- No major east-west bicycle route/facility across the growing Liberty Village neighbourhood which would also provide a connection to the on-street bike lanes along Strachan Avenue.

4.10.3 Ontario Line South

Existing Road Network

The existing road network, road classification, and the traffic control devices were assessed. Below is a detailed description of each road in the OLS Study Area.

Bay Street is a major north-south arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, Bay Street has a four-lane cross-section where the curb lanes are shared with cyclists. Bay Street also contains high-occupancy-vehicle lanes during the weekdays from 7 am to 7 pm.

Yonge Street is a major north-south arterial road. In the OLS Study Area, Yonge Street has a four-lane cross-section and a posted speed of 40 kilometres per hour.

Jarvis Street is a major north-south arterial road. In the OLS Study Area, Yonge Street has a four-lane cross-section and a posted speed of 40 kilometres per hour.

Queen Street is a major east-west arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, Queen Street has a four-lane cross-section including a shared vehicular and streetcar lane running along the left-most lane of each direction.

Richmond Street is a major arterial road which runs one-way in the westbound direction with a posted speed of 40 kilometres per hour. In the OLS Study Area, Richmond Street has a three-lane cross-section and a cycle track running along the north side.

Adelaide Street is a major east-west arterial road which runs one-way in the eastbound direction with a posted speed of 40 kilometres per hour. In the OLS Study Area, Adelaide Street has a three-lane cross-section and a cycle track running along the south side.

Lake Shore Boulevard East is a major east-west arterial road. In the OLS Study Area, it has a six-lane cross-section with a posted speed limit of 60 kilometres per hour.

Eastern Avenue is a major east-west arterial road with a four lane-cross-section. In the OLS Study Area, Eastern Avenue has a posted speed of 50 kilometres per hour west of Broadview Avenue which becomes 30 kilometres per hour immediately downstream.

Danforth Avenue is a major east-west arterial road with a four lane-cross-section and a posted speed of 40 kilometres per hour.

York Street is a minor north-south arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, it has a three-lane cross-section including a shared vehicular and streetcar lane in the left-most lane of the northbound direction.

Church Street is a minor north-south arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, it has a four-lane cross-section including a shared vehicular and streetcar lane in the left-most lane of each direction.

Sherbourne Street is a minor north-south arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, it has a two-lane cross-section with cycle tracks running along either side of the street.

Parliament Street is a minor north-south arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, it has a four-lane cross-section including a shared vehicular and streetcar lane in the left-most lane of each direction.

Pape Avenue is a minor north-south arterial road. In the OLS Study Area, it has a two-lane cross-section and a posted speed of 30 kilometres per hour.

Carlaw Avenue is a minor north-south arterial road with a four-lane cross-section and a posted speed of 40 kilometres per hour.

Front Street and **Dundas Street** are minor east-west arterial roads. In the OLS Study Area, both streets have four-lane cross-sections and posted speeds of 40 kilometres per hour.

Shuter Street is a minor east-west arterial road with a posted speed of 40 kilometres per hour. In the OLS Study Area, Shuter Street has a two-lane cross-section and curb bike lanes running along either side of the street.

Queens Quay East is a minor east-west arterial road with a four-lane cross-section. In the OLS Study Area, and with the absence of posted speed signs, Queens Quay E is assumed to have a statutory speed limit of 50 kilometres per hour.

Gerrard Street is a minor east-west arterial road. In the OLS Study Area, Gerrard Street has a four-lane cross-section and a posted speed of 40 kilometres per hour.

Victoria Street is a north-south collector road with a posted speed of 40 kilometres per hour. In the OLS Study Area, it has a four-lane cross-section including a shared vehicular and streetcar lane in the left-most lane of each direction.

Cherry Street is a north-south collector road with a posted speed of 40 kilometres per hour. In the OLS Study Area, it has a two-lane cross-section with curb bike lanes running along either side of the street.

Logan Avenue is a north-south collector road with a two-lane cross-section and a posted speed of 30 kilometres per hour.

Lombard Street is an east-west collector road with a four-lane cross-section. In the OLS Study Area, and with the absence of posted speed signs, Lombard Street is assumed to have a statutory speed limit of 50 kilometres per hour.

Aitken Place, Albert Frank Place, Berkeley Street, Berti Street, Bonnycastle Street, Booth Avenue, Boston Avenue, Dalhousie Street, De Grassi Street, Douville Court, Egan Avenue, Empire Avenue, Frederick Street, George Street, Hahn Place, Kiswick Street, Lewis Street, McGee Street, Seaton Street, Strange Street, Tiverton Avenue, and **Wardell Street** are north-south collector roads with two-lane cross-sections and posted speeds of 30 kilometres per hour.

Blake Street, James Street, Mutual Street, Portneuf Court, Poucher Street, Princess Street, and Small Street are north-south collector roads with four-lane cross-sections and posted speeds of 30 kilometres per hour.

Ontario Street and **Saulter Street** are collector roads which run one-way in the southbound direction. They have a single lane cross-section with a posted speed of 30 kilometres per hour.

Marjory Avenue is a collector road which runs in the northbound and southbound directions to the north of Gerrard Street and one-way in the northbound direction immediately to the south of Gerrard Street. In the OLS Study Area, it has a two-lane cross-section and a posted speed of 30 kilometres per hour.

Albert Street, Bain Avenue, Boultbee Avenue, Britain Street, Cavell Avenue, Cummings Street, Dickens Street, Dingwall Avenue, First Avenue, Frizzell Avenue, Harcourt Avenue, Hazelwood Avenue, Henry Lane Terrace, Langley Avenue, Longboat Avenue, Mill Street, Paisley Avenue, Riverdale Avenue, Scadding Avenue, Sunlight Park Road, Withrow Avenue, and **Wroxeter Avenue** are east-west local roads with two-lane cross-sections and posted speeds of 30 kilometres per hour.

The Esplanade is an east-west collector road with a four-lane cross-section and a posted speed of 40 kilometres per hour, which will be reduced to 30 kilometers per hour. The Esplanade has dedicated bus only lanes, between Lower Sherbourne Street and Princess Street. Bi-directional cycle tracks have been added between Lower Sherbourne and Princess Street, and will be expanded along the rest of the Esplanade. The Esplanade will be converted to one-way westbound from Church Street to Scott Street, from Jarvis Street to Market Street and from Princess Street to Berkeley Street. The Esplanade will become one-way eastbound from George Street to Frederick Street.

Strathcona Avenue is an east-west collector road with a posted speed of 30 kilometres per hour and a single lane cross-section. In the OLS Study Area, it runs in the eastbound direction to the west of Pape Avenue and in the westbound direction east of Pape Avenue. Strathcona Avenue has a contra-flow bike lane on either side of Pape Avenue.

Existing Transit Network

The OLS Study Area is served by primarily a local transit network through a range of subway, streetcar, and bus options. While the GO Transit Lakeshore East, Stouffville and Richmond Hill rail corridors are present in the OLS Study Area, there are no GO Transit stations. The TTC Line 1 subway can be accessed directly via Osgoode Station and Queen Station and Line 2 can be accessed directly via Pape Station. All transit routes that can be accessed within the OLS Study Area are described in Table 4-2 of Appendix B4 in the Environmental Conditions Report (AECOM 2020l).

The majority of the intersection approaches and overall intersections operate at Transit Level of Service that meet the targets for the studied corridors. However, transit vehicles experience notable delays at the following intersections:

- Queen Street and Yonge Street;
- Richmond Street and Yonge Street;
- Queen Street and Jarvis Street;
- Adelaide Street and Sherbourne Street;
- King Street and Jarvis Street;
- The Esplanade and Lower Jarvis Street;
- Queen Street and Parliament Street;
- Queen Street and Sherbourne Street; and
- Gerrard Street and Carlaw Avenue.

Existing Pedestrian and Cycling Network

The OLS Study Area has a range of existing pedestrian and cyclist infrastructure (i.e., bike lanes, cycle track, multi-use pathways, etc.). The downtown area from Osgoode Station to Parliament Street provides a significant east-west cycling corridor with cycle track on Richmond Street and Adelaide Street. This cycle track provides cyclists with a dedicated travel route through the downtown core. Sherbourne Street has cycle track for safe north-south travel. The OLS Study Area includes many side streets containing roadways or paths suitable for cycling and pedestrians. During peak periods, Bay Street contains high-occupancy-vehicle lanes and north of Dundas Street, Bay Street has a curb side bike lane. This network supports access to the main-street retail uses as well as amenities throughout the neighbourhoods. No notable gaps in the pedestrian network in the OLS Study Area are identified.

The area east of Parliament Street, south of Queen Street, extending to Lakeshore Boulevard provides an extensive network of east-west cycling infrastructure, including major and minor multi-use pathways along Lakeshore Boulevard, as well as a signed route along the Esplanade/ Mill Street. The Lower Don Trail provides a pedestrian/cyclist crossing over the Don River, south of the GO Transit Don Yard and north of the Gardiner Expressway. Cherry Street provides direct Waterfront Trail access.

Notable gaps in the cycling network in the OLS Study Area include:

- No major north-south bicycle route/facility west of Sherbourne Street.

4.10.4 Ontario Line North

Existing Road Network

The existing road network, road classification, and the traffic control devices were assessed. Below is a detailed description of each road in the OLN Study Area.

Eglinton Avenue East is a major arterial road that provides extensive east-west vehicular and transit mobility across the City of Toronto. Prior to the construction of the Eglinton Crosstown Light Rail Transit, High-Occupancy Vehicle lanes terminated just east of Leslie Street in the westbound direction and commenced just east of Leslie Street in the eastbound direction. These lanes have been removed entirely during construction. During construction, there are two general purpose lanes per direction east of Laird Drive and three general purpose lanes on the eastbound approach to Laird Drive. Eglinton Avenue East has a posted speed limit of 50 kilometres per hour.

Don Mills Road is a major arterial road under the jurisdiction of the City of Toronto. South of Eglinton Avenue East, Don Mills Road has a six-lane cross-section, with two general purpose lanes and one High-Occupancy Vehicle lane per direction. Opposing traffic streams are separated by a concrete median, while exclusive turning lanes are provided at key intersections. On-street parking and stopping are restricted on both sides of Don Mills Road. Don Mills Road has a speed limit of 50 kilometres per hour.

Rochefort Drive is an east-west local two-way street with a speed limit of 50 kilometers per hour.

St. Dennis Drive is a two-lane east-west collector street with a speed limit of 50 kilometers per hour.

Overlea Boulevard is an east-west major arterial road consisting of two lanes, a four-lane cross-section and raised centre median. The curb lanes are designated High-Occupancy Vehicle lanes. Overlea Boulevard has a speed limit of 50 kilometres per hour.

Thorncliffe Park Drive is a two-lane collector that connectors to Overlea Boulevard on either end, and provides access to the areas south of Overlea Boulevard. The speed limit on the street is 50 kilometers per hour.

Leaside Park Drive, Banigan Drive, Grandstand Place, Milepost Place, Pat Moor Drive, and William Morgan Drive are two-lane local roads in the Thorncliffe Park Area with 50 kilometer per hour speed limits.

Millwood Road is a north-south major arterial road with a four-lane cross-section north of Overlea Boulevard, and a six-lane cross-section south of Overlea Boulevard. Millwood Road diverges at Laird Drive and continues west to Bayview Avenue. Millwood Road has a posted speed limit of 50 kilometres per hour.

Pape Avenue is a four-lane major arterial road with a designated High-Occupancy Vehicle lane in both directions. The northbound High-Occupancy Vehicle lane ends approximately 130 metres south of Millwood Road. The southbound High-Occupancy Vehicle lane starts at approximately 90 metres south of Millwood Road. Pape Avenue has a posted speed limit of 40 kilometres per hour.

O'Connor Drive is a major arterial road east of Pape Avenue, and a minor arterial west of Pape Avenue. It has two general purpose lanes in both directions. O'Connor Drive has an unposted speed limit of 50 kilometres per hour.

Gamble Avenue is a local road with one general purpose lanes in both directions. It has a posted speed limit of 30 kilometres per hour and allows on-street parking along the north side.

Cosburn Avenue is a minor arterial road with one general purpose lane and one bike lane per direction, with dedicated left-turn lanes at Pape Avenue. In addition, a dedicated parking lane is provided on the north side of the street ending approximately 50 metres east of Pape Avenue and restarting approximately 50 metres west of Pape Avenue. It has an unposted speed limit of 50 kilometres per hour.

Floyd Avenue is a local road with one general purpose lane in both directions. It has a posted speed limit of 30 kilometres per hour, and allows on-street parking along the north side, starting 30 metres west of Pape Avenue.

Mortimer Avenue is a minor arterial road with one general purpose lane per direction, with dedicated left-turn lanes at Pape Avenue. It has a posted speed limit of 40 kilometres per hour.

Sammon Avenue is a local road east of Pape Avenue with one general purpose lane in both directions. It has an unposted speed limit of 50 kilometres per hour and allows on-street parking along the north side.

Fulton Avenue is a local road west of Pape Avenue with one general purpose lane in both directions. It has a posted speed limit of 30 kilometres per hour. West of the OLN Study Area, it is one-way westbound.

Aldwych Avenue is a local road east of Pape Avenue with one general purpose lane in both directions. It has a posted speed limit of 30 kilometres per hour and allows on-street parking along both the north and south sides.

Browning Avenue is a one-way eastbound local road west of Pape Avenue with one westbound left-turn lane and one westbound right-turn lane. It has a posted speed limit of 30 kilometres per hour.

Lipton Avenue is a local road with a posted speed limit of 30 kilometres per hour. It has one lane eastbound. Its westbound approach consists of one dedicated left-turn lane, and a shared through-right lane. The westbound approach is heavily used by buses egressing from Pape Station.

Danforth Avenue is a major arterial road with two general purpose lanes per direction and dedicated left-turn lanes at Pape Avenue. It has an unposted speed limit of 50 kilometres per hour. On-street parking is prohibited in the westbound direction during the AM peak, and in the eastbound direction during the PM peak.

Laird Drive is a north-south four-lane major arterial road. On-street parking is prohibited on Laird Drive during the AM and PM peak periods. Laird Drive becomes Millwood Road as it extends to the south (south of Esandar Drive). The speed limit is 50 kilometres per hour.

Brentcliffe Road is a north-south two-lane minor arterial road south of Eglinton Avenue East and a “collector” road north of Eglinton Avenue East. On-street parking is prohibited on Brentcliffe Road. The speed limit is 50 kilometres per hour.

Wicksteed Avenue is an east-west minor arterial road consisting of two lanes and a centre two-way left-turn lane between Laird Drive and Brentcliffe Road. Wicksteed Avenue is a collector road between Brentcliffe Road and Beth Nealson Drive, and a “local” road east of Beth Nealson Drive. On-street parking is prohibited on both sides of the road. Wicksteed Avenue continues west of Laird Drive as McRae Drive. The speed limit is 50 kilometres per hour.

McRae Drive is an east-west two-lane collector road that extends from Laird Drive to Millwood Road. On-street parking is prohibited along the north side; short-term parking is permitted on the south side of the road between 8 am to 6 pm Monday through Saturday.

Commercial Road is a two-lane local road with an unposted speed limit of 50 kilometres per hour.

Esandar Drive is a two-lane local road with an unposted speed limit of 50 kilometres per hour.

Redway Road is a two-lane local road west of Millwood Road. It has a posted speed limit of 30 kilometres per hour.

Village Station Road is a two-lane local road. It has an unposted speed limit of 50 kilometres per hour.

Clarke Street is a north-south local road with a two-lane cross-section. It has an unposted speed limit of 50 kilometres per hour in the OLN Study Area.

Copeland Street is a north-south local road with a two-lane cross-section. It has an unposted speed limit of 50 kilometres per hour in the OLN Study Area.

Leslie Street has two distinct segments in the OLN Study Area:

- The first segment is a north-south major arterial with a speed limit of 50 kilometres per hour. It forms the north leg of the intersection with Eglinton Avenue East and is classified as a four-lane cross-section, with its southbound approach to Eglinton consisting of a dedicated southbound left-turn lane and a right-turn lane. A southbound right-turn channel was removed since the construction of the Eglinton Crosstown Light Rail Transit began.
- The second segment is a north-south local road with a two-lane cross-section and is 80 metres long. It forms the north leg of the intersection with Wicksteed Avenue. It has an unposted speed limit of 50 kilometres per hour within the Ontario Line North Study Area.

Ferrand Drive is a local road with a two-lane cross-section. It has an unposted speed limit of 50 kilometres per hour.

St. Dennis Drive is a collector road with a four-lane cross-section with two through lanes operating in each direction. St. Dennis Drive runs east-west throughout the OLN Study Area. Parking on both sides of St. Dennis Drive is restricted between the hours of 8 am to 6 pm from Monday to Friday. St. Dennis Drive has a posted speed limit of 50 kilometres per hour.

Gateway Boulevard is a collector road. Within the vicinity of the site area, Gateway Boulevard has a four-lane cross-section with two-way traffic and two through lanes operating in each direction. Paid parking is permitted on the north side of Gateway Boulevard on Monday to Saturday between 8 am to 6 pm. Gateway Boulevard has a posted speed limit of 40 kilometres per hour.

Grenoble Drive is a collector road with a two-lane cross-section with two-way traffic and a single through lane operating in each direction. Parking is only permitted on the north side of Grenoble Drive outside the hours of 8 am to 6 pm between Monday to Friday. Grenoble Drive has a posted speed limit of 40 kilometres per hour.

Deauville Lane is a collector road with a two-lane cross-section with two-way traffic and a single through lane operating in each direction. Parking is only permitted on the west side of Deauville Lane outside the hours of 8 am to 6 pm between Monday to Friday. Deauville Lane has a posted speed limit of 50 kilometres per hour.

Wynford Drive is an east-west two-way minor arterial road. It has a speed limit of 50 kilometres per hour speed limit and a typical 5-lane urban cross section. Terminating at Don Mills Road, the westbound approach consists of a dual left-turn lane and a channelized right-turn lane.

Barber Greene Road/Green Belt Drive are east-west collector roads operating in a general east-west direction. Each road operates with one lane in each direction with separate left-turn lanes at Don Mills Road.

Beth Nealson Drive is a north-south collector road with a speed limit of 50 kilometres per hour speed limit and a typical 2-lane urban cross section. Between Overlea Boulevard and Par Moore Drive, there is a two-way left turn lane.

Gervais Drive is a north-south collector road with a speed limit of 50 kilometres per hour speed limit and a typical 2-lane urban cross section with left turning bays at Wynford Drive.

Existing Transit Network

The OLN Study Area is served by primarily a local transit network of subway and bus options. While the Richmond Hill GO Transit corridor is present in the OLN Study Area, there are no stations. TTC Line 2 subway can be accessed directly via Pape Station, and many of the buses operating in the OLN Study Area connect to Line 2 at various stations. All transit routes that can be accessed in the OLN Study Area are described in Table 4-3 of Appendix B4 in the Environmental Conditions Report (AECOM 2020l).

Existing Pedestrian and Cycling Network

In addition to transit, the OLN Study Area contains both on-street cycling facilities (cycle tracks and bike lanes) and trails. The Pape Corridor Sub-Area contains a significant east-west cycling corridor along Cosburn Avenue. To the north, cycling facilities exist on the Leaside Bridge, Thorncliffe Park Drive, Gateway Boulevard, Grenoble Drive, St. Dennis Drive and Eglinton Avenue East. These facilities service the neighbourhoods they run through but are disconnected from the central Don Mills corridor.

Notable gaps in the pedestrian network include:

- No facility on Beechwood Drive under the Don Valley Parkway underpass; and
- Missing sidewalks on Banigan Drive, Pat Moore Drive and William Morgan Drive.

The Don River Valley and associated open space system contains the Lower Don Trail, which is a multi-use trail that runs alongside the Don River. It provides a continuous north-south pedestrian and cycling connection throughout the OLN Study Area from Broadview Avenue and Mortimer Avenue in the south, to Eglinton Avenue East in the north. This trail also provides access to the Downtown through connections to other cycling facilities and recreational trails, such as the Beltline Trail, Bayview Multi-Use Trail, Don Valley Brick Works Park, Riverdale Park, and Corktown Common.

The on-street pedestrian network varies throughout the OLN Study Area based on the size of blocks and types of uses within the different neighbourhoods. The Danforth mixed-use corridor to north of the Don River is characterized by a fine grain street and block network, lined with a complete sidewalk network throughout. This network supports access to the main-street retail uses as well as amenities throughout the neighbourhoods. While both the Thorncliffe Park and Flemingdon Park neighbourhoods are supported by a network of sidewalks lining their streets, reducing pedestrian connectivity in these sub-areas. Improved connectivity is delivered in these areas through secondary mid-block path connections which break up larger blocks and improve connectivity between local destinations. In contrast, the lands north of Overlea Boulevard, between Millwood Road and the Charles H. Hiscott Bridge contains large blocks with a discontinuous network of sidewalks, resulting in poor pedestrian connectivity. This is largely due to the industrial nature of the area.

The Don River multi-use trail also provides pedestrian connections throughout the OLN Study Area and into other neighbourhoods to the south.

4.11 Utilities

Utilities refer to the aerial or subsurface equipment, such as pipes, cables, and wires, that supply a service to a community. Utilities are owned or controlled by public or private providers and include services such as cable, electric, natural gas, telecommunication, water, and wastewater treatment.

4.11.1 Methodology

The findings of the Environmental Conditions Report (AECOM 2020a) were reviewed, confirmed, and updated as appropriate to reflect the current Project understanding, scope, and footprint. This included a review of available utility information. The following sources were examined:

- Digital Map Owners Group, City Utility Mapping available from the City of Toronto
- Subsurface Utility Engineering mapping

The Subsurface Utility Engineering information is mapped and processed in accordance with the American Society of Civil Engineers Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data CI/ASCE 38-02.

A preliminary list of the owners of utilities in the Project Footprint, and the number of conflicts with the Project, are presented in the following sections. Additional utilities may be identified as Project planning progresses.

4.11.2 Ontario Line West

A total of 396 utility conflicts have been identified in the OLW Project Footprint. **Table 4-12** lists the utility providers, utility categories, and number of conflicts.

Table 4-12. Utility Providers and Conflicts in Ontario Line West

Utility Provider	Utility Category	Conflicts
Private Utilities		
Aptum	Telecommunications	1
Beanfield	Telecommunications	5
Bell Canada	Telecommunications	51
Bell 360	Telecommunications	6
CN	Rail Utilities	12

Utility Provider	Utility Category	Conflicts
Enbridge	Energy Transmission/Distribution	49
Rogers Communications Partnership	Telecommunications	27
Telus Communications Company	Telecommunications	4
Unknown	-	14
Zayo Group	Telecommunications	10
Public Utilities		
City of Toronto	Water and wastewater treatment	133
Metrolinx	Transit Utilities	15
Toronto Hydro	Electricity	67
TTC	Transit Utilities	2

4.11.3 Ontario Line South

A total of 195 utility conflicts have been identified in the OLS Project Footprint. **Table 4-13** lists the utility providers, utility categories, and number of conflicts.

Table 4-13. Utility Providers and Conflicts in Ontario Line South

Utility Provider	Utility Category	Conflicts
Private Utilities		
Bell Canada	Telecommunications	17
Bell 360	Telecommunications	3
Enbridge	Energy Transmission/Distribution	31
EnWave	Energy Services Provider	1
Hydro One Networks Incorporated	Electricity	2
Rogers Communications Partnership	Telecommunications	6
Telus Communications Company	Telecommunications	4
Unknown	-	3
Zayo Group	Telecommunications	5
Public Utilities		

Utility Provider	Utility Category	Conflicts
City of Toronto	Water and wastewater treatment	65
Metrolinx	Transit Utilities	6
Toronto Hydro	Electricity	51
TTC	Transit Utilities	1

4.11.4 Ontario Line North

A total of 644 utility conflicts have been identified in the OLN Project Footprint. **Table 4-14** lists the utility providers, utility categories, and number of conflicts.

Table 4-14. Utility Providers and Conflicts in Ontario Line North

Utility Provider	Utility Category	Conflicts
Private Utilities		
Aptum	Telecommunications	3
Beanfield	Telecommunications	21
Bell Canada	Telecommunications	67
Bell 360	Telecommunications	1
CN	Rail Utilities	5
Enbridge	Energy Transmission/Distribution	78
Group Telecom	Telecommunications	3
Hydro One Networks Incorporated	Electricity	11
Imperial Oil	Energy Transmission/Distribution	2
Rogers Communications Partnership	Telecommunications	67
Sun-Canadian	Energy Transmission/Distribution	2
Telus Communications Company	Telecommunications	19
TransNorthern	Energy Transmission/Distribution	2
Unknown	-	20
Zayo Group	Telecommunications	22
Public Utilities		

Utility Provider	Utility Category	Conflicts
City of Toronto	Water and wastewater treatment	160
Toronto Hydro	Electricity	160
TTC	Transit Utilities	1

5 Impact Assessment, Mitigation and Monitoring

5.1 Methodology

In accordance with Sections 15(2)6, 15(2)7 and 15(2)8 of the Ontario Line Regulation, this section describes the potential impacts, mitigation measures, and monitoring activities proposed to verify the effectiveness of mitigation measures associated with the Project.

The potential for impacts has been determined based on an understanding of the Project components, and how construction and operation of the Project will interact with existing environmental conditions. The temporal boundaries for impacts have anticipated construction to occur between 2022 and 2029, followed by ongoing operations and maintenance.

The impact assessment is based on conservative assumptions regarding potential impacts that could occur as a result of the Project. They are also based on information sourced from the Ontario Line Final Environmental Conditions Report (AECOM 2020a), which was reviewed and updated as appropriate to reflect the current Project understanding, scope and footprint for each environmental discipline within this Report. Where necessary, review of additional desktop and field information was undertaken. The recommendations contained in this EIAR will be reviewed and updated as necessary during subsequent phases of the Project.

Table 5-1 outlines the criteria for assessing impacts.

Table 5-1. Criteria for Assessment of Impacts

Discipline		Criteria for Assessing Impacts
Natural Environment	**Designated Features and Policy Areas**	• Disturbance, displacement, or mortality of wildlife • Habitat loss or degradation
	Vegetation Communities	• Removal or damage of vegetation communities
	Wildlife and Wildlife Habitat	• Disturbance, displacement, or mortality of wildlife • Habitat loss or degradation
	SAR	• Habitat loss, disturbance, or mortality of SAR
	Aquatic Habitat	• Degradation of waterbodies • Disturbance, displacement, or mortality of fish • Fish habitat loss or degradation
	Stormwater Management and Drainage	• Potential for flooding impacts • Change in stormwater quality and quantity
Soil and Groundwater		• Reduced soil stability and quality • Reduced groundwater quantity and quality

Discipline		Criteria for Assessing Impacts
Cultural Heritage		• Potential for direct alteration or removal of heritage attributes • Potential for indirect vibration impacts on heritage attributes
Archaeological Resources		• Potential for disturbance or destruction of archaeological resources
Socio-Economic and Land Use	**Land Use and Property**	• Nuisance impacts during construction and operations • Land use and access disruptions and permanent changes
	Built Form and Visual Characteristics	• Changes to visual characteristics during construction and operations • Changes to built form and public realm during operations
Air Quality		• Changes to air quality
Noise and Vibration		• Changes to ambient noise conditions • Perceptible vibration and/or damage from vibration
Traffic and Transportation		• Changes to existing conditions for automobiles, pedestrians, cyclists, and transit
Utilities		• Utility conflicts that cannot be avoided

Project design has considered methods to avoid potential negative environmental impacts. Where potential negative environmental impacts cannot be avoided, mitigation measures have been recommended to reduce the impact. Monitoring activities were also identified where warranted to verify the effectiveness of proposed mitigation measures and support implementation of adaptive management.

Feedback raised during consultation and engagement activities was also considered and incorporated as appropriate (refer to **Section 6** for further information on consultation).

5.2 Natural Environment

During construction, removal of vegetation communities and anthropogenic structures will be required for the above-ground Project Footprint. This has the potential to negatively impact wildlife, including SAR, that may be using the vegetation and/or structures to nest, breed and/or roost. Construction activities also have the potential to impact adjacent vegetation and natural features that will be retained. No natural environment impacts are anticipated during construction for the below-ground Project Footprint.

During operations, maintenance of vegetation will be required in the RoW along the at-grade sections of the Project. This activity has the potential to negatively impact wildlife that may be using the corridor to nest or travel, including migratory birds and reptiles.

Bridges where maintenance activities may impact Barn Swallow habitat will need to be surveyed in advance and will be subject to timing restriction and compensation.

No long-term impacts to the aquatic habitat are anticipated.

Potential impacts, mitigation measures, and monitoring activities for the natural environment are outlined in **Table 5-2**. Further details can be found in the Natural Environment Technical Report (see **Appendix A1**).

Table 5-2. Potential Impacts, Mitigation Measures and Monitoring Activities – Natural Environment

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Designated Features and Policy Areas			
Policy Areas: OLW Study Area • City of Toronto Natural Heritage System (lands in the study area located west of the Project footprint) Policy Areas: OLS Study Area • City of Toronto Natural Heritage System (Lower Don River Valley) • City of Toronto Ravine and Natural Feature Protection Area (Lower Don River Valley) • TRCAs Terrestrial Natural Heritage System and Regulation Areas (Lower Don River Valley) • Urban River Valley under the Greenbelt Plan (Lower Don River Valley) Designated Features: OLN Study Area • The West Don River valley; candidate Regionally Significant Life Science Areas of Natural and Scientific Interest; and unevaluated wetlands • The Don River Valley is considered to be valleyland feature under the Provincial Policy Statement. Policy Areas: OLN Study Area • City of Toronto Natural Heritage System and E.T. Seton Park Environmentally Significant Area • City of Toronto Ravine and Natural Feature Protection Areas (Don River valley) • TRCAs Terrestrial Natural Heritage System and Regulation Areas (Don River valley) • Urban River Valley under the Greenbelt Plan (Don River valley)	**Construction** OLW Study Area • City of Toronto Natural Heritage System Lands are located west of the Project footprint and are separated from the Project footprint by Dufferin Street. Natural environment impacts are not anticipated to this feature. OLS and OLN Study Areas • Removal of vegetation communities • Disturbance, displacement or mortality of wildlife or habitat loss/degradation, including potential Significant Wildlife Habitat and SAR • Soil or water contamination as a result of spills (e.g., grease and/or fuel) from equipment use • Introduction or spread of invasive species • Increased erosion and sedimentation • Reduction in ecological function and integrity **Operations** OLW Study Area • City of Toronto Natural Heritage System Lands are located west of the Project footprint and are separated from the Project footprint by Dufferin Street. Natural environment impacts are not anticipated to this feature. OLS and OLN Study Areas • Localized losses of habitat which may support local wildlife populations and SAR • Reduction in habitat quality resultant from increases in light, noise pollution and dust generation • Potential reduction in habitat quality and ecosystem resilience related to edge habitat and invasive species proliferation • Potential reduction in species movement throughout the corridor	**Construction** OLW Study Area • As no impacts are anticipated to the City of Toronto Natural Heritage System (west of the Project footprint) during construction, no mitigation measures are recommended. OLS Study Area • Refer to mitigation measures described for Vegetation Communities, Wildlife and Wildlife Habitat, Species at Risk and Aquatic Environment. • Compensation for the removal of vegetation in accordance with Metrolinx Vegetation Guideline (2020b) will consider maintaining or enhancing connectivity along the Don River to the extent possible. • Further consideration to reduce potential impacts on TRCAs Terrestrial Natural Heritage System to the extent possible will be undertaken during detailed design. OLN Study Area • Vegetation removal and soil disturbance in designated natural areas will be avoided where possible and will be kept to a minimum. In support of this, a Tree Protection Plan and an Erosion and Sediment Control Plan will be developed and implemented prior to construction. • Compensation for the removal of vegetation in designated natural areas will be in accordance with Metrolinx's Vegetation Guideline (2020b), which provides a compensation framework for Designated Natural Areas which mirrors the TRCA Guideline for Determining Ecosystem Compensation (TRCA 2018). • Mitigation measures described for Vegetation Communities, Wildlife and Wildlife Habitat and Species at Risk also apply to designated natural areas. **Operations** OLW Study Area • As no impacts are anticipated to the City of Toronto Natural Heritage System (west of the Project footprint) during operations, no mitigation measures are recommended. OLS and OLN Study Areas • Compensatory habitat in the Don Valley and mitigation measures including on-going invasive species management are under discussion with agency stakeholders (City of Toronto and TRCA).	**Construction** OLW Study Area • As no impacts are anticipated to the City of Toronto Natural Heritage System (west of the Project footprint) during construction, no monitoring activities are recommended. OLS and OLN Study Areas • Refer to monitoring described for Vegetation Communities, Wildlife and Wildlife Habitat, Species at Risk and Aquatic Environment. **Operations** OLW Study Area • As no impacts are anticipated to the City of Toronto Natural Heritage System (west of the Project footprint) during operations, no monitoring activities are recommended. OLS and OLN Study Areas • Monitoring restoration areas and follow up management are under discussion with agency stakeholders (City of Toronto and TRCA).
Vegetation Communities			
Vegetation communities – vegetation community removal	**Construction** • Removal of vegetation communities	**Construction**	**Construction**

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	• Damage to adjacent vegetation or ELC communities as a result of accidental intrusion Vegetation communities overlap with above ground Project components and the OLW Study Area as follows: ELC Community Code | Area of Overlap with Above Ground Project Components (hectares) | Area of Overlap with the OLW Study Area outside the Project Footprint (hectares) CUH | 0.357 | 0.818 CUT1 | n/a | 0.086 FOD4 | n/a | 0.547 Vegetation communities overlap with above ground Project Components and the OLS Study Area as follows: ELC Community Code | Area of Overlap with Above Ground Project Components (hectares) | Area of Overlap with the OLS Study Area outside of the Project Footprint (hectares) CUH | 1.430 | 0.630 CUM1 | 0.245 | 2.983 CUM1-1 | 0.548 | 0.632 CUM1-a | n/a | 0.029 CUM1-b | n/a | 1.058 CUM1-c | n/a | 0.213 CUT1 | 1.323 | 0.944 CUT1-1 | 0.246 | 0.098 CUW1 | 2.927 | 2.856 CUW1/CUT1/CUM1 | n/a | 0.906 CUW1/CUT1/MAS2/SA | n/a | 0.932 OAO-T | 0.543 | 1.868 Vegetation communities overlap with above ground Project Components and the OLN Study Area as follows: ELC Community Code | Area of Overlap with Above Ground Project Components (ha) | Area of Overlap with the Study Area outside the Project Footprint (ha) BBO1 | 0.030 | 0.165 BBO1-A | n/a | 0.025 BLT1-B | 0.657 | n/a CUH | 0.253 | 0.279 CUM1 | 0.521 | 0.000 CUM1-1 | 2.815 | 1.652 CUM1-b | 0.524 | 0.000 CUM1-c | 1.151 | 0.355	• Vegetation removal will be reduced to the extent possible and limited to the construction footprint. • Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the construction footprint and prevent accidental damage or intrusion to adjacent vegetation or ELC communities. • Compensation will be provided for the removal of vegetation in accordance with Metrolinx's Vegetation Guideline (2020b). • Temporarily disturbed areas will be re-vegetated using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop, as needed. Vegetation removal will also consider and mitigate potential impacts to sensitive species (e.g., migratory birds and SAR) and features (e.g., designated natural areas and significant wildlife habitat). Refer to mitigation measures described for Wildlife and Wildlife Habitat and Species at Risk. • The following Ontario Provincial Standard Specifications will be considered when removing vegetation communities: PROV 180 (Management of Excess Materials), PROV 801 (Protection of Trees), PROV 803 (Construction Specification for Vegetation Cover), and PROV 804 and 805 (Construction Specifications for Temporary Erosion Control). **Operations** • Vegetation removal will be reduced to the extent possible and limited to the Metrolinx right-of-way. • Herbicide applications will be administered subject to the *Pesticides Act*.	• 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 reduce impacts. • If required, vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020b) and conditions of permits and approvals as determined by property ownership, applicable governing by-laws/regulations, and location with respect to ecological functioning. **Operations** • 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 reduce impacts. • Monitoring and management of trees/vegetation in the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management Program within the Metrolinx Vegetation Guideline (2020b).

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

ELC Community Code	Area of Overlap with Above Ground Project Components (ha)	Area of Overlap with the Study Area outside the Project Footprint (ha)
CUP1-8	0.242	n/a
CUP1-c	0.044	1.120
CUP2-A	n/a	0.405
CUS1-b	0.421	0.292
CUT1	2.907	0.437
CUT1/CUW1	0.745	n/a
CUT1-1	3.557	0.536
CUT1-c	0.435	0.102
CUW1	2.331	2.156
CUW1-b	n/a	0.341
FOD	0.032	7.014
FOD1-1	n/a	0.265
FOD3-1	0.536	n/a
FOD4	0.127	1.912
FOD4-b	0.777	2.105
FOD5-1	0.164	2.600
FOD5-2	0.400	0.391
FOD5-3	2.912	4.063
FOD5-8	0.077	2.698
FOD7	2.548	n/a
FOD7-3	0.522	0.783
FOD7-a	2.517	1.544
FOD7-b	0.167	2.110
FOD7-c	2.126	3.690
MAM	0.163	0.008
MAM2	0.042	n/a
MAM2-7	0.037	0.153
MAM2-a	n/a	0.089
MAS2-1b	n/a	0.065
OAO	0.044	0.775
OAO1-T	0.204	0.570
OAO-T	n/a	0.002
SA	n/a	0.278
SWT2-2	n/a	0.073

Operations

- Removal of vegetation during operational vegetation maintenance activities, if applicable
- Removal and/or damage to adjacent vegetation or ELC communities as a result of accidental intrusion during vegetation maintenance activities, if applicable

Vegetation communities – tree removal and compensation plans	**Construction** • City and private tree removal, injury, and protection **Operations** • Potential impacts are not anticipated during operations	**Construction** • An Arborist Report by an I.S.A. Certified Arborist will be prepared with regard to the Metrolinx Vegetation Guidelines (2020b), Ontario *Forestry Act* R.S.O. 1990, the ESA and other regulations, municipal bylaws, and best management practices as applicable. • The Arborist Report will include, but not be limited to the individual identification of trees in the study area, including those that require removal or	**Construction** • Regular inspection in areas of vegetation removal will be undertaken, as required, during construction to confirm that fencing is intact, only specified trees are removed, and no damage is caused to

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		preservation, or trees that may be injured as a result of Project activities. Trees to be identified in the study area will include those on Metrolinx property, trees on public and private lands, and boundary trees. The City of Toronto by-laws will dictate the minimum diameter at breast height that requires inventory and additional requirements for tree inventories and tree protection plans. • Prior to the undertaking of tree removals, a Tree Removal Strategy/Tree Preservation Plan will be developed during detailed design to document tree protection and mitigation measures that follow the City of Toronto Tree Protection Policy and Specifications for Construction Near Trees Guidelines (2016) and/or City of Toronto by-laws, and 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 (2020b) and principles of the TRCA Guideline for Determining Ecosystem Compensation (2018). • 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. Tree Protection Zones will be clearly staked prior to construction using barriers in accordance with local by-law requirements. • The Arborist Report will include information needed to establish compensation ratios and tree end use (including identification of high value trees) as per the Metrolinx Vegetation Guideline (2020b). • If a tree requires removal or injury, compensation, and permitting/approvals (as required) will be undertaken in accordance with Metrolinx's Vegetation Guideline (2020b). Applicable bylaws for tree removals outside of Metrolinx properties will be followed. • Vegetation removal will also consider and mitigate potential impacts to sensitive species, e.g., migratory birds and SAR, and features, e.g., designated natural areas and significant wildlife habitat. Refer to mitigation measures described for Wildlife and Wildlife Habitat and Species at Risk. • City of Toronto tree removal/injury permits shall be requested and obtained for trees regulated under Bylaw 813, 658 and 608. • Compensation for trees in the Metrolinx ROW will follow the Metrolinx Vegetation Guideline (2020b). Trees that are located in a designated natural area will reflect the principles of the TRCA Guideline for Determining Ecosystem Compensation (2018). • Ontario Provincial Standard Specifications PROV 803 (Construction Specification for Vegetation Cover) and PROV 804 and 805 (Construction Specifications for Temporary Erosion Control) will be considered for tree removal. **Operations** • As no tree removals are anticipated during operations, no mitigation measures are recommended.	the remaining trees and adjacent vegetation communities. • 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 reduce impacts. • If required, vegetation compensation activities will be monitored in accordance with Metrolinx's Vegetation Guideline (2020b) and conditions of permits and approvals as determined by property ownership, applicable governing by-laws/regulations, and location with respect to ecological functioning. **Operations** • As no tree removals are anticipated during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Vegetation Communities – Integrated Vegetation Management (IVM)	**Construction** • Footprint Impacts and potential for the establishment of invasive species and other incompatible species. **Operations** • Potential impacts are not anticipated during operations.	**Construction** • An Integrated Vegetation Management Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020b) 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. **Operations** • An Integrated Vegetation Management Plan will be developed and implemented that is in adherence with the Metrolinx Vegetation Guideline (2020b) 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.	**Construction** • 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 (2020b). The Bi-Annual Monitoring Program is made up of pre-treatment and post-treatment monitoring that will be carried out by field survey, by aerial survey, and by high-rail vehicle or train surveys conducted by qualified specialists. **Operations** • Monitoring and management of trees/vegetation in the rail corridor right-of-way will be undertaken in accordance with the Integrated Vegetation Management Program within the Metrolinx Vegetation Guideline (2020b).
Vegetation communities – tree removal strategy	**Construction** • Potential for the spread of emerald ash borer, *Agrilus planipennis* (Fairmaire) associated with removal, handing and transport of ash trees. **Operations** • Potential impacts are not anticipated during operations	**Construction** • Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive D03-08: 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, ash trees requiring removal, including wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada. • Take precautions to reduce the spread of invasive species by cleaning equipment prior to moving them into sites. **Operations** • As no tree removal impacts are anticipated during operations, no mitigation measures are recommended.	**Construction** • 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 reduce impacts. **Operations** • As no tree removal impacts are anticipated during operations, no monitoring activities are recommended.
Vegetation communities – erosion and sedimentation	**Construction** • Increased erosion and sedimentation **Operations** • Potential impacts are not anticipated during operations	**Construction** • Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the construction footprint and prevent accidental damage or intrusion to adjacent vegetation or ELC communities. • An Erosion and Sediment Control Plan, in accordance with the Greater Golden Horseshoe's Erosion and Sediment Control Guideline for Urban Construction (2006) and the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), will be prepared prior to and implemented during construction to reduce the risk of sedimentation to vegetation communities.	**Construction** • Onsite inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions, if required. All erosion and sediment control measures should be inspected weekly. All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection. Corrective actions may

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		• Stockpiled materials or equipment will be stored in the construction footprint but shall be kept at least 30 metres away from any watercourse; signs will be put up on site to indicate the setback. • Ontario Provincial Standard Specifications PROV 804 and 805 (Construction Specifications for Temporary Erosion Control) will be considered when implementing erosion and sediment controls. **Operations** • As no erosion and sedimentation impacts are anticipated during operations, no mitigation measures are recommended.	include additional site maintenance and alteration of activities to reduce impacts. **Operations** • As no erosion and sedimentation impacts are anticipated during operations, no monitoring activities are recommended.
Vegetation communities – environmental contamination and invasive species	**Construction** • Soil or water contamination as a result of spills (e.g., grease and/or fuel) from equipment use • Introduction or spread of invasive species **Operations** • Soil or water contamination as a result of spills (e.g., grease and/or fuel) from equipment use during maintenance activities • Introduction or spread of invasive species	**Construction** • A Spill Prevention and Contingency Plan will be developed and adhered to. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. • Refuelling of equipment will occur at least 30 metres away from a watercourse, where possible; signs will be put up on site to indicate the setback. • Refuelling shall be done in refuelling stations lined with appropriate material to prevent seepage and fuel discharge. • Machinery, equipment and vehicles arriving on site should be in clean condition (e.g., free of fluid leaks, soils containing seeds of plant material from invasive species) and be inspected and washed in accordance with the Clean Equipment Protocol for Industry (Halloran et al. 2013) prior to arriving and leaving the site. This will reduce the risk of the spread of invasive species to other locations **Operations** • A Spill Prevention and Contingency Plan will be developed and adhered to. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. • Refuelling of equipment will occur at least 30 metres away from a watercourse, where possible. • Refuelling will be done in refuelling stations lined with appropriate material to prevent seepage and fuel discharge. • Machinery, equipment and vehicles arriving on site should be in clean condition (e.g., free of fluid leaks, soils containing seeds of plant material from invasive species) and be inspected and washed in accordance with the Clean Equipment Protocol for Industry (Halloran et al. 2013) prior to arriving and leaving the site. This will reduce the risk of the spread of invasive species to other locations.	**Construction** • 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 reduce impacts. • Precautions will be taken to reduce the risk of the spread of invasive species by implementing the Clean Equipment Protocol for Industry (Halloran et al. 2013) on equipment and machinery prior to arriving on a site. **Operations** • 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 reduce impacts. • Precautions will be taken to reduce the risk of the spread of invasive species by implementing the Clean Equipment Protocol for Industry (Halloran et al. 2013) on equipment and machinery prior to arriving on a site.
Wildlife and Wildlife Habitat			
Wildlife and wildlife habitat – general	**Construction** • Disturbance, displacement, or mortality of wildlife **Operations**	**Construction** • If wildlife is encountered, measures will be implemented to avoid, as much as possible, 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 off-site and away from the construction	**Construction** • 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

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	• Disturbance, displacement, or mortality of wildlife during operational vegetation maintenance activities, if applicable	area on its own. A qualified biologist will be contacted to define the appropriate buffer required. • Prior to construction, investigation will be undertaken of the Project footprint for wildlife and wildlife habitat that may have established following the completion of previous surveys, as appropriate. • The NDMNRF will be contacted if wildlife species protected by the *Fish and Wildlife Conservation Act* are required to be relocated from the work area during construction. **Operations** • If wildlife is encountered, measures will be implemented to avoid, as much as possible, destruction, injury, or interference with the species, and/or its habitat. For example, operational vegetation maintenance activities will cease, or be reduced, and wildlife will be encouraged to move off-site and away from the work area on its own. A qualified biologist will be contacted to define the appropriate buffer required from wildlife.	maintenance and alteration of activities to reduce impacts. **Operations** • 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 reduce impacts
Wildlife and wildlife habitat – general significant wildlife habitat	**Construction** • Disturbance, displacement or mortality of wildlife or habitat loss for the following significant wildlife habitat: <u>OLW Study Area</u> ○ Candidate bat maternity colonies ○ Candidate habitat for the Species of Conservation Concern common nighthawk, eastern wood-pewee, peregrine falcon, and red-headed woodpecker <u>OLS Study Area</u> ○ Confirmed habitat for Peregrine Falcon (Species of Conservation Concern) at the Sheraton Centre Toronto Hotel located at 123 Queen Street West. ○ Confirmed habitat for Northern Map Turtle near the Lower Don River. ○ Candidate habitat for the following Species of Conservation Concern: Common Nighthawk, Eastern Wood-pewee, Red-headed Woodpecker, Monarch, and Snapping Turtle. <u>OLN Study Area</u> ○ Candidate amphibian movement corridor ○ Candidate bat maternity colonies ○ Candidate colonially – nesting bird breeding habitat (bank and cliff) ○ Candidate landbird migratory stopover area ○ Candidate reptile hibernacula ○ Candidate turtle nesting areas ○ Confirmed amphibian wetland breeding habitat ○ Confirmed marsh breeding bird habitat ○ Confirmed turtle wintering area ○ Confirmed habitat for the Species of Conservation Concern eastern wood-pewee, monarch and snapping turtle	**Construction** • Prior to construction, investigation will be undertaken of the Project footprint for wildlife and wildlife habitat that may have established following the completion of previous surveys, as appropriate. • Mitigation measures specific to each Significant Wildlife Habitat are detailed in the wildlife and wildlife habitat sections below. **Operations** • As no impacts are anticipated to general significant wildlife habitat during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities specific to each significant wildlife habitat are detailed in the wildlife and wildlife habitat sections below. **Operations** • As no impacts are anticipated to general significant wildlife habitat during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	○ Candidate habitat for the Species of Conservation Concern western chorus frog, black-crowned night heron, common nighthawk, great egret, peregrine falcon, red-headed woodpecker, wood thrush, monarch and northern map turtle. **Operations** • Potential impacts are not anticipated during operations		
Wildlife and wildlife habitat – significant wildlife habitat – candidate bat maternity colonies (refer to SAR bats) – in the OLW Study Area	• Refer to SAR bats	• Refer to SAR bats	• Refer to SAR bats
Wildlife and wildlife habitat – significant wildlife habitat – Monarch (Species of Conservation Concern) – in the OLS and OLN Study Areas	**Construction** • Disturbance or destruction of habitat used by monarchs **Operations** • Potential impacts are not anticipated during operations	**Construction** • Identify opportunities to promote pollinator species and habitat in accordance with the Metrolinx Vegetation Guideline (2020b). This may include planting or seeding native flowering plants in temporarily disturbed areas. • Opportunities to plant milkweed or forage vegetation outside of and in the rail RoW will be undertaken, where possible, and in accordance with the Metrolinx Vegetation Guideline (2020b). • If vegetation clearing proceeds when monarch larvae may be present (April 1 to September 30), milkweed plants should be inspected for monarch larvae prior to their removal. If larvae are present, they may be moved to a location that is suitable and safe, under the direction of a qualified biologist. Monarch caterpillars may be moved to other milkweed plants; for other larval stages (i.e., eggs and chrysalis). Entire milkweed plants will be transplanted. **Operations** • As no impacts are anticipated to significant wildlife habitat for monarch during operations, no mitigation measures are recommended.	**Construction** • Regular monitoring will be undertaken during construction to prevent unauthorized impacts to habitats used by Monarchs. This will include regular inspection to confirm that protection fencing around the habitat remains intact, and that there is no encroachment into the habitat. **Operations** • As no impacts are anticipated to significant wildlife habitat for monarch during operations, no monitoring activities are recommended.
Wildlife and wildlife habitat – significant wildlife habitat – common nighthawk (Species of Conservation Concern)	**Construction** • Removal of candidate nesting habitat for common nighthawk **Operations** • Potential impacts are not anticipated during operations	**Construction** • Refer to mitigation measures described for migratory breeding birds and nests. • Demolition of buildings should be scheduled outside the breeding bird season of April 1 to August 31. If this is not possible and buildings must be demolished during this period, the following will be completed: ○ The roofs will be checked for presence of gravel. If gravel is not present, then the building is unlikely to provide suitable nesting habitat for common nighthawk. If gravel is present, a search for eggs and nesting activity for common nighthawk on the roof will be conducted. If nests or nesting activity of common nighthawk are confirmed, the building cannot be demolished until it is confirmed by a qualified biologist that young have fully fledged and left the nest. **Operations**	**Construction** • Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites. **Operations** • As no impacts are anticipated to significant wildlife habitat for common nighthawk during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		• As no impacts are anticipated to significant wildlife habitat for common nighthawk during operations, no mitigation measures are recommended.	
Wildlife and wildlife habitat – migratory breeding birds and nests, including Species of Conservation Concern (birds).	**Construction** • Disturbance or destruction of migratory bird nests, including candidate significant wildlife habitat for the following Species of Conservation Concern birds: <u>OLW and OLS Study Areas</u> • Common Nighthawk, Eastern Wood-pewee, Peregrine Falcon, Red-headed Woodpecker, and Wood Thrush • Note: In the OLS Study Area, impacts to Peregrine Falcon habitat are not anticipated to the Sheraton Centre since the Ontario Line Subway tracks are tunneled underground adjacent to the building and there are no proposed above ground construction activities within approximately 100 metres from the building. <u>OLN Study Area</u> • Black-crowned Night Heron, Common Nighthawk, Great Egret, Peregrine Falcon, Red-headed Woodpecker, and Wood Thrush **Operations** • Disturbance or destruction of migratory bird nests during operational vegetation maintenance activities, if applicable	**Construction** • All works must comply with the MBCA, including timing windows for the nesting period (April 1 to August 31). • If activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside this nesting period, (including a ground nest) it still receives protection. • Bird SAR are also protected by the ESA and migratory bird SAR are protected by the federal *Species at Risk Act*. Mitigation measures for bird SAR are discussed under the Species at Risk heading. • Comply with the City of Toronto's Toronto Green Standard for both light pollution and bird-friendly design and adopt the Leadership in Energy and Environmental Design requirements to reduce light pollution, in order to reduce bird collisions into project structures **Operations** • All works must comply with the MBCA, including timing windows for the nesting period (April 1 to August 31). • If operation vegetation maintenance activities are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified biologist no more than 48 hours prior to vegetation removal. • If a nest of a migratory bird is found outside of this nesting period (including a ground nest), it still receives protection	**Construction** • Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites. **Operations** • Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife and wildlife habitat – significant wildlife habitat – Turtles and Turtle Habitat, including Species of Conservation Concern – in the OLS and OLN Study Areas	**Construction** • Potential for impacts to turtles and/or turtle habitat including confirmed habitat for Northern Map Turtle and candidate habitat for Snapping Turtle near the Lower Don River **Operations** • Potential for impacts to turtles and/or turtle habitat during operational vegetation maintenance activities, if applicable	**Construction** • Work in turtle habitat will be planned in consideration of turtle overwintering period which occurs from October 1 to April 30 in any given year. It is also possible that turtle surveys would need to be conducted prior to the work. • If required, reptile exclusion fencing will be installed according to the Reptile and Amphibian Exclusion Fencing Best Practices (MNR 2013) and fencing should be inspected daily to ensure it is tight and no species are entangled. Post-construction habitat restoration will be implemented as required. **Operations** • Work in turtle habitat will be planned in consideration of turtle overwintering period which occurs from October 1 to April 30 in any given year. It is also possible that turtle surveys would need to be conducted prior to the work.	**Construction** • 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 reduce impacts. **Operations** • 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 reduce impacts.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Wildlife and wildlife habitat – significant wildlife habitat -– snake hibernacula – in the OLN Study Area	**Construction** • Disturbance or destruction of reptile hibernaculum **Operations** • Potential impacts are not anticipated during operations	**Construction** • Where Project activity occurs adjacent to suitable snake hibernacula, exclusionary fencing will be erected along the activity area to fully isolate the area of activity during the active snake season. In the event that exclusionary fencing cannot be installed, follow-up discussions with the MECP will be required to determine adequate alternative mitigation measure(s). • For areas where the hibernacula feature requires removal to facilitate development, the exclusion fencing is to be installed during the active snake season and prior to any construction activities commencing to prevent snakes from entering the feature pre-removal. Any snakes encountered in the exclusion fencing will be relocated outside the fencing and in suitable habitat containing suitable vegetation cover/refuge by a qualified biologist in accordance with the required permit(s) in accordance with the MNR's Reptile and Amphibian Exclusion Fencing (2013). **Operations** • As no impacts are anticipated to snake hibernacula during operations, no mitigation measures are recommended.	**Construction** • Monitoring will be undertaken prior to construction to survey exclusionary fencing installation and regular monitoring during construction to survey for snakes potentially trapped in exclusionary areas. • Continuous monitoring of feature removal will be undertaken during activity. **Operations** • As no impacts are anticipated to snake hibernacula during operations, no monitoring activities are recommended.
Wildlife and wildlife habitat – wildlife habitat connectivity	**Construction** • Decrease of habitat connectivity for wildlife **Operations** • Potential impacts are not anticipated during operations	**Construction** <u>OLW Study Area</u> • Refer to mitigation measures described for Vegetation Communities, Wildlife and Wildlife habitat. • Opportunities to enhance the natural environment and provide a connection to the surrounding natural areas will be explored to the extent possible. <u>OLS and OLN Study Areas</u> • Refer to mitigation measures described for Vegetation Communities, Wildlife and Wildlife Habitat, Species at Risk and the Aquatic Environment. • Compensation for the removal of vegetation in accordance with Metrolinx's Vegetation Guideline (2020b) will consider maintaining or enhancing connectivity along the Don River to the extent possible. • Opportunities to enhance the natural environment and provide a connection to the surrounding natural areas will be explored, to the extent possible. **Operations** • As no impacts are anticipated to wildlife habitat connectivity during operations, no mitigation measures are recommended.	**Construction** <u>OLW Study Area</u> • Refer to monitoring described for Vegetation Communities and Wildlife and Wildlife Habitat. <u>OLS and OLN Study Areas</u> • Refer to monitoring described for Vegetation Communities, Wildlife and Wildlife Habitat, Species at Risk and the Aquatic Environment. **Operations** • As no impacts are anticipated to wildlife habitat connectivity during operations, no monitoring activities are recommended.
Species at Risk			
SAR – general	**Construction** • Habitat loss, disturbance, and/or mortality to SAR **Operations** • Habitat loss, disturbance, and/or mortality to SAR during operational maintenance activities, if applicable.	**Construction** • All requirements of the ESA and *Species at Risk Act* will be met. Species-specific mitigation measures will be implemented based on any recommended surveys undertaken prior to construction, and consultation with MECP. • If SAR is present and conservation strategies have been developed by NDMNRF and MECP, Metrolinx will follow the commitments in the recovery strategy.	**Construction** • 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 reduce impacts.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		• Onsite personnel will be provided with information (e.g., factsheets) that addresses the existence of potential SAR on site, the identification of the SAR species, and the procedure(s) to follow if an individual of such a species is encountered or injured. **Operations** • In areas subject to maintenance activities during operations, (repair or replacement of structures, or removal of treed habitat), additional surveys may be required to determine the presence of SAR. • All requirements of the ESA and SARA will be met. Species-specific mitigation measures will be implemented in consultation with the MECP.	• Species-specific monitoring activities will be implemented in consultation with the MECP **Operations** • 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 reduce impacts. • Species-specific monitoring activities will be implemented in consultation with the MECP.
SAR – barn swallow and bank swallow	**Construction** • Habitat loss, disturbance, and/or mortality to barn swallow, and to bank swallow in the OLN Study Area **Operations** • Habitat loss, disturbance, and/or mortality to barn swallow during operational vegetation maintenance activities, if applicable	**Construction** • 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 ESA will be met, including any registration, compensation, replacement structures, and/or permitting requirements. • If construction activities are scheduled during the nesting season for barn swallow or bank swallow (April 1 to August 31), a nest search will be undertaken to confirm that no swallows are nesting on structures or banks that may be affected by construction activities on or near these areas. If possible, the area will be netted prior to nesting season to dissuade use of these areas for nesting. • All requirements of the ESA will be met. Species-specific mitigation measures will be implemented, in consultation with the MECP. **Operations** • If operational maintenance activities are scheduled during the nesting season for barn swallow (April 1 to August 31), a nest search will be undertaken to confirm that no barn swallows are nesting on structures that may be affected by 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. • All requirements of the ESA will be met. Species-specific mitigation measures will be implemented in consultation with the MECP.	**Construction** • 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 reduce impacts. • Species-specific monitoring activities will be implemented, in consultation with the MECP. **Operations** • 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 reduce impacts. • Species-specific monitoring activities will be implemented, in consultation with the MECP.
SAR – chimney swift	**Construction** • Habitat loss, disturbance, and/or mortality to chimney swift **Operations** • Potential impacts are not anticipated during operations	**Construction** • If repair, maintenance or demolition of buildings and structures with suitable roosting and nesting habitat (e.g., chimneys) is to take place, targeted surveys for chimney swift will be completed as per the Bird Studies Canada Chimney Swift Monitoring Protocol (2009) during the nesting season of April 15 to October 15. • Repair, maintenance, or demolition of an identified structures that are used for roosting and nesting may constitute destruction of critical habitat and	**Construction** • 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 reduce impacts.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		would be discussed in advance with the MECP and requirements of the ESA will be met. • All requirements of the ESA will be met. Species-specific mitigation measures will be implemented, in consultation with the MECP. **Operations** • As no impacts are anticipated to chimney swifts during operations, no mitigation measures are recommended.	• Species-specific monitoring activities will be implemented, in consultation with the MECP. **Operations** • As no impacts are anticipated to chimney swifts during operations, no monitoring activities are recommended.
SAR – bats	**Construction** • Habitat loss, disturbance and/or mortality to SAR Bats **Operations** • Potential impacts are not anticipated during operations.	**Construction** • Additional monitoring, mitigation, and compensation for removal of suitable treed or anthropogenic roosting habitat may be required, based on the results of additional surveys and consultation with the MECP. • Disturbance to bat roosting habitat will be avoided during the active season for bats from April 1 to September 30, to the extent possible. • If disturbance cannot be avoided, all requirements of the ESA will be met. • Species-specific mitigation measures will be implemented, in consultation with the MECP. **Operations** • As no impacts are anticipated to SAR bats during operations, no mitigation measures are recommended.	**Construction** • 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 reduce impacts. • Species-specific monitoring activities will be implemented, in consultation with the MECP. **Operations** • As no impacts are anticipated to SAR bats during operations, no monitoring activities are recommended.
SAR – butternut	**Construction** • Habitat loss, disturbance, and/or mortality of butternut **Operations** • Potential impacts are not anticipated during operations	**Construction** • If any works are proposed in the critical root zone (i.e., 25 metre radius from stem) of a butternut, then mitigation, monitoring and compensation to address impacts to butternuts may be required based on the results of additional surveys (i.e., butternut health assessment and DNA testing to confirm purity) and consultation with the MECP. • As part of the Arborist Report, trees in or adjacent to the Project study area that will be removed or injured as part of Project activities will be inventoried, including butternut and other SAR vegetation. SAR vegetation will be subject to permitting 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 MNRF Butternut Assessment Guidelines (2014). The Assessor will prepare a butternut health assessment report and document the mitigation, monitoring and corrective actions implemented. • All requirements of the ESA will be met. Species-specific mitigation measures will be implemented, in consultation with the MECP. **Operations** • As no impacts are anticipated to butternut during operations, no mitigation measures are recommended.	**Construction** • 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 reduce impacts. • Species-specific monitoring activities will be implemented, in consultation with the MECP. **Operations** • As no impacts are anticipated to butternut during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Aquatic Habitat			
Aquatic Environment – Wetlands and Waterbodies	**Construction** <u>OLS Study Area</u> • Impacts to riparian vegetation, erosion and sedimentation to waterbodies from construction; risk of contamination to waterbodies as a result of spills. <u>OLN Study Area</u> • Removal or impacts to wetland; aquatic and riparian vegetation; degradation of wetlands as result of dewatering and discharge activities; erosion and sedimentation to wetlands/waterbodies from construction; and risk of contamination to wetlands/waterbodies as a result of spills. **Operations** • Potential impacts are not anticipated during operations	**Construction** • Construction activities will maintain the buffers established during the design phase to reduce 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, preferably through re-vegetation with native species suitable for the site. • An Erosion and Sediment Control Plan, in accordance with the Greater Golden Horseshoe's Erosion and Sediment Control Guideline for Urban Construction (2006) and the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), as amended from time to time, will be prepared prior to and implemented during construction to reduce the risk of sedimentation. • A Spill Prevention and Response Plan will be developed before work commences so that procedures and policies are in place to reduce impacts to wetlands and watercourses during construction. • 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. • Vegetation removals will also consider and mitigate potential impacts to wetland communities. Until such a time, that an Ontario Wetland Evaluation System evaluation is completed and evaluated by NDMNRF, unevaluated wetlands will be considered as significant for the purposes of assessing impacts. • Wetland communities potentially affected by the Project will be clearly staked out on site. • If dewatering is proposed, then it is recommended to be undertaken during the winter when the potential impacts of changes in water levels are less significant in wetland communities. During detailed design, the need for a dewatering zone of influence assessment and dewatering monitoring plan should be evaluated. The dewatering monitoring plan, if required, will monitor for potential negative impacts on nearby wetlands and adjacent vegetation communities to confirm if they would be affected due to dewatering activities. An adaptive management plan will be prepared if negative impacts are observed. • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the NDMNRF. **Operations** • As no impacts are anticipated to wetlands and waterbodies during operations, no mitigation measures are recommended.	**Construction** • 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 reduce impacts and enhance mitigation measures. **Operations** • As no impacts are anticipated to wetlands and waterbodies during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Aquatic Environment – Fish and Fish Habitat	**Construction** <u>OLS Study Area</u> • No in-water works, no direct impacts to fish and fish habitat • Indirect - Dewatering activities and water discharge resulting in changes in water velocity or temperature, soil and erosion, release of contaminated and sediment-laden water, fish habitat structure and cover, food supply, nutrient concentration, access to habitat leading to the displacement or stranding of fish. <u>OLN Study Area</u> • Potential for direct, in-water impacts to fish and fish habitat related to temporary crossing structures for both Don and West Don River bridges • Dewatering activities and water discharge resulting in changes in water velocity or temperature; changes in soil and erosion; release of contaminated and sediment-laden water; changes in fish habitat structure and cover; changes in food supply, changes in nutrient concentration; changes in access to habitat leading to the displacement or stranding of fish. **Operations** • Potential impacts are not anticipated during operations	**Construction** • All requirements of the *Fisheries Act* will be met. • In the event that in-water and/or near water construction works are required appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities including Fisheries and Oceans Canada. In-water works will be planned to consider timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed. • Follow Ontario Provincial Standard Specifications PROV 182 General Specification for Environmental Protection for Construction in and Around Waterbodies and on Waterbody Banks (APR 2021). • Design water management system and dewatering operations to prevent erosion and/or release of sediment-laden or contaminated water to the waterbody or adjacent wetlands. • Follow Ontario Provincial Standard Specifications PROV 517 Construction Specification for Dewatering (NOV 2016). • Prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the NDMNRF. **Operations** • As no impacts are anticipated to fish and fish habitat during operations, no mitigation measures are recommended.	**Construction** • 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 reduce impacts. • Monitoring for dewatering will be undertaken to confirm sediment-laden discharge, visible scour/erosion, and/or changes in temperature in any receiving watercourse. **Operations** • As no impacts are anticipated to fish and fish habitat during operations, no monitoring activities are recommended.
Stormwater Management and Drainage			

Floodplain	**Construction**
	• Potential to impact flooding conditions in the Don River Floodplain
	• Potential for flooding impacts onsite during construction
	
	Operations
	• Potential impacts are not anticipated during operations
		Construction
		• Floodplain impact assessment will be conducted during detailed design following TRCA guidelines once details on the pier configuration and other detailed bridge design information are available. Design optimizations on abutment, pier, and valley way placement shall be considered to reduce hydraulic impacts.
		• All temporary works including, but not limited to, the temporary bridges, should follow the Greater Golden Horseshoe's Erosion and Sediment Control Guideline for Urban Construction (2006) and the Erosion and Sediment Control Guide for Urban Construction (TRCA 2019), to reduce the chance of flooding during the construction.
		• TRCA staff will be consulted during detailed design to avoid potential infrastructure conflicts and impacts to flood protection measures/initiatives in the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area with consideration of, but not limited to, the following:
		  ○ West Don Lands Flood Protection Landform (TRCA 2005);
		  ○ Broadview and Eastern Flood Protection Municipal Class Environmental Assessment (TRCA 2021);
		  ○ Flood protection measures and tie-in with the existing railway valley way at Don Roadway and Eastern Avenue underpass as identified in the Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (TRCA 2014b);
			Construction
			• Develop and undertake a monitoring program of the West Don Flood Protection Landform, as required, in consultation with TRCA.
			• Include a monitoring strategy in the Flood Contingency Plan to monitor surface water levels during construction activities.
			
			Operations
			• As no impacts are anticipated during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		○ New Broadview underpass with expanded flood protection tie-ins and drainage with the railway valley way as identified in the Port Lands and South of Eastern Transportation and Servicing Master Plan Class Environmental Assessment (Waterfront Toronto and City of Toronto, 2016); and, ○ Opening of bridge crossing on east side of Don River through railway valley way to accommodate Hybrid 3 as identified in the Gardiner Expressway and Lake Shore Boulevard East Reconfiguration Environmental Assessment (Waterfront Toronto and City of Toronto, 2017). • In addition, all necessary studies such as fluvial geomorphic process studies, meander belt and erosion studies, and geotechnical and slope stability assessments will be completed. • Prior to construction, develop a Flood Contingency Plan with specific mitigation measures for any proposed works or temporary laydown and staging areas, as required. The Flood Contingency Plan may include risk mapping, and a monitoring strategy. • Include construction site on TRCA flood warning system to prepare site in advance of possible flood events. **Operations** • As no impacts are anticipated during operations, no mitigation measures are recommended.	
Surface Water / Stormwater and Drainage	**Construction** • Change in stormwater quality and quantity, including: ○ Erosion of exposed soil and increased sediment loading which may impact receiving waterbodies and/or municipal stormwater drainage system; and, ○ Increased surface water/stormwater runoff **Operations** • Potential impacts are not anticipated during operations	**Construction** • Prior to construction, a Stormwater Management Plan that will outline stormwater discharges management associated with construction activities, and an Erosion and Sediment Control plan will be developed. • The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial, and federal requirements, as amended, and outlined in a Stormwater Management Report**,** including the City of Toronto Wet Weather Flow Management Guidelines. Stormwater management design will consider guidance provided by the MECP, formerly the Ministry of the Environment and Climate Change Stormwater Management Planning and Design Manual (2003) and MTO Drainage Management Manual (2008), TRCA Stormwater Management Criteria (2012), and the Low Impact Development Stormwater Management Planning and Design Guide (TRCA/Credit Valley Conservation 2010), as required. • The following stormwater management best management practices will be considered and implemented, as required: ○ Reduce clearing and amount of exposed soil; ○ Install key sediment control before grading/land alterations begin; ○ Sequence construction activities so that the soil is not exposed for long periods of times; ○ Protect storm drain inlets to filter out debris; and, ○ Stabilize all exposed soil areas as soon as land alterations have been completed. • The TRCAs Living City Policies will be followed during detailed design, including those policies related to outfall placement.	**Construction** • Monitoring activities will be implemented as outlined in the Stormwater Management Plan and/or Erosion and Sediment Control Plan and may include regular inspections and reporting on the performance of implemented erosion and sediment control measures, best management practices, and other monitoring activities, as required. **Operations** • As no impacts are anticipated during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		• Continue to consult with the TRCA to align the Lower Don Bridge and Don Yard early works to the Lower Don Special Policy Area requirements, including the approach to flood proofing and flood modelling. • The TRCAs Stormwater Management Criteria will be followed, including those policies related to impervious areas. **Operations** • As no impacts are anticipated during operations, no mitigation measures are recommended.	

5.3 Soil and Groundwater

During construction, activities (e.g., during tunneling, excavation/grading, and dewatering activities) have the potential to negatively impact soil and groundwater. Construction activities may cause soil displacement which may result in ground movement and settlement. Dewatering activities may cause soil subsidence/settlement and other impacts in the zone of influence. In addition, construction activities have the potential to expose contaminated soils. If present, groundwater supply wells may be impacted by construction activities as a result of a reduction in local groundwater levels. Improperly managed construction dewatering activities may result in accidental releases of contaminated groundwater to the environment and/or result in the migration of existing impacted groundwater.

During the operations phase, potential impacts to soil and groundwater are not anticipated.

Potential impacts, mitigation measures, and monitoring activities for soil and groundwater are outlined in **Table 5-3**.

Table 5-3. Potential Impacts, Mitigation Measures and Monitoring Activities – Soil and Groundwater

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Soil Stability and Quality	**Construction** • Construction activities will cause displacement of the soils and bedrock. This may result in ground movement and settlement (e.g., during tunneling, excavation/grading, and/or dewatering activities). • Dewatering activities can cause soil subsidence/settlement and impacts on surface/subsurface structures in the zone of influence. • Construction activities (e.g., excavation) could expose contaminated materials and/or result in the spreading of contaminated materials. **Operations** • Potential impacts to soil stability and quality are not anticipated during operations.	**Construction** • Develop a Soil and Excavated Material Management Plan for the handling, management, and disposal of all excavated material (i.e., soil, rock and solid waste, including contamination) that is generated or encountered during the work. • Prior to construction, soil and groundwater investigations will be considered along project alignment, including Phase II Environmental Site Assessments for property acquisitions. • Develop Contamination Management Plans for the handling and management of contamination discovered during construction, when required. • Complete pre-construction inspections of structures in the dewatering zone of influence, as required. • Excavation support systems will be employed, as required. • Conduct dewatering such that ground loss is controlled/reduced. • Use tunneling equipment designed to reduce the potential for frac-out, ground loss and the associated potential for settlement. • If required, prepare a frac-out contingency plan that is intended to reduce the potential for a frac-out associated with tunneling activities. • If required, conduct ground treatment such as jet grouting to reduce the risk of ground loss. • Requirements of O. Reg. 406/19: On-Site and Excess Soil Management will be met. • Any existing City lands proposed for future open space shall be returned to existing or better environmental condition. Third party lands proposed for future open space shall meet the requirements set out under O. Reg. 153/04 under the *Environmental Protection Act*. **Operations** • As no impacts are anticipated to soil stability and quality during operations, no mitigation measures are recommended.	**Construction** • The Soil and Excavated Material Management Plan will include monitoring and maintenance requirements. • If required, develop and conduct a settlement monitoring program to verify construction effects, identify adverse trends and identify the need for additional mitigation measures. • Soil sampling and analysis plans shall be prepared, as required by O. Reg. 406/19. • Soil will be tracked in registry as required by O. Reg. 406/19. **Operations** • As no impacts are anticipated to soil stability and quality during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

Groundwater Quantity	**Construction**
	• Construction dewatering may impact groundwater-dependent natural features (e.g., wetland at E.T. Seton Park) as a result of decreases in groundwater discharge to these features.
	• Construction dewatering may impact private groundwater supply wells (if present) caused by a reduction in local groundwater levels.
	
	Operations
	• At this time, on-going dewatering is not anticipated.
		Construction
		• Potential impacts to groundwater-dependent natural features and/or private groundwater supply wells (if present) can be mitigated with measures such as avoidance of dewatering requirements, minimizing dewatering, and/or utilizing groundwater cut-off techniques to physically exclude groundwater from flowing into excavations advanced for construction.
		• Determine water taking quantities, quality, and resultant dewatering zone of influence as project planning progresses, for example through completion of a site-specific hydrogeological investigation, construction dewatering assessment and a plan to manage groundwater.
		• The construction dewatering assessment will be completed as required to:
		  ○ Provide an estimate of groundwater and/or surface water taking rates and quantities.
		  ○ Estimate a zone of influence for each dewatering area.
		  ○ Characterize groundwater and/or surface water quality.
		  ○ Recommend appropriate dewatering methodologies.
		  ○ Provide an assessment of potential impacts related to the dewatering.
		• Dewatering shall be assessed in accordance with the TRCA Technical Guidelines for the Development and Environmental Management Plans for Dewatering (TRCA 2013), O. Reg. 64/16 and 387/04, as amended under the *Ontario Water Resources Act*, as required.
		• The plan to manage groundwater will be completed as required to:
		  ○ Evaluate potential groundwater discharge options (i.e., sanitary and/or storm sewer, natural environment, off-site disposal, etc.).
		  ○ Identify effluent treatment requirements.
		  ○ Outline monitoring, mitigation, and contingency program (if required).
		  ○ Determine the potential need for regulatory approvals.
		  ○ Identify notification and reporting requirements.
		• Identification of site-specific mitigation measures and monitoring programs relating to potential groundwater impacts within the anticipated dewatering zone of influence will be determined prior to works commencement.
		
		Operations
		• As no impacts are anticipated to groundwater quantity during operations, no mitigation measures are recommended.
			Construction
			• Regular site inspections and monitoring activities such as monitoring of water levels in adjacent groundwater and/or surface water features, if required, will be completed by qualified members of the construction team to ensure that mitigation measures are fulfilled and that all regulatory requirements are met.
			• If long term dewatering is required, long term groundwater monitoring will be performed. If permit requirements require it, long term water quality sampling and testing will also be performed.
			
			Operations
			• As no impacts are anticipated groundwater quantity during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

Groundwater Quality	**Construction**
	• Previous land use may have resulted in local contamination of groundwater or surface water which may be encountered during construction excavation and/or dewatering activities.
	• General construction activities such as vehicle and machinery operation have the potential to affect groundwater quality (including at sites designated as highly vulnerable aquifers, intake protection zones, and event based areas) through minor contaminant releases.
	• Improperly managed construction dewatering activities can result in accidental releases of contaminated groundwater to the environment and/or result in the migration of existing impacted groundwater.
	
	Operations
	• Potential impacts to groundwater quality are not anticipated during operations.
		Construction
		• The existing groundwater conditions within each potential construction dewatering area will be characterized prior to construction activities, during a site-specific hydrogeological investigation, as required.
		• Conduct on-site treatment of dewatering effluent, if required, such that parameters in excess of the established discharge criteria are removed/reduced and discharge can proceed.
		• A Spill Prevention and Response Plan, outlining the steps required to prevent and contain any contaminant releases and/or to avoid impacts to groundwater/surface water is required to be developed prior to initiation of construction activities. This Spill Prevention and Response Plan should include a requirement for spill kits to be always maintained on-site during construction.
		• Pre-construction (baseline) groundwater quality testing should be performed at all construction dewatering locations before the outset of any discharge activities and compared to appropriate regulatory guidelines (i.e., Provincial Water Quality Objectives for discharge to the natural environment, storm and sanitary by-laws for discharge to municipal sewers). Appropriate water quality management (i.e., filtration systems and/or water treatment systems) will be required to be designed and implemented in the event that exceedances of regulatory guidelines or limits are detected in the influent groundwater quality. Discharge of dewatering effluent will be governed by the discharge approval(s) obtained for the Project, which could include one or a combination of Municipal Discharge Permits, Conservation Authority Approval, and/or MECP Environmental Compliance Approval.
		• Maintain machinery free of leaks to reduce the possibility of fluid release.
		• Store potential contaminants (e.g., oils, fuels, and chemicals) in designated areas using appropriate secondary containment, where necessary.
		• Educate workers regarding appropriate chemical use, handling, storage and transportation procedures, including spill response and reporting requirements.
		• Conduct a review of Source Protection Plan policies and implement the following measures, where required:
		  ○ A Salt Management Plan that incorporates best management practices where the storage and application of road salt is required.
		  ○ Best management practices where the handling and storage of dense non-aqueous phase liquids is required.
		  ○ Best management practices where the storage of organic solvent is required.
		  ○ Best management practices where the storage and handling of fuel is required.
		Operations
		• As no impacts are anticipated to groundwater quality during operations, no mitigation measures are recommended.
			Construction
			• Monitoring activities such as groundwater and dewatering effluent sample collection and measurement of groundwater parameters in the field will be completed, as required, by qualified members of the construction contractor, and in accordance with the discharge requirements of the approval and/or permit, as applicable.
			• Regular inspections of equipment for fuel/fluid leaks, dewatering equipment and containment tanks for leakage, and installed erosion and sediment control measures.
			
			Operations
			• As no impacts are anticipated groundwater quality during operations, no monitoring activities are recommended.

5.4 Built Heritage Resources and Cultural Heritage Landscapes

While a total of 272 BHRs, CHLs and HCDs located in the Study Area, 36 are anticipated to be directly impacted by the Project, as follows:

- Nineteen in the OLW Study Area:
  - Liberty Trail CHL
  - University Avenue, east and west side, Front Street north to Queen's Park
  - Cenotaph, north side of Queen Street West at University Avenue
  - 16 resources containing buildings with some level of heritage value or interest
- Ten in the OLS Study Area:
  - Former location of the first railway crossing of the Don River
  - Corktown Common
  - Osgoode Hall
  - First Parliament Site
  - Seven resources containing buildings with some level of heritage value or interest
- Five in the OLN Study Area:
  - Ontario Science Centre
  - Four resources containing buildings with some level of heritage value or interest

Encroachment will also occur into five HCDs in the Study Area (King-Spadina, Queen Street West, Riverdale, St. Lawrence Neighbourhood, and Garden District), which will cause a physical impact including introduction of new elements to the HCD, alterations to a contributing property, or diminishment in integrity of the HCD due to the introduction of new elements.

In addition, 123 of the BHRs in the Study Area may experience indirect vibration impacts during construction and require vibration monitoring (see **Section 5.8**).

Impacts, mitigation measures, and monitoring activities for directly impacted BHRs, CHLs, and HCDs are outlined in **Table 5-4**. Further details can be found in the Heritage Detail Design Report (see **Appendix A2**).

Table 5-4. Potential Impacts, Mitigation Measures and Monitoring Activities – Built Heritage Resources and Cultural Heritage Landscapes

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Cultural Interpretive Signs and Silos/Hoppers along the South Liberty Trail (Ref # ES-001)	**Construction** • Demolition of all or part of the resource. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
2-20 Atlantic Avenue (Ref # ES-002)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
153 Dufferin Avenue (Ref # OLW-007)	**Construction** • Demolition of all or part of the building. • New physical element or alteration (impact to heritage attribute). **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework • Retain in-situ the primary west elevation and north and south partial returns • Dismantle and salvage of the north and south elevations of the 1-storey east addition and remove the balance of the 1-storey east addition • Repair or reconstruction of masonry, metal cornice, and entablature of the retained elevations using dismantled and salvaged and new material to match **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
7-19 Fraser Avenue (Ref # OLW-008)	**Construction** • New physical element or alteration (impact to heritage attribute). **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework • Whole building retention of 15 Fraser • Retain in-situ the western extent of 7 Fraser and remove the balance of the building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

1 Atlantic Avenue (Ref # OLW-011)	**Construction**
	• Demolition of all or part of the building.
	• New physical element or alteration (impact to heritage attribute).
	
	Operations
	• Potential impacts to the resource are not anticipated during operations.
		Construction
		Prior to property modifications, including but not limited to demolition, the following mitigation strategies will be completed:
		• Commercial building
		  ○ Consult with the City of Toronto
		  ○ Documentation and Salvage
		  ○ Interpretation/ Commemoration Framework
		• Chimney and accessory building
		  ○ Continued avoidance of the chimney and accessory building is recommended.
		  ○ Mark a feature on the Detailed Design as “To be retained: Implement protection measures prior to construction”
		  ○ Install protection measures, such as box or fence hoarding, prior to construction
		Given anticipated in-situ retention, additional mitigation measures include:
		• Retain in-situ chimney and boiler house
		
		Operations
		• As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.
			Construction
			• Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**.
			
			Operations
			• As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

King-Spadina HCD (Ref # OLW-026)	**Construction**
	• Encroachment into the HCD causing a physical impact, including:
	  ○ introduction of new elements to the HCD
	  ○ alterations to a contributing property, or
	  ○ or diminishment in integrity of the HCD due to the introduction of new elements
	
	Operations
	• Potential impacts to the resource are not anticipated during operations.
		Construction
		Site-specific mitigation recommendations are provided per property.
		Generally, prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed
		• Consult with the City of Toronto
		• Sensitive and Compatible design
		• Record, repair and restore where possible, if elements of the HCD are impacted by the Project
		• Alterations much be complimentary and subordinate to the cultural heritage value and heritage attributes of the HCD
		• Review the *King-Spadina Heritage Conservation District Plan* and design the Project to be consistent with the HCD Plan
		In addition, review the *King-Spadina Heritage Conservation District Plan* design the Project to be consistent with the HCD Plan, including, but not limited to:
		• Design the Project to align and be consistent with the Guidelines set out in the *King-Spadina Heritage Conservation District Plan*, in Section 4.3, Heritage Attributes, including:
		  ○ Built Form
		  ○ Public Realm
		  ○ Character Sub-Areas
		• Design the Project to be consistent with the *Policies and Guidelines for Contributing Properties* set out in the *King Spadina Heritage Conservation District Plan* in Section 6.0 (Map of contributing properties on Page 55 of the HCD Plan), including:
		  ○ Understanding, Conservation, Existing Part IV Designations, Combined Properties, Code Compliance, Demolition, Removal and Relocation, Maintenance, Restoration, Alteration, Massing, Roofs, Exterior Walls, Entrances, Porches and Balconies, Lighting, Signage
		• Design the Project to be consistent with the *Policies and Guidelines for Non-Contributing Properties* set out in the *King-Spadina Heritage Conservation District Plan* in Section 7.0, including but not limited to:
		  ○ Understanding, Adjacency to Contributing Properties, Combined Properties, Demolition, Alterations and Additions, Massing, Articulation and Proportions, Exterior Walls, Roofs, Lighting, Signage, Parking and Service Areas
		• Design the Project to be consistent with the *Policies and Guidelines for Parks and Public Realm* set out in the *King-Spadina Heritage Conservation District Plan* in Section 9.0, including but not limited to:
		  ○ Views, Network of Laneways, Utilities and Public Works
		
		Operations
		• As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.
			Construction
			• Site-specific monitoring recommendations are provided per property. .
			
			Operations
			• As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
60 Stewart Street (Ref # OLW-030)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
663-665 King Street West and 69-71 Bathurst Street (Ref # OLW-031)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework Given anticipated in-situ retention, additional mitigation measures include: • Retain the north elevation and west return elevation in-situ • Selective dismantle and salvage of the balance of the west elevation and the south and east elevations • Remove existing window shutters, fire escapes, and wood stairs from all elevations; and elevator overrun from west elevation • Reinstatement of the west and south elevations, and partial east elevation return using dismantled and salvaged and new materials to match, including the recreation of the original cornice that was previously removed • Modification to facades at ground floor level, which includes converting the two existing windows on the north elevation into doors as well as the northern window in the west elevation; the existing door on the north elevation will be lowered to grade and converted into a window; on the west elevation, the existing arched entrance at the southern extent will be lowered to grade and converted into a fire fighter access point for the station **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
647-647A King Street West (Ref # OLW-032)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework Given anticipated in-situ retention, additional mitigation measures include: • Document the existing building at 60 Stewart Street • Remove buildings and provide compatible replacement building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
668 King Street West (Ref # OLW-039)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework Given anticipated in-situ retention, additional mitigation measures include: • Selective dismantle and salvage of stone base and stone features around windows and doors from north, west and south elevations • Panelization of the south and west elevations once stone features are dismantled and salvaged • Dismantle and salvage the cornices and intact masonry from the north and east elevations • Remove the existing brick parapet • Reinstatement of west and south elevation and partial returns of the north and east elevations using panelized, dismantled and salvaged, and new materials • Reconstruct parapet with new material to match existing • Modifications to facades, which includes conversion of existing south elevation entrance to a window opening, remove the existing stair and infill with new or salvage stone to match existing; removal of stone base to accommodate a new entrance at the southernmost window of the west elevation; and integrate with new construction • Provide new historically appropriate windows based on salvaged historic windows, doors, flashings, and bring reinstated elements to a state of good repair **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
662 King Street West (Ref # OLW-040)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework Given anticipated in-situ retention, additional mitigation measures include: • Panelization of the south elevation and east and west returns • Dismantle and salvage of the balance of the facades • Reinstate facades using panelized, dismantled and salvaged, and new materials with modifications for new use • Provide new windows and doors consistent with the existing conditions **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Queen Street West HCD (Ref # OLW-065)	**Construction**
	• Encroachment into the HCD causing a physical impact, including:
	  ○ introduction of new elements to the HCD
	  ○ alterations to a contributing property, or
	  ○ or diminishment in integrity of the HCD due to the introduction of new elements
	
	Operations
	• Potential impacts to the resource are not anticipated during operations.
		Construction
		Site-specific mitigation recommendations are provided per property.
		Generally, prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed
		• Consult with the City of Toronto
		• Sensitive and Compatible design
		• Record, repair and restore where possible, if elements of the HCD are impacted by the Project
		• Alterations much be complimentary and subordinate to the cultural heritage value and heritage attributes of the HCD
		• Review the *Queen Street West Heritage Conservation District Plan* and design Project to be consistent with the HCD Plan
		In addition, consult the *Queen Street West Heritage Conservation District Plan* design Project to be consistent with the HCD Plan, including but not limited to:
		• Design the Project to align and be consistent with the Guidelines set out in the *Queen Street West Heritage Conservation District Plan*, in Section 5, Heritage Attributes and District Guidelines, including:
		  ○ Prominent Architecture and Landmark Buildings
		  ○ Street Wall
		  ○ Street Wall Elements
		  ○ Building Heights
		  ○ Façade Patterns and Features
		  ○ Public Realm
		  ○ Circulation
		• The heritage attributes of properties that are “listed” or designated under Part IV of the *OHA*, as defined in their respective listing reports or designation by-laws, should be maintained and enhanced in any proposed alteration to the property (subsection 5.1).
			Construction
			• Site-specific monitoring recommendations are provided per property. .
			
			Operations
			• As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

		• Design the Project to align with the Planning Considerations set out in the *Queen Street West Heritage Conservation District Plan*, in Section 7.1 and Section 8, including but not limited to:
		  ○ The Streetscape- Design new streetscape features (including street furniture, paving, light standards) that recognizes the heritage character of Queen Street West. Create a positive impact that is compatible in design to the existing streetscape.
		  ○ Tree Strategy- Conserve and minimize impact to the existing trees.
		  ○ Parking- Existing on-street parking should be maintained.
		  ○ John Street- Consider the cultural importance of John Street as a visual axis that links with Queen Street West, as a vital public realm
		
		Operations
		• As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	

University Avenue, east and west side, Front Street north to Queen's Park (Ref # OLW-136)	**Construction** • New physical element or alteration (impacts to heritage attribute). **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** OLW-136 is subject to a series of conditions associated with Minister's Consent. Prior to property modifications, including but not limited to demolition, the following will be completed: • Archaeological assessments • Consult with the City of Toronto • Documentation and Restoration Plan • Removal, and Storage Given anticipated removal and storage of materials associated with the University Avenue Streetscape, additional mitigation measures include: • Dismantle and store streetscape elements within or proximate to work area for temporary storage during station construction • Reinstate streetscape elements to current location using stored materials • Reinstate streetscape using dismantled and stored material. Any new material that is required is to match existing **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** Should changes to Project Plans or Proposed Mitigation Measures occur, or where Minister's Consent conditions cannot be completed, Metrolinx will engage with the City of Toronto Heritage Planning then seek the MHSTCI's advice prior to proceeding. Until all conditions associated with Minister's Consent have been fully met, Metrolinx will provide an annual update to the Director, Programs and Services Branch, Heritage, Tourism and Culture Division of MHSTCI. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Cenotaph, North side of Queen Street West at University Avenue (Ref # OLW-137)	**Construction** • Temporary relocation. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** OLW-137 is subject to a series of conditions associated with Minister's Consent. Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation, Relocation Plan, and Restoration Plan • Interpretation and Commemoration Plan Given anticipated in-situ retention, additional mitigation measures include: • Dismantle and store Memorial and streetscape elements within or proximate to work area for temporary storage during station construction • Reinstate Memorial to current location using stored materials • Reinstate streetscape using dismantled and stored materials. Any new material that is required is to match existing **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** Should changes to Project Plans or Proposed Mitigation Measures occur, or where Minister's Consent conditions cannot be completed, Metrolinx will engage with the City of Toronto Heritage Planning then seek the MHSTCI's advice prior to proceeding. Until all conditions associated with Minister's Consent have been fully met, Metrolinx will provide an annual update to the Director, Programs and Services Branch, Heritage, Tourism and Culture Division of MHSTCI. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
455 Queen Street West (OLAW-002)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework • Replacement of all existing buildings with new South Station Entrance building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
453 Queen Street West (Ref # OLAW-003)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City • Documentation and Salvage • Interpretation/Commemoration Framework • Document existing buildings at 449, 451 and 453 Queen Street West • Replacement of all existing buildings with new South Station Entrance building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
451 Queen Street West (Ref # OLAW-004)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework • Document existing buildings at 449, 451 and 453 Queen Street West • Replacement of all existing buildings with new South Station Entrance building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
449 Queen Street West (Ref # OLAW-005)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework • Replacement of all existing buildings with new South Station Entrance building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
443 Queen Street West (Ref # OLAW-006)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework • Replacement of all existing buildings with new South Station Entrance building **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
165, 169 ½, 171, 171 ½, 173, 175, 175 ½, 177 Spadina Avenue and 378 Queen Street and 378 Queen Street West (Ref # OLAW-014)	**Construction** • Demolition of all or part of the building. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework • Retain south elevation and southwest elevation in-situ, and panelize the west elevation Given anticipated in-situ retention, additional mitigation measures include: • Retain south elevation and southwest elevation in-situ, and panelize the west elevation • Dismantle and salvage north elevation east elevation return, intact original storefront elements, stone base on west elevation, portico, and metal cornice • Modification of three existing window opening at the western extern of the south elevation to become the new station entrance • Conversion of existing windows to ventilation louvres at the south elevation • Reinstate north and west elevations, and partial east return using panelized, dismantled and salvaged, and new material to match • Provide new historically appropriate windows and doors • Provide new flashing and bring the reinstated elements to a state of good repair **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
205 Queen Street West (Ref # OLAW-018)	**Construction** • Demolition of all or part of the resource. • Temporary relocation of north and east elevations with partial west return. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework • Reinstate north and east elevations, and partial west return elevation using temporarily relocated, dismantled, and salvaged materials • Provide new historically appropriate windows **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Public Space: Former location of first railway cross of the Don River (Ref # LDB-001)	**Construction** • Demolition of part of the resource. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
Heritage Toronto Plaque - within Corktown Common, 155 Bayview Avenue (Ref # LDB-004)	**Construction** • Encroachment. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, the following will be completed: • Consult with the City of Toronto • Sensitive Design **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
220 Langley Avenue (Ref # OLS-011)	**Construction** • Encroachment. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, the following will be completed: • Consult with the City of Toronto • Sensitive Design **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
Carlaw Avenue and Gerrard Street East Subways (Ref # OLS-014)	**Construction** • New physical element or alteration (impacts to heritage attribute). **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
400 Carlaw Avenue (Ref # OLS-015)	**Construction** • Demolition of all or part of the resource. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Riverdale HCD (Ref # OLS-017)	**Construction**
	• Encroachment into the HCD causing a physical impact, including:
	  ○ introduction of new elements to the HCD
	  ○ alterations to a contributing property, or
	  ○ or diminishment in integrity of the HCD due to the introduction of new elements
	
	Operations
	• Potential impacts to the resource are not anticipated during operations.
		Construction
		Site-specific mitigation recommendations are provided per property.
		Generally, prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed
		• Consult with the City of Toronto
		• Sensitive and Compatible design
		• Record, repair and restore where possible, if elements of the HCD are impacted by the Project
		• Alterations much be complimentary and subordinate to the cultural heritage value and heritage attributes of the HCD
		• Review the *Riverdale Heritage Conservation District Plan – Phase 1* and design the Project to be consistent with the HCD Plan
		In addition, review the *Riverdale Heritage Conservation District Plan- Phase 1*, design Project to be consistent with the HCD Plan, including but not limited to:
		• Design the Project to align and be consistent with the District Guidelines set out in the *Riverdale Heritage Conservation District Plan- Phase 1*, in Section 9, including, but not limited to:
		  ○ If demolition, removal or significant alteration to any buildings or structures in the HCD is necessary for the Project, this action should be limited to only those buildings that have been identified in the HCD Plan as “non-contributing”. Demolition of contributing properties is strenuously avoided.
		  ○ Retain principal structures on contributing properties, including buildings along the east side of Tiverton Avenue - restore and conserve the heritage fabric.
		  ○ Alterations/new elements to the HCD must be complementary and subordinate to the cultural heritage value and heritage attributes of the HCD.
		  ○ Record, repair and restore where possible, elements of the HCD are impact by the Project
		
		Operations
		• As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.
			Construction
			• Site-specific monitoring recommendations are provided per property. .
			
			Operations
			• As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
265, 269, 271 Front Street East and 25 Berkeley Street (First Parliament Site) (Ref # OLS-034)	**Construction** • Demolition and excavation of an archaeological site. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** OLS-034 is subject to a series of conditions associated with Minister's Consent. Summarized these include: • Archaeological assessments • Interpretation and Commemoration Plan **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** Should changes to Project Plans or Proposed Mitigation Measures occur, or where Minister's Consent conditions cannot be completed, Metrolinx will engage with the City of Toronto Heritage Planning then seek the MHSTCI's advice prior to proceeding. Until all conditions associated with Minister's Consent have been fully met, Metrolinx will provide an annual update to the Director, Programs and Services Branch, Heritage, Tourism and Culture Division of MHSTCI. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

St. Lawrence Neighbourhood HCD (Ref # OLS-035)	**Construction**
	• Encroachment into the HCD causing a physical impact, including:
	  ○ introduction of new elements to the HCD
	  ○ alterations to a contributing property, or
	  ○ or diminishment in integrity of the HCD due to the introduction of new elements
	
	Operations
	• Potential impacts to the resource are not anticipated during operations.
		Construction
		Site-specific mitigation recommendations are provided per property. Continued avoidance of the properties is recommended.
		In addition, review the *St. Lawrence Neighbourhood Heritage Conservation District Plan* and design Project to be consistent with the HCD Plan, including but not limited to:
		• Design the Project to align and be consistent with the District Guidelines set out in the *St. Lawrence Neighbourhood Heritage Conservation District Plan*, in Sections 5, Section 6, and Section 8, including, but not limited to:
		  ○ Alterations to a contributing or non-contributing property must be physically and visually compatible with, subordinate to and distinguishable from the heritage attributes of the property
		  ○ Alterations to a contributing property may be permitted only where they minimize the loss or removal of heritage attributes
		  ○ Additions and alterations to a contributing property must be based on a firm understanding of the heritage attributes of the property that contributes to the cultural heritage value of the District as a whole
		  ○ Alterations/new elements must be complementary and subordinate to the cultural heritage value and heritage attributes of the HCD.
		  ○ New development must respect the cultural heritage values of the District while reflecting its own time
		  ○ New streetscape lighting should be undertaken in accordance with the Heritage Lighting Master Plan for Old Town Toronto
		  ○ Street furniture design to be consistent thought the District (use Streetscape Manual to design any new streetscape furniture)
		  ○ Design street signage to be consistent with the format of the HCD as a whole
		  ○ Complete detailed documentation of the property that includes the identification of salvageable materials and/or heritage attributes prior to alteration, in order to inform what building components should be retained and conserved and/or restored.
			Construction
			• Site-specific monitoring recommendations are provided per property.
			
			Operations
			• As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		Operations • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	
150 Sherbourne Street (including structure at 140 Sherbourne Street) (Ref # OLS-049)	**Construction** • New physical element or alteration (no impact to heritage attributes). **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed: • Consult the City of Toronto • Design the Project to be consistent with the Policies and Guidelines for Contributing Properties set out in the *Garden District Heritage Conservation District Plan*. Section 6.0 for 140 Sherbourne Street and Section 8.2 Moss Park. • Moss Park, that forms the terminus of Pembroke Street, should remain an open landscape (Section 8.2.1 of HCD Plan) • Continued avoidance of the building is recommended. **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Garden District HCD (Ref # OLS-063)	**Construction**
	• Encroachment into the HCD causing a physical impact, including:
	  ○ introduction of new elements to the HCD
	  ○ alterations to a contributing property, or
	  ○ or diminishment in integrity of the HCD due to the introduction of new elements
	
	Operations
	• Potential impacts to the resource are not anticipated during operations.
		Construction
		Site-specific mitigation recommendations are provided per property.
		Generally, prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed
		• Consult with the City of Toronto
		• Sensitive and Compatible design
		• Record, repair and restore where possible, if elements of the HCD are impacted by the Project
		• Alterations much be complimentary and subordinate to the cultural heritage value and heritage attributes of the HCD
		In addition, review the *Garden District Heritage Conservation District Plan* and design Project to be consistent with the HCD Plan, including but not limited to:
		• Design the Project to align and be consistent with the District Guidelines set out in the *Garden District Heritage Conservation District Plan*, in Sections 6.0, 7.0 and 8.0, including, but not limited to:
		  ○ Document and describe the cultural heritage attributes of a contributing property and the impact of any proposed alteration on those values and attributes
		  ○ Proposed alterations shall be complementary with and subordinate to the District's cultural heritage value and heritage attributes
		  ○ Alterations shall not diminish or detract from the integrity of the District
		  ○ If demolition, removal or significant alteration to any buildings or structures in the HCD is necessary for the Project, this action should be limited to only those buildings that have been identified in the HCD Plan as "non-contributing".
			Construction
			• Site-specific monitoring recommendations are provided per property.
			
			Operations
			• As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		○ New development on non-contributing properties shall complement the District's cultural heritage value and heritage attributes while reflecting its own time. ○ Alterations/new elements must be complementary and subordinate to the cultural heritage value and heritage attributes of the HCD. **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	
176 Yonge Street/401 Bay Street (Ref # OLS-106)	**Construction** • New physical element or alteration (no impact to heritage attributes). **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to alterations, the following mitigation strategies will be completed: • Consult the City of Toronto • Sensitive and Compatible Design • Modification to existing alcove to accommodate a new wider set of stairs and elevator **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
130 Queen Street West, Osgoode Hall (Ref # OLS-113)	**Construction** • New physical element or alteration that changes the character or diminishes the integrity of the property's formal setting, including the grassed lawn with Y-shaped walkways and traditional plantings, decorative cast-iron fence, and gates. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** OLS-113 is subject to a series of conditions associated with Minister's Consent. Prior to property modifications, including but not limited to demolition, the following will be completed: • Archaeological assessments • Minimal visual intrusion and obstruction through design guidelines • Documentation and Pre- and Post-Construction Conditions Assessment • Landscape Management Plan • Documentation and Restoration Plan • Sensitive and collaborative removal and reinstatement In addition to mitigation measures associated with the conditions of Minister's Consent, prior to property modifications, including but not limited to demolition, the following should be completed: • Consult with the City of Toronto • Consult with the Law Society of Ontario Given anticipated in-situ retention, additional mitigation measures include: • Retain brick pier in-situ • Panelize a portion of fence and dismantle and store metal supports and stone base • Reconfigure and reinstate fence and stone base using panelized, dismantled and stored, and new materials to match existing • Rehabilitate landscape and bring reinstated elements into a state of good repair	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended. Should changes to Project Plans or Proposed Mitigation Measures occur, or where Minister's Consent conditions cannot be completed, Metrolinx will engage with the City of Toronto Heritage Planning then seek the MHSTCI's advice prior to proceeding. Until all conditions associated with Minister's Consent have been fully met, Metrolinx will provide an annual update to the Director, Programs and Services Branch, Heritage, Tourism and Culture Division of MHSTCI.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		Operations • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	
242 First Avenue (Ref # OLAS-004)	**Construction** • Demolition of all or part of the resource. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
240 First Avenue (Ref # OLAS-005)	**Construction** • Demolition of all or part of the resource. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • No monitoring activities are recommended during construction. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
21 Redway Road (Ref # OLAN – 004)	**Construction** • Encroachment. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed: • Consult with the City of Toronto • Continued avoidance of the buildings is recommended. **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
849 Don Mills Road (Ref # OLN-001)	**Construction** • Encroachment. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to construction activities, the following mitigation strategies will be completed: • Consult with the City of Toronto • Continued avoidance of the buildings is recommended. **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
770 Don Mills Road/Ontario Science Centre (Ref # OLN-005)	**Construction** Evaluation of the Ontario Science Centre in accordance with O. Reg. 9/06 and 10/06 is currently underway by Infrastructure Ontario and may result in changes to potential heritage attributes identified. Following evaluation, impacts to heritage attributes will be assessed to determine the need for MHSTCI Minister's Consent, if any. Based on preliminary heritage attributes, the following impacts are anticipated: • New physical element or alteration that changes the existing parkland setting • New physical element or alteration that changes the existing north and south parking areas **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** • To be determined. **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.
968-1042; 947-1030 Pape Avenue (Ref # OLN-020)	**Construction** • Demolition of all or part of the resource. **Operations** • Potential impacts to the resource are not anticipated during operations.	**Construction** Prior to property modifications, including but not limited to demolition, the following will be completed: • Consult with the City of Toronto • Documentation and Salvage • Sensitive and Compatible Design • Interpretation/Commemoration Framework **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
746 Pape Avenue (Ref # OLN-021)	**Construction** • Encroachment. **Operations** • Potential impacts to the resource are not anticipated during operations.	Prior to property modifications the following mitigation strategies will be completed: • Consult with the City of Toronto • Sensitive Design **Operations** • As no impacts are anticipated to the resource during operations, no mitigation measures are recommended.	**Construction** • Monitoring activities during construction related to potential vibration impacts are outlined in **Section 5.8**. **Operations** • As no impacts are anticipated to the resource during operations, no monitoring activities are recommended.

5.5 Archaeological Resources

Potential impacts to archaeological resources, in both terrestrial and marine settings, are limited to the construction phase. Once construction is completed and the Project enters the operations phase, by definition there is no more ongoing construction disturbance and therefore archaeological resources should not be impacted.

To prepare for construction, the Stage 1 archaeological assessment identified areas with known archaeological resources and areas of archaeological potential, where archaeological remains could be found. The Stage 1 archaeological assessment was conducted in accordance with the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Subsequent archaeological investigations – consisting of one or more of Stage 2 archaeological assessment, Stage 3 archaeological assessment, and Stage 4 archaeological mitigation - will be carried out prior to construction, with follow-up archaeological monitoring during construction if required. These archaeological investigations will also be conducted in accordance with the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). If the Project Footprint extends beyond what has been previously assessed, previously unknown archaeological resources are unexpectedly exposed, or known archaeological resources are subject to accidental disturbance, subsequent archaeological investigations may be required to either determine the potential for the recovery of archaeological resources or to document archaeological resources, as appropriate. Indigenous Nations will be invited to participate in all archaeological investigations.

Impacts, mitigation measures, and monitoring activities for areas of archaeological potential and archaeological resources are outlined in **Table 5-5**. Further details can be found in the Stage 1 Archaeological Assessment (**see Appendix A3**).

Table 5-5. Potential Impacts, Mitigation Measures, and Monitoring Activities – Archaeology

Environmental Components	Potential Impact	Mitigation Measure(s)	Monitoring Activities

Archaeological Potential	**Construction**
	• Potential for the disturbance of unassessed or documented archaeological resources.
	
	Operations
	• Potential impacts are not anticipated during operations.
		Construction
		• Prior to construction, an Archaeological Risk Management Plan will be developed that will include, among other items:
		  ○ The recommendations from Archaeological Reports
		  ○ Processes for Indigenous monitors and engagement with Indigenous Nations
		• Areas identified as retaining archaeological potential, as per the Stage 1 Archaeological Assessment Report (**Appendix A3**), must be subject to further archaeological assessment, as recommended and in advance of any ground disturbance.
		• Any additional Archaeological Assessments (e.g., Stage 2, Stage 3 if recommended by the Stage 2) shall be completed as early as possible, and prior to the ground disturbing activities. This work shall be done in accordance with the MHSTCIs *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) to identify any archaeological resources that may be present.
		• Indigenous Nations will be invited to participate in any subsequent archaeological work. All future archaeological assessment findings will be shared with the Indigenous Nations that were engaged.
		• If in-water work is required, a marine archaeological assessment will be completed.
		• If detailed design moves the Project Footprint onto lands not previously assessed for archaeological potential, additional archaeological assessments may be required in order to conserve archaeological resources through documentation, protection, and/or avoidance from impacts.
		
		Operations
		• As no impacts are anticipated to archaeological potential during operations, no mitigation measures are recommended.
			Construction
			• Subject to findings of future Archaeological Assessments, to avoid impacts on archaeological resources during construction, monitoring may be required.
			
			Operations
			• As no impacts are anticipated to archaeological potential during operations, no monitoring activities are recommended.

Environmental Components	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Archaeological Resources	**Construction** • Potential recovery of archaeological resources during construction. **Operations** • Potential impacts are not anticipated during operations.	**Construction** • Prior to construction, an Archaeological Risk Management Plan will be developed that will include, among other items, protocols should previously undocumented archaeological resources be discovered • Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the OHA. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork. • The *Funeral, Burial and Cremation Services Act*, 2002 requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services. • Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the OHA and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license. **Operations** • As no impacts are anticipated to archaeological potential during operations, no mitigation measures are recommended.	**Construction** • Subject to findings of future Archaeological Assessments, to avoid impacts on archaeological resources during construction, monitoring may be required. **Operations** • As no impacts are anticipated to archaeological resources during operations, no monitoring activities are recommended.

5.6 Socio-Economic and Land Use Characteristics

A Socio-Economic and Land Use Characteristics Impact Assessment (see **Appendix A4**) was conducted. This impact assessment identifies potential socio-economic and land use impacts associated with the construction and operations phases of the Project and proposes mitigation and monitoring measures where potential adverse effects are predicted, aiming to reduce these adverse effects. The assessment of potential impacts and appropriate mitigation measures in this section specifically addresses Project impacts on socio-economic and existing land use/community features. Impacts include temporary and permanent property requirements, land use disruption during construction and into operations, and impacts to built form and visual characteristics from construction activities and the permanent Ontario Line infrastructure, as presented in **Table 5-6**. Further details can be found in the Socio-Economic and Land Use Characteristic Assessment (see **Appendix A4**).

Table 5-6. Potential Impacts, Mitigation Measures, and Monitoring Activities – Socio-Economic and Land Use Characteristics

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Property	**Construction** • Property acquisition – permanent and temporary. **Operations** • None identified.	**Construction** • Specific permanent property requirements, and temporary property requirements, such as those associated with construction staging and laydown, will be reduced to the extent feasible as planning progresses. **Operations** • None identified.	**Construction** • None identified. **Operations** • None identified.
Development Projects	**Construction** • Compatibility with nearby planned development projects will require review and coordination. **Operations** • None identified.	**Construction** • Complete review of proposed development applications, including those submitted since the preparation of this report, to reduce site impacts and determine feasible methods of design coordination where needed. • Metrolinx will continue to coordinate with the City of Toronto where it has active development projects in or adjacent to the Project Footprint. **Operations** • None identified.	**Construction** • None identified. **Operations** • None identified.
All Land Uses and Adjacent Lands	**Construction** • Nuisance impacts from construction activities. **Operations** • Land uses adjacent to the aboveground segments of the alignment as well as station sites and the OMSF may experience nuisance impacts such as noise, vibration, dust, traffic, and light intrusion from infrastructure and operational activities.	**Construction** • Reduce potential impacts to recreational uses, parks and open spaces to the extent feasible. • Mitigation measures related to potential air quality and noise and vibration nuisance impacts are outlined in **Sections 5.7** and **5.8**. • Develop an Erosion and Sediment Control Plan in accordance with the Toronto and Region Conservation Authority's Erosion and Sediment Control Guide for Urban Construction (2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways. • Develop a Communications Protocol which indicates how and when surrounding property owners and tenants will be informed of anticipated upcoming construction works, including work at night. • Develop a strategy to reduce the impacts of light pollution, trespass, and glare. **Operations** • Mitigation measures related to potential air quality, noise and vibration, and traffic nuisance impacts are outlined in Sections **5.7**, **5.8**, and **5.9**. • Project infrastructure will be designed to reduce light trespass, glare, and pollution.	**Construction** • Regular monitoring (e.g., on-site inspection) of mitigation measures to verify effectiveness and inform adaptive management, as required. • Monitoring related to potential air quality and noise and vibration nuisance impacts are outlined in **Sections 5.7** and **5.8**. **Operations** • Regular monitoring (e.g., on-site inspection) of mitigation measures to verify effectiveness and inform adaptive management, as required. • Monitoring related to potential air quality and noise and vibration nuisance impacts are outlined in **Sections 5.7** and **5.8**. • Monitoring related to traffic is outlined in **Section 5.9**.

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
	Construction • Land use and access disruption. **Operations** • Land use and access disruption.	**Construction** • 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 to aid navigation around the construction site. • Develop a construction staging plan focused on pedestrian flow and limiting disruption. • Maintain access to on-street parking and parking facilities, where feasible. Where access to regular parking cannot be maintained, provide clear communication, alternative access and signage. • Reduce potential impacts on and maintain access to recreational uses, parks and open spaces to the extent feasible. • Where impacts to institutional uses or community groups and resources are anticipated, consult with the property owner to identify and develop appropriate mitigation measures. • Metrolinx will inform the City of Toronto, communities, residents, business owners and institutions (e.g., school boards) directly impacted by construction. Specific mitigation measures will be developed once property impacts have been further refined and confirmed. • Regular (existing) access will be maintained, where feasible. Where existing access cannot be maintained, alternative access and signage will be provided. • Maintain access to businesses during working hours, where feasible. Where regular access cannot be maintained, provide alternative access and signage. • Mitigation measures related to transportation are outlined in **Section 5.9**. • Continue to consult with the City of Toronto and TRCA on impacts to parkland and natural areas and opportunities for parkland improvement as Project planning and design progress. • **Operations** • Access to driveways and side streets will be restored to the greatest extent possible following construction, where changes are required. Where restoration cannot be completed and if required, Metrolinx will conduct further investigations and negotiate with the affected property owner. • Provide lighting and wayfinding signs and cues to aid navigation around each station site. • Restore parkland once construction is complete. • Reconnect trails where possible once construction is complete or provide alternative routing. • Mitigation measures related to transportation are outlined in **Section 5.9**.	**Construction** • Regular monitoring (e.g., on-site inspection) of temporary access paths, walkways, cycling routes and fencing to ensure effectiveness. **Operations** • Monitoring related to traffic mitigation measures are outlined in **Section 5.9**.

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Built Form and Visual Characteristics	**Construction** • Visual impacts from construction areas/activities. **Operations** • Visual impacts from public-facing structures and/or operations activities.	**Construction** • A screened enclosure for the development site will be provided. • 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. • Comply with local applicable municipal by-laws and Ministry of Transportation practices for permanent and temporary construction activity outdoor lighting in areas near or adjacent to highways and roadways and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting, as described in the contract documents. • Work will be performed in such a way that adverse impacts 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. **Operations** • Reduce the visual effects of project structures (e.g., elevated guideways, support structures, retaining walls) by considering their location, building materials, architectural design, and surrounding landscape treatments. • Municipal and public engagement as Project planning and design progresses.	**Construction** • None identified. **Operations** • None identified.
	Construction • None identified. **Operations** • The built form and public realm will change compared to existing conditions, especially around station sites, headhouses, and in areas where the tracks are elevated or at-grade.	**Construction** • None identified. **Operations** • Reduce the visual effects of bridges, retaining walls and noise barriers by selecting appropriate building materials and architectural design. • New infrastructure will be constructed to a high visual standard that enhances the surrounding area. • Consult with the City of Toronto regarding restoration of public realm areas impacted by construction activities. • Ongoing coordination with the City of Toronto will be required to promote the integration of Moss Park Station, Riverside/Leslieville Station, and Gerrard Station with existing parkland and open spaces.	**Construction** • None identified. **Operations** • None identified.

5.7 Air Quality

The Project has the potential, at times, to result in temporary air quality impacts during construction as a result of fuel combustion exhaust from vehicles and equipment used for construction, as well as fugitive dust from construction activities. However, it is anticipated that potential effects resulting in adverse changes in local air quality from the construction phase emissions can be controlled and reduced through implementation of applicable mitigation measures and conducting ambient air monitoring to confirm the effectiveness of the implemented mitigation.

The operation of the Project would support the overall provincial objective in shifting towards a more sustainable mode of transportation, with an estimated reduction of 266,000 kilometre travelled by private vehicles per day (Metrolinx 2020a) as people shift to taking the Ontario Line Subway. The shift in travel mode will lead to 1) reductions in combustion exhaust and road dust emissions because fewer vehicles will be travelling on city roads, and 2) improved fuel efficiency from less congestion and vehicle idling for those vehicles that remain on the road (Metrolinx 2008b). There is an additional positive impact on air quality with the shift to travelling by electrically powered trains that do not have direct emissions from burning fuel. The reduction in exhaust emissions from shift in travel modes (such as private vehicles) will translate into a reduction in the local levels of air pollutants in the vicinity of the Project footprint.

The potential effects from Project construction and operation are expected to be similar for the OLW, OLS and OLN sections. A summary of potential effects for each activity, their corresponding mitigation measures, and monitoring activities are presented in the table below. Further details can be found in the Air Quality Impact Assessment Report (see **Appendix A5**).

Table 5-7. Air Quality - Summary of Potential Impacts, Mitigation and Monitoring

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

Air Quality	**Construction**
	• Potential air quality impacts could include effects from fuel combustion and particulate emissions.
	• Construction activities could expose contaminated soils/materials and/or result in the spreading of contaminated materials.
	
	Operations
	• Potential air quality impacts from operations at the OMSF and mobile maintenance crew could include effects from fuel combustion and maintenance activities, as well as from station vents exhausting air from tunnels.
		Construction
		• A quantitative assessment will be conducted once sufficient detail on the construction planning is available. The quantitative assessment will be used to update the construction mitigation plan and will be submitted to the MECP for review prior to the start of construction activities.
		• Prior to commencement of construction, develop and implement a detailed Construction Air Quality Management Plan. A copy of the Air Quality Management Plan will be provided to the MECP. The Air Quality Management Plan will:
		  ○ Demonstrate compliance with the specific air quality criteria and limits per Ontario Ambient Air Quality Criteria, Canadian Ambient Air Quality Standards and O. Reg. 419/05 .
		  ○ Define the Project's air quality impact zone and identify applicable sensitive receptors in this area.
		  ○ Assess the baseline air quality by continuous measurement of local ambient concentrations of $PM_{2.5}$ and PM_{10} for more than 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 in the air quality impact zone, develop appropriate mitigation measures, demonstrate their effectiveness, and commit to their timely implementation.
		  ○ Include explicit commitment to the implementation of all applicable best practices identified in the document, Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (ECCC 2005), and the MECP's Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources (MECP 2017).
		• Develop a Communications Protocol and a Complaints Protocol to respond to issues that develop during construction.
		• Schedule construction related activities to avoid overlapping construction activities where possible.
		• Reduce the number of machines operating in any one area at any given point in time.
		• Implement applicable mitigation measures identified in the Air Quality Management Plan. The Air Quality Management Plan will include applicable mitigation measures for each of the construction activities such as:
		  ○ Site Preparation, Excavation and Grading
		  ○ Demolition
		  ○ Material Storage
		  ○ Material Handling and Transfer
		  ○ Road Surfaces (in and around Construction Sites)
		  ○ On-site Fabrication Processes
		  ○ Tunneling - TBM or SEM
		  ○ Construction Vehicles and Equipment
		• Prior to commencement of construction, Metrolinx shall develop a Soil and Excavated Materials Management Plan for the handling, management, and disposal of all excavated material (i.e., soil, rock, and waste). The Plan will describe how to address the management of the excavated or imported materials, including contaminated materials. Metrolinx shall follow appropriate
			Construction
			Metrolinx will develop and implement air quality monitoring as part of the Air Quality Management Plan to 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 PM_{10} - 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 anticipated air pollutants that may be produced as a result of the work.
			• The applicable criteria for air contaminants of concern are to be found in the various schedules of O. Reg. 419/05, the Ontario Ambient Air Quality Criteria, and the Canadian Ambient Air Quality Standards.
			• Siting of the monitors should generally follow the guidelines provided in the MECP Operations Manual for Air Quality Monitoring in Ontario (2018).
			• Establish "action level" thresholds for each monitored contaminant – measurements above a threshold will require remedial action including investigation for the cause of the exceedance and/or implementation of mitigation measures. Consider developing categories of "action levels" with increasing requirements for remedial actions at each level. Establish procedures for investigating the cause of measurements above thresholds or exceedances, implementing mitigation measures and reporting.
			• For Project construction locations that are considered short-duration projects (i.e., less than 30 days), periodic opacity monitoring for particulate matter (see ECCC 2005) at the active construction

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

		best management practices to manage, transport, or dispose of the contaminated materials.
		• Visual and olfactory inspections will be conducted during excavation or for incoming loads to screen for odour, visible staining, or debris per the MECP's Management of Excess Soils: A Guide for Best Management Practices (MECP 2019b). If contaminated soil or materials are suspected, Metrolinx shall conduct further investigation and soil analysis to confirm if contamination is present and what contaminants are present. Metrolinx will take appropriate preventive actions or suspend activities to reduce potential adverse impacts, including odour or air emissions, from contaminated materials.
		• Where applicable, consultation with the MECP Central Region Office will be conducted to discuss the requirements in dealing with contamination issues and ambient monitoring requirements.
		
		Operations
		• Metrolinx will apply for air approval for the OMSF and station operations and air emission sources as applicable. Emissions will be assessed and modelled following MECP guidance and must comply with applicable O. Reg. 419/05 standards (with the exception of emissions from equipment or activities exempted by O. Reg. 524/98 Environmental Compliance Approvals – Exemptions from Section 9 of the Act).
		• A detailed Operations Air Quality Management Plan will be developed and implemented to document the controls and methods that will be implemented during project operations at the OMSF, stations, and tunnels to limit the generation and dispersion of airborne particulate matter and air contaminants associated with the project operations.
		• Where practicable, the following mitigation measures will be implemented to reduce air contaminant emissions intensity (amount of pollutant emitted per passenger kilometre travelled):
		  ○ Selecting a less polluting form of energy or fuel (i.e., electricity or hydrogen rather than diesel fuel) for equipment used at the OMSF.
		  ○ Selecting equipment (such as backup generators) with engines and propulsion systems that meet higher emission standards (i.e., Tier 4 rather than a lower tier).
		  ○ Maintaining engines and emission control equipment to manufacturers' specifications.
		  ○ Selecting vehicles that have lower emissions for the mobile maintenance crew
			zone boundary and at closest sensitive receptor may be sufficient.
			• For long duration Project construction locations where sensitive receptors are identified 5 to 10 m from the active construction zone, continuous monitoring of PM_{10} and $PM_{2.5}$ is recommended at locations upwind and downwind of the active construction zone, where possible. Monitoring should also be conducted at selected sensitive receptors where there are persistent complaints. Monitoring will commence for more than one week prior to the start of any construction activities to establish pre-construction levels and continue through the active phase of the construction project. Application of "action level" triggers for implementation of appropriate mitigation activities for construction activities as identified in the Air Quality Management Plan. As the active construction zone moves or changes, the locations of the monitoring equipment will follow to maintain its relevance.
			• Monitoring setup will include meteorological station (for measuring wind speed and direction) and datalogger/modem for downloading data, power/battery source, and capability to send alarm notifications at "action level" thresholds, as applicable.
			• Where laboratory work is required, consult the Standards Council of Canada or the Canadian Association for Laboratory Accreditation for a list of accredited Ontario analytical laboratories to perform specific air/soil analyses.
			• Calibration of the instruments will be included as part of the monitoring program.
			• The monitoring program will include the preparation of Weekly Air Quality Monitoring Reports for documenting air quality monitoring results, monitoring activities, assessment of compliance and effectiveness of mitigation activities. The Weekly Air Quality Monitoring Reports will be submitted to Metrolinx within a timeline approved by Metrolinx.
			• In addition, relevant construction monitoring activities from the guidelines

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
			Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (ECCC 2005) will be implemented during construction. • Additional ambient air monitoring may be required if contaminated soils are encountered during construction activities. The list of contaminants and monitoring requirements will be assessed at that time based on the results of investigation and soil/material analysis. **Operations** • On-site inspections will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. • The expected impacts from operations will be effectively mitigated provided that mitigation measures established in the Air Quality Management Plan are followed. No operational ambient air quality monitoring is proposed.

5.8 Noise and Vibration

A Noise and Vibration Impact Assessment (see **Appendix A6**) was conducted to assess potential noise and vibration impacts from the construction and operation of the Project and to identify areas that require mitigation and monitoring.

The Project has the potential, at times, to result in temporary noise and vibration impacts during construction as a result of construction vehicles, operation of the TBM, and other equipment. The temporary noise and vibration effects of these activities during construction are anticipated to be reduced through implementing applicable mitigation measures. Further, construction noise and vibration monitoring is recommended to confirm these impacts and adjust construction activities accordingly.

During the operation of the Project, the operations of the railway and stationary sources located at the OMSF and at Stations, and EEBs, have the potential to generate noise at nearby sensitive receptors. With the proposed mitigation the potential noise impacts can be controlled within regulatory criteria.

The potential environmental effects on noise and vibration from Project construction and operation are expected to be similar for the OLW, OLS and OLN sections. A summary of the potential effects, their corresponding mitigation measures, and monitoring activities relating to noise and vibration are presented in **Table 5-8**. Further details can be found in the Noise and Vibration Impact Assessment Report (see **Appendix A6)**.

Table 5-8. Ontario Line Potential Impacts, Mitigation Measures and Monitoring Activities – Noise and Vibration

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Construction Noise	Environmental noise may cause annoyance, disturb sleep, and disturb other activities. The severity of the noise impacts resulting from construction projects varies, depending on: • Scale, location and complexity of the project • Construction methods, processes and equipment deployed • Duration and time of construction near noise receptors (days and time of construction) • Number and proximity of noise-sensitive sites to construction area(s)	<u>Construction Equipment Noise Emissions:</u> Equipment should be acquired based on MECP NPC-115 and NPC-118 to ensure acceptable construction equipment noise levels are maintained for the project. <u>Receptor-Based Assessment:</u> Impacted areas that need mitigation are highlighted on Figures F-1-1 through F-1-22 in **Appendix A6**. The following recommendations for construction are proposed: • Noise barriers with a minimum height of 5 m in place of construction hoarding are recommended as primary means of control. The noise barrier hoarding should have a minimum surface density (mass per unit of face area) of 20 kg/m^2 (4 lb/ft^2) or an acoustic performance of STC 32 (per CSA-Z107.9-00) and be free of gaps and cracks. • Enclosed conveyors and drives are recommended for moving spoils from tunnels to storage areas at the construction sites. • Ventilation fans with silencers for tunnels during TBM operations, such that the noise emanating from them at the nearest receptors will be no higher than the construction noise limit. • Generators with acoustic enclosure and silencers for TBM operations, such that the noise emanating from them at the nearest receptors will be no higher than the construction noise limit. • Quieter hydrovac trucks for soil conditioning at the entry shaft for tunneling operations, such that the noise emanating from them at the nearest receptors will be no higher than the construction noise limit. With the additional operational constraints and physical mitigations identified above, daytime levels should be within the construction noise limits at receptor locations. However, seven construction locations are predicted to exceed nighttime limits without further mitigation (refer to Table 4-9 in **Appendix A6**). Thus, additional operational constraints may be required, to conduct work during nighttime hours. A detailed Construction Noise Assessment and Management Plan should be completed based on the actual location of the equipment and manufacturer's' sound levels to identify the specific mitigation required for each location and to ensure that the noise limits are met for the Project construction. Construction noise impact mitigation measures to be considered include but are not limited to the following: • Perform construction during daytime hours where feasible. If nighttime construction is necessary, the activities with the highest noise levels should be conducted during daytime periods where feasible. • If construction will occur outside of normal daytime hours, inform local residents before construction of type of construction and expected duration outside of daytime hours. • Use equipment compliant with NPC-115 and NPC-118 as well as selecting the quieter option when multiple options are available. • Limit the number of heavy trucks on site to the minimum required. • Stage construction vehicles away from noise sensitive locations, if feasible.	A Construction Noise Management Plan should be developed that will incorporate the following recommendations for noise monitoring and addressing noise complaints: • Noise levels will be monitored where the impact assessment indicates that noise limits may be exceeded, to identify if any additional mitigation is required and verify mitigation measures(s) effectiveness. • Continuous noise monitoring should be completed at each geographically distinct active construction site associated with the Project, which have been identified in Figures F-2-1 through F-2-22 in **Appendix A6**. Monitor(s) are to be located strategically to capture the worst-case construction related noise levels at receiver locations based on planned construction activities, their locations, and the number, geographic distribution and proximity of noise sensitive receivers. • Monitoring at locations where there are persistent complaints, as required. A Communication and Complaint Protocol should be established for the Project. Additional example monitoring suggestions are included in Appendix L of **Appendix A6**.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		• Keep equipment in good working order and operate with effective muffling devices. • Undertake noise monitoring and regular reporting throughout the construction phase. Where noise level limits are exceeded, additional noise mitigation measures shall be implemented. • Use localized movable noise barriers/screens for specific equipment and operations. • Reduce simultaneous operation of equipment where feasible. • Implement a no idling policy on site (unless necessary for equipment operation). • Develop a communications protocol which includes timely resolution of complaints. • Additional mitigation measures not listed above may be considered.	

Operation Noise	Environmental noise may cause disturbance and/or annoyance.
	Airborne noise will result from the operations of the project and may be a concern for noise-sensitive areas.
		Train movements in the OLN are predicted to show compliance with applicable criteria without additional mitigation, based on the assessment of existing design information. For train movements in at-grade sections in the OLW and OLS, noise barriers of varying heights are anticipated to reduce noise below applicable criteria (refer to Appendix Q in **Appendix A6**).
		The following stationary sources also require noise mitigation/verification:
		• Potential impact from operational noise from stations, emergency exits and emergency services ventilation design to be reassessed as the design details are finalized. Preliminary dynamic insertion loss requirements for fire ventilation intake and discharge silencers at Stations are shown in Table 5-11 of **Appendix A6**. Space planning for intake and discharge openings should also allow for silencers up to 7.5 m in length to achieve the acoustic requirements.
		• As part of the future detailed design of the stations, comfort ventilation systems (e.g., makeup air handling units, fans, etc.) should be selected so that they meet operational noise limits at the nearest receptors. To achieve this, and in coordination with TTC station design guidance, this ventilation equipment should be selected such that it does not generate more than 60 dBA at 1m. Table 5-10 in **Appendix A6** shows the receptor setback distances from station comfort ventilation noise sources as 1 m.
		• Portal jet fans to be fitted with mitigation as required to meet NPC-300 criteria.
		• Outdoor audio paging system will be required to meet MECP NPC-300 noise limits at adjacent receptors, and the system will be designed to do so by limiting speaker volume and positioning speakers away from adjacent residences.
		• Transformers and generators, when sufficiently detailed, will also be required to meet MECP NPC-300 noise limits at adjacent receptors. Applicable mitigation (enclosures, silencers) will be provided to meet these limits for transformers and generators.
		• The OMSF was assessed based on assumptions and operations discussed in this report. Mitigation to be included in the OMSF design includes:
		  ○ Operation with OMSF doors closed (a central cooling system may be required in the garage area) or construction of a sound attenuating vestibule around the door openings.
		  ○ Power substation portable emergency generators to be fitted with mitigation as required to meet NPC-300 criteria.
			Detailed operational monitoring procedures are recommended and will be defined further in the design process. The following procedures are preliminary recommendations and will be refined as design progresses:
			• Station, emergency exit and emergency services noise levels for fire ventilation and comfort ventilation should be monitored at the nearest points of reception. Further, the 60 dBA at 1 m limit should be confirmed for comfort ventilation.
			• OMSF noise should be monitored at the receptors noted in Table 5-13 in **Appendix A6**.
			• Operational noise from train movements on tracks to be monitored for representative receptors and for at least the first 5 years of operation.
			The monitored locations should be approximately equally distributed along the Project Footprint and vary from year to year. Priority should be placed on locations near special trackwork or tight-radius curves.
			Additional example monitoring suggestions are included in Appendix L of **Appendix A6**.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		○ As OMSF design progresses, verify assumptions, equipment operating scenarios and maximum sound power levels in Section 5.4.5 in **Appendix A6**.	
Construction Vibration	Vibration may cause damage to buildings, utilities and other structures. Exposure to vibration may result in public annoyance and complaints. Vibration from tunneling can cause annoyance, interfere with human activities and vibration-sensitive equipment operation.	The following measures should be considered to mitigate vibration impacts from the Project construction: • The owners of properties within the Zone of Influence (refer to Appendix H in **Appendix A6**) should be notified at least a week (preferably earlier) before commencing any nearby construction activities. • Mitigation options such as maintaining the minimum setback distance for construction equipment or considering construction equipment with low vibration levels is recommended. Some examples include but are not limited to: • A non-vibratory roller is recommended for operation in proximity to building structures. A vibratory roller may only be used at least 11 m (Heritage) or 8 m (other structure) away from the structure, or if the vibration level is tested through sample vibration measurements to confirm a suitable setback distance. • Caisson drilling shall be monitored, and the auguring speed should be controlled in accordance with the monitored vibration level. • Excavators may only be used at least 6.5 m (Heritage) or 4.5 m (other structure) away from the structure, or if the vibration level is tested through sample vibration measurements to confirm an alternate suitable setback distance. Use of alternative smaller equipment such as a backhoe is recommended. • Heavily-loaded trucks and equipment should be routed away from residential streets and vibration-sensitive sites. • The sequence of construction phases such as demolition, earth-moving, and ground-impacting operations should be managed so as not to occur in the same time period and avoiding nighttime activity. • For tunneling with TBM, the cutting force can be reduced by a speed reduction. The supporting force should be adjusted according to the monitored vibration velocity (see Section 6.4.3.2 in **Appendix A6**) to ensure that vibration velocity is below the limits. • Additional construction vibration mitigation practices are summarized in Appendix K of **Appendix A6**. It is recommended that the contractor conduct test vibration measurements to check conditions at specific setback distances if they plan to have construction activities at or closer than the setback distances. • Sample tests should be performed for all significant vibration-generating equipment anticipated to operate within the Zone of Influence to confirm that vibration levels are compliant with the allowable limits. The measured vibration levels can be used to estimate setback distances and/or the operational condition at a certain distance at which the construction equipment should be allowed to operate. This testing would not discharge the contractor from their responsibility to continuously monitor vibration levels at sensitive receptors and adhere to the specified vibration limits. **Pre-Construction Activities:**	The following procedures are recommended for vibration monitoring: • Vibration monitoring will be undertaken at locations within the zone of influence to ensure compliance with applicable criteria (Table 6-5 in **Appendix A6**) and to identify the need for additional mitigation if required. • Monitoring will be undertaken to verify mitigation measures(s) effectiveness. ○ Monitoring for perceptible vibration should be monitored in terms of root mean square (RMS, mm/s). ○ Monitoring for structural damage should be monitored in terms of peak particle velocity (PPV, mm/s). • Pre-construction and post-construction building inspection of the potentially impacted buildings adjacent to construction sites are to be conducted. • Continuous vibration monitoring along the construction site property lines closest to these aforementioned structures will be initiated as warranted. • Monitoring at locations where there are persistent complaints will be undertaken, if required. A Communications and Complaints Protocol to address construction vibration complaints should be established for the Project. Additional example monitoring suggestions are included in Appendix L of **Appendix A6**.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		• Pre-construction consultation should be conducted with the property owners for underground structures in the identified ZOI (Figure H-1-1 to H-1-22 in Appendix A6) for cosmetic damage, in accordance with Municipal By-law No.514-2008. • Pre-construction measurements of background vibration and pre-construction inspections (i.e., identify existing cracks in walls, floors, and exterior cladding of the first two storeys above grade and interior finishes of all storeys below grade) is recommended. A vibration mitigation plan and a vibration monitoring program should be prepared. Identified sensitive receptor locations (i.e., St. Michael's Hospital, Bell Media Headquarters, Four Seasons Centre for the Performing Arts) should be assessed in detail by conducting vibration measurements from mock-up construction activities prior to commencement of construction (see Section 6.3.1 in **Appendix A6**). The measured vibration should be analysed in 1/3-octave bands over the frequency range 8 to 80 Hz and assessed with the criteria provided in Table 6-5 in **Appendix A6**. The criteria limits for the vibration-sensitive equipment are also included in Appendix O **of Appendix A6**. The purpose of conducting these measurements is to verify and refine the predictions for these vibration-sensitive locations and ensure that construction activities will meet the vibration criteria at these locations.	
Operations Vibration	Vibration may cause cosmetic damage or impact human comfort.	For the Downtown section of the alignment, mitigation is required to control Ground-borne Vibration and Ground-borne Noise. Mitigation options are identified in this report to meet applicable criteria, including high-resilience fasteners, Light Mass Spring system, and Floating Slab Track systems. Alternative mitigations can be considered provided they meet these vibration limits For the tunnel, mitigation is required along the entire downtown tunnel to control Ground-borne Noise in building interiors. Floating Slab Track, is recommended at three (3) locations (or alternative mitigation that achieves the same vibration isolation): • Bell Media at 299 Queen St. West • Four Seasons Centre for the Performing Arts at 145 Queen Street West • St. Michael's Hospital at 36 Queen Street East Due to the flexible character of Floating Slab Track, transition track sections of at least half a train length are required at both ends of the Floating Slab Track to avoid changes in the depth of track as trains travel from regular track to the more flexible Floating Slab Track. Light Mass Spring system is recommended to be implemented for the entire Pape section of the alignment and Floating Slab Track is recommended at the following two locations: • Double crossover near 810 Pape Avenue • Minton Place Portal near 154 Hopedale Avenue An alternative mitigation method that achieves the same vibration isolation may also be used. No mitigation is required for the elevated track sections.	Detailed operational monitoring procedures are recommended and will be defined further in the design process as the design is finalized. The following procedures are preliminary recommendations and will be refined as design progresses: • Operational vibration from train movements on tracks to be monitored for representative receptors and for at least the first 5 years of operation. The monitored locations should be approximately equally distributed along the Project footprint and vary from year to year. Priority should be placed on locations near special track work or tight-radius curves. Additional example monitoring suggestions are included in Appendix L of **Appendix A6**.

5.9 Traffic and Transportation

A Transportation and Traffic Analysis Report (see **Appendix A7**) was completed to identify traffic and transportation-related impacts and mitigation for the Project. Project construction activities may result in changes to traffic and transportation through access changes, lane closures, and full road closures resulting in increased travel time, detours, and lane restrictions. Details regarding specific road closures are listed in the table below. Parking prohibitions will also occur on residential streets as a result of station construction. Emergency vehicle routing impacts are expected as a result of the full closure of Queen Street between James Street and Victoria Street. Response times and typical routes will be similar for Paramedic Services Station 40, Fire Station 332, and Fire Station 333. The travel time to St. Michael's Hospital, from just west of the Queen Street closure (i.e., west of Bay Street), will be impacted, with an increased distance from 0.4 kilometre to 0.8 kilometre and a travel time increase from 2 minutes to 3 minutes. Lane closures on Pape Avenue will impact access for emergency/services vehicles and deliveries, particularly due to potentially increased delays. Mitigation measures will be implemented to reduce the effects of construction and operation on traffic. Monitoring is anticipated to be required after Station opening to adjust signal optimization as required.

Construction is expected to impact pedestrian and cyclists due to temporary impacts by narrowing pedestrian paths, closure of sidewalks, removal of mid-block pedestrian signals and full street closures causing detours. Mitigation measures will be implemented to reduce the effects of construction and operation on pedestrians and cyclists. Monitoring will be required during construction for the condition and location of wayfinding pedestrian signage, sidewalk crowding at Queen Station, and temporary bus stops on Pape Avenue.

Consultation with TTC will be required as changes to stops and streetcar routes will be required during construction. The changes will cause increased travel time and detours. Mitigation measures will be implemented to reduce the impacts of construction and operation on the TTC.

A summary of potential impacts for each activity, their corresponding mitigation measures and monitoring activities relating to Traffic and Transportation are presented in the table below. Further details can be found in the Transportation and Traffic Analysis Report (see **Appendix A7**).

Table 5-9. Potential Impacts, Mitigation Measures and Monitoring Activities – Traffic and Transportation

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

Pedestrians	**Construction**
	• Construction is expected to result in temporary impacts such as:
	  ○ Narrowed pedestrian paths;
	  ○ Partial or full closure of sidewalks;
	  ○ Protected detours around work areas and closed sidewalks
	<u>OLW Study Area</u>
	• Closure of south crosswalk at Albert/James intersection;
	• Removal of unofficial pedestrian connections such as the parking lots in Liberty Village north of the railway corridor.
	• Temporary sidewalk closures will be required at the following locations as a result of Station and tunnel construction:
	  ○ Bulwer Street (south side) east of Spadina Avenue;
	  ○ Simcoe Street (west side) between Queen Street and the laneway terminating on Simcoe Street;
	• The construction of Liberty New Street will result in a new sidewalk between Dufferin and Strachan on both sides of the street. It is expected that pedestrians waiting to cross from the north side of the intersection will spill back into the adjacent plaza areas in periods of high demand.
	• The existing unused pedestrian tunnel that runs underneath Exhibition Station will be reopened, brought up to AODA compliance and extended by 40 m north-west, terminated just east of Atlantic Avenue.
	• New temporary pedestrian bridge at Exhibition Station will be constructed during Early Works and completed in August 2023, connecting the existing north headhouse, the reconditioned south headhouse and future headhouse at the northern end of the tunnel extension.
	<u>OLS Study Area</u>
	• Closure of Queen Street west of Victoria Street for duration of Queen Station construction.
	• Removal of mid-block pedestrian signal on Queen Street between Yonge Street and Bay Street;
	• Closure of sidewalks are expected to be required along several local streets:
	  ○ Pape Avenue (south of Langley Avenue)
	  ○ James Street (east side) between Queen Street and Albert Street;
	  ○ Closure of sidewalk access to James Street and Queen Street east businesses adjacent to the sidewalk closures, requiring detouring through the accesses internal to the buildings; and,
	  ○ King Street (south side) between Berkeley Street and 30 m west of Parliament Street.
		Construction
		• To accommodate pedestrians during construction, protection for a minimum sidewalk width of 2.1 metres is required to meet the needs of accessible sidewalk users as per City of Toronto Standards. At a limited number of locations temporary sidewalk widths are reduced to 1.8 metres. At certain “pinch points” sidewalk widths may be reduced to 1.5 metres for short durations (up to one week).
		• In areas where sidewalk widths below 2.1 metres are provided in existing conditions, a minimum width consistent with the current sidewalk width will be provided. At a limited number of locations temporary sidewalk widths are reduced to 1.8 m. At certain “pinch points” sidewalk widths may be reduced to 1.5 m for short durations (up to one week).
		• *Accessibility for Ontarians with Disabilities Act* compliant curb ramps will be provided in locations where the pedestrian detour path moves from the boulevard onto a protected path on the street.
		• Signage and wayfinding are recommended to be installed to provide advance warning for pedestrian detours and ease of navigation and movement.
		• Signage and wayfinding are recommended to be installed to provide advance warning for pedestrian detours and ease of navigation and movement.
		• Mitigation measures will include public information campaigns to reduce the number of pedestrians and shuttle buses. Additional mitigation measures will be evaluated if non-compliance with sidewalk closures is observed.
		• Metrolinx will work with TTC and event organizers to mitigate pedestrian impacts during construction.
		<u>OLW Study Area</u>
		• Traffic control persons will be stationed at midblock sidewalk terminations, i.e., on Bulwer Street east of Spadina Avenue to mitigate pedestrian crossing safety concerns, and at construction vehicle access points that conflict with the existing or temporary sidewalk.
		• Remove or relocate sidewalk furniture to accommodate pedestrian volumes and queueing at intersection corners. The location of any barriers or street furniture will be considered in the design of Exhibition Station to ensure adequate queueing space and flow are maintained.
		• Ventilation grates will be placed out of the pedestrian paths, flush with the sidewalks, with an available cleary of 3.0 metres and 2.8 metres between the grate edge and the property line at Osgoode Station.
		<u>OLS Study Area</u>
		• Relocate the westbound surface transit stop at King Street and Berkeley Street to reduce pedestrian volumes at this intersection and reduce walking distance between surface transit stop and future station entrances.
		• Mitigation measures will include public information campaigns to minimize the number of pedestrians and shuttle buses. Additional mitigation measures will be evaluated if non-compliance with sidewalk closures is observed.
		• The temporary traffic signal will mitigate traffic operations and safety concerns at the Gerrard TBM site.
			Construction
			• Regular monitoring of the condition and location of wayfinding pedestrian signage will be required.
			<u>OLW Study Area</u>
			• Regular monitoring of the condition and location of pedestrian wayfinding signage will be required.
			• Monitoring may be required for the temporary bus stops on the west side of Pape Avenue.
			<u>OLS Study Area</u>
			• Monitoring may be required for crowding at Queen Station due to the sidewalk closure on the south side of Queen Street to identify the potential to reinstate the existing sidewalk width wherever possible during construction.
			<u>OLW Study Area</u>
			• Monitoring is recommended at the temporary bus stops on the west side of Pape Avenue.
			
			Operations
			• No monitoring activities are anticipated during operations.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	• In addition, sidewalk closures are expected for utility relocations just north of the Gerrard portal on Langley Avenue, Riverdale Avenue, Pape Avenue and Carlaw Avenue. • Narrowing of the PATH corridor between Eaton Centre to The Bay, with a minimum width of 4 metres maintained. Half of the PATH corridor will be under construction at a time. The PATH corridor between Eaton Centre and The Bay will be widened permanently to accommodate increased demands due to transit. • The middle portion of the south sidewalk on Queen Street between Yonge Street and Victoria Street will be closed for a shorter duration (approximately 6 months) compared to the closure west of Victoria Street which will be closed for the full duration of the Queen Station construction. The reopening of the centre portion of the sidewalk will allow pedestrians to detour through the courtyard on the south-west corner of Queen Street / Victoria Street. The current ramp connecting the courtyard to the Victoria Street sidewalk will be occupied by a work area, and a new ramp will be constructed along the detour path. • There will be temporary sidewalk closures for works at Riverside/Leslieville and Gerrard Stations. At Riverside/Leslieville Station one sidewalk will be maintained. Pedestrians will be redirected to existing nearby signalized crosswalks. Sidewalk closures will occur on side streets near the station headhouses, i.e., on Strange Street and De Grassi Street. Pedestrian connectivity will be maintained. • In addition, to the above long-duration sidewalk closures there will be weekend and occasional nighttime full roadway closures at Riverside/Leslieville Station which require closure of both sidewalks. • At Gerrard Station, sidewalk closures on Carlaw Avenue in the immediate vicinity of the station headhouses are proposed. These sidewalks do not serve any pedestrian destinations during construction. A temporary traffic signal will be installed at the driveway of 469 Carlaw Avenue, as it will be the main driveway at the Gerrard Station and TBM site. The temporary traffic signal will feature signalized crosswalks to maintain pedestrian connectivity. • A weeklong full closure of the intersection of Gerrard Street and Carlaw Avenue will also be required for construction of Gerrard Station. For a portion of this closure all sidewalks will be closed as well. • The ventilation grates to be installed on the east sides of James Street for Queen Station may result in reduced pedestrian comfort on the facilities when crossing the grates. A ventilation tower will be installed within the existing sidewalk at the intersection of James Street and Queen Street West.	• The pedestrian clearway under Queen Street grade separation will be widened to comply with City of Toronto and TTC design standards. This increase is expected to improve pedestrian LOS. • Accesses internal to the buildings will be maintained for the businesses adjacent to the Queen Street East and James Street sidewalk closures. • Ventilation grates will be placed out of the pedestrian paths, flush with the sidewalks, with an available cleary of 3.0 metres and 2.8 metres between the grate edge and the property line at Queen Station. <u>OLN Study Area</u> • Sidewalk realignment will occur at Science Centre Station and Flemingdon Park Station, improving pedestrian circulation. **Operations** <u>OLW Study Area</u> • Signalize the intersections of Liberty New Street with Jefferson Avenue, Atlantic Avenue, and Dufferin Street to mitigate future pedestrian congestion during special events. • Signage and advance notification are recommended to notify station users of any detours. Transit passengers may have to use the traffic signal at Pape Avenue / Lipton Avenue to cross and access potential temporary bus stop on the west side of Pape Avenue.	

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

	• The ventilation grates to be installed on the east side of University Avenue for Osgoode Station may result in reduced pedestrian comfort on the facilities when crossing the grates.
	• The PATH connection between 1 Queen Street and 2 Queen Street will be converted to a fare-paid area for Queen Station, blocking off free passage.
	<u>OLN Study Area</u>
	• During construction of Science Centre Station, pedestrian demand is anticipated to increase at the sidewalk level due to operation of Eglinton Crosstown LRT
	• Full closure of Beth Nealson will result in closure of both sidewalks at that location. Mitigation measures are still being evaluated.
	• Pedestrian connection between Overlea Boulevard and Banigan Drive will be moved from Thorncliffe Park Drive to accommodate pedestrians during the construction of the OMSF.
	• Permanent impacts to pedestrians at Thorncliffe Station include the realignment of the sidewalk along the north side of Overlea Boulevard, to conflicts with the future elevated guideway structure. Realignment will occur to the south sidewalk on Overlea Boulevard due to the implementation of bicycle lanes and reconfiguration of intersections between Millwood Road and Thorncliffe Park Drive.
	• A new multi-use trail will be implemented on the west side of Don Mills Road within the Project limits. Any newly constructed or reconstructed sidewalks will meet the City of Toronto's minimum design width requirements.
	• The new connection between Banigan Drive and Overlea Boulevard will be maintained after the completion of the OMSF construction, providing an additional permanent connection for pedestrians.
	• Sidewalk closures are expected to be required along several local streets:
	  ○ Minton Place (north of Hopedale Avenue)
	  ○ Hopedale Avenue (east of Minton Place)
	  ○ Gertrude Place/Muriel Avenue (intersection)
	  ○ Lipton Avenue
	• At the TTC's existing Pape subway station and bus loop there will be temporary modifications to access and egress locations.
	• The construction of Pape Station will result in permanent changes to pedestrian circulation patterns near the stations due to modification of the bus loop. The bus loop will be closed for regular service except for WheelTrans, requiring some transit rider transferring between Ontario Line and TTC's surface or subway service will have to exit Pape Station headhouse and walk to the bus stop. A		

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	signalized crosswalk is located near Pape Station to facilitate safe pedestrian crossing opportunities. • The construction of the Emergency Egress Building on Bain Avenue and the Sammon Avenue Crossover will not result in permanent impacts to pedestrians. **Operations** • The increased pedestrian demands generated in the vicinity of Ontario Line stations may coincide with increased delays and worsened pedestrian levels of service for existing pedestrian trips that are not taking the Ontario Line. • Pedestrian level of service impacts are expected at crosswalks and intersection corners due to the increased pedestrian demand associated with the fully built-out stations.		
Cyclists	**Construction** <u>OLW Study Area</u> • Closure of curb lanes is expected along sections of King Street, and Bathurst Street, resulting in cyclists travelling in the centre lane. • Bike lanes may be realigned with appropriate delineation, such as pavement markings, bicycle curbs and flexible delineator posts (where currently provided). • Bike lane widths will be reduced to.5 m on Simcoe Street (northbound) in the vicinity of the Station work zones. <u>OLS Study Area</u> • Closure of curb lanes is expected along sections of Queen Street, University Avenue, Victoria Street, and Parliament Street, resulting in cyclists travelling in the centre lane. • Bike lane widths will be reduced to 2.0 m on University Avenue (northbound). • At Queen Station, all east-west traffic on Queen Street will be closed between Bay Street and Victoria Street for approximately 4.5 years, which will result in added travel time and delays. • Impacts of construction on cyclists will be due to closing westbound and eastbound curb lanes on Queen Street and the westbound curb lane on Gerrard Street. In consequence cyclists will have to ride in the inside traffic lane. • There is a safety concern regarding cyclists riding on traffic lanes with streetcar tracks. However, a minimum clearance between streetcar tracks and temporary concrete barriers of 1 metre will be maintained. • Full roadway closures on Queen Street, Carlaw Avenue and Gerrard Street noted above will also impact cyclists.	**Construction** • At locations where the lanes are closed and/or have streetcar tracks, advance warning signs are recommended for cyclists to consider rerouting. A 1 metre wide clearance from the streetcar track bed is proposed to allow space for cyclists. • Bike lanes may be realigned with appropriate delineation, such as pavement markings and flexible delineator posts (where currently provided). Generally, existing widths of bike lanes will be maintained. • Metrolinx will work with TTC and event organizers to mitigate cyclist impacts during construction. <u>OLW Study Area</u> • Minimizing the duration of the full closure may be possible by installing a temporary road deck across Queen Street to accommodate one lane per direction after an initial full closure for construction of SOE and early excavation activities. • Cyclists will have to walk their bikes on sidewalks at the full closure of Queen Street. Longer range trips will be encouraged to detour onto Adelaide Street or Richmond Street. Advance warning signs are recommended to notify cyclists of the closure. • Bike share stations on Stewart Street, which are located within sidewalk closures, will be temporarily relocated. <u>OLS Study Area</u> • The proposed reconfiguration of York Street for the Route 501 streetcar diversion around the full Queen Street closure includes a dedicated southbound curbside bicycle lane south of Richmond Street, and a sharrow lane between Queen Street and Richmond Street. • Bike share stations on James Street, which are located within sidewalk closures, will be temporarily relocated. • Safety concerns are mitigated by providing a 1 m object-free zone adjacent to streetcar tracks. • Public information strategies will be developed to mitigate full roadway closures on Queen Street, Carlaw Avenue and Gerrard Street.	**Construction** • No monitoring is required during construction. **Operations** • No monitoring activities are required during operations.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	• Bike share stations on James Street and Stewart Street will conflict with Queen Station and King Bathurst Station work areas. <u>OLN Study Area</u> • Cyclists will also be impacted for works in the vicinity of bike trails in the Don Valley and south of the Science Centre. Trails will remain open, but there will be temporary intersections of trails with construction access roads. In addition, short-duration full closures of trails during erection of bridge superstructure elements are anticipated. <u>OLW Study Area</u> • Impacts to cyclists during construction have not been confirmed yet. **Operations** <u>OLS Study Area</u> • The new cycling connection on the west side of York Street between Queen Street and Adelaide Street, introduced as part of the Queen Station construction transit detour, will require regular maintenance.	<u>OLN Study Area</u> • Widening of trails is proposed where access roads will be co-located with trails. • Implementation of trail widening will also impact trail operation, but trails will remain open to trail users. • Cycle tracks will be provided on both sides of Overlea Boulevard, from Millwood Road to the east of Thorncliffe Park Drive and a new multi-use trail will be introduced on the west side Don Mills Road within the Project limits.. <u>OLW Study Area</u> • Mitigation and monitoring to be determined once impacts are confirmed. **Operations** • No mitigation measures are required during operations.	
Transit	**Construction** <u>OLW Study Area</u> • TTC routing through Exhibition Place will potentially be impacted along Manitoba Drive to facilitate construction of the south station entrance building and public realm improvements. • The following transit impacts are anticipated as a result of preparatory activities for the Ontario Line: ○ Increased delays for transit vehicles due to lane reductions shifting traffic to the remaining shared lanes. • The curb lanes on the east leg of King Street in the vicinity of Bathurst Street will be closed in both directions, and the northbound curb lane on Bathurst Street will be closed. Transit stops will be relocated during construction where required and passengers will need to walk to the relocated transit stops. • The curb lane will also be closed on the west leg of the eastbound approach at Queen Street and Spadina Avenue. Streetcars will be unable to stop immediately at the intersection. The eastbound streetcar stop will be relocated westerly. • Construction of the streetcar detour will impact Queen Street and King Street (lane closures). The impacts between Adelaide Street and King Street will be due to a laydown area and track welding plant.	**Construction** • Consultation with TTC is recommended to establish a suitable mitigation strategy that will include public notification in advance of any potential service disruptions or modifications. • Metrolinx will work with TTC and event organizers to mitigate transit impacts during construction. • Station plazas will be included in the station design where appropriate and feasible. <u>OLW Study Area</u> • Relocate transit stops at the intersections of King Street with Bathurst Street, and Queen Street with Spadina Avenue to accommodate work areas and the full closure of Queen Street. • Optimize the intersections of King Street with Bathurst Street, and Queen Street with University Avenue and Sherbourne Street to mitigate the impacts of nearby Station works and the resulting lane closures. • Provide temporary bus replacement service for Route 501 Queen during the construction of the southbound streetcar tracks on York Street. • To mitigate impacts to transit users and improve transit levels of service, increasing the surface transit stop areas through either the removal or relocation of sidewalk furniture and increasing surface transit frequency/capacity should be considered, where feasible. • Increased bus frequencies at Exhibition Station should be considered during special event periods when Bank of Montreal Field and Budweiser Stage venues finish events at the same time to accommodate the additional transit demand. <u>OLS Study Area</u>	**Construction** • No monitoring is required during construction, beyond TTC's regular operational performance monitoring. **Operations** • No monitoring is required during operations, beyond TTC's regular operational performance monitoring.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

	• Due to projected increases in transit ridership, worsening of the transit level of service at surface transit stops is expected at the following intersections:
	  ○ King Street and Bathurst Street
	  ○ Queen Street and Spadina Avenue
	• The westbound bus bay on Liberty New Street at Exhibition Station, between Atlantic Avenue and Jefferson Avenue, is expected not to have sufficient bus frequencies to accommodate the forecasted passenger demand during event peak hours, which would result in an accumulation of queued boarding passengers in the waiting area throughout the peak hour.
	
	<u>OLS Study Area</u>
	• The following transit impacts are anticipated as a result of preparatory activities for the Ontario Line:
	  ○ Temporary bus replacement service for the Route 501 streetcar during the streetcar detour track works on York Street;
	  ○ Streetcar detours and transit stop relocations during the full closures of Queen Street between Bay Street and Victoria Street. Detours will follow the York Street streetcar detour route via Richmond Street (westbound), Adelaide Street (eastbound) and Church Street;
	  ○ Closure of the Victoria Street streetcar during the full southbound closure of Victoria Street; and
	• At Osgoode Station, potential delays to transit due to traffic queues are anticipated. The westbound transit stop at the intersection of Queen Street with University Avenue will be relocated to the east of the work area.
	• Construction impacts at Queen Station will result in the closure of all east-west traffic on Queen Street and the closure of streetcar stops on Queen Street between Bay Street and Victoria Street.
	• Two-way conversion of Albert Street during the full closure of James Street. The conversion will reduce the roadway width allocated to westbound traffic and on-street parking, resulting in a shared westbound left and right-turn lane at the intersection of Bay Street and Albert Street. This will also require TTC wheel-trans vehicles to have to reverse to reach the accessible stop location near the Eaton Centre.
	• Lane configurations and traffic operations on York Street will be modified to accommodate a dedicated streetcar lane southbound between Queen and Adelaide as part of the Queen streetcar detour route.
	• There is potential for more traffic to stop on the westbound centre lane at the intersection of Queen Street with Sherbourne Street because of the far-side curbside lane closure, resulting in increased delays and travel times.
		• Streetcars on Queen Street will be detoured onto York Street, Adelaide Street, Richmond Street and Church Street.
		• Traffic control persons will be stationed at the intersection to assist wheel-trans vehicles during the business hours of the Eaton Centre. The intersection of Albert Street and James Street will be modified to facilitate movements of wheel-trans vehicles.
		• Construct southbound streetcar tracks and convert York Street to two-way traffic between Queen Street and Adelaide Street to accommodate streetcar detours throughout the construction of Queen Station.
		• Relocate transit stops at the intersections of King Street with Bathurst Street, Queen Street with Spadina Avenue, Queen Street with University Avenue, and along Queen Street between York Street and Church Street to accommodate work areas and the full closure of Queen Street.
		• Optimized signal timings will be required along York Street to account for the permanent change in configuration and travel patterns.
		• TTC buses may be proposed to stop on the curb lane on Pape Avenue north of Lipton.
		
		<u>OLN Study Area</u>
		• Mitigation measures are still being evaluated as part of the design development.
		
		Operations
		• To mitigate impacts to transit users and improve transit level of service, increasing the surface transit stop area through either the removal or relocation of sidewalk furniture and increasing surface transit frequency/capacity should be considered, where feasible.
		• Increased bus frequencies should be considered during special event periods when Bank of Montreal Field and Budweiser Stage venues finish events to accommodate the additional transit demand.	

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

	• It is anticipated that more vehicular traffic will stop on the eastbound centre lane at the intersection of King Street with Berkeley Street, as the eastbound far-side curb lane closure will be implemented upstream of the intersection.
	• Sidewalks will be closed on the south side of King Street, between Berkeley Street and the eastbound transit stop at the intersection of King Street with Parliament Street. The sidewalk closure on the south side of King Street may require pedestrians to detour along the north side of King Street or other east-west connections to reach their transit stop.
	• For construction of the proposed interchange stations at Queen and Osgoode, there will be scheduled weekend subway train service shutdowns when works will impact the existing TTC Line 1 platform and concourse levels. Existing TTC subway passengers may also experience delays during weekdays due to reduced widths of the passageways and the PATH network and when some fare gates are shut down to facilitate work zones on either side of the paid and non-paid fare zones. All access points will be maintained at both stations with the exception of the existing NE stairs at Osgoode Station connecting to the east sidewalk of University Avenue, which will be closed during construction and permanently replaced with a joint NE station entrance building for TTC and OL.
	• Due to projected increases in transit ridership, worsening of the transit level of service at surface transit stops is expected at the following intersections:
	  ○ Queen Street and Yonge Street
	  ○ Queen Street and University Avenue
	  ○ King Street and Parliament Street
	  ○ Front Street and Berkeley Street
	• Permanent impacts for York Street as part of the York Street streetcar works include:
	  ○ New southbound streetcar tracks;
	  ○ Reduction to two northbound traffic lanes;
	  ○ Elimination of on-street parking between Adelaide Street and Richmond Street; and,
	  ○ A southbound sharrow between Queen Street and Richmond Street and a bike lane between Richmond Street and Adelaide Street.
	• The southbound streetcar tracks will accommodate the diversion of Route 501 during the full closure of Queen Street and will allow for increased flexibility and resiliency on the streetcar network after the construction of Queen Station has completed.
	• Construction at Gerrard Station will impact routes 72 and 325 on Carlaw Avenue and Carlaw Avenue and the immediate vicinity only for one week. The northbound bus stop located just north of Gerrard Street will be relocated to south of Gerrard Street. Replacement bus service will be required during the closure period. The Gerrard		

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

	streetcar (routes 306 and 506) will be discontinued during the weeklong full closure of Gerrard Street. Removal of the streetcar OCS is expected to be required.
	• Construction at Riverside/Leslieville Station will impact streetcar routes 501, 503, and 301 on Queen Street East.
	• Lane closures are expected to cause additional delays due to reduced roadway capacity. Full roadway closures will result in temporary discontinuation of streetcar operation and bus detours around the closure area.
	• Permanent impacts to Gerrard Station and Riverside/Leslieville Station include increased TTC ridership due to OL transfers. This could potentially lead to longer dwell times but will not impact the transit routes.
	• Bus stops at the intersection of Pape Avenue and Cosburn Avenue (route, 25A and B, 81, 325, 325S and 925) are expected to be relocated where Pape Avenue is reduced to 1 traffic lane per direction.
	• During SOE construction and excavation within the Cosburn Avenue right-of-way, traffic lanes will be closed. Buses will have to detour until a temporary road deck has been installed.
	• The bus loop at TTC's existing Pape subway station will be impacted due to construction, as noted above. The number and location of bus bays are expected to be modified. The roadway connectivity of the bus loop is still being evaluated.
	• Bus route detours and relocation of bus stops will be required for utility relocations just north of the Gerrard portal on Riverdale Avenue and Carlaw Avenue.
	<u>OLN Study Area</u>
	• Construction of Science Centre Station will temporarily impact the existing bus loop at Don Mills Road and Eglinton Avenue. Coordination with TTC is recommended to minimize operational impacts and installation of signage to advise transit users of any changes.
	• Construction of the MSF will result in re-routing of route 88A due to the closure of Beth Nealson Drive for 1.5 years from Pat Moore Drive to South of Tremco access.
	• Permanent impacts to Thorncliffe Station include:
	  ○ Realignment of the sidewalk along the north side of Overlea Boulevard
	  ○ Realignment of the south sidewalk on Overlea Boulevard
	  ○ The provision of a bus loop and increase in bus traffic on Thorncliffe Park Drive and at the intersection with Overlea Boulevard.
	• Existing transit services will be maintained throughout this segment. However, traffic lane reductions may result in transit delays.
	• Permanent transit impacts at Pape Station include the future bus loop layout. Locations are to be determined.		

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	• The construction of the Emergency Egress Building on Bain Avenue, the Sammon Avenue Crossover, and Minton Portal will not result in permanent impacts to transit. • A new road connection constructed between Banigan Drive and Overlea Bouelvard will be maintained after the completion of the OMSF construction. **Operations** • Permanent impacts to transit resulting in increased transit ridership and worsened transit levels of service and passenger queuing conditions due to higher ridership. • Sidewalks and transit stops will be designed to current City of Toronto and TTC standards, reduced widths may be required due to existing constraints. <u>OLW Study Area</u> • Once Liberty New Street is constructed between Dufferin Street and Strachan Avenue, the TTC will re-route bus route 29, 929, 29A, and 63 to serve Exhibition Station.		
Automobiles	**Construction** • Hauling of excavated soil and building materials may result in increased delays and travel times along designated haul routes <u>OLW Study Area</u> *Traffic* Due to construction, there will be lane closures at King Bathurst, Queen Spadina, Osgoode, and Queen Station. The following street impacts will occur as a result of Station and tunnel construction: *King Bathurst Station* • Closure of the curb lanes on the east leg of the King Street / Bathurst Street intersection for both directions. • Closure of the northbound curb lane on Bathurst Street from Stewart Street to north of King Street. • Lane width reduction and on-street parking removal on the north side of Stewart Street, east of Bathurst Street. *Queen Spadina Station* • Closure of the eastbound approach curb lane at Queen Street / Spadina Avenue. *Osgoode Station* • Northbound curb lane closure on University Avenue between Queen Street and Armoury Street.	**Construction** • Traffic and advance notification signage are recommended to be installed for full closures of arterial roadways, and advance public notice is recommended to advise road users of alternative routes. • Traffic operations should be monitored after opening day and signal timing optimization or installation of new signals should be applied based on actual field conditions to accommodate the future traffic demands and patterns. • Modifications of traffic signal timing plans to suit construction and haul routes should be considered. • Metrolinx will work with TTC and event organizers to mitigate traffic impacts during construction. <u>OLW Study Area</u> *Traffic* • Optimize signal timings in Downtown Toronto along key east-west corridors to accommodate the combined impacts of City of Toronto works (including the Gardiner Expressway Rehabilitation project) and Ontario Line station construction works. • At Exhibition Station, haul routes are proposed for truck operations and were selected to reduce impacts to local residential areas. Trucks would be permitted to travel through turns (northbound left at King/Strachan, and westbound left at King/Atlantic), which are currently prohibited during peak periods Monday through Friday. Additional haul routes that abide by existing municipal bylaws are recommended for trucks to navigate through Liberty Village to help disperse the impact of truck activity. *Parking*	**Construction** <u>OLS Study Area</u> • Monitor traffic impacts during construction to ensure robust access to and from Station 40 and St. Michael's Hospital. • The intersection of Bay Street and Albert Street will be monitored to identify whether the southbound left phase needs to be activated. **Operation** • Traffic operations should be monitored after opening day and signal timing optimization or installation of new signals should be applied based on actual field conditions to accommodate the future traffic demands and patterns. Monitoring of the northbound left at King Street and Strachan Avenue is required to ensure that sufficient operations are maintained with the addition of construction vehicles.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities

	• Mid-block centre lane closure on University Avenue north of Queen Street.
	• Southbound lane closure on Simcoe Street between Queen Street and Richmond Street.
	• Weekend full closures of laneways in the vicinity of station work zones are permitted during construction of SOE walls.
	• The combined station construction works are expected to increase delays and travel times on the network.
	• Traffic is forecast to operate at capacity or near capacity with significant delays and queuing during one or both peak hours at the following intersections:
	  ○ Dufferin Street and Liberty Street
	  ○ King Street and Atlantic Street
	  ○ King Street and Dufferin Street
	  ○ Strachan Avenue and Fleet Street
	  ○ King Street and Bathurst Street
	  ○ Queen Street and Simcoe Street
	  ○ Dufferin Street and Liberty Street
	  ○ Queen Street and University Avenue
	  ○ Queen Street and Spadina Avenue
	• Temporary lane and full road closures will occur at Gerrard Station and Riverside/Leslieville Station. Side roads at Riverside/Leslieville Station, i.e., Strange Street and De Grassi Street, may be reduced in width or occasionally fully closed.
	• Due to TBM operation, up to six hundred (600) construction vehicles are expected to access the Gerrard Portal site per day.
	• Delivery of large structural steel elements for the Gerrard Station truss structure are expected to result in nighttime traffic impacts along the haul route due to the size of the vehicle.
	
	Parking
	• The following parking prohibitions are anticipated as a result of Station and tunnel construction works:
	  ○ Stewart Street (north side) east of Bathurst Street;
	  ○ Bathurst Street (east side) south of Stewart Street;
	  ○ Queen Street (south side) west of Spadina Avenue (due to lane closure and relocated transit stop);
	  ○ Spadina Avenue (east side) north of Queen Street to Bulwer Street;
	  ○ Simcoe Street (west side) south of Queen Street to Richmond Street;
	• Off-street parking will be impacted at Green P parking lots located within the work areas at 271 Front Street East.
	• Temporary and permanent loss of parking is expected on Strange Street and De Grassi Street in the vicinity of the station headhouses.
		• The lost parking at 271 Front Street East will be accommodated through nearby on-street (Queen Street, Shuter Street) parking, and off-street parking (e.g., Green P parking at Sherbourne Street and Richmond Street).
		
		Emergency Vehicles and Deliveries
		• Access to 650 King Street West will be maintained through the existing driveway of 648 King Street West. Access to the driveway on Stewart Street immediately east of the proposed Station building will be maintained.
		<u>OLS Study Area</u>
		Traffic
		• Convert Albert Street to two-way traffic between Bay Street and James Street to provide access throughout the full closure of James Street.
		• Update the traffic signal and traffic signs at the intersection of Bay Street with Albert Street for the conversion to two-way traffic. The need for providing a protected southbound left-turn phase will be evaluated if queuing is observed.
		• Station traffic control persons at the intersection of James Street with Albert Street to mitigate conflicts between vehicles and pedestrians, and modify the south-west corner of the intersection to accommodate vehicular turnaround maneuvers.
		• While the queue storage exceedance is considered minor at Queen Street and Sherbourne Street and no mitigation is required, extending the westbound left turn lane to 55 metres at Front Street and Parliament Street may be considered by the City of Toronto.
		• A temporary traffic signal will be provided on Carlaw Avenue to the north of Gerrard Street, as this location will be the main construction access/egress for the Gerrard Portal site.
		• Signal optimization will be required along York Street as well as updated signage and pavement marking to accommodate the change. No monitoring of automobile operations will be required.
		• It is recommended to monitor the operations at the intersection of Bay Street with Albert Street after the conversion of Albert Street to two-way traffic to identify the need for activation of the southbound left protected phase. Monitoring of the northbound left turn at King Street and Strachan Avenue is required to ensure that sufficient operations are maintained with the addition of construction vehicles.
		Parking
		• The lost parking at 54 Parliament Street will be accommodated through nearby on-street (Queen Street, Shuter Street) parking, and off-street parking (e.g., Green P parking at Sherbourne Street and Richmond Street).
		<u>OLN Study Area</u>
		• A new Banigan Road extension, which will connect with Overlea Boulevard in the vicinity of the intersection with Leaside Park Drive, will be provided.
		• Full closure of Beth Nealson Drive will require an access plan for the duration of construction to mitigate impacts to access for emergency/service vehicles and deliveries.
		• Replacement of residential on-street permit parking, are still being evaluated
		Operations	

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	Emergency Vehicles • At the intersection of King Street with Bathurst Street, access to the east-west alleyway approximately 35 metres north of King Street on the east side of Bathurst Street and the laneway itself will be closed during construction for staging and laydown area. <u>OLS Study Area</u> *Traffic* • Due to construction, there will be lane closures at Moss Park, and Corktown Station. A long-term (4.5 years) full closure of Queen Street between Bay Street and Victoria Street will occur as a result of the Queen Station construction. • The following street impacts will occur as a result of construction of the Streetcar Detour along York Street: ○ Temporary southbound lane closure / full closure and a northbound lane closure on York Street between Queen Street and King Street. ○ Full closure of the following York Street intersections for works within the intersections: Queen Street, Richmond Street and Adelaide Street. Only one intersection will be closed at any given point in time, and intersection closures will be coordinated with Ontario Line Advance Works contracts and other City/TTC construction projects. ○ Closure of Pearl Street at the intersection with York Street may be required. • Left turn queues are anticipated to exceed available storage at Front Street and Parliament Street (westbound) and Queen Street and Sherbourne Street (northbound and southbound). • The number of traffic lanes on York Street will be reduced between Adelaide Street and Richmond Street. • The James Street curb realignment (narrowing of the roadway) near Queen Street will not have permanent impacts to the existing one-lane operations. • Lane closures and width reductions on Bain Avenue and Pape Avenue will impact traffic operations. • Lane and road closures will be required for utility relocations just north of the Gerrard portal on Langley Avenue, Riverdale Avenue, Pape Avenue and Carlaw Avenue. • Full closure of the traffic lanes on Cosburn Avenue just west of Pape Avenue will be required for excavations within the roadway. *Parking* • The following parking prohibitions are anticipated as a result of Station and tunnel construction works:	• Signalization is proposed at the intersections of Liberty New Street with Atlantic Avenue and Jefferson Avenue to prevent significant spillbacks and delays at Atlantic Avenue and to ensure coordination and improved flow between the two intersections. Mitigation to improve traffic operations at these intersections, depending on the level of impact, may include: ○ Optimize cycle lengths and phasing; and ○ Increase cycle lengths.	

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	○ University Avenue (east and west side) north of Queen Street to Armoury Street; ○ Albert Street (north side) east of Bay Street to James Street; ○ James Street (west and east side) between Queen and Albert Streets; and, ○ Queen Street (north side) west of Sherbourne Street. • The accessible loading zone on the south side of Albert Street will be maintained but shifted slightly to the east. A handicapped parking space will be closed on James Street. • On-street parking will also be removed on York Street between King Street and Richmond Street. • Taxicab standing on James Street and Albert Street will be closed. • Off-street parking will be impacted at Green P parking lots located within the work areas at Corktown Station, specifically 54 Parliament Street. Additionally, there is a potential reduction in the number of parking spaces available at Moss Park Arena. The existing head-on parking spaces will be maintained, however, parallel parking along the south wall of the building may need to be prohibited to maintain vehicle circulation, which would result in a loss of roughly a third of the available parking spaces. • 22 parking spaces on James Street and 10 parking spaces on Albert Street will be removed due to a proposed curb realignment to accommodate station ventilation on the sidewalk. Parking spaces on York Street between Richmond Street and Adelaide Street will be removed due to the conversion of York Street to two-way operation. • There will be permanent loss of some on-street parking spaces on De Grassi Street near the Riverside/Leslieville Station north building, and potentially on Strange Street as well near the south building. • On-street parking spaces will be closed due to the utility relocations just north of the Gerrard portal on Langley Avenue, Riverdale Avenue, Pape Avenue and Carlaw Avenue. *Emergency Vehicles* • Emergency vehicle routing impacts are expected as a result of the full closure of Queen Street between James Street and Victoria Street. Response times and typical routes will be similar for Paramedic Services Station 40, Fire Station 332, and Fire Station 333. The travel time to St. Michael's Hospital, from just west of the Queen Street closure (i.e., west of Bay Street), will be impacted, with an increased distance from 0.4 km to 0.8 km and a travel time increase from 2 minutes to 3 minutes.		

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	• Emergency services routes will also be impacted by intersection closures for construction of the streetcar detour along York Street. <u>OLN Study Area</u> *Traffic* • Lane closures on Millwood Road, Overlea Boulevard, Don Mills Road, Gowan Avenue, Gamble Avenue, Lipton Avenue, Minton Place, Hopedale Avenue, and Eglinton Avenue will temporarily impact traffic operations. • Weekend full closures will be required on Millwood Road (at Overlea Boulevard), Don Mills Road (south of Eglinton Avenue) and Eglinton Avenue (east of Don Mills Road) for erection of bridge superstructure. • A full road closure of Beth Nealson Drive is required for 1.5 years, from Pat Moore Drive to South of Tremco Access, which will impact traffic operations. • There will be northbound off-peak lane closures on the Don Valley Parkway for works at the Minton Portal, such as slope stabilization. Weekend full closures of the Don Valley Parkway will be required for erection of the bridge superstructure. • The connection between Banigan Drive and Thorncliffe Park Drive will be closed. • Permanent impacts to Thorncliffe Station include additional bus traffic on Thorncliffe Park Drive and the intersection with Overlea Boulevard. In addition to the transit impacts, additional bus traffic will impact traffic operations. • Lane width reductions are anticipated on local roads including Gowan Avenue, Gamble Avenue, Gertrude Place, and Lipton Avenue. • The construction of the Emergency Egress Building on Bain Avenue, the Sammon Avenue Crossover, and Minton Portal will not result in permanent impacts to traffic operations. The following street impacts will occur as a result of Station and tunnel construction: *Queen Station* • Full street closure on Queen Street between Bay Street and Victoria Street (excluding the intersection of Queen Street with Yonge Street). • Closure of the southbound curb lane on Victoria Street near Queen Street. • Full closure of James Street while Queen Street is fully closed, resulting in blocked inbound access to the area behind Eaton Centre. • Two-way conversion of Albert Street during the full closure of James Street. The conversion will reduce the roadway width allocated to westbound traffic, resulting in a shared		

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	westbound left and right-turn lane at the intersection of Bay Street and Albert Street. *Moss Park Station* • Closure of the westbound curb lane between Sherbourne Street and George Street. The westbound Queen Street curb lane on the approach to the intersection with Sherbourne Street will terminate as a dedicated right turn lane. *Corktown Station* • Closure of southbound curb lane on Parliament Street between King Street and Front Street. • Closure of eastbound curb lane on King Street between Berkeley Street and Parliament Street. *Cherry Street Emergency Egress Building (EEB)* • The westbound curb lane on Lake Shore Boulevard will be closed during off-peak periods just west of Cherry Street. *Parking* • Parking lots of the Science Centre will be impacted by construction of the Flemingdon Park Station and of the guideway (piers and superstructure). • There will be a permanent reduction of the number of parking spaces at the Science Centre. • Public Green P parking lots at Pape Station will be closed during construction. • On-street parking on Gowan Avenue, Gamble Avenue, Gertrude Place, Pape Avenue, Hopedale Avenue and Minton Place will be impacted due to lanes closures. *Emergency Vehicles* • Lane closures on Pape Avenue will impact access for emergency/services vehicles and deliveries, particularly due to potentially increased delays. Alternative access to properties may be required, where traffic lanes of Pape Avenue are realigned to facilitate excavation at the Sammon crossover. **Operations** <u>OLW Study Area</u> • Traffic signals along Liberty New Street, as well as the roadway itself, will have Operations and Maintenance implications, which will be the responsibility of the City of Toronto. <u>OLN Study Area</u> • A new road connection between Banigan Drive and Overlea Boulevard, located east of Leaside Park Drive,		

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
	will be maintained after the completion of the OMSF construction, providing a permanent link for automobiles.		

5.10 Utilities

There are a total of 1,235 identified utility conflicts. Where Project interaction cannot be avoided through design adjustment, the utility will either be protected in place, relocated, removed, or replaced following construction. Management of utility conflicts has the potential, at times, to result in temporary impacts during construction. No impacts on utilities are anticipated during operations.

Impacts, mitigation measures, and monitoring activities for utility conflicts are outlined in **Table 5-10**.

Table 5-10. Potential Impacts, Mitigation Measures and Monitoring Activities – Utilities

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Private and Public Utilities	**Construction** • It is anticipated that there will be temporary impacts to existing utilities during construction, with potential relocations and associated disruptions to be determined. • Potential impacts to utilities are under review and will be confirmed as project planning progresses. **Operations** • Potential impacts to utilities are not anticipated during operations.	**Construction** • In-depth utility investigations will be undertaken as planning progresses to confirm impacts. Any potential conflicts and associated relocation requirements or mitigation measures will be identified in consultation with utility providers. • Appropriate mitigation measures including next steps related to consultation with utility companies and stakeholders, and phasing plans, will be determined once the impacts are confirmed. • The City of Toronto and Toronto Hydro will be consulted, as required, regarding potential impacts to municipal infrastructure and servicing to ensure that applicable City standards, guidelines, and criteria are met. • Mitigation measures related to traffic disruption and detours are outlined in **Section 5.9** of the EIAR. **Operations** • As no impacts are anticipated to utilities during operations, no mitigation measures are recommended.	**Construction** • During construction, utilities that will be protected in place may require monitoring, as determined by the requirements of each utility provider. **Operations** • As no impacts are anticipated to utilities during operations, no monitoring activities are recommended.

6 Consultation Process

6.1 Overview of the Consultation Process

In accordance with the Ontario Line Regulation, this section summarizes the consultation activities carried out with Indigenous Nations, members of the public, community stakeholders and groups, technical stakeholders, Elected Officials, and other interested parties, including a summary of feedback and comments received. It includes a record of consultation and summary of correspondence between October 18, 2020, and March 9, 2022, excluding Early Works-specific consultation.

The record of consultation and summary of correspondence between November 2019 and October 17, 2020, is provided in Section 7 and Appendix C of the Ontario Line Final Environmental Conditions Report (AECOM 2020a). Early Works records of consultation is found in each of the Early Works Reports. Early Works-specific consultation includes:

- East Harbour Station Early Works between February 2020 and September 2021 in Section 8 and Appendix B3 of the East Harbour Station Draft Early Works Report (AECOM 2021b).
- Lakeshore East Joint Corridor Early Works between February 2020 and September 2021 in Section 8 and Appendix B3 of the Lakeshore East Joint Corridor Early Works Report (AECOM 2021c).
- Lower Don Bridge and Don Yard Early Works between February 2020 and August 2021 in Section 8 and Appendix C3 of the Lower Don Bridge and Don Yard Early Works Report (AECOM 2021d).
- Corktown Station Early Works between February 2020 and July 2021 in Sections 8 and Appendix B3 of the Corktown Station Early Works Report (AECOM 2021e).
- Exhibition Station Early Works between February 2020 and January 2021 in Section 8 and Appendix B3 of the Exhibition Station Early Works Report (AECOM 2021f).

On February 7, 2022, the Notice of Publication of the Draft EIAR was issued to commence the review period, effective until March 9, 2022. The Notice was published on the Engagement webpage of the Project website (www.metrolinx.com/ontarioline) and distributed to the individuals on the Project Distribution List, including Indigenous Nations, community stakeholders and groups, government review agencies and other technical stakeholders, and Elected Officials; Approximately 106,000 properties (i.e., apartments, houses and businesses) in the Study Area; and approximately 26,500 property owners within 30 metres of the Project Footprint.

The Notice was advertised in thirteen newspapers (Toronto Star, Beach Metro, North York Mirror, Ming Pao, Nasha Canada, Sing Tao Daily, Sol Portugues, The Greek Press, The Philippine Reporter, Iran Javan, Le Metropolitain, Toronto L'Express and Akhbar-e-Pakistan) in multiple languages.

On April 8, 2022, the Notice of Publication of the Final EIAR was issued. The Notice was published in the same newspapers as the Notice of Publication of the Draft EIAR. The Notice was also distributed to the approximately 106,000 properties in the Study Area, approximately 26,500 property owners within 30 metres of the Project Footprint, Indigenous Nations, community stakeholders and groups, government review agencies, other technical stakeholders, and Elected Officials that received the Notice of Publication of the Draft EIAR. The Final EIAR (this report) includes updates based on feedback received during the review period of the Draft EIAR and is summarized in **Section 6.3.2.**

Consultation records related specifically to the EIAR are documented in **Appendix B** of this report. **Appendix B** has been updated as part of this Final EIAR to include correspondence with Indigenous Nations, the public, community stakeholders and groups, government review agencies, other technical stakeholders, and Elected Officials received up until March 9, 2022.

6.1.1 Approach to Consultation

The overall approach to consultation for the Ontario Line Project is outlined in Section 7.1.1 of the Ontario Line Final Environmental Conditions Report (AECOM 2020a)[4], with further details provided in Appendices C1 to C6 of that report.

To share information and collect feedback related to the Project, Metrolinx has undertaken the following communication and engagement activities prior to and following the publication of the Draft EIAR and during the 30-day public review period:

- Mailings /notifications;
- Emails via the Project email address (ontarioline@metrolinx.com);
- E-newsletters to the Project Distribution List;
- Newspaper advertisements;
- Social media posts and advertisements (Facebook, Twitter, Instagram, LinkedIn);
- Elected Officials briefings;
- Outreach to Indigenous Nations, government review agencies and other technical stakeholders;
- Virtual open houses which include Q&A sessions (see **Section 6.3** for more details);
- Online consultation via the Engage webpage; and
- Meetings with community stakeholders including community groups and Business Improvement Areas (BIAs).

4. The Ontario Line Final Environmental Conditions Report (AECOM 2020a) was posted on the Engagement webpage (Project website) on November 30, 2020, in accordance with the Ontario Line Regulation.

Further details regarding the consultation process are included in the subsection below and in **Appendix B1** to **Appendix B8**.

6.1.2 Record of Consultation

A record of consultation related to the EIAR from October 18, 2020 to March 9, 2022, excluding Early Works-specific consultation, has been included in this report. The record of consultation has been divided into separate appendices:

- Appendix B1 provides the Project Distribution List used to facilitate notifications to Indigenous Nations, stakeholders, and interested persons.
- Appendix B2 provides a record of all Virtual Open House Summaries, newspaper ads and notices published through March 9, 2022.
- Appendix B3 contains a record of the EIAR website content, including blog posts.
- Appendix B4 contains a record of Indigenous Nation consultation and correspondence, with the Indigenous Nations through March 9, 2022.
- Appendix B5 contains a record of public consultation and correspondence, including all 'Provide your Feedback', environmental discipline-specific feedback form submissions, 'Ask-A-Question' and 'Contact Us' through March 9, 2022.
- Appendix B6 contains a record of community stakeholder consultation and correspondence, including meetings with community stakeholders through March 9, 2022.
- Appendix B7 contains a record of technical stakeholder consultation and correspondence, including meetings with technical stakeholders through March 9, 2022.
- Appendix B8 contains a record of Elected Officials consultation and correspondence, including meetings with Elected Officials through March 9, 2022.

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

6.1.3 Identification of Interested Parties

At the outset of the Project, an initial Project Distribution List was developed to facilitate notifications to stakeholders and interested parties. Additional email contacts were collected through the Engage webpage, where individuals could submit their email addresses and select "subscribe", and through in-person and online consultation activities that took place between January 2020 and March 9, 2022. Individuals have the opportunity to subscribe or unsubscribe to the Project Distribution List at any time.

The Project Distribution List is a live document that is continuously updated in response to Project feedback (e.g., requests from individuals to be added) and is used to inform stakeholders and the public of Project milestones (e.g., Notice of Publication of Draft EIAR).

The Project Distribution List is available in **Appendix B1** of this Report. To protect personal information, individuals and members of the public are not included on the Project Distribution List.

All parties on the Project Distribution List have been notified of the publication of the Draft EIAR, including opportunities to review and provide comments, and will be notified of the publication of the Final EIAR.

6.2 Engagement with Indigenous Nations

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 (IRO) 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 IRO provides guidance to the organization with respect to engaging Indigenous Nations on projects and is dedicated to working towards establishing and maintaining meaningful relationships with Indigenous Nations.

Engagement with Indigenous Nations and Organizations

In 2020, the IRO 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 IRO 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.
- 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 construction 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 IRO as the single point of contact within Metrolinx to coordinate the timing of communications across projects and limit the number of Metrolinx staff that contact Indigenous 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.
- 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 below.

List of Indigenous Nations and Organizations

The following Indigenous Nations were identified as being potentially interested in the Ontario Line project. The IRO supported the development of this list, which was sent to the Ministry of Transportation (MTO) and Ministry of the Environment, Conservation and Parks (MECP) for feedback and approval, includes:

- Haudenosaunee Confederacy Chiefs Council*
- Huron-Wendat Nation
- Kawartha Nishnawbe First Nation
- Métis Nation of Ontario
- Mississaugas of the Credit First Nation
- Six Nations of the Grand River*
- Williams Treaties First Nations
    - Alderville First Nation
    - Beausoleil First Nation
    - Chippewas of Georgina Island
    - Chippewas of Rama First Nation
    - Curve Lake First Nation
    - Hiawatha First Nation
    - Mississaugas of Scugog Island First Nation

* Haudenosaunee Confederacy Chiefs Council and Six Nations of the Grand River were added to the list of potentially interested Indigenous Nations on July 30, 2020, at the direction of MECP.

Formal Notices and Reports

As part of engagement on the Ontario Line, the IRO shared the following project notices and reports with identified Indigenous Nations:

- Letter introducing the Project – February 12, 2020 and July 30, 2020
- Notice of Public Information Centre – February 12, 2020
- Initial draft of the Environmental Conditions Natural Environment Report – June 3, 2020
- Initial draft of the Early Works Natural Environmental Report – June 4, 2020
- Initial draft of the Early Works Report – June 5, 2020
- Initial draft of the Environmental Conditions Report – June 15, 2020
- Notice of Publication of Draft Environmental Conditions Report – September 17, 2020
- Notice of Publication of Final Environmental Conditions Report and Draft Exhibition Station Early Works Report – November 30, 2020
- Notice of Publication of Final Exhibition Station Early Works Report – February 1, 2021
- Initial Draft of the Corktown Station Early Works Report – March 11, 2021
- Notice of Publication of Draft Corktown Station Early Works Report - May 12, 2021
- Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report – June 22, 2021
- Notice of Publication of Final Corktown Station Early Works Report – July 15, 2021
- Initial draft of Lakeshore East Joint Corridor Noise and Vibration Operations Report – July 28,2021
- Initial draft of the Natural Environment Report and Stage 1 Archaeological Assessment for the Ontario Line Environmental Impact Assessment Report – August 18, 2021
- Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report – August 25, 2021
- Notice of Publication of Draft Lakeshore East Joint Corridor Early Works Report and Draft East Harbour Station Early Works Report – September 23, 2021
- Notice of Publication of the Final Lakeshore East Joint Corridor Early Works Report and Final East Harbour Station Early Works Report - November 17, 2021
- Initial draft of the Environmental Impact and Assessment Report (EIAR) - November 18, 2021
- Notice of Publication of the Draft Environmental Impact Assessment Report (EIAR) – February 7, 2022.

- Notice of Publication of the Final Environmental Impact Assessment Report (EIAR) – April 8, 2022.

Feedback on the Draft EIAR

Comments from Curve Lake First Nation and Mississaugas of Scugog Island First Nation were received from Indigenous Nations on the Draft EIAR. Metrolinx is engaging with these Nations to review and address their comments on the report and project.

- On February 9, 2022, Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated that until meaningful engagement has taken place, they object to all Metrolinx projects within Haudenosaunee territory. The Haudenosaunee Development Institute requested an extension of the stated deadline.
- On March 7, 2022, Curve Lake First Nation provided comments on the Draft EIAR relating to review timelines for Indigenous Nations; interest in site visits at project sites; environmental monitoring plans; impacts to aquatic species; mapping of treaty boundaries; environmental damages and contingency; Indigenous worldview and cultural representation; treaty rights; and organization of the consultation report section in the Draft EIAR.
- On March 9, 2022, Mississaugas of Scugog Island First Nation provided comments on the Draft EIAR relating to SAR species and surveys; interest in participation in field surveys, restoration planning and monitoring; habitat compensation and monitoring plans; monitoring activity details; impacts to habitat connectivity; and evaluation of unevaluated wetlands.

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 (MHSTCI). Metrolinx works to incorporate comments and feedback from Indigenous Nations into archaeological assessments.

For the Ontario Line project, Indigenous Nations have been sent the following archaeological reports for review and comment:

- Stage 1 Archaeological Assessments (North, South and West) - March 26, 2020
- Addendum to the Ontario Line South Stage 1 Archaeological Assessment – February 8, 2021
- Stage 1 Archaeological Assessment for the Ontario Line Environmental Impact Assessment Report – August 18, 2021
- Draft Marine Archeological Overview Assessment for the Ontario Line – Lower Don Bridge Project – October 7, 2021

Feedback

- On April 27, 2020 Huron-Wendat Nation expressed concerns regarding the inclusion of oral histories from Indigenous Nations in the Ontario Line Stage 1 Archaeological Assessment (AA) report, which were addressed by Metrolinx.
- On November 16, 2020 the Mississaugas of the Credit First Nation inquired with Metrolinx as to why a Project Identification Form (PIF) was obtained for a Stage 1 AA without prior engagement with the Nation. Metrolinx provided a response on December 24, 2020 indicating that the PIF was taken out to support an addendum to the Ontario Line South Stage 1 AA, which would be shared in draft with the Mississaugas of the Credit First Nation for review and comment.
- On February 25, 2021 Mississaugas of the Credit provided comments and feedback on the Ontario Line Stage 1 Archaeological Assessment Addendum, which were addressed by Metrolinx.

Metrolinx made a commitment to Indigenous Nations to include Indigenous monitors in all archaeological fieldwork being completed for the Ontario Line. To date, the following Nations have expressed interest in participation in archaeological assessments:

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

Opportunities for participation continue to be shared with all identified Indigenous Nations including:

- On January 19, 2021, Indigenous Nations were invited to provide monitors to attend geotechnical and environmental site investigations in relation to borehole drilling on/near known archaeological sites at 271 Front St E, 44 Parliament St and 25 Berkeley St.
- On April 12, 2021, Indigenous Nations were invited to participate in Archaeological fieldwork associated with the Corktown Station and First Parliament site.
- On April 30, 2021, Indigenous Nations were invited to participate in future Archaeological fieldwork related to the Lower Don River Crossings.
- On July 7, 2021, Indigenous Nations were invited to provide monitors to attend geotechnical borehole drilling on/near known archaeological sites at 265 Front Street E.
- On August 6, 2021 and October 12, 2021 Indigenous Nations were invited to participate in Stage 2 Archaeological Assessment related the Ontario Line Project.

- On November 18, 2021 Indigenous Nations were invited to participate in Stage 2 Archaeological fieldwork associated with the Thornecliff segment of the Ontario Line project.
- On December 17, 2021 Indigenous Nations were invited to participate in the planned Stage 2 Archaeological Assessment work associated with Corktown Station.
- On February 23, 2022 Indigenous Nations were invited to participate in the archaeological monitoring of borehole drilling planned to occur in the Lower Don Bridge area.

Feedback

- On January 19, 2020, Six Nations of the Grand River expressed that they felt that communication regarding the field dates and times for borehole drilling was not adequate and resulted in lost productivity and resource expenditure where no work was actually completed.
- On January 19, 2020, Huron-Wendat Nation expressed they required more advance notice of fieldwork in order to ensure their ability to send a monitor.
- On July 7, 2020 Alderville First Nation requested the results of the borehole drilling that took place at 265 Front Street East.
- On July 9, 2021 Hiawatha First Nation inquired for more information related to what activities would be occurring related to the monitoring for the borehole drilling at 265 Front Street E.
- On October 4, 2021 Mississaugas of the Credit First Nation raised a concern about possible contaminated run-off water at the First Parliament Site. Metrolinx investigated this concern, and both an immediate solution (a temporary berm) and a long-term solution (use of a recirculation tank when drilling) were implemented.
- On April 8, 2021, the Haudenosaunee Development Institute, as agents of Haudenosaunee Confederacy Chiefs Council, expressed concerns regarding the archaeological works proceeding without the consent of the Nation.
- On December 17, 2021, Huron-Wendat Nation confirmed their participation for the archaeological monitoring at Corktown Station and Don Valley Area.
- On December 20, 2021, Mississaugas of Scugog Island First Nation confirmed they are currently unable to dispatch archaeological field monitors but would like to be updated with the results of the field work.
- On January 4, 2022, Mississaugas of the Credit First Nation confirmed they are interested in participating in both projects at Corktown Station and Don Valley Area and would like a representative on site.
- On February 16, 2022, Mississaugas of the Credit First Nation confirmed that while they were interested in participating in Stage 2 archaeological fieldwork, they were unsure whether they would have a monitor available at that time.

- On February 25, 2022 Huron-Wendat Nation confirmed they would collaborate with the archaeological monitoring of borehole drilling planned in the Lower Don Bridge.

Natural Environment

During the course of this project, Metrolinx began to understand that many Nations had an interest in participating in natural environment field studies and environmentally sensitive construction activities. Metrolinx committed to ensure opportunities for Indigenous Nations to participate in such activities for the Ontario Line project. The following Nations have indicated that they would like to be involved in monitoring for natural environment field studies and select environmentally sensitive construction activities such as, but not limited to, tree removals or in-water works:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River

Opportunities for participation continue to be shared with all identified Indigenous Nations including:

- On August 6, 2021 Indigenous Nations were invited to participate in upcoming natural environment fieldwork including butternut health assessment, tree inventory and aquatic habitat assessment related to the Ontario Line Project.

Indigenous Nations were also sent information related to Metrolinx's permit applications under the *Endangered Species Act* related to Species At Risk:

- Application for a permit under the *Endangered Species Act* and the proposed Amendment to 17(2)(d) Permit – November 3, 2021 and December 10, 2021.

Feedback

- On February 12, 2020, Huron-Wendat Nation asked for Metrolinx to share the GIS shapefiles of the study area. These were shared with Huron-Wendat Nation on February 13, 2020.
- On November 4, 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 on the application.
- On December 13, 2021, the Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, stated that until meaning engagement has taken place, they object to all Metrolinx projects within Haudenosaunee territory. The Haudenosaunee Development Institute requested an extension of the stated deadline.

First Parliament Interpretation and Commemoration Plan

Indigenous Nations were engaged directly regarding Metrolinx's proposed plans for commemoration of the First Parliament site:

- On April 12, 2021 a letter was shared with Indigenous Nations, introducing the First Parliament site including an invitation to provide feedback and participate in the multi-component archaeological site.
- On October 26, 2021, Indigenous Nations received an overview and copy of the proposed Interpretation and Commemoration Plan for the First Parliament Site for review.

In addition, Metrolinx appreciates the participation and guidance provided by Mississaugas of the Credit First Nation and Six Nations of the Grand River, who sit on the First Parliament Archaeological Working Group. The Working Group meets monthly during the archaeological field season and will continue to meet throughout the duration of the archaeological assessment. Metrolinx continues to extend an open invitation to other Indigenous Nations to participate in this working group as work progresses.

Feedback

- On February 23, 2021, during a meeting regarding the Ontario Line project, Mississaugas of the Credit First Nation expressed an interest in being part of the First Parliament Archaeological Working Group. Members of the Mississaugas of the Credit First Nation are now part of the Working Group.
- On August 25, 2021, during a meeting not related to the Ontario Line project, Six Nations of the Grand River expressed interest in reviewing the archaeological work plans and understanding more about possible involvement with the commemoration project of the Corktown station site.
- In a meeting unrelated to the Ontario Line project, on September 15, 2021, Six Nations of the Grand River requested a copy of the archaeological management plan and requested to be part of the First Parliament Archaeological Working Group. Members from Six Nations of the Grand River are now part of the Working Group.
- On October 28, 2021 Six Nations of the Grand River requested additional information regarding the provincial plan related to the First Parliament site and Corktown Station.
- On November 18, 2021, Huron-Wendat Nation expressed interest in providing ideas and feedback on the Interpretation and Commemoration Plan at a subsequent meeting. At the time of this record, such a meeting has not yet occurred.
- On January 19, 2022, during a meeting not related to the Ontario Line project, Huron-Wendat Nation expressed an interest in participating in the First Parliament Working Group. Metrolinx will share an invitation when the working group resumes in Spring 2022.

Meetings

The IRO facilitated the following meetings to discuss the Ontario Line project:

- Huron-Wendat Nation – November 13, 2019, April 27, 2020 (no minutes available), May 13, 2021
- Mississaugas of the Credit First Nation - June 11, 2020, February 23, 2021, October 4, 2021
- Chippewas of Rama First Nation – December 4, 2020
- Curve Lake First Nation – July 15, 2020, October 26, 2021
- Six Nations of the Grand River – November 25, 2020, November 15, 2021

Formal Feedback

Table 6-1. Feedback of Meetings Facilitated by Indigenous Relations Office

Indigenous Nation	Formal Feedback	Metrolinx Response
Alderville First Nation	To date Alderville First Nation has not expressed concerns to Metrolinx about the Ontario Line Project.	Metrolinx continues to welcome opportunities to meet with Alderville First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Alderville First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Beausoleil First Nation	To date Beausoleil First Nation has not communicated or expressed concerns to Metrolinx about the Ontario Line Project.	Metrolinx continues to welcome opportunities to meet with Beausoleil First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Beausoleil First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Chippewas of Georgina Island	To date Chippewas of Georgina Island has not communicated or expressed concerns to Metrolinx about the Ontario Line Project.	Metrolinx continues to welcome opportunities to meet with Chippewas of Georgina First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Chippewas of Georgina First Nation and extend invitations to archaeological and natural environment field work and

Indigenous Nation	Formal Feedback	Metrolinx Response
		environmentally sensitive construction activities for the Ontario Line Project.
Curve Lake First Nation	On March 26, 2020 Curve Lake First Nation indicated that the project is outside of the Williams Treaties territory and in the territory of the Mississaugas of the Credit First Nation. Curve Lake First Nation has asked that Metrolinx continue to send project information but not be formally consulted. Curve Lake First Nation indicated that it would still like to be invited to participate in archaeological fieldwork related to the Ontario Line Project.	Metrolinx continues to provide information, updates and technical reports on an informational basis. Metrolinx continues to invite Curve Lake First Nation to archaeological field work for the Ontario Line Project and provide fieldnotes as requested. Metrolinx will extend invitations to Curve Lake First Nation to participate in natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Chippewas of Rama First Nation	On September 16, 2020 Chippewas of Rama First Nation expressed limited capacity to meaningfully engage with the Subways Program materials and does not consider project notices and report distribution to be consultation. On December 4, 2020, Chippewas of Rama raised concerns about Species at Risk and mitigation methods. In November 2021, Chippewas of Rama requested that Metrolinx use its online portal when engaging on projects and sharing project materials. In January 2022, Chippewas of Rama expressed an interest in continuing conversations with Metrolinx regarding establishing better practices and capacity needs.	Metrolinx continues to welcome opportunities to meet with Chippewas of Rama First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Chippewas of Rama First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project. Metrolinx continues to engage in conversations with Chippewas of Rama regarding best practices for engagement and opportunities to provide capacity support. Metrolinx will begin to use online portal to submit project materials.
Haudenosaunee Development Institute, on behalf of the Haudenosaunee Confederacy Chiefs Council **Nation was added to Indigenous Nations engagement list for the Ontario Line	Haudenosaunee Development Institute, as agents of the Haudenosaunee Confederacy Chiefs Council, has expressed concerns surrounding the subway program stating that consent from the Nation has not been given and has requested all work including any environmental assessments cease and desist.	Metrolinx continues to engage in conversations with Haudenosaunee Confederacy Chiefs Council regarding best practices for engagement, opportunities to provide capacity support and the Nation's concerns with regard to the level of consultation on Metrolinx projects. Metrolinx continues to welcome opportunities to meet with Haudenosaunee Confederacy Chiefs Council to discuss the Ontario Line Project; providing information, updates and technical reports. Metrolinx continues to invite Haudenosaunee Confederacy Chiefs Council to

Indigenous Nation	Formal Feedback	Metrolinx Response
Project on July 30, 2020 by MECP.		archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Hiawatha First Nation	On February 13, 2020 Hiawatha First Nation indicated they have no concerns but have asked to continue to receive project updates as the project continues.	Metrolinx continues to welcome opportunities to meet with Hiawatha First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Hiawatha First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Huron-Wendat Nation	Huron-Wendat Nation has not communicated or expressed concerns to Metrolinx about the Ontario Line Project but have expressed an interest in reviewing and participating in all archaeological fieldwork and assessments related to the Ontario Line Project.	Metrolinx continues to welcome opportunities to meet with Huron Wendat Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Huron Wendat Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Kawartha Nishnawbe First Nation	On March 26, 2020 Kawartha Nishnawbe First Nation indicated that the Nation holds Treaty and Aboriginal rights within the area affected by the project. They also indicated that they have no capacity to participate in assessments or consultations and asked whether Metrolinx will be providing assistance.	Metrolinx continues to welcome opportunities to meet with Kawartha Nishnawbe First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Kawartha Nishnawbe First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project. Metrolinx began communications with Kawartha Nishnawbe First Nation regarding the possibility of setting up a meeting to better understand the needs and interests of the Nation and to discuss possible ways to support the review of projects, but has not yet received a response.

Indigenous Nation	Formal Feedback	Metrolinx Response
Mississaugas of the Credit First Nation	On February 25, 2021 Mississuagas of the Credit First Nation expressed preliminary interest and concern on the possibility of in-water works along the Don River. Mississaugas of the Credit First Nation continue to expect to be invited to all archaeological, natural environment field studies and environmentally sensitive construction activities.	Metrolinx is committed to ensuring Mississaugas of the Credit First Nation is engaged in any in-water works along the Don River. Metrolinx continues to welcome opportunities to meet with Mississaugas of the Credit First Nation to discuss the Ontario Line Project; Metrolinx continues 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 Ontario Line Project.
Métis Nation of Ontario	On January 20, 2020 Métis Nation of Ontario informed Metrolinx the preferred method of engagement is to send emails with information and updates. To date Métis Nation of Ontario has not expressed concerns or been in contact with Metrolinx about the Ontario Line Project.	Metrolinx continues to welcome opportunities to meet with the Métis Nation of Ontario to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to the Métis Nation of Ontario and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities
Mississaugas of Scugog Island First Nation	To date Mississaugas of Scugog Island First Nation has not expressed concerns to Metrolinx about the Ontario Line Project.	Metrolinx continues to welcome opportunities to meet with Mississaugas of Scugog Island First Nation to discuss the Ontario Line Project; Metrolinx continues to provide information, updates and technical reports to Mississaugas of Scugog Island First Nation and extend invitations to archaeological and natural environment field work and environmentally sensitive construction activities for the Ontario Line Project.
Six Nations of Grand River **Nation was added to Indigenous Nations engagement list for the Ontario Line	On September 17, 2020 Six Nations of the Grand River provided notice to Metrolinx that Metrolinx subways program development is occurring without the Nation's consultation and consent. The Nation noted the project's development will contribute to significant environmental degradation and as a result Six Nations will	Metrolinx continues to meet with Six Nations of the Grand River to discuss the Nation's expectation for future consultation efforts and capacity supports. Metrolinx is committed to working with Six Nations of the Grand River to better understand the needs and interests of the Nation and to

Indigenous Nation	Formal Feedback	Metrolinx Response
Project on July 30, 2020 by MECP.	experience severe impacts on the ability to exercise Aboriginal and Treaty Rights (Section 35 of the *Constitution Act*, 1982). Six Nations of the Grand River noted Metrolinx should be going above and beyond the regulations, which are not in keeping with the expectations of the Nation as stewards of the land. Items and areas of note include: the protection of all species not just those at risk or are endangered, replacement ratio of trees at 10:1 and protection of hunting/fishing/medicine gathering areas. On September 17, 2020 Six Nations of the Grand River expressed concerns that due to the extremely large volume of reports and studies on Metrolinx projects there is no capacity to review the Ontario Line reports, except for archaeology. Six Nations of the Grand River has expressed an ongoing interest in participation and review of Archaeological assessments. On November 25, 2020 Six Nations of the Grand River expressed concerns of the lack of accurate treaty information in the Stage 1 Archaeological Report for the Ontario Line Project. Six Nations of the Grand River have expressed an interest in monitoring natural environment fieldwork and tree removals across Metrolinx projects occurring within its territory, and for the Ontario Line. November 26, 2021 Six Nations of the Grand River expressed during a meeting that currently, they do not consider their relationship with Metrolinx to be a partnership. They feel that this is because there is not a mutual level of cooperation and collaboration. They noted that often they do not open emails/letters/reports sent by Metrolinx because they do not have the capacity to engage with them.	discuss possible ways to support the review of projects. Metrolinx continues to invite Six Nations of the Grand River to participate in archaeological, natural environment field studies and environmentally sensitive construction activities. Metrolinx committed to the goal of providing two weeks advance notice of any planned fieldwork. Metrolinx has indicated a willingness to re-evaluate tree compensation plans within Six Nations of the Grand River territory as part of ongoing conversations. Metrolinx continues to welcome opportunities to meet with Six Nations of the Grand River to discuss the Ontario Line Project; providing information, updates and technical reports.

Additional Engagement

In addition to the formal engagement outlined above, the IRO contacted or communicated with Indigenous Nations on the Ontario Line Project through:

- Phone calls to Indigenous Nations:
  - Notice of Public Information Centre Follow up – Calls made January 17, 2020
- 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
- Receiving feedback and answering questions over the phone or during non-project specific meetings or engagements

Consultation with Indigenous Nations will continue as planning progresses. Correspondence records with Indigenous Nations between October 18, 2020, and March 9, 2022, excluding Early Works-specific correspondence, are provided in **Appendix B4** of this Report. A copy of the Final EIAR along with the Notice of Publication of Final EIAR were provided to Indigenous Nations on April 8, 2022.

6.3 Public Engagement and Feedback

6.3.1 Public Engagement Opportunities

Prior to publication of the Draft EIAR, public engagement efforts included posting updates to the Engage webpage and holding virtual open houses which include live Q&A sessions about the Ontario Line Project.

Engage Webpage

On February 7, 2022, and April 8, 2022, information related to the EIAR was published on the Engage webpage (www.metrolinx.com/ontarioline). This information is presented in **Appendix B3** of this Report.

Information posted on February 7, 2022, included: the Notice of Publication of Draft EIAR; the Draft EIAR and associated appendices; details regarding Project components; updates on the Environmental Assessment process; and key findings, potential impacts, and proposed mitigation measures for each of the environmental study reports.

Through March 9, 2022, individuals have been able to provide feedback related to the Ontario Line Project using two different formats, ‘Contact Us’ and ‘Ask-A-Question’, in addition to writing directly to the Ontario Line email address. ‘Contact Us’ is a fillable form where participants provide their name, e-mail address, subject and message. The messages submitted using this form are sent to the Ontario Line email address.

'Ask-A-Question' is a public forum where participants provide their name, topic, and question in a fillable form. The questions submitted by participants and the responses from Metrolinx are shared publicly on the Metrolinx Engage website. Participants also have the option to vote for their favourite questions or responses.

From February 7, 2022 to March 9, 2022, individuals have also been able to provide feedback related to the EIAR through the 'Provide Your Feedback' function on the Engagement webpage/ 'Provide Your Feedback' is a fillable anonymous form where participants can provide their feedback on the Draft EIAR by answering the following questions:

- What are your thoughts on the results of the Draft EIAR environmental studies?
- Which Draft EIAR environmental study is most important to you and why?
- Is there anything we missed? Please let us know if you have any additional thoughts or concerns about the Draft EIAR.

To provide feedback on individual environmental studies, fillable anonymous environmental discipline-specific feedback forms with the following questions were located at the end of each environmental discipline webpage:

- What are your thoughts on the Air Quality study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Archaeological Resources Study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Built Heritage Resources and Cultural Heritage Landscapes study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Natural Environment study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Noise and Vibration study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Socio-Economic and Land Use Characteristics study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Soil and Groundwater study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Traffic and Transportation study key findings and identified potential impacts and mitigation measures?

All 'Provide your Feedback', environmental discipline-specific feedback form submissions, 'Contact Us' and 'Ask-A-Question' submissions related to the EIAR received through March 9, 2022 are available in **Appendix B5.** This appendix includes a summary of public email correspondence and a detailed correspondence record captured through to March 9, 2022.

The following online statistics were collected during the public engagement period for the Draft EIAR from February 7, 2022 to March 9, 2022:

- 2541 people visited the EIAR webpage on the Project website to learn more about the EIAR.
- 57 comments related to the EIAR were received by email;
- 10 comments or questions related to the EIAR were received though the 'Contact Us' and 'Ask-A-Question' features: and
- 120 feedback form submissions were received in response to the Draft EIAR.

Feedback collected throughout the Draft EIAR public review period from February 7, 2022 to March 9, 2022 was incorporated into the Final EIAR.

Virtual Open Houses and Live Q&A Sessions

Details regarding the virtual open houses and live Q&A sessions are provided in **Table 6-2** below. The online consultation included display boards, a video narration, and an opportunity to ask questions about the project materials. Complete summaries of the virtual open houses and live Q&A sessions can be found in **Appendix B2**.

Table 6-2. Summary of Virtual Open Houses and Live Virtual Q&A Sessions

Session Date and Topics	Session Summary
April 15, 2021 Thorncliffe Park, Flemingdon Park and Science Centre Stations	• Over 500 attendees. • Questions focused on concerns about the maintenance and storage facility. Metrolinx committed to supporting businesses and community organizations to continue to thrive.
April 19, 2021 Pape, Cosburn, Don Valley Crossing Stations	• Over 100 attendees. • Questions focused on noise and vibration, plans for portal construction on the Don Valley slope, and supports available for businesses at Cosburn and Pape.
April 22, 2021 East Harbour, Leslieville/Riverside, Gerrard	• Over 200 attendees. • The questions were related to the feasibility and costing of tunneled alternatives, as well as noise, vibration, and safety. • Metrolinx provided information on how building the Project in the existing rail corridor will reduce impacts to the community by protecting beloved parks in the area. Metrolinx also described the effectiveness of noise walls in the neighbourhood and how they will be designed with community input.

Session Date and Topics	Session Summary
April 26, 2021 Osgoode, Queen, Moss Park and Corktown Stations	• Over 140 attendees. • Participants asked a variety of questions related to the station plans, and potential impacts to the community such as transit and traffic diversions, noise, vibration, business impact and access to community spaces and facilities.
April 29, 2021 Exhibition, King/Bathurst and Queen/Spadina Stations	• Over 90 attendees. • Participants asked a variety of questions related to the project plans, station design, train technology, tunnelling techniques, and vibration as well as possible future extensions and connections to other transit services.
June 10, 2021 Exhibition, King/Bathurst, Queen/Spadina	• Over 80 attendees • Participants asked a variety of questions related to the project plans and timeline, station design, transit connectivity, heritage conservation, and more.
June 17, 2021 Osgoode, Queen, Moss Park, Corktown	• Over 80 attendees • Participants asked a variety of questions related to the station entrance locations, construction approach, heritage conservation, and more.
June 24, 2021 East Harbour, Leslieville/Riverside, Gerrard	• Over 68 attendees • Participants asked a variety of questions related to the construction approach, environmental assessment, transit corridor lands, bridges, trees and more.
June 30, 2021 Pape, Cosburn, Thorncliffe Park, Flemingdon Park, Science Center, and Maintenance and Storage Facility	• Over 140 attendees • Participants asked a variety of questions related to the location of the maintenance and storage facility, transit corridor lands, environmental assessment, planning approaches, and more.
September 9, 2021 Exhibition, King/Bathurst, and Queen/Spadina	• Over 100 attendees • Participants asked a variety of questions related to transfer connections, the Last Mile, TTC Streetcar extension, the Ontario Line Concept Loop, street closures, and more.
September 16, 2021 Pape, Cosburn, Thorncliffe Park, Flemingdon Park, Science Centre	• Over 200 attendees • Participants asked a variety of questions related to construction approach, community engagement, street closures, underground alignment feasibility, and more.

Session Date and Topics	Session Summary
September 23, 2021 East Harbour, Leslieville/Riverside, Gerrard	• Over 250 attendees • Participants asked a variety of questions related to property impacts, underground alignment feasibility, noise walls, environmental assessment, graffiti management, and more.
October 5, 2021 East Harbour, Leslieville/Riverside, Gerrard	• Over 100 attendees • Participants asked a variety of questions related to underground alignment feasibility, tree removal, noise and vibration monitoring and call centre, zone of influence, and more.
October 7, 2021 Osgoode, Queen, Moss Park, Corktown	• Over 150 attendees • Participants asked a variety of questions related to train capacity, station design, street closures, construction, and more.
November 23, 2021 Project overview and year-end review	• Over 400 attendees • Participants asked a variety of questions related to alignment and stations, design and accessibility, construction impacts, environmental and community impacts and more.
November 25, 2021 Project overview and year-end review	• Over 550 attendees • Participants asked a variety of questions related to alignment and stations, environmental and community impacts, construction impacts, Cultural Heritage, and more.
February 22, 2022 Environmental Impact Assessment Report	• Over 100 attendees • Participants asked a variety of questions related to alignment and stations, noise and vibration, property impacts, the report, and more.
February 24, 2022 Environmental Impact Assessment Report	• Over 280 attendees • Participants asked a variety of questions related to noise and vibration, community benefits, construction impacts, property impacts, the report, and more.
March 1, 2022 Environmental Impact Assessment Report	• Over 160 attendees • Participants asked a variety of questions related to alignment and stations, noise and vibration, property impacts and acquisitions, the report, and more.

Session Date and Topics	Session Summary
March 3, 2022 Environmental Impact Assessment Report	• Over 100 attendees • Participants asked a variety of questions related to noise and vibration, property impacts and acquisitions, community involvement, the report, and more.

6.3.2 Public Feedback

Public feedback received by Metrolinx between October 18, 2020 and , 2022 excluding Early Works-specific consultation, is included in **Appendix B5**. All comments received from the public have been redacted to protect personal information.

Summary of Public Feedback – Email and Contact Us

The following section highlights the key findings identified through public feedback gathered prior to the review period for the Draft EIAR, up to December 13, 2021. Complete correspondence records related to this feedback can be found in **Appendix B5**.

Input received via email submissions and the Contact Us and Ask-A-Question features on the Engage webpage (Project website) fell into the following general themes:

- Project timelines, costs and operations;
- Property impacts;
- Environmental and community impacts;
- Consultation process; and
- Alignment and facilities.

Project Timelines, Costs and Operations

- There was a strong interest in understanding the projected timelines for the project with an emphasis on when construction would be starting in individual neighbourhoods as well as a comparison of the costs for different construction approaches.
- Several individuals requested to know when construction would begin, some specifically referring to the construction of noise walls and stations.
- Several individuals inquired about how the Ontario Line would be constructed and what methods would be used.
- Several individuals inquired about electrification of the line and had specific questions regarding the operation of the train with reference to speed, number of trains, frequency, peak hours, and fares.
- Three individuals inquired about accessibility and washroom access for the Ontario Line.

Property Impacts

- Several individuals requested information on whether their properties would be impacted by the Ontario Line Project.
- Several individuals expressed concern regarding the impact on property value in the community.
- Several respondents expressed concern for the proximity of homes to the alignment of the Ontario Line.
- Several individuals requested clarification on the letter sent to their home regarding the *Transit Corridor and the Building Transit Faster Act* 2020.

Environmental and Community Impacts

- Many individuals expressed interest in the EIAR.
- Several individuals expressed concern about the at-grade portion of the Ontario Line alignment, specifically related to potential impacts to the neighbourhood, residents, trees, and parks.
- Noise and vibration studies as well as natural environment and air quality impact assessments are of greatest interest, including the methodology used to measure and predict impacts from construction and operation.
- Impacts on the character of a neighbourhood, safety and quality of life continue to be areas of concern.
- Several individuals expressed concern about the impact of construction on local businesses and neighbourhood traffic.
- Several individuals requested information on noise mitigation for their communities.
- Several individuals expressed concern regarding the increase in train frequency which would increase the noise in the area.
- Several individuals expressed concern about the Ontario Line Project's impact on surrounding parks (i.e., Jimmie Simpson, Bruce Mackey, Saulter Street Parkette, E.T. Seton Park) and natural habitats and noted several natural features in the area have already been cleared.
- Several individuals expressed concerns with the noise and air environmental pollution of the project.
- Several individuals expressed concerns with the location of the OMSF and the impacts it would have on their community, specifically the demolition of existing buildings.
- Several individuals requested consideration of approaches related to the visual character of the project. (i.e., for the architectural design to match the heritage designated buildings and landscape that reduces the appearance of the noise walls.)

- Several individuals noted concerns with strategies to maintain cultural heritage values especially regarding First Parliament in Toronto, including actions taken if archaeological resources are encountered.
- Several individuals inquired about the construction impacts on their community.
- One individual inquired whether the project will stop if significant archaeological findings are encountered.
- One individual inquired about how the project will impact bus routes.
- One individual inquired if there would be an opportunity to purchase or donate wood from the trees being cut down, to create neighbourhood benches.

Consultation Process

- There was a clear desire from participants to better understand the details behind the plans and designs as well as a continued interest in more opportunities to discuss project impacts and benefits.
- Several individuals expressed concern with the community engagement process, specifically regarding the at-grade portion of the alignment.
- Several individuals requested more details regarding upcoming virtual open houses and how to participate.
- Several individuals noted they attended previous virtual open houses (live virtual Q&A sessions) and requested more information about noise walls or expressed support for an underground option.
- Several individuals requested to know why the Project is called Ontario Line and no longer the Relief Line.
- Several individuals noted they are supportive of the project and inquired how they can provide support for upcoming events.
- Several individuals requested individual meetings with Metrolinx to discuss their concerns.
- Two participants inquired if Metrolinx would like to put an ad in their condo's newsletter discussing the project.

Alignment and Facilities

- Many participants had questions about the rationale for the current alignment and proposed station locations.
- Some requested stations and connections be added, for example to the west beyond Exhibition or nearby at Fort York. One individual requested expansion of Ontario Line to Kitchener.
- Others asked for reconsideration of the proposed route or construction approach, pointing to concerns about community and environmental impacts.

- Several individuals expressed interest in moving the entire Ontario Line Project underground or suggested certain segments of the tunnel alignments be moved underground.
- There is interest in the station names and if the public will have a chance to provide input in the naming of stations.
- There is a strong interest in understanding the site selection for the OMSF and the justification of the selection.

Summary of Public Feedback – "Provide Your Feedback" and Draft Environmental Impact Assessment Report Environmental Discipline-Specific Forms

The following themes emerged through the online 'Draft Environmental Impact Assessment Report – Feedback' forms submitted through the Engagement webpage from February 7, 2022 to March 9, 2022.

- Public Engagement Process;
- EIAR Content (including environmental study results, potential impacts and proposed mitigation and monitoring measures);
- Property and Construction Impacts, and;
- Project Alignment.

What are your thoughts on the results of the Draft Environmental Impact Assessment environmental studies?

- Public Engagement Process
  - Several individuals expressed appreciation of the effort that went into producing the Draft EIAR report and the numerous environmental studies that were undertaken to address critical issues.
  - One individual believes the Draft EIAR was biased against underprivileged community.
  - One individual stated mitigation measures and project decisions were not consulted with the public, including the re-grading the steep sections of Lakeshore East corridor and consideration of alternate underground routes.
- EIAR Content
  - Two individuals indicated there were errors in the Draft EIAR and believed the results of the Draft EIAR studies are inadequate. They expressed that the Draft EIAR was difficult to navigate and to locate information that was specific to their property.
  - Several individuals indicated that Osgoode Hall and the trees around the property have not been properly addressed and had concerns for the overall impacts on the property.
  - Several individuals expressed concern regarding the impacts of the project on natural environment features, including trees, green space, species, and habitats.

    - Several individuals expressed concern regarding the impacts and proposed mitigation measures related to noise and vibration and had inquiries regarding the proposed noise limits.
    - Several individuals expressed the need for bird safety measures, especially the protection from translucent transit shelters and noise walls.
- Property and Construction Impacts
    - Several individuals requested clarification on which properties would be used for construction and for this information to be shown on a figure.
    - Several individuals expressed overall concerns regarding noise and vibration impacts to their property.
    - Several individuals inquired about the duration of construction for the Project.
- Project Alignment
    - Several individuals suggested the alignment be altered to reduce the impacts to certain properties and/or the community.

Which Draft Environmental Impact Assessment environmental study is most important to you and why?

- Public Engagement Process
    - One individual indicated that the consultation section was most important.
- EIAR Content
    - Several individuals indicated that the noise and vibration study was the most important, especially for the above ground section of the alignment.
    - Two individuals expressed that socio-economic and heritage were most important because it affects the experience of the city.
    - Several individuals indicated all studies were valuable, however there was an emphasis on noise and vibration, natural environment, and socio-economic.
    - Several individuals indicated the Natural Environment Technical Report was the most important because protecting the city's natural resources, natural landcover, and the ecosystems that exist within the Project footprint is of the utmost importance to prevent environmental degradation.
    - Two individuals expressed that each study is important however with particular emphasis on Thorncliffe Park and nearby areas.
- Project Alignment
    - Several individuals indicated public transit routes were most important including extending routes to service more people and communities.

Is there anything we missed? Please let us now if you have any additional thoughts or concerns about the Draft Environmental Impact Assessment.

- Public Engagement Process
  - One individual stated the public feedback is not being taken into consideration, specifically regarding green space and the health of residents.
  - One individual expressed concerns regarding the lack of consultation with the urban Indigenous population of Toronto.
- EIAR Content
  - Three individuals expressed they do not feel the report adequately addressed issues related to the impacts from noise and vibration.
  - One individual expressed that information about post construction was not available to residents.
- Property and Construction Impacts
  - One individual indicated maintaining emergency vehicle response times was not discussed in the report.
  - One individual requested the Leslieville portion of the alignment be built faster due to rising costs of materials and the impacts it would have on the province if the Project was delayed.
  - Several individuals inquired about construction timelines and requested to know what compensation will be offered to property owners affected by construction.
- Project Alignment
  - Two individuals indicated that options to extend the alignment in different directions was not discussed.
  - One individual identified running the Project underground from East Harbour to Gerrard was overlooked.
  - One individual noted that the community of Leslieville and Riverside supports the Project but the community does not support the Project alignment on the elevated rail corridor from the Don River to Gerrard street.

What are your thoughts on the Air Quality study key findings and identified potential impacts and mitigation measures?

- Public Engagement Process
  - One individual stated their appreciation towards the planning and managing of air quality during construction.
- EIAR Content
  - One individual implied that the air quality report did not reflect what they believe to be obvious air quality impacts due to the increase in rail lines.

- Property and Construction Impacts
    - One individual requested a solution to offset greenhouses gases that have been generated from traffic congestion during construction, construction equipment, and vehicles on site.
    - Two individuals stated concerns for air quality near their neighbourhoods, specifically near low rise condo buildings.
    - One individual inquired about exhaust/filtration points along the Ontario Line and the impacts on neighbourhoods from air exhaust after construction.

What are your thoughts on the Archaeological Resources study key findings and identified potential impacts and mitigation measures?

- Public Engagement Process
    - One individual inquired what measures will be taken to include local stakeholders in archaeological research.
    - One individual asked if archaeological discoveries are made during construction, if it would be considered for public display within the Ontario Line stations to commemorate the construction that took place.
    - One individual expressed that a number of concerns were raised from Indigenous Nations but no solutions are being put forward.

What are your thoughts on the Built Heritage Resources and Cultural Heritage Landscape study key findings and identified potential impacts and mitigation measures?

- Public Engagement Process
    - One individual implied the need for increased Heritage Preservation Resources to mitigate the damage that is being done to heritage sites in the City of Toronto.
    - One individual suggested that for any heritage structures that are demolished or partially impacted, preserving its history in the new station would be a way to acknowledge the history and heritage of the sites impacted by the Project.
    - One individual expressed concerns with the lack of communication to the public for the release of the Draft EIAR.
- EIAR Content
    - One individual expressed concerns about the loss of park land at Osgoode Hall.
- Property and Construction Impacts
    - One individual expressed concerns for residential homes between King Street West and Bathurst Street and Tecumseth Street and Niagara Street that are not registered on a historical list but are part of the historical importance of the neighbourhood.
    - One individual was concerned with the number of properties being listed for complete or partial demolition, and concern regarding the built heritage resources and cultural heritage landscapes anticipated to experience direct or indirect impacts.

- Project Alignment
    - One individual expressed support for the Project but requested that the alignment be altered as the alignment is currently impacting numerous historic and heritage buildings.
    - One induvial stated that all concerns related to heritage could have been avoided if the Ontario Line was completely underground.

What are your thoughts on the Natural Environment study key findings and identified potential impacts and mitigation measures?

- Public Engagement Process
    - One individual requested the timeline of when mitigation plans would be shared with the public.
- EIAR Content
    - One individual expressed gratitude for the protection of wildlife.
    - Two individuals identified that there will be additional affects on wildlife once an area is disturbed, and expressed concern for long term environmental impacts on wildlife and habitats.
    - Multiple individuals expressed concern for bird safety and mitigating bird strikes on the Ontario Line.
    - One individual noted that cost effectiveness should not be a criterion when it comes to replacing trees.

What are your thoughts on the Noise & Vibration study key findings and identified potential impacts and mitigation measures?

- EIAR Content
    - One individual expressed that the descriptions in the EIAR were vague and leave room for misinterpretation.
    - Two individuals requested clarification on noise and vibration mitigation measures.
    - One individual requested that the quietness and stability of the area be preserved as it is critical to the quality of living and working in the area.
- Property and Construction Impacts
    - Several individuals inquired how construction noise and vibration will directly affect their property.
    - Several individuals inquired what consequences and compensation is available for damage to property caused by vibrational impacts.
- Project Alignment
    - One individual requested that the Project should consider adding generous buffers when calculating the necessary depth of the underground tunnels to account for any mistakes in calculations that may lead to increased noise and vibration impacts.

What are your thoughts on the Socio-Economic & Land Use Characteristics study key findings and identified potential impacts and mitigation measures?

- Public Engagement Process
  - One individual expressed that they have not received all the information and details regarding which properties will be affected.
- EIAR Content
  - One individual suggested careful planning around land use and prioritization of space to ensure that there is balance between the future volumes of transit users, pedestrians, cyclists, and drivers.
- Property and Construction Impacts
  - One individual indicated the number of businesses that will be affected by construction is astounding and will have a lasting affect on businesses due to the construction.
  - One individual expressed concerns for streetscape in their neighbourhood of King Street and Bathurst Street as the current sidewalks are narrow and previous consultation renderings did not show plans to expand the depth of sidewalks.

What are your thoughts on the Soil and Groundwater study key findings and identified potential impacts and mitigation measures?

- EIAR Content
  - One individual expressed concerns about settlement of buildings aboveground and the release of contaminates and the affects it would have on watercourses.
  - One individual requested proactive planning around identifying existing groundwater infrastructure and well-executed sharing of that information with staff on site.

What are your thoughts on the Traffic & Transportation study key findings and identified potential impacts and mitigation measures?

- Public Engagement Process
  - One individual supported the practices of advance notices being sent to residents to inform them of any disruptions to traffic flow, pedestrians, and cyclists during construction.
- EIAR Content
  - Several individuals expressed concerns for the safety of birds and bird collisions with transit shelters and requested for mitigation plans to be developed to prevent bird fatality.
  - One individual indicated that having numerous construction vehicles accessing the Gerrard Portal site per day will have a negative environmental and economic effect.

- Property and Construction Impacts
  - Two individuals expressed having major intersections and roadways closed for years will cause an increase to side street traffic and parking issues.
- Project Alignment
  - One individual indicated that if the Ontario Line went underground for the 1.5km section near the Gerrard Portal, it would have reduced impact on traffic and residents.

Public correspondence related to the Draft EIAR is provided in **Appendix B5.**

6.4 Engagement with Community Stakeholders and Groups

110 community stakeholders and groups have been engaged between October 18, 2020, and March 9, 2022, excluding Early Works-specific engagement, as listed below. Each of these community stakeholders and groups were notified of the publication of the Draft EIAR via email on February 7, 2022 and were advised to provide feedback no later than March 9, 2022. They were also notified of the publication of the Final EIAR via email on April 8, 2022.

- 311 Toronto;
- 880 Cities;
- Acadia Bookstore;
- Alumnae Theatre Company;
- Amazing Moss Park;
- Boulevard Club;
- Brookfield Properties;
- Budweiser Stage Team;
- Building Roots;
- CafeTO;
- Campbell House Museum;
- Canadian Opera Company;
- Canadian Stage;
- Canadian Securities Institute;
- CityPlace/Fort York BIA;
- Chinatown Business Improvement Area (BIA);
- Corktown Residents and Business Association;
- Court of Appeal;
- Cypriot Community of Toronto;
- Danforth Residents Association;
- Distillery Historic District;
- Downtown Yonge BIA;
- Earthroots;
- East End Transit Alliance;
- East Waterfront Community Association;
- Engaged Communities;
- Exhibition Place;
- Financial District BIA;
- Follower's Mission;
- Fontbonne Ministries;
- Forest Hill Real Estate;
- Fort York National Historic Site;
- Friends of Chinatown;
- Friends of Corktown Common;
- Friends of Moss Park;
- Friends of Regent Park;
- Friends of Ruby;
- Garden District Residents Association;
- Garment District Neighbourhood Association;
- Gooderham & Worts Neighbourhood Association;

- Grange Community Association;
- Greektown on the Danforth BIA;
- Hannah Group and Steiner Group;
- Hi-Rise Community Newspaper;
- Islamic Society of Toronto;
- Kai Wing Tsang;
- Keller Williams;
- Lakeshore East Community Advisory Committee;
- Leaside Business Park Association;
- Leaside Green;
- Leaside Park Terrace;
- Leaside Residents Association;
- Leaside Towers Tenants Association;
- Leslieville BIA;
- Leslieville Historical Society;
- Leslieville Residents Association;
- Liberty Village BIA;
- Liberty Village Residents' Association;
- Loh-Family;
- March of Dimes Canada;
- McGregor Design Group;
- Meals on Wheels East End;
- Metropolitan United Church;
- Minto Properties;
- MLSE;
- Moss Park Arena Board of Management;
- Muslim Association of Canada;
- Niagara Neighbourhood Now OCAD University;
- Office Ombudsman of Ontario;
- Osgoode Hall;
- Pape Area Concerned Citizens;
- Pape Village BIA;
- Parkdale Residents Association;
- Parkdale Village BIA;
- Queen Street West BIA;
- Riverside Residents Association;
- Riverside BIA;
- Salvation Army;
- Saulter Street Brewery;
- Save Jimmie Simpson;
- SaveTPARK;
- Scadding Court;
- St. Felix Centre;
- St. Lawrence Market BIA;
- St. Lawrence Neighbourhood Association;
- St. Michael's Hospital;
- Superior Court of Justice;
- Tabule on Queen Street East;
- Tenants of 2 Thorncliffe Park;
- The 519;
- The Bentway;
- The Distillery District;
- The Friends of Fort York;
- The Neighbourhood Organization;
- The Potter's Studio;
- Toronto Downtown West BIA;
- Toronto Eaton Centre;
- Toronto Entertainment District Residents Association;
- Toronto Housing;
- Toronto Public Library;
- Unity Health Toronto;
- Waterfront BIA;
- Wellington Place Neighbourhood Association;
- West Don Lands Committee;
- West Queen West BIA;
- Windmill Line co-op;
- WoodGreen Community Services;
- XYZ Storage; and
- YMCA.

Discussion with these community stakeholders and groups focused on Project updates, potential environmental impacts and mitigation measures, potential impacts to business operations, property impacts, and stakeholder group-specific concerns. Meeting summaries and correspondence records between October 18, 2020 and March 9, 2022, are provided in **Appendix B6**.

6.5 Engagement with Technical Stakeholders

Technical stakeholders engaged throughout the Project to-date, including federal, provincial, and municipal agencies, conservation authorities and other technical stakeholders are listed below.

Federal Agencies

- Fisheries and Oceans Canada; and
- Transport Canada.

Provincial Agencies

- Chief Justice of the Superior Court of Justice;
- Infrastructure Ontario;
- Ministry of Economic Development, Job Creation, and Trade (MEDJCT);
- Ministry of Education (MOE);
- Ministry of the Environment, Conservation and Parks (MECP);
- Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI);
- Ministry of Municipal Affairs and Housing (MMAH);
- Ministry of Natural Resources and Forestry (MNRF);
- Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF);
- Minister of the Solicitor General;
- Ministry of Transportation (MTO);
- Ontario Heritage Trust; and
- Ontario Provincial Police.

Municipal Agencies

- City of Toronto;
- Toronto Catholic District School Board; and
- Toronto District School Board.

Conservation Authorities

- Toronto and Region Conservation Authority (TRCA).

Other Technical Stakeholders

- CN Rail;
- Exhibition Place;
- George Brown College;
- Hydro One Networks Inc.;
- La Cite;
- Law Society of Ontario; and
- Ontario College of Art & Design University.

The following technical stakeholders were provided with the opportunity to review a draft of the EIAR technical reports in August 2021:

- City of Toronto;
- MECP;
- MHSTCI; and
- TRCA.

The technical reports were revised based on comments received from City of Toronto, MECP and TRCA. No comments were received from MHSTCI during this round.

In October 2021, a letter was sent to all technical stakeholders to gauge interest in reviewing the initial draft of the EIAR. Based on the responses received, the initial draft of the EIAR and revised technical reports were circulated to the following technical stakeholders in November 2021 for review:

- City of Toronto;
- MECP;
- TRCA;
- Hydro One Networks Inc.;
- Infrastructure Ontario;
- Toronto District School Board;
- MTO;
- NDMNRF;
- MHSTCI;
- Law Society of Ontario; and

- Exhibition Place.

The EIAR and technical reports have been updated based on comments received from these technical stakeholders.

All technical stakeholders listed above received a copy of the Notice of Publication of the Draft EIAR, and Notice of Publication of Final EIAR with a link to review the report via email on February 7, 2022 and April 8, 2022, respectively.

Metrolinx will continue to engage with technical stakeholders as Project planning progresses.

Correspondence records with technical stakeholders, excluding Early Works-specific correspondence, are provided in **Appendix B7** of this Report.

6.6 Engagement with Elected Officials

Elected Officials who were informed of the release of the Draft EIAR and invited to respond or be briefed through March 9, 2022, are listed below.

- Councillor Brad Bradford;
- Councillor Joe Cressy;
- Councillor Paula Fletcher;
- Councillor Jennifer McKelvie;
- Councillor Denzil Minnan-Wong;
- Councillor Jaye Robinson;
- Councillor Kristyn Wong-Tam;
- Member of Parliament Julie Dabrusin;
- Member of Parliament Marci Ien;
- Member of Parliament Robert Oliphant;
- Member of Parliament Yasmin Ratansi (former);
- Member of Parliament Adam Vaughan (former);
- Member of Provincial Parliament Stephen Blais;
- Member of Provincial Parliament Michael Coteau (former);
- Member of Provincial Parliament Chris Glover;
- Member of Provincial Parliament Suze Morrison;
- Member of Provincial Parliament Peter Tabuns; and
- Member of Provincial Parliament Kathleen Wynne.

Meetings with Elected Officials took place between October 18, 2020, and March 9, 2022, and are summarized in **Table 6-3** below.

Table 6-3. Summary of Meetings for Elected Officials

Date	Elected Official
October 26, 2020	Councillor Joe Cressy staff
October 29, 2020	Councillor Kristyn Wong-Tam
December 4, 2020	Councillor Joe Cressy staff
January 25, 2021	Councillor Jaye Robinson
March 1, 2021	Councillor Kristyn Wong-Tam

Date	Elected Official
March 12, 2021	MP Rob Oliphant
March 15, 2021	MP Julie Dabrusin
April 7, 2021	Councillor Robinson staff
April 8, 2021	MPP Kathleen Wynne
April 9, 2021	MP Rob Oliphant
April 13, 2021	MP Adam Vaughan
April 15, 2021	Councillor Jaye Robinson
April 15, 2021	Councillor Kristyn Wong-Tam
April 28, 2021	Councillor Jaye Robinson
May 3, 2021	MPP Kathleen Wynne and Councillor Jaye Robinson
May 7, 2021	MP Rob Oliphant and MPP Kathleen Wynne
May 10, 2021	MPP Kathleen Wynne and Councillor Jaye Robinson
May 10, 2021	MPP Kathleen Wynne
May 31, 2021	Councillor Kristyn Wong-Tam
June 7, 2021	MP Adam Vaughan, MP Marci Ien, MP Julie Dabrusin, MP Rob Oliphant
June 7, 2021	MPP Peter Tabuns
June 7, 2021	Councillor Kristyn Wong-Tam
June 7, 2021	MPP Kathleen Wynne
June 16, 2021	MP Julie Dabrusin
June 17, 2021	Councillor Kristyn Wong-Tam
June 17, 2021	Councillor Joe Cressy
June 17, 2021	MPP Chris Glover
June 21, 2021	Councillor Kristyn Wong-Tam
June 24, 2021	MP Julie Dabrusin
July 7, 2021	MP Julie Dabrusin
July 12, 2021	Councillor Jaye Robinson

Date	Elected Official
July 12, 2021	Councillor Kristyn Wong-Tam
August 3, 2021	Councillor Kristyn Wong-Tam
August 3, 2021	MP Adam Vaughan
August 5, 2021	Councillor Kristyn Wong-Tam
August 16, 2021	Councillor Joe Cressy staff
August 17, 2021	Councillor Kristyn Wong-Tam
August 18, 2021	MPP Chris Glover and MPP Suze Morrison
August 23, 2021	Councillor Kristyn Wong-Tam
September 8, 2021	MP Rob Oliphant staff
September 9, 2021	Councillor Joe Robinson
September 9, 2021	Councillor Jennifer McKelvie
September 13, 2021	Councillor Kristyn Wong-Tam
September 24, 2021	MPP Stephan Blais
October 10, 2021	Councillor Kristyn Wong-Tam
October 15, 2021	MPP Kathleen Wynne
October 25, 2021	Councillor Kristyn Wong-Tam
January 7, 2022	MP Julie Dabrusin
February 9, 2022	MP Rob Oliphant, MPP Kathleen Wynne and Councillor Robinson
February 14, 2022	Councillor Wong-Tam

These meetings allowed Metrolinx to update Elected Officials on the Project, including details regarding the Project alignment and current public engagement activities. These meetings focused on Project updates, procurement, and timelines. Meeting summaries with Elected Officials between October 18, 2020 and March 9, 2022, are provided in **Appendix B8**.

A copy of the Notice of Publication of Draft EIAR and Notice of Publication of Final EIAR, with a link to review the Report, was provided to Elected Officials via email on February 7, 2022 and April 8, 2022 respectively.

Metrolinx will continue to engage with Elected Officials as planning progresses. Correspondence records with Elected Officials between October 18, 2020, and March 9, 2022, excluding Early Works-specific correspondence, are provided in **Appendix B8** of this Report.

6.7 Issues Resolution Process and Final EIAR

The Draft EIAR was made available to Indigenous Nations, the public, community stakeholder groups, technical stakeholders and Elected Officials, for review from February 7, 2022 to March 9, 2022. During this time, Indigenous Nations and interested persons could submit written comments to Metrolinx. In accordance with Section 17 of the Ontario Line Regulation, Metrolinx established an issues resolution process to attempt to resolve any concerns raised by Indigenous Nations and interested persons. The issues resolution process involved review of comments, and engagement of subject matter experts to support the development of responses to comments, as required. Based on comments received, no further studies beyond what Metrolinx has already committed to complete have been identified as required.

In accordance with Section 18(1)(b) of Ontario Regulation 341/20: Ontario Line Project, **Section 6.7.1** of this Report includes:

- A description of the issues resolution process in respect of any concerns raised by Indigenous Nations and interested persons;
- A description of the concerns raised by Indigenous Nations and interested persons in the issues resolution process and of the outcome of the process, including what, if anything, Metrolinx did or will do in respect of the concerns raised; and
- A description of any impacts to the timeline for implementation of the Ontario Line Project.

As the Draft EIAR has been updated, Metrolinx has issued a Notice of Publication of Final EIAR and posted the Report to the Engagement webpage (Project website) (www.metrolinx.com/ontarioline) within 65 days of the issuance of the Notice of Publication of Draft EIAR.

The Minister of the Environment, Conservation and Parks may issue a notice to Metrolinx imposing conditions related to the early works within 35 days after receipt of the Notice of Publication of Final Environmental Impact Assessment Report. The Minister may also choose to inform Metrolinx that no notice will be issued.

In accordance with Ontario Regulation 341/20: Ontario Line Project, the Minister may issue a notice only if:

- The Minister is of the opinion that the way in which Metrolinx addressed a concern raised during the issues resolution process would cause unreasonable delay to the implementation of the Project, and the conditions in the Minister's notice modify the way in which the concern is addressed in the Final EIAR without causing reasonable delay to the implementation of the Project; or
- The Minister is of the opinion that the early works may have an adverse impact on the existing Aboriginal and Treaty rights of Aboriginal Peoples of Canada, and the conditions may prevent, mitigate or remedy the adverse impact.

The implementation of the Project may proceed if no notice is received within the 35-day period, the Minister informs Metrolinx that no notice will be issued, or if the requirements of the Minister's notice have been satisfied.

6.7.1 Description of Metrolinx Response to Concerns Expressed by Indigenous Nations and Interested Persons

In accordance with Section 18(1)(b) of the Ontario Regulation 341/20: Ontario Line Project, the following section provides a description of what Metrolinx did to respond to concerns expressed by Indigenous Nations and interested persons, including government review agencies and other technical stakeholders.

Prior to publication of the Draft EIAR, Indigenous Nations, government review agencies and other technical stakeholders were provided with the opportunity to review the draft report. During this time, Metrolinx received comments which were addressed throughout the report prior to the Draft EIAR publication, and documented in **Appendix B**. During the 30-day public review period for the Draft EIAR (February 7, 2022 to March 9, 2022), Metrolinx received 31 Indigenous Nations comments, 134 public comments, 305 community stakeholders and groups comments and 344 technical stakeholders comments.

A summary of key themes of comments, questions and concerns received during the review period, what Metrolinx has done in response to the feedback received, and any potential timeline implications is provided in **Table 6-4**. In response to feedback and concerns received by interested persons, Metrolinx revised the Draft EIAR as outlined in **Table 6-4** and captured in this Final EIAR. Responses to comments received did not result in impacts to the timeline for implementation of the Project.

Table 6-4. Summary of Key Themes of Feedback Received, Metrolinx Actions in Response to the Feedback and Timeline Implications

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
Mississaugas of Scugog Island First Nation (MSIFN)	Engagement Process	• Request to be provided with briefing on habitat compensation, tree protection, revegetation, and monitoring plans.	• Commitment that Metrolinx will contact MSIFN to schedule a time to provide a briefing on habitat compensation, tree protection, revegetation, and monitoring plans.	None
		• Request to be informed and given the opportunity to participate in turtle surveys.	• Commitment that Metrolinx will invite MSIFN to participate in activities associated with turtle and other wildlife surveys.	
		• Requests to be included on wetland staking exercises.	• Commitment that Metrolinx will invite Indigenous Nations to participate in wetland staking exercises.	
Curve Lake First Nation	EIAR Content	• Comment regarding the order of Section 6 and Appendix B.	• Updates were made to **Appendix B** and **Section 6** of the Final EIAR to address feedback received from Curve Lake First Nation.	None
		• Inquiries regarding why Queensnake was not mentioned in the EIAR.	• Confirmation that Queensnake is identified as a historical record in the Natural Environment Technical Report, however it was not identified as a species of concern by MECP	
		• Inquiries regarding bat maternity roost surveys.	• Confirmation that where SAR bat habitat is identified, tree removal will be avoided during the active season and prohibited during the maternity roosting period.	
		• Inquiries regarding unevaluated wetlands and amphibian habitat.	• Confirmation that all unevaluated wetlands will be assumed to be provincially significant for the purpose of assessing impacts. Confirmation that the small wetlands near the Ontario Science Centre do not have suitable habitat for amphibian breeding.	
		• Request for information regarding wildlife habitat connectivity assessments.	• Confirmation that Metrolinx is committed to exploring opportunities as part of the design process to enhance the natural environment and provide habitat connection, to the extent possible.	
Public	Public Engagement Process	• Inquiries one how the public and stakeholders can be invovled during archaeological research.	• Confirmation that involvement of stakeholders during archaeological assessments will be dependent on archaeological finds recovered and that Metrolinx is committed to sharing notable results with the public.	None
		• Inquiries on how mitigation plans are being shared with community stakeholders and the public.	• Confirmation that construction plans, including planned mitigation, will be shared at Construction Liaison Committee meetings, and that Metrolinx will inform community residents on how they can provide comments or concerns during construction, including at Construction Liaison Committee meetings.	
Public	EIAR Content	• Inquiries regarding the number of trees being removed along the alignment and tree protection plans.	• Confirmation that the number of trees to be removed will be determined as planning progresses, that Metrolinx will reduce the number of tree removals to the extent possible, and that retained trees will be protected throughout construction.	None
		• Inquiries on basement noise and vibration assessment.	• Confirmation that the Operational Noise Assessment included assessments for basements, that identified mitigation solutions like upgraded rail vibration isolation systems account for below-grade living spaces, and sharing of the Ontario Line Immersive Sound Demonstration, which includes a presentation of future noise levels in a below-grade living space above the future subway.	
		• Inquiries regarding air quality impacts during operation.	• Confirmation that the Ontario Line is an electric subway and no significant train operation-related air quality impacts are anticipated during operations.	

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
		• Concerns regarding impacts to cultural heritage resources.	• Confirmation that avoidance of cultural heritage resources was the preferred option, however where impacts cannot be avoided, mitigation measures such as partial retention, documentation and salvage, and sensitive and compatible design will be implemented.	
		• Inquiries regarding mitigation measures for natural environment resources.	• Confirmation that the EIAR documents mitigation measures and monitoring activities to reduce impacts on the natural environment, and that Metrolinx will continue to work with the City of Toronto and TRCA as planning and design progress.	
		• Concerns regarding closure of major intersections and roadways and traffic mitigation plans.	• Confirmation that a Traffic Management Plan will be developed to confirm potential impacts to traffic and transportation and appropriate mitigation measures.	
		• Concerns regarding the potential for released contaminants and contaminated water.	• Confirmation that a Contamination Management Plan and Soil and Excavated Materials Management Plan will be developed prior to construction.	
Public	Property and Construction Impacts	• Inquiries about bus and TTC impacts during and after construction.	• Confirmation of the proven mitigation measures to address bus and TTC impacts during and after construction that will be used to reduce impacts to the extent possible as detailed in the EIAR and supporting documents.	None
		• Concerns regarding noise and vibration impacts during construction.	• Confirmation that proven mitigation measures will be used to reduce noise and vibration impacts during construction to the extent possible as detailed in the EIAR and supporting studies.	
		• Inquiries about traffic, pedestrian and cyclist impacts and alternative parking during construction.	• Confirmation of mitigation measures that will be implemented to reduce impacts to traffic and cyclists to the extent possible as detailed in the EIAR and supporting studies.	
		• Concerns about the duration of underground construction and use of TBM on Pape Avenue.	• Confirmation that TBM impacts to property owners for Pape Avenue will be temporary, lasting up to a week and will be monitored for vibration to inform adaptive management, as required.	
		• Concerns for air quality impacts during construction.	• Confirmation that construction air quality emissions will be assessed and monitored on a site-specific basis and mitigation measures will be implemented during the duration of construction, as detailed in the EIAR and supporting studies.	
		• Inquiries related to implementing bird safe design.	• Confirmation that Metrolinx will use bird-friendly designs, including glass that is designed to meet the City of Toronto Bird Friendly Development guidelines.	
		• Inquiries on location of property acquisitions.	• Confirmation that the EIAR summarizes preliminary property impacts in **Table 5-6**, and that property requirement confirmation is underway and more information will be shared as Project planning progresses.	
		• Inquiries on impacts to Osgoode Hall.	• Confirmation that Metrolinx will continue to consult City of Toronto, Law Society of Ontario, and other stakeholders regarding mitigation of impacts to Osgoode Hall.	
		• Inquiries regarding construction timelines.	• Confirmation that Metrolinx will provide additional information about construction schedules once available.	

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
Public	Project Alignment	• Inquiries about the maintenance and storage facility location and Ontario Line alignment impact on businesses and organizations in Thorncliffe Park.	• Confirmation that Metrolinx will continue to engage with impacted businesses and organizations and that the maintenance and storage facility will provide up to 300 jobs.	None
		• Inquiries about bridge location and impacts on E.T. Seton Park.	• Confirmation that Metrolinx is working with the City of Toronto and TRCA to reduce the impact of the bridge at E.T. Seton Park. Metrolinx will work with the public and agencies to discuss the potential to enhance the areas underneath the bridge structure.	
		• Inquiries about opportunities for the alignment to be completely underground.	• Confirmation that Metrolinx considered numerous alignment options before proceeding with the current alignment as the defined Ontario Line Project to be assessed in this EIAR.	
		• Inquiries about the Project description and the crossover located north of the Science Centre.	• Confirmation that Metrolinx updated the EIAR, and technical reports based on the comments. Details on the crossovers located north of the Science Centre and north of Flemingdon Park Station were included in the Project description (section 3 of the EIAR), Project footprint figure (ES-19) and noise and vibration report.	
Community Groups and Stakeholders	Public Engagement Process	• Inquiries regarding O. Reg 341/20 and the consultation process.	• Confirmation that the Ontario Line Project is assessed in accordance with O. Reg 341/20 and provision of information regarding the consultation process that is being followed for the Project.	None
		• Inquiry regarding the extent of consultation with Architectural Conservancy of Ontario by Metrolinx.	• Confirmation that Metrolinx will engage and consult with Architectural Conservancy of Ontario as project planning and design progress.	
Community Groups and Stakeholders	EIAR Content	• Inquiries regarding the definition of representative receptors.	• Confirmation that a representative receptor is the receptor most exposed to Project noise compared to others in a specific area.	None
		• Inquiries regarding the Noise Management Plan and noise mitigation measures.	• Confirmation that the Construction Noise and Vibration Management Plan will be developed prior to construction commencement to identify the most appropriate mitigation measures to be implemented for specific construction activities and locations.	
		• Inquiries regarding noise modelling assumptions of background levels.	• Confirmation that assumptions are made conservatively and are not overestimating background noise levels.	
		• Inquiries regarding the pass-by sound level in residential areas.	• Confirmation that the 80 dBA criteria was adopted from the TTC-MOE Protocol and that pass-by noise levels at Minton Place are expected to be 64 dBA.	
		• Inquiries regarding vibration criteria used and mitigation measures.	• Confirmation that the FTA guidelines were used for ground-borne vibration criteria. Mitigation measures will be implemented as detailed in the EIAR and supporting documents.	
		• Inquiries on how heritage resources are identified.	• Confirmation that identification of heritage resources was based on O. Reg. 9/06, 10/6, City of Toronto Heritage Register, Ontario Heritage Trust Plaque Database, the Ontario Heritage Trust Places of Worship Inventory, The Canadian Register of Historic Places, the Directory of Federal Heritage Designations, National Historic Sites maintained by Parks Canada and direct consultation to determine the presence of Ontario Heritage Trust easements.	

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
		• Inquiries on the soil and groundwater conditions in the Minton Place Portal area.	• Confirmation that soil and groundwater conditions were identified in Table 5-3 of the EIAR, and that soil and groundwater will both be carefully managed in accordance with regulatory requirements.	
		• Inquiries regarding mitigation measures for vibration impacts on basements.	• Confirmation that building foundations and basement apartments were considered in the vibration impact analysis and mitigation measures will be implemented as required.	
		• Inquiries regarding the archaeological assessment process and reporting.	• Confirmation that the assessment was completed using the 2011 *Standards and Guidelines for Consultant Archaeologists*, and that all completed reports are available on Metrolinx's websites or through request from MHSTCI.	
		• Inquiries regarding the natural environment assessment process.	• Confirmation that the natural environment assessment process examined designated features and policy areas, ELC, fish ands fish habitat, significant wildlife habitat with both background review and field investigations. The criteria for the assessment of impacts is outline in Table 5-1.	
		• Inquiries regarding the Metrolinx Vegetation Guideline.	• Confirmation that the Metrolinx Vegetation Guideline is a living document that will be updated from time to time and was prepared in collaboration with subject matter experts and technical advisors.	
		• Inquiries regarding impacts to migratory birds.	• Confirmation that onsite inspection for migratory birds will be undertaken to confirm implementation of mitigation measures and identify any corrective actions including avoiding tree removal during migratory bird breeding season, as required.	
		• Request for an Arborist Report to be completed.	• Confirmation that an Arborist Report will be prepared to support the design process and identify which trees will be removed, injured and protected in support of confirming tree compensation plantings that will be implemented in accordance with the Metrolinx Vegetation Guideline.	
		• Inquiries regarding removal of graffiti and vandalism during construction and operations.	• Confirmation that in regard to graffiti management, Metrolinx is taking lessons learned from previous installations and have developed numerous strategies to deter and remove graffiti from infrastructure. Metrolinx will use a mix of graffiti deterrence strategies, such as graffiti-resistant coatings, landscaping and increased lighting.	
		• Inquiries regarding operational ambient air quality impacts at stations.	• Confirmation that operational ambient air quality impacts are not anticipated at stations as trains will be electric.	
		• Inquiries regarding air quality impacts during construction and operations.	• Confirmation that mitigation measures for construction and operations are detailed in the EIAR and supporting documents and that Metrolinx is committed to the development of a Construction Air Quality Management Plan and an Operations Air Quality Management Plan.	
		• Inquiries regarding the duration of impacts to traffic and transportation.	• Confirmation that the duration of impacts to traffic and transportation will vary by location and construction phase, but will be minimized to the extent possible, and safety travel routes will be provided for vehicular traffic, cyclists and pedestrians.	

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
Community Groups and Stakeholders	Property and Construction Impacts	• Inquiries on the construction impacts in the Lower Don Parklands.	• Confirmation that Metrolinx provided information regarding construction impacts in the Lower Don Parklands and will restore parklands once construction is complete.	None
		• Inquiries regarding noise impacts and mitigation near Minton Place portal area and Cosburn Station.	• Confirmation that Metrolinx provided information in Figure E-1-16 of the Noise and Vibration Impact Assessment Report for these areas and is committed to noise mitigation measures as detailed in the EIAR and supporting documents. Reference to the Immersive Sound Demonstration at Minton place.	
		• Inquiries on the construction impacts to natural environment and mitigation measures, including tree replacement.	• Confirmation that Metrolinx will implement mitigation measures to reduce construction impacts on the natural environment, including planting compensation trees in accordance with the Metrolinx Vegetation Guideline.	
		• Inquiries regarding construction noise impacts on nearby homes in the evening.	• Confirmation that construction noise mitigation for residents for the evening hours is identified in Section 4.5.3 of the Noise and Vibration Impact Assessment Report and includes hoarding to contain noise, equipment silencers/enclosures. Confirmation that construction schedules will be coordinated to reduce potential impacts, which will be mitigated and monitored.	
		• Inquiries if construction plans meet the City of Toronto construction regulation.	• Confirmation that Metrolinx is exempt from City of Toronto noise by-laws but will sequence construction activities and implement mitigation measures to reduce potential impacts caused by construction.	
		• Inquiries regarding connectivity during construction.	• Confirmation that Metrolinx will provide well connected, clearly delineated, and appropriately signed walkways and cycling route options, with clearly marked detours where required.	
Community Groups and Stakeholders	Project Alignment	• Inquiries regarding the alternative routes that were considered.	• Confirmation that the Ontario Line Initial Business Case presents the alternative routes that were considered before the Ontario Line Project was defined for the purpose of this assessment.	None
Technical Stakeholders	Public Engagement Process	• Inquiry for Metrolinx project leads to provide an educational component to schools where possible.	• Confirmation that Metrolinx will consider options for learning opportunities in collaboration with TLC (Toronto Lands Corporation)/TDSB (Toronto District School Board) related to the Project.	None
		• Inquiry for Metrolinx to hold a site meeting with schools that will be severely impacted.	• Confirmation that Metrolinx acknowledges the request of holding a site visit and is committed to working with TDSB to reduce impacts related to the schools.	
		• Inquiry regarding Law Society's comments being available in the EIAR.	• Confirmation that the Law Society's comments are included in Appendix B.	
		• Inquiries regarding whether additional archaeological assessments will be made available to stakeholders for review.	• Confirmation that any additional archaeological assessment reports will be made available to stakeholders.	
		• Inquiry regarding Law Society's opportunity to review material.	• Confirmation that Metrolinx will share reports with the Law Society.	

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
Technical Stakeholders	EIAR Content	• Request to include a commitment in the EIAR that the TRCA will be consulted in early planning stages and detailed design.	• Updates were made to **Table 5-2** to add a commitment in the EIAR for continued engagement with the TRCA.	None
		• Inquiries regarding heritage resources located near schools.	• Confirmation that there are no direct or indirect impacts anticipated for any heritage resources located near schools.	
		• Concerns regarding the potential relocation of existing bus stops that services schools.	• Confirmation that Metrolinx is committed to working with the TDSB to address concerns regarding bus stop relocations.	
		• Concerns regarding environmental impacts to the Don Valley Corridor in the Thorncliffe Park Area.	• Confirmation that Metrolinx is committed to working with TRCA as planning and design progress and that the EIAR includes mitigation measures to reduce impacts to sensitive lands associated with the Don Valley Corridor.	
		• Concerns regarding potential drainage and water flow that may impact outdoor school sport fields.	• Confirmation that a Stormwater Management Plan will be prepared to direct and manage drainage away from developed lands, recreational fields, and sensitive features.	
		• Inquiry regarding further assessment of impacts to Peregrine Falcons.	• Metrolinx confirmed there are numerous green spaces within 3 km of the Peregrine Falcon nest sites, therefore construction is not anticipated to impact Peregrine Falcon foraging habitat as they have multiple locations to hunt.	
		• Inquiry regard Osgoode Hall's Provincial Heritage Property of Provincial Significance status.	• Confirmation that Osgoode Hall's recognition as a Provincial Heritage Property of Provincial Significance is noted in the HDDR.	
		• Inquiry regarding soil management at Osgoode Hall.	• Confirmation that soil will be managed based on regulatory requirements during construction activities which include site preparation, site servicing, excavating/grading, and structure construction.	
		• Inquiries regarding the draft Stage 1 Archaeological Assessment and mitigation measures.	• Confirmation that Metrolinx is committed to implementing the mitigation measures provided in the Stage 1 Archaeological Assessment.	
		• Inquiries regarding the socio-economic impacts on residential properties.	• Confirmation that the EIAR includes an assessment of impacts on residential properties and identifies mitigation approaches to address the potential for impacts.	
		• Inquiry regarding impacts to parkland.	• Confirmation that details regarding impacts to parkland are described in Section 8.3.2.1, and that Metrolinx will continue to work with stakeholders during the next stage of design.	
		• Inquiries regarding event crowds and mitigation.	• Confirmation that Metrolinx will coordinate mitigation measures to address event crowds with Exhibition Place.	
		• Inquiry why there is no commitment that Metrolinx will undertake heritage condition surveys.	• Confirmation Metrolinx will follow the recommended mitigation measures for impacts to heritage resources, including documentation, conservation of property, and completion of pre and post construction surveys for properties within ZOI if access permission is provided.	

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Timeline Implications
Technical Stakeholders	Property and Construction Impacts	• Concerns regarding student safety during construction.	• Confirmation that safety is a top priority for Metrolinx, and that Metrolinx is committed to working with the TDSB to mitigate any safety concerns.	None
		• Inquiry regarding the existing sewer underneath Pape Avenue Junior Public School being relocated.	• Confirmation that Metrolinx is committed to further engagement with TLC and TDSB as design advances regarding the existing sewer underneath Pape Avenue Junior Public School.	
		• Inquiry regarding the increased traffic congestion around schools and impact on commute for students and TDSB employees.	• Confirmation that Metrolinx is committed to mitigating traffic impacts and that additional details regarding these impacts and mitigation measures will be communicated to TDSB once plans have advanced.	
		• Concerns regarding the use of heavy machinery and construction methods near schools.	• Confirmation that mitigation measures will be implemented to reduce the effects of construction near schools.	
		• Inquiry regarding the protection of trees and associated streetscape at Osgoode Hall.	• Confirmation that an Arborist Report and associated Tree Management Plan will be developed to limit the need for tree removals and will include the required tree protection and Landscape Management Plan at Osgoode.	
		• Inquiries regarding vibration monitoring and mitigation measures at Osgoode Hall building and the heritage fence.	• Confirmation that vibration monitoring will be undertaken throughout construction to inform adaptive management, as required, and that temporary removal of segments of the fence will be required during construction.	
		• Inquiries regarding response times for emergency services during construction.	• Confirmation that Metrolinx will work with the City of Toronto and emergency services to mitigate construction-related impacts on response times.	
		• Inquiries regarding parking impacts and mitigation during construction.	• Confirmation that parking impacts and mitigation are still being reviewed and confirmed with the City of Toronto.	
		• Concerns regarding noise and vibration impacts to schools located near the alignment.	• Confirmation that proven mitigation measures will be used to reduce noise and vibration impacts during construction and operation.	
		• Concerns regarding the impact on heritage sites along the alignment, particularly along Queen Street.	• Confirmation that Metrolinx is committed to mitigation measures to reduce potential impacts to heritage resources along Queen Street.	

6.8 Commitment to Future Consultation

Metrolinx is committed to continuing stakeholder and public engagement and consultation beyond the regulatory requirements set out in the Ontario Line Regulation. Specifically, Metrolinx will:

- Maintain the Project Engagement Webpage (www.metrolinx.com/ontarioline) 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 Indigenous Nations, members of the public, and local stakeholders with respect to potential impacts and mitigation throughout planning and construction, as appropriate.

7 Permits and Approvals

The following sections provide a description of the federal, provincial, conservation authority and/or municipal permits and approvals that may be required for the Project. Permit and approval requirements will be confirmed as planning progresses.

7.1 Federal

7.1.1 Canadian Navigable Waters Act, 2019

The *Canadian Navigable Waters Act*, 2019 includes a schedule of navigable waters that require regulatory approval for works that may interfere with navigation. The Don River is not listed within the schedule as a navigable waterway; however, Lake Ontario is listed as a navigable waterway that includes the mouths of multiple waterways connecting to Lake Ontario. It is not anticipated that the Project will require an approval under the *Canadian Navigable Waters Act*, 2019; however, permanent and temporary crossings of the Don River should be reviewed by Transport Canada prior to construction.

7.1.2 Fisheries Act, 1985

Temporary in-water works are required in the Lower Don River and permanent alterations to Walmsley Brook are required, and as such a Fisheries and Oceans Canada Request for Review under the *Fisheries Act*, 1985 will be submitted. Fisheries and Oceans Canada's review will confirm permitting expectations and whether a Fisheries Act Authorization or Letter of Advice may be required in the event that the work is anticipated to result in death of fish and/or harmful alteration, disruption, or destruction of fish habitat.

7.1.3 Impact Assessment Act, 2019

The Physical Activities Regulations under the *Impact Assessment Act* identify the physical activities (i.e., types of projects) that constitute "designated projects" that may require a Federal Impact Assessment. A review of the Regulations was carried out with respect to the Project. Based on this review, the Project does not constitute a designated project.

A request was received on January 19, 2021, by the Minister of the Environment and Climate Change to designate the Project under subsection 9(1) of the *Impact Assessment Act*. The Impact Assessment Agency of Canada, in its analysis to support the Minister, considered information provided by Metrolinx, relevant federal authorities, provincial ministries, the City of Toronto, potentially affected Indigenous Nations, concerns expressed in the requester's letters and other public concerns known to the Agency. On April 16, 2021, the Minister decided that the Project does not warrant designation pursuant to subsection 9(1) of the *Impact Assessment Act*.

The *Impact Assessment Act* also outlines requirements for determination of the likelihood of significant environmental effects for a physical activity that is carried out on federal lands, or outside of Canada, in relation to a physical work and that is not a designated project (subsection 82). All of the proposed work for the Project will be carried out on lands currently owned or that

will be purchased by Metrolinx, with the exception of an easement being sought for the tunnel under the Moss Park Armoury. Prior to granting of easement rights, an Environmental Effects Evaluation will be completed to determine the potential environmental effects of the tunnel on the Armoury.

7.2 Provincial

7.2.1 Environmental Protection Act, 1990

As prescribed under O. Reg. 63/16, water taking for construction site dewatering in excess of 50,000 litres/day and under 400,000 litres/day is subject to registration through the Environmental Activity and Sector Registry. Dewatering over 400,000 litres/day is discussed in **Section 7.2.4**.

Environmental Compliance Approval(s) may be required from the MECP for sewage works, and air and noise emissions, related to equipment held by contractors, owners, and operators of that equipment in advance of construction, as required.

As part of On-site and Excess Soil Management, in accordance with O. Reg. 409/19 and MECP Rules for Soil Management and Excess Soil Quality Standards (2020), approvals and/or permits may be required from the MECP to address excess soil management. The applicability of these requirements will be determined pending the detailed design.

In accordance with O. Reg. 153/04, Records of Site Condition may be filed with MECP. In addition, Certificates of Property Use may be issued by the MECP in accordance with O. Reg. 153/04.

Excess soils from excavation requiring offsite disposal at a licensed waste facility must be tested in accordance with O. Reg. 347/04 for waste classification.

7.2.2 Endangered Species Act, 2007

Metrolinx will comply with the conditions of the Permit CR-D-002-19 issued on August 7, 2020, under Section 17 (1) in accordance with clause 17(2)(d) of the ESA for SAR that may be affected by the Project including the following species:

- Bank Swallow
- Barn Swallow
- Blanding's Turtle
- Butternut
- Chimney Swift
- Little Brown Myotis
- Northern Myotis
- Small-footed Myotis
- Tri-colour Bat

7.2.3 Ontario Heritage Act, 1990

Upon confirmation that the Stage 1, 2, 3, and/or 4 (as applicable) archaeological assessments have met fieldwork and licensing requirements, the MHSTCI will issue a letter confirming their entry into the Ontario Public Register of Archaeological Reports. 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
- All archaeological sites identified by the assessment are either of no further cultural heritage value or interest (as per Section 48(3) of the OHA) or that mitigation of impacts has been accomplished through an excavation or avoidance and protection strategy.

As a prescribed public body under O. Reg. 157/10, Metrolinx is subject to the Standards and Guidelines for Conservation of Provincial Heritage Properties issued under the OHA. Minister's Consent will be obtained where a heritage attribute of a Provincial Heritage Property of Provincial Significance will be demolished, removed, or portions of the land transferred out of provincial control, as required.

Metrolinx worked closely with the MHSTCI, Infrastructure Ontario, and MTO to prepare an application for MHSTCI Minister's Consent for First Parliament, Osgoode Hall, and the University Avenue Streetscape and South African War Memorial. Consent from the Minister for proposed impacts was received for the specified activities, with conditions, on March 18, 2021. Further investigations and discussions are underway to determine if the Project will result in removal or demolition of any buildings or structures necessitating Minister's Consent at Fort York and the Ontario Science Centre. Should direct impacts be identified, Metrolinx will seek Minister's Consent.

7.2.4 Ontario Water Resources Act, 1990

As prescribed under O. Reg. 63/16, water taking for construction or for highways and transit projects may fall within low-risk short-term water taking activities if they meet the following criteria:

- Surface water takings that are more than 50,000 L/day and are for highway projects and/or transit projects;
- Construction site dewatering that takes more than 50,000 L/day and less than or equal to 400,000 L/day of groundwater, where the daily taking limits are applicable to:
- Each area of influence in the construction site if the area of influences does not overlap with each other; and
- The combined area of influence in the construction site if the area of influences overlaps with each other.

The above water taking limits are subject to registration through the Environmental Activity and Sector Registry.

Approvals for the discharge of pumped water may also be required and could be a combination of Municipal Discharge Permits (City of Toronto Private Water Discharge Permit/Agreement) and/or MECP Environmental Compliance Approvals in accordance with Section 53 of the *Ontario Water Resources Act*. Any discharge of water would be subject to the terms and conditions of required permits and approvals based on the expected site conditions. Permitting requirements shall be confirmed during detailed design, when specific details such as construction timing and methods are known.

7.3 Conservation Authority

Metrolinx will consult with the TRCA with respect to construction activities in regulated areas for the Project in relation to O. Reg. 166/06: TRCA Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

7.4 Municipal

A range of municipal permits and approvals may be required for the Project, particularly as pertaining to municipally owned lands and infrastructure.

Water, sanitary, and storm servicing will be reviewed as planning progresses. Metrolinx will consult with the City of Toronto to address impacts to municipal water, sanitary, and storm sewer systems.

Metrolinx will co-ordinate with the City of Toronto and Toronto Parking Authority for transportation-related permits and approvals (e.g., street occupation permit) prior to construction, as required.

Metrolinx will consult with City of Toronto Heritage Planning regarding any physical impact to potential built heritage resources/cultural heritage landscapes as planning progresses.

Metrolinx, as a Crown Agency of the Province of Ontario, is exempt from certain municipal processes and requirements. In these instances, Metrolinx will engage with the City of Toronto to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals.

Metrolinx will continue to communicate and engage with the City of Toronto during detailed design and construction planning to address municipal concerns.

8 References

4Transit, 2018:
East Harbour SmartTrack Station – Natural Environment Report. May 2018.

AECOM Canada Ltd. (AECOM). 2017:
Lakeshore East Rail Corridor Expansion (Don River to Scarborough GO Station) Project – Natural Environment Effects Assessment Report. August 2017.+

AECOM, 2018:
Union Station Rail Corridor (Union Station Rail Corridor) East Enhancements Transit Project Assessment Process – Natural Environment Report. April 2018.

AECOM. 2020a. Ontario Line Final Environmental Conditions Report, Ontario Line Project. November 2020.

AECOM, 2020b. Ontario Line Project Final Environmental Conditions Report Natural Environment Report. November 2020.

AECOM. 2020c. Ontario Line Project, Limited Phase I Environmental Site Assessment Report. July 2020.

AECOM, 2020d. Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment. November 2020.

AECOM, 2020e. *Ontario Line, Stage 1 Archaeological Assessment Report – West*. Report on file with Ministry of Heritage, Sport, Tourism and Culture Industries, Toronto.

AECOM, 2020f. *Ontario Line, Stage 1 Archaeological Assessment Report – South*. Report on file with Ministry of Heritage, Sport, Tourism and Culture Industries, Toronto.

AECOM, 2020g. *Ontario Line, Stage 1 Archaeological Assessment Report – North*. Report on file with Ministry of Heritage, Sport, Tourism and Culture Industries, Toronto.

AECOM, 2020h. Ontario Line Project Final Environmental Conditions Report - Stage 1 Archaeological Assessments. July 2020.

AECOM. 2020i. Socio-Economic and Land Use Characteristics Environmental Conditions Report. November 2020.

AECOM. 2020j. Air Quality Qualitative Assessment Environmental Conditions Report, Ontario Line Project. November 2020.

AECOM. 2020k, Ontario Line Project Final Environmental Conditions Report – Noise and Vibration Report. November 2020.

AECOM, 2020l. Traffic and Transportation Environmental Conditions Report. November 2020.

AECOM. 2021a. *Ontario Line, Stage 1 Archaeological Assessment Report – South, Addendum*. Report on file with Ministry of Heritage, Sport, Tourism and Culture Industries, Toronto.

AECOM. 2021b. East Harbour Station Draft Early Works Report, Ontario Line Project. September 2021.

AECOM, 2021c. Lakeshore East Joint Corridor Draft Early Works Report, Ontario Line Project. September 2021.

AECOM, 2021d. Lower Don Bridge and Don Yard Final Early Works Report, Ontario Line Project. August 2021.

AECOM, 2021e. Corktown Station Final Early Works Report, Ontario Line Project. July 2021.

AECOM, 2021f. Exhibition Station Final Early Works Report, Ontario Line Project. February 2021.

Archaeological Services Inc. (ASI). 2012. *Stage 1 Archaeological Resource Assessment and Stage 2/3 Archaeological Resource Assessments of 271 Front Street East and 2 Berkeley Street, Site Plan Control Application 12 170657 STE 28 SA City of Toronto, Ontario*. Report on file with Ministry of Heritage, Sport, Tourism and Culture Industries, Toronto.

Archeoworks Inc. (Archeoworks) 2009. *Stage 3 Archaeological Assessment & Protection & Avoidance of the Lime Kiln Works Site (AjGu-64): 70 Parliament Street, City of Toronto, Ontario*. Report on file with Ministry of Heritage, Sport, Tourism and Culture Industries, Toronto.

Armstrong, D.K. and Dodge, J.E.P. 2007: Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 219.

Bat Conservation Trust, 2012:
Bats and Buildings: Bats and the Built Environment Series. Accessed in February 2020 from: http://www.bats.org.uk/data/files/BatsandBuildings_2012.pdf

Bird Studies Canada, 2001:
Ontario Breeding Bird Atlas Guide for Participants. Accessed in June 2019 from: https://www.birdsontario.org/download/atlas_feb03.pdf

Bird Studies Canada, 2009:
Chimney Swift (*Chaetura pelagica)* Monitoring Protocol. Port Rowan, 24 pp.

Bird Studies Canada, Environment Canada and U.S. Environmental Protection Agency, 2009: Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. 2009 Edition. 13 pages. Published by Bird Studies Canada in co-operation with Environment Canada and the U.S. Environmental Protection Agency. February 2009. Accessed April 2019 from: https://www.ohwetlands.org/uploads/5/0/6/9/50693061/handbook_mmp_amphibians_2009.pdf

Brigham, R.M., J. Ng, R.G. Poulin and S.D. Grindal, 2011: Common Nighthawk (Chordeiles minor), version 2.0. In The Birds of North America (A. F. Poole, Editor). Cornell Laboratory of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bna.213

Canada Food and Inspection Agency. 2014. Directive D03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire). Available at: https://inspection.canada.ca/plant-health/invasive-species/directives/forest-products/d-03-08/eng/1323821135864/1323821347324

Canadian Peregrine Foundation, 2020: Toronto – Sheraton Centre. Accessed in May 2020 from: http://www.peregrine-foundation.ca/w/c/sightings/toronto-sheraton-centre/

Chapman, L.J. and D.F. Putnam, 1984: The Physiography of Southern Ontario, Third Edition, Ontario Geological Survey, Special Volume 2.

City of Toronto. 2015. *Official Plan*. Accessed July 20,2020. https://www.toronto.ca/city-government/planning-development/official-plan-guidelines/official-plan/.

City of Toronto, 2016: Tree Protection Policy and Specifications for Construction Near Trees. Accessed in November 2019 from:https://www.toronto.ca/data/parks/pdf/trees/tree-protection-specs.pdf.

City of Toronto, 2020a: Toronto Maps V2. Accessed in February 2020 from: https://map.toronto.ca/maps/map.jsp?app=TorontoMaps_v2

City of Toronto. 2020b. Housing Now. Accessed September 16, 2020. https://www.toronto.ca/community-people/community-partners/affordable-housing-partners/housing-now/

City of Toronto. 2020c. Privately-Owned Publicly Accessible Spaces. Accessed September 16, 2020. https://www.toronto.ca/city-government/planning-development/official-plan-guidelines/design-guidelines/privately-owned-publicly-accessible-spaces-pops/

City of Toronto. 2021a. Exhibition Place – Cultural Heritage Landscape Assessment. Accessed September 12, 2021. https://www.toronto.ca/city-government/planning-development/planning-studies-initiatives/exhibition-place/exhibition-place-cultural-heritage-landscape-assessment//

City of Toronto. 2021b. Neighbourhood Profiles. Accessed January 13, 2021. https://www.toronto.ca/city-government/data-research-maps/neighbourhoods-communities/neighbourhood-profiles/

Committee on the Status of Endangered Wildlife in Canada (Committee on the Status of Endangered Wildlife in Canada), 2018:
Committee on the Status of Endangered Wildlife in Canada assessment and status report on the Chimney Swift *Chaetura pelagica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 63 pp.

Dobbyn, 1994:
Atlas of the Mammals of Ontario. Ontario: Federation of Ontario Naturalists.

eBird. 2020. eBird:
An online database of bird distribution and abundance [web application]. eBird, Cornell Laboratory of Ornithology, Ithaca, New York. Accessed in July 2020 from: http://www.ebird.org.

ECCC. 2005. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities. Prepared by Cheminfo Services Inc. for Environment and Climate Change Canada. March 2005.

ECCC, 2020. National Air Pollution Surveillance Program. Accessed September 2020. https://data-donnees.ec.gc.ca/data/air/monitor/national-air-pollution-surveillance-naps-program/?lang=en

Exhibition Place. 2020. Facts & Figures: Exhibition Place. Accessed September 10, 2020. https://www.explace.on.ca/about/history/facts-figures-exhibition-place

Fisheries and Oceans Canada, 2020:
Aquatic Species at Risk Map. Accessed in January 2020 from: http://www.dfo-mpo.gc.ca/species-especes/fpp-ppp/index-eng.htm

Golder Associates, 2018:
Natural Environment Existing Conditions – Relief Line South, Toronto, Ontario. March 2018.

Government of Ontario. 2011. *Standards and Guidelines for Consultant Archaeologists*. Toronto: Ministry of *Heritage, Sport, Tourism and Culture Industries.*

Greater Golden Horseshoe Conservation Authorities. 2006. Erosion and Sediment Control Guideline for Urban Construction. Available at: https://npca.ca/images/uploads/common/ErosionandSedimentControl-Guidelines.pdf

Halloran, J., H. Anderson and D. Tassie, 2013:
Clean Equipment Protocol for Industry. Prepared for the Peterborough Stewardship Council and Ontario Invasive Plant Council. Peterborough, ON. Printed April 2013. Updated May 2016.

HDR, 2018:
Relief Line South Environmental Project Report. Prepared for Metrolinx, City of Toronto and Toronto Transit Commission.

Heagy, A., D. Badzinski, D. Bradley, M. Falconer, J. McCracken, R.A. Reid and K. Richardson. 2014:
Recovery Strategy for the Barn Swallow (*Hirundo rustica*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 64 pp.

Humphrey, C., 2017:
Recovery Strategy for the Eastern Small-footed Myotis (Myotis leibii) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 76 pp.

Humphrey, C. and H. Fotherby, 2019:
Recovery Strategy for the Little Brown Myotis (Myotis lucifugus), Northern Myotis (Myotis septentrionalis) and Tri-colored Bat (Perimyotis subflavus) in Ontario. Ontario Recovery Strategy Series. Prepared by the Ministry of the Environment, Conservation and Parks, Peterborough, Ontario. vii + 35 pp. + Appendix. Adoption of the Recovery Strategy for the Little Brown Myotis (Myotis lucifugus), the Northern Myotis (Myotis septentrionalis), and the Tri-colored Bat (Perimyotis subflavus) in Canada (Environment and Climate Change Canada 2018).

LEA, 2016:Liberty New Street. Municipal Class Environmental Assessment. Prepared for the City of Toronto.

Lee, H.T., W.D. Bakowksy, J. Riley, J. Bowles and M. Puddister, et al., 1998:
Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southern Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

MacGregor, R., J. Casselman, L. Greig, J. Dettmers, W. A. Allen, L. McDermott, and T. Haxton. 2013. Recovery Strategy for the American Eel (Anguilla rostrata) in Ontario. Ontario Recovery Strategy Series. Prepared for Ontario Ministry of Natural Resources, Peterborough, Ontario. x + 119 pp.

Macnaughton, A., R. Layberry, C. Jones and B. Edwards, 2019: Ontario Butterfly Atlas Online. Accessed in December 2019 from: http://www.ontarioinsects.org/atlas_online.htm.

MECP. 2003. Stormwater Management Planning and Design Manual. Available at: http://docs.files.ontario.ca/documents/1757/195-stormwater-planning-and-design-en.pdf

MECP. 2017. Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources. March 2017.

MECP. 2018. Operations Manual for Air Quality Monitoring in Ontario.

MECP. 2019a. Standards Development Branch. Ontario's Ambient Air Quality Criteria. Updated April 2019.

MECP. 2019b. Management of Excess Soils: A Guide for Best Management Practices. Available online: https://www.ontario.ca/page/management-excess-soil-guide-best-management-practices. Updated April 2019. Railysystem, 2020. Tunnel Boring Machine. Available at http://www.railsystem.net/tunnel-boring-machine-tbm/. Accessed October 2020.

MECP, 2020: Source Water Protection Information Atlas: https://www.gisapplication.lrc.gov.on.ca/SourceWaterProtection/Index.html?viewerSourceWaterProtection.SWPViewer&locale=en-US

Metrolinx. 2008a. *The Big Move*. Accessed January 12, 2021. http://www.metrolinx.com/thebigmove/Docs/big_move/TheBigMove_020109.pdf

Metrolinx. 2015. *Yonge Relief Network Study.* Accessed July 21, 2020. http://www.metrolinx.com/en/regionalplanning/projectevaluation/studies/YRNS_Technical_Report_EN.pdf

Metrolinx. 2018. *2041 Regional Transportation Plan for the Greater Toronto and Hamilton Area*. Accessed July 20, 2020. http://www.metrolinx.com/en/regionalplanning/rtp/Metrolinx%20-%202041%20Regional%20Transportation%20Plan%20%E2%80%93%20Final.pdf

Metrolinx and Infrastructure Ontario. 2019. *Ontario Line Initial Business Case*. Accessed July 9, 2021. http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/20190725_Ontario_Line_IBC.PDF

Metrolinx. 2020a. *Ontario Line Preliminary Design Business Case* December 2020. Accessed July 9, 2021. https://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/2020-12-08-Ontario-Line-PDBC-Public-Final.pdf

Metrolinx. 2020b. Vegetation Guideline. Final Draft. July 17, 2020. Prepared by Morrison Hershfield Limited for the exclusive use of Metrolinx.

MMAH. 2017. *Greenbelt Plan, 2017.* Accessed September 9, 2020. enbelt-plan-2017-en.pdf. MMAH. 2019. A Place ten.pdf.

MMAH. 2020a. *Provincial Policy Statement Under the Planning Act*. Accessed July 20, 2020. https://www.ontario.ca/page/provincial-policy-statement-2020.

MMAH. 2020b. *A Place to Grow: Growth Plan for the Greater Golden Horseshoe.* Accessed December 15, 2021. https://files.ontario.ca/mmah-place-to-grow-office-consolidation-en-2020-08-28.pdf.

MNRF, 1984: Habitat Management Guidelines for Bats of Ontario. Accessed in February 2020 from: https://dr6j45jk9xcmk.cloudfront.net/documents/2790/guide-bats.pdf

MNR, 2000: Significant Wildlife Habitat Technical Guide. Queen's Printer for Ontario.

MNR, 2013: Reptile and Amphibian Exclusion Fencing: Best Practices, Version 1.0. Species at Risk Branch Technical Note. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. 11 pp.

MNRF, 2010: Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.

MNRF. 2014. Butternut Assessment Guidelines. Available at: https://www.ontario.ca/page/butternut-assessment-guidelines

MNRF, 2015: Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E. January 2015. Peterborough: Queen's Printer for Ontario. 39 pp.

MTO. 2008. Drainage Management Manual. Available at: https://www.library.mto.gov.on.ca/SydneyPLUS/Sydney/Portal/default.aspx?lang=en-US

MTO, 2020. Environmental Guide for Assessing and Mitigating the Air Quality Impacts of Greenhouse Gas Emissions of Provincial Transportation Projects. May 2020

NDMNRF, 2020a: Ontario GeoHub. Accessed in January 2020 from: https://geohub.lio.gov.on.ca/. Powered by Land Information Ontario. Accessed January 2020.

NDMNRF, 2020b: Fish ON-Line. Accessed in May, 2020 from: https://www.lioapplications.lrc.gov.on.ca/fishonline/Index.html?viewer=FishONLine.FishONLine&locale=en-CA.

North-South Environmental Inc. & Dougan & Associates, 2009: Review of Provincially Significant Wetlands in the City of Toronto. Prepared for City of Toronto and City Planning.

North-South Environmental Inc., 2012: Environmentally Significant Areas in the City of Toronto. Prepared for Toronto City Planning.

Ontario Nature, 2020:
Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Accessed in January 2020 from: https://www.ontarioinsects.org/herp/index.html

Puopolo, J. and Usher, S., 2007. Conceptual Understanding of the Watersheds, Toronto and Region Conservation Authority.

Ramsay-Brown, J., 2015:
Toronto's Ravines and Urban Forests: Their Natural Heritage and Local History. James Lorimer & Company Ltd., Publishers, Toronto. 126 pp.

Rogers, D.P, R.C. Ostry and P.F. Karrow, 1961: Metropolitan Toronto Bedrock Contours, Ontario Department of Mines, Preliminary Map 102.

Statistics Canada. 2015. National Housing Survey Profile, Toronto. Accessed January 13, 2021. https://www12.statcan.gc.ca/nhs-enm/2011/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3520005&Data=Count&SearchText=toronto&SearchType=Begins&SearchPR=01&A1=All&B1=All&Custom=&TABID=1.

Statistics Canada. 2019. Toronto 2016 Census Profile. Accessed January 13, 2021. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Geo2=PR&Code2=01&SearchType=Begins&SearchPR=01&TABID=1&B1=All&type=0&Code1=3520005&SearchText=toronto.

Steeves, T.K., S.B. Kearney-McGee, M.A. Rubega, C.L. Cink and C.T. Collins, 2014:
Chimney Swift (*Chaetura pelagica*), version 2.0. In The Birds of North America (A. F. Poole, Editor). Cornell Laboratory of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bna.646

Toronto Community Housing. N.d. Regent Park. Accessed April 14, 2021. https://www.torontohousing.ca/capital-initiatives/revitalization/Regent-Park/Pages/default.aspx

TRCA, 2005. Lower Don River West Remedial Flood Protection Project Class Environmental Assessment. Available: https://trca.ca/conservation/green-infrastructure/lower-don-river-west-remedial-flood-protection-project/environmental-assessment/

TRCA, 2009:
Don River Watershed Plan, Aquatic System – Report on Current Conditions. Accessed in November 2020 from: https://s3-ca-central-1.amazonaws.com/trcaca/app/uploads/2018/10/17165514/Don-Watershed-Plan-Aquatic-System.pdf

TRCA. 2012. Stormwater Management Criteria. Available at: https://trca.ca/app/uploads/2016/04/SWM-Criteria-2012.pdf

TRCA, 2013. Toronto and Region Conservation Authority Technical Guidelines for the Development of Environmental Management Plans for Dewatering. Available at: https://s3-ca-central-1.amazonaws.com/trcaca/app/uploads/2016/02/17185417/TRCA_Tecnical_Guidelines_for_the_Development_of_EMPs_for_Dewatering.pdf

TRCA, 2014a:
The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority.

TRCA, 2014b. Don Mouth Naturalization and Port Lands Flood Protection Plan. Available: https://trca.ca/conservation/green-infrastructure/don-mouth-naturalization-port-lands-flood-protection-project/don-mouth-environmental-assessment/

TRCA. 2018. Guideline for Determining Ecosystem Compensation, Toronto and Region Conservation Authority, June 2018.

TRCA. 2019. Erosion and Sediment Control Guideline for Urban Construction.

TRCA, 2020:
Toronto and Region Conservation Authority Open Data & Information. Accessed in January 2020 from: https://data.trca.ca/

TRCA, 2021. https://trcaca.s3.ca-central-1.amazonaws.com/app/uploads/2021/04/09165112/BEFP-Final-Class-EA-Report-April-05-2021-compressed.pdf

TRCA/Credit Valley Conservation. 2010. Low Impact Development Stormwater Management Planning and Design Guide. Available at: https://sustainabletechnologies.ca/app/uploads/2013/01/LID-SWM-Guide-v1.0_2010_1_no-appendices.pdf

Toronto and Region Source Protection Area, 2015: The Approved Updated Source Water Protection Assessment Report: Toronto and Region Source Protection Area (Assessment Report)

TTC. 2012. *Downtown Rapid Transit Expansion Study.* Accessed July 21, 2020. http://www.ttc.ca/PDF/About_the_TTC/DRTES_Final_Report_-_September_2012.pdf

United States Federal Transit Administration, 2018: Department of Transportation. Transit Noise and Vibration Impact Assessment Manual

Waterfront Toronto and City of Toronto, 2016. Port Lands and South of Eastern Transportation and Servicing Master Plan Environmental Assessment

Waterfront Toronto and City of Toronto, 2017. Gardiner Expressway and Lake Shore Boulevard East Reconfiguration Environmental Assessment

Waterfront Toronto, 2020:
Corktown Common. Accessed in May 2020 from: https://waterfrontoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/corktown+common

White, C.M., N.J. Clum, T.J. Cade and W.G. Hunt, 2020:
Peregrine Falcon (Falco peregrinus), version 1.0. In Birds of the World (S.M. Billerman, Editor). Cornell Laboratory of Ornithology, Ithaca, NY, USA. Accessed May 2020 from: https://doi.org/10.2173/bow.perfal.01

Sign-Off Sheet

This document entitled Environmental Impact Assessment Report was prepared by Stantec Consulting Ltd. (“Stantec”) as part of the Ontario Line Technical Advisor for the account of HDR Inc. (the “Client”) and its end client Metrolinx. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

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Appendix A1. Natural Environment Technical Report

Provided under separate cover

Appendix A2. Heritage Detailed Design Report

Provided under separate cover

Appendix A3. Stage 1 Archaeological Assessment

Provided under separate cover

Appendix A4. Socio-Economic and Land Use Characteristics Assessment

Provided under separate cover

Appendix A5. Air Quality Impact Assessment Report

Provided under separate cover

Appendix A6. Noise and Vibration Impact Assessment Report

Provided under separate cover

Appendix A7. Transportation and Traffic Analysis Report

Provided under separate cover

Appendix B1. Distribution List

Provided under separate cover

Appendix B2. Virtual Open House Summaries, Newspaper Ads and Notices

Provided under separate cover

Appendix B3. Blog Posts and Website Content

Provided under separate cover

Appendix B4. Indigenous Nations Consultation and Correspondence Record

Provided under separate cover

Appendix B5. Public Correspondence

Provided under separate cover

Appendix B6. Community Stakeholder Correspondence

Provided under separate cover

Appendix B7. Technical Stakeholder Correspondence

Provided under separate cover

Appendix B8. Elected Officials Correspondence

Provided under separate cover

Appendix C. Ontario Line Profile Drawings

Provided under separate cover