



City of Toronto

DON MILLS CROSSING

**Municipal Class Environmental
Assessment**

February 2022
20219

Disclaimer

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APPENDIX E Stage 1 Archaeological Assessment

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Glossary

AODA	-	Accessibility for Ontarians with Disabilities Act
CP	-	Canadian Pacific
CPTED	-	Crime Prevention Through Environmental Design
DRP	-	Design Review Panel
EA	-	Environmental Assessment
END	-	Endangered
ESA	-	Environmentally Sensitive Areas
ESR	-	Environmental Study Report
LRT	-	Light Rail Transit
MCEA	-	Municipal Class Environmental Assessment
MCSCS	-	Ministry of Community, Safety & Correctional Services
MHSTCI	-	Ministry of Heritage, Sport, Tourism & Cultural Industries
MECP	-	Ministry of Environment, Conservation and Parks (<i>formerly Ministry of Environment and Climate Change</i>)
MMAH	-	Ministry of Municipal Affairs and Housing
MNRF	-	Ministry of Natural Resources and Forestry
MPS	-	Mobility Planning Study
NSA	-	Noise Sensitive Areas
OLA	-	Outdoor Living Area
TAC	-	Technical Advisory Committee
THR	-	Threatened
TRCA	-	Toronto and Region Conservation Authority
TTS	-	Transportation Tomorrow Survey
PPS	-	Provincial Policy Statement
RSS	-	Reinforced soil slope
SAR	-	Species at Risk
SC	-	Special Concern
SCC	-	Species of Conservation Concern

1 INTRODUCTION

The Don Mills Trail Crossing Environmental Assessment (EA) was completed for the City of Toronto to identify a new pedestrian and cyclist bridge across the Canadian Pacific (CP) rail corridor connecting to the Don Mills Trail. This study built upon the recommendations of the 2019 Don Mills Crossing Mobility Planning Study (MPS), which originally identified the need to provide this crossing.

The environmental assessment study was completed in accordance with the Schedule 'C' Municipal Class Environmental Assessment (MCEA) Planning and Design Process. Since the MPS was prepared to satisfy Phases 1 and 2, this study was focused on completing Phases 3 and 4 of the MCEA process. As a result, the Don Mills Crossing Trail EA study included a confirmation of the existing conditions, review of the problem and/or opportunity statement and recommended alternative solutions identified in the MPS. Beyond the MPS, the Don Mills Crossing Trail EA developed a recommended design for the grade separated trail crossing by establishing a set of evaluation criteria, developing and assessing design alternatives, identifying the recommended plan, and recommending preliminary mitigation measures and commitments to future work.

1.1 BACKGROUND

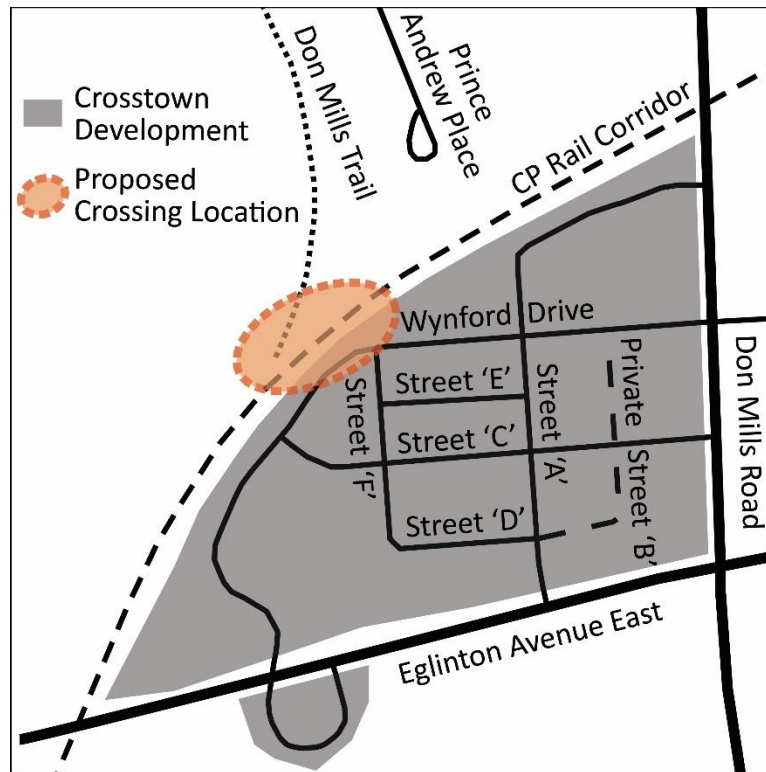
In August 2014, Toronto City Council adopted the Eglinton Connects study, which identified the area around the LRT station at Don Mills Road and Eglinton Avenue East as one of six focus areas along Eglinton Avenue where mixed-use intensification redevelopment is anticipated. The intensification and redevelopment of the area was planned to focus on transforming it into a vibrant and healthy community. Specifically, the Don Mills area is planned to accommodate approximately 16,000 new residents and over 9,000 jobs, creating a need to enhance existing, and establish new, multi-modal transportation connections.

To support the Eglinton Connects vision, City Council directed City staff to develop a Secondary Plan for the Don Mills focus area. The City of Toronto subsequently completed the MPS which identified a multi-modal transportation network plan for the Don Mills Secondary Plan Area, including a new grade separated active transportation facility crossing of the CP rail corridor. In April 2019, City Council adopted the Don Mills Crossing Secondary Plan.

1.2 STUDY AREA

The project study area is located within the northwest quadrant of the Don Mills Road and Eglinton Avenue East intersection adjacent to the CP rail corridor and planned redevelopment at 844 Don Mills Road and 1155 Eglinton Avenue East (Crosstown Development), within the vicinity of the proposed rail corridor crossing location. The study area is generally shown in **Figure 1-1**.

Figure 1-1: Study Area



1.3 ENVIRONMENTAL ASSESSMENT PROCESS

The study was undertaken in accordance with the requirements of the Municipal Class Environmental Assessment (MCEA) (Municipal Engineers Association, October 2000, as amended in 2004, 2007, 2011, 2015) for a Schedule 'C' project. The MCEA is an approved standardized planning process under the Ontario *Environmental Assessment Act* for municipal infrastructure projects.

Projects undertaken through this planning process are classified into one of four schedule types, Schedule 'A', 'A+', 'B' or 'C', in accordance with their degree of anticipated impacts:

- ▶ Schedule 'A' and 'A+': As of June 2019, Schedule 'A' and 'A+' projects are exempt from the requirements of the MCEA as part of the *More Homes, More Choices Act*, because they are considered routine maintenance activities, and are considered low risk.
- ▶ Schedule 'B': generally include improvements and minor expansions to existing facilities with the potential for some environmental effects.
- ▶ Schedule 'C': generally include construction of new facilities and major expansions to existing facilities with the potential for more significant environmental effects and must proceed under the full planning and documentation procedures specified under the MCEA (Phases 1-4).

The five phases of the Municipal Class EA planning and design process is illustrated in **Figure 1-2**, and summarized below:

- ▶ **Phase 1:** Identify the problems (deficiency) and/or opportunities
- ▶ **Phase 2:** Identify alternative solutions to address the problem or opportunity by taking into consideration the existing environment, and establish the preferred solution considering public and review agency input
- ▶ **Phase 3:** Examine alternative methods of implementing the preferred solution, based upon the existing environment, public and review agency input, anticipated environmental effects and methods of minimizing negative effects and maximizing positive effects
- ▶ **Phase 4:** Document the MCEA process undertaken in an Environmental Study Report (ESR) and file the report for a 30-day agency and public review
- ▶ **Phase 5:** Develop the full contract package and proceed to construction and implementation

This study followed the requirements for a Schedule 'C' project and involved the completion of Phases 3 and 4 of the MCEA process.

1.3.1 Environmental Study Report

The purpose of this Environmental Study Report (ESR) is to document Phases 3 and 4 of the MCEA process completed for this study, including updated evaluation criteria, design alternatives, the recommended design, proposed mitigation measures, and commitments to future work. The ESR will also provide a review of the previously defined need and justification for this active transportation facility crossing the CP Rail corridor, the problems and/or opportunities statement, and alternative solutions.

As required in Phase 4 of the MCEA, this ESR is being placed on the public record for a 30-day review period. The Notice of Completion was published online, at the Toronto.ca website, listed under the "Public Consultations > Infrastructure & Construction Projects" web page. The notice was posted online from March 1 to March 22, 2021. Please note that, as there is no longer a community newspaper distributed to this area (South East North York), no newspaper notices were published. The Notice of Completion was also sent to external government review agencies, Indigenous Communities, and stakeholders and individuals on the project contact list. During the review period, individuals with outstanding concerns are encouraged to submit their comments to the City's Public Consultation Supervisor:

Ms. Robyn Shyllit

Supervisor, Public Consultation Unit

City of Toronto

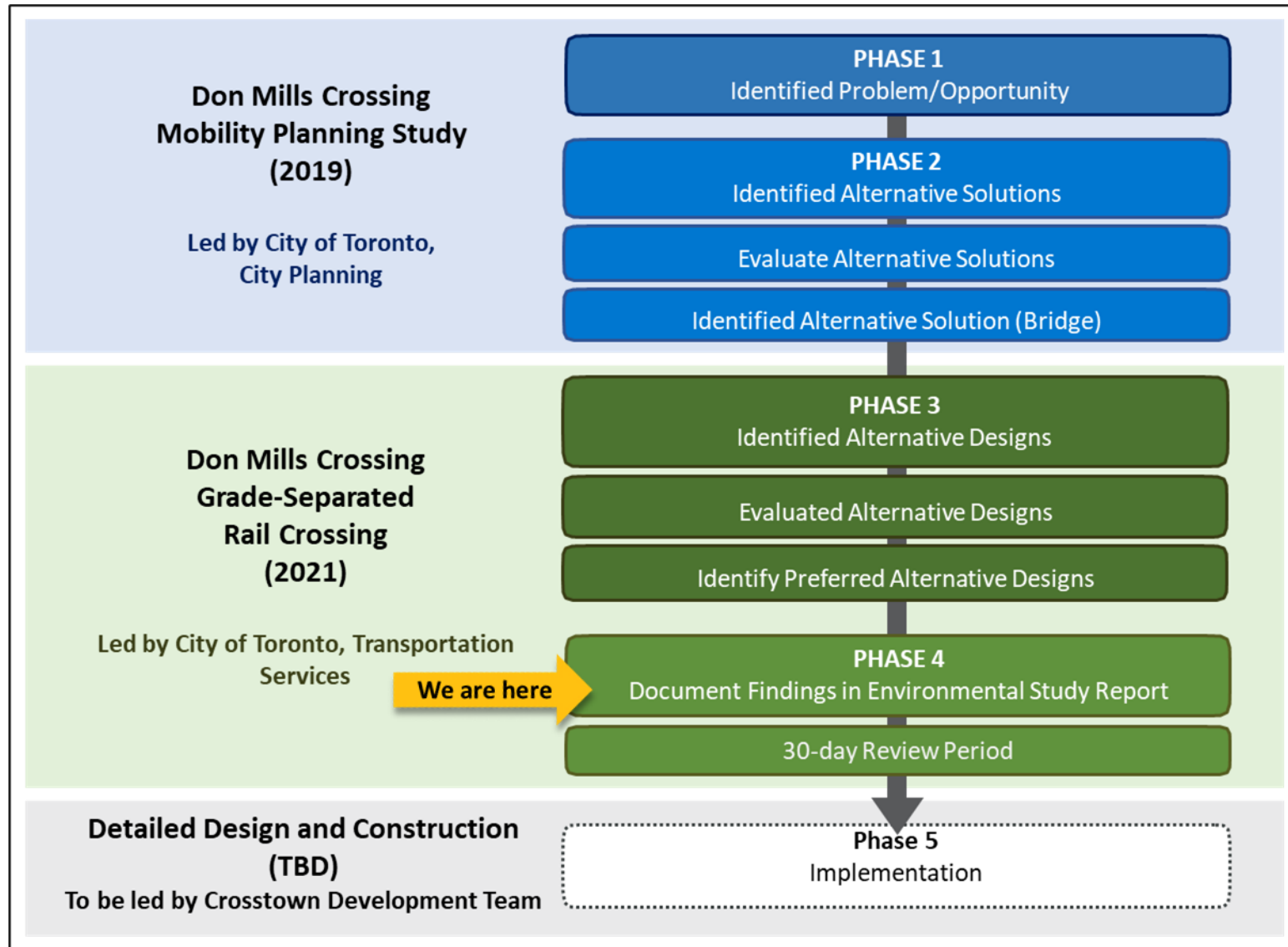
55 John Street, 19th floor

Toronto, ON M5V 3C6

Tel: 416-392-3358

Email: robyn.shyllit@toronto.ca

Figure 1-2: Municipal Class EA Planning and Design Process



1.3.2 Section 16 Orders

As of June 2019, the Part II Order request process has been amended, and bump up requests may only be submitted on the grounds to prevent, mitigate or remedy adverse impacts on the existing aboriginal and treaty rights of the aboriginal peoples of Canada.

To submit a Section 16 Order request, eligible individuals may complete a Section 16 Order request form and send the form to the Minister of the Environment, Conservation, and Parks prior to the end of the review period. A copy of the Section 16 Order form may be downloaded from the Ministry of Environment, Conservation and Parks (MECP) website (<https://www.ontario.ca/page/class-environmental-assessments-section-16-order>) or by contacting the City's Senior Public Consultation Coordinator (contact information in **Section 1.3.1**). Please submit the Section 16 Order request forms to the Minister of MECP, Director of Environmental Assessment Branch, and the City of Toronto Senior Public Consultation Coordinator (contact information in **Section 1.3.1**):

Hon. David Piccini

Minister of the Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
Email: minister.mecp@ontario.ca

Director, Environmental Assessment Branch

Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto ON M4V 1P5
Email: EADirector@ontario.ca

Provided that no Section 16 Orders are granted, the undertaking may proceed to Phase 5 of the MCEA process consisting of design and construction.

1.4 PROJECT TEAM

This study was undertaken by the City of Toronto, *Transportation Services Division*, together with LEA Consulting Ltd. (LEA), acting as the lead consultant undertaking this study.

For the City of Toronto, Transportation Services Division, the Project Manager was Andrew Chislett. Chris Sidlar and Irene Hauzar were the Project Manager and Deputy Project Managers who managed the consultant team, which included planners and engineers from LEA, and several sub-consultancies. In addition to leading the EA process, team members from LEA undertook transportation planning, structural engineering, noise and vibration assessment, security assessment, and natural environment assessment roles. The team also consisted of Fotenn Planning + Design, who provided urban design expertise and prepared conceptual renderings; Alta Planning + Design, who provided expertise into best practices and design standards for active transportation infrastructure; Archaeological Services Inc. (ASI), who provided archaeological assessment services; Unterman McPhail Associates, who provided cultural and built heritage assessment services; and RWDI, who completed an air quality assessment review.

To supplement the guidance and direction provided by the project team, details of the study were presented to and reviewed by a Technical Advisory Committee (TAC) and the City's Design Review Panel.

The TAC consisted of representation from the following agencies and departments who were involved throughout the project:

- **Wai Ming Lo**, *Transportation Services, City of Toronto*
- **Michelle Corcoran**, *Community Planning, City Planning, City of Toronto*
- **Dawn Hamilton**, *Urban Design, City Planning, City of Toronto*
- **Rong Yu**, *Urban Design, City Planning, City of Toronto*
- **Jason Diceman**, *Public Consultation Coordinator, City of Toronto*
- **Jennifer Hyland**, *Cycling Infrastructure and Programs, Transportation Services, City of Toronto*
- **Katie Wittman**, *Cycling Infrastructure and Programs, Transportation Services, City of Toronto*
- **Arthur Lo**, *Transportation Planning, City Planning, City of Toronto*
- **Hao Zhang**, *Transportation Infrastructure, Engineering and Construction Services, City of Toronto*
- **Brian Costigan**, *Public Works, Canadian Pacific Railway*
- **Luka Medved**, *Infrastructure Planning and Permits, Toronto Region Conservation Authority*

2 CONSULTATION AND ENGAGEMENT

Consultation and engagement are a critical component of the MCEA process and has been an integral component to this study. The consultation plan for the Don Mills Crossing EA Study included engagement with external federal and provincial governments agencies, representatives from relevant City of Toronto departments, locally elected officials, Indigenous Communities, relevant stakeholders, and members of the public. Further details regarding the consultation and engagement process are provided in the following sections.

2.1 PROJECT WEBSITE

At the onset of the study, a project website (<https://www.toronto.ca/DonMillsCrossingBridge>) was developed to provide members of the public and agencies with information about the project, including: background information and resources, project updates, consultation / engagement materials, and project team contact information to submit questions or comments at any time during the study or be added to the study contact list. A link to the project website was provided on all project notification.

2.2 NOTIFICATION

A contact list was developed at the start of the study that included relevant external government agencies, Indigenous Communities, municipal staff, locally elected officials and city councillors, property owners, other key stakeholders, and members of the public. The contact list was a continuation of a former list compiled during the Don Mills Crossing MPS to ensure interested stakeholders would be continually informed as the study progressed.

A copy of all notification materials is provided in **Appendix A**.

2.2.1 Study Commencement and Public Consultation Event (March 2021)

The first step in the public and agency consultation process was the publication and circulation of the Notice of Study Commencement. This was completed to inform government review agencies, Indigenous Communities, stakeholders, and members of the contact list about the project start-up, the design options for the bridge structure and ramp approaches, the comparative evaluation of each alternative designs, and the draft recommendation for a preferred design. This information is circulated to obtain preliminary comments and feedback about the project.

One public consultation event was scheduled for this project to provide members of the public with an opportunity to review and comment on the study. In March 2020, due to the COVID-19 pandemic, and in response to provincial emergency order to prohibit organized public events and social gatherings of more than five people, the City of Toronto cancelled all City-led public meetings. Therefore, the public consultation event for this project was held virtually from March 1 to March 22, 2021. All agencies, stakeholders, and members of the public were sent a copy of the Notice of Public Event on February 19, 2021, and it was published online on the City's website (Toronto.ca). Over 11,000 notices were also mailed using Canada Post Unaddressed AdMail to residents within a 1 km radius of the study area on February 19, 2021, to inform area residents of the project and the public consultation event. This notice also provided the members of the public an opportunity to provide comments and request to be added to the contact list.

The public event information materials were posted on the project website for agency/public review and comment. The information presented at the public event included: the study background and update, the guiding vision and principles for the development of design alternatives, the evaluation criteria, the design

alternatives, the evaluation of alternatives, and the preliminary emerging preferred design. Following the public event, frequently asked questions and comments were compiled and posted to the project website.

For further details on the information presented at the public consultation event and comments received, please refer to **Appendix A**.

2.3 AGENCY CONSULTATION AND ENGAGEMENT

Federal and provincial government review agencies, municipal staff, utilities, locally elected officials, developers, and other potentially interested stakeholders were contacted during the Notice of Commencement/Public Consultation Event to provide updates on the project and obtain feedback and comments on the project.

The following agencies and stakeholders as summarized in **Table 2-1** were consulted throughout the study:

Table 2-1: List of Agencies and Stakeholders Consulted

Federal Agencies	
▶ Canada Lands Corporation	▶ CN Rail
▶ Canada Post Delivery	▶ CP Rail
▶ National Defence Canada	
Provincial Agencies	
▶ Toronto Region and Conservation Authority (TRCA)	▶ Metrolinx
▶ Ministry of Community, Safety and Correctional Services (MCSCS)	▶ Ministry of Environment, Conservation & Parks (MECP)
▶ Ministry of Heritage, Sport, Tourism and Cultural Industries (MHSTCI)	▶ Ministry of Municipal Affairs and Housing (MMAH)
▶ Ministry of Natural Resources and Forestry (MNRF)	▶ Ministry of the Environmental and Climate Change (MECC)
Municipal Departments	
▶ Transportation Services – Capital Projects and Program	▶ Community Planning – North York District
▶ Transportation Planning – North York District	▶ Urban Design – North York District
▶ Engineering and Construction Services – Transportation Infrastructure	
Locally Elected Official	
▶ Deputy Mayor Denzil Minnan-Wong, Ward 16 Don Valley East	
Other Stakeholders	
▶ Beanfield Metroconnect	▶ CreateTO
▶ Bell Canada	▶ Cogeco Data Services Inc.
▶ Enbridge Pipeline Inc.	▶ Enwave Energy Corp.
▶ Hydro One, Inc	▶ Imperial Oil
▶ Metro Fibrewerx	▶ Ontario Power Generation
▶ Prestige Telecom	▶ Rogers Cable Systems
▶ Rogers Telecommunications	▶ Sun-Canadian Pipe Line Company Ltd.

▶ TELUS	▶ TeraSpan
▶ Toronto Hydro	▶ Trans Northern Pipe Line
▶ Videotron Ltd.	▶ Zayo Group
▶ Zoya Group	▶ Cycle Toronto
▶ Toronto Centre for Active Transportation	▶ Walk Toronto
▶ METRAC	▶ The Centre for Sustainable Transportation
▶ Share the Road Cycling Coalition	▶ 8-80 Cities

A summary of external agency and stakeholder comments are provided in **Table 2-2**, while a copy of all relevant agency correspondence is included in **Appendix A**.

Table 2-2: Summary of External Agency Comments and Responses

Agency / Stakeholder	Comment Received	Response / How Comment was Addressed
Cycle Don Valley Midtown, Cycle Toronto	Comment Received February 28, 2021 ▶ Why was the tunnel option rejected?	▶ Considering the tunnel option: an underpass was considered as part of the Don Mills Crossing Mobility Planning Study. Through the Mobility Planning Study it was determined that the underpass was not preferable as a result of safety concerns and challenges in integrating the ramp with the design of the Wynford Drive extension.
Toronto Regional Conservation Authority	Comment Received March 3, 2021 ▶ No TRCA areas of interest.	Received
Teraspan OpsLocates	Comment Received March 4, 2021 ▶ No utilities present in the immediate work area.	Comment received
Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) Heritage Planning Unit	Comment received March 18, 2021 ▶ Proponent is required to determine potential impact on cultural heritage resources.	Confirmed receipt
OTT Financial Group	Comment received March 19, 2021 ▶ Consider providing a bridge for the 1123 Leslie St redevelopment	City staff met with representative from OTT Financial Group to discuss their plans.

Agency / Stakeholder	Comment Received	Response / How Comment was Addressed
Cycle Don Valley Midtown	<p>Comment made March 22, 2021</p> <ul style="list-style-type: none"> ▶ Separate pedestrians and cyclists on both ramps; careful design at Street F connections; lighting and snow clearing requested; better connections to trail network 	Trail connections are anticipated to be secured through private development. City Planning is looking to secure a connection to Leslie/Sunnybrook Park further to the south of the rail crossing.
Telecon.ca on behalf of Rogers Communications	<p>Comment received March 24, 2021</p> <ul style="list-style-type: none"> ▶ Completed markup request 	Rogers Communications currently has existing plant as marked. Standard depth in this municipality is 1. Please ensure clearances of 0.3 m vertically and 0.6 m horizontally are maintained.
Ontario Ministry of the Environment, Conservation and Parks	<p>Comment received March 25, 2021</p> <ul style="list-style-type: none"> ▶ General Comments 	No response required

2.3.1 Technical Advisory Committee (TAC)

A Technical Advisory Committee (TAC) was formed for the project and consulted at various points during this EA Study to get preliminary feedback regarding the vision for the project as well as detailed design input to incorporate into the development of alternative design solutions and evaluation criteria. TAC members included various City and external agency stakeholders and included representation from the following agencies:

- ▶ City of Toronto – Transportation Services
- ▶ City of Toronto – Transportation Services (Cycling)
- ▶ City of Toronto – Transportation Planning
- ▶ City of Toronto – Community Planning
- ▶ City of Toronto – Urban Design
- ▶ City of Toronto – Road Operations
- ▶ City of Toronto - Parks, Forestry & Recreation (Urban Forestry)
- ▶ City of Toronto – Public Art Office
- ▶ City of Toronto – Engineering and Construction Services
- ▶ City of Toronto – Public and Stakeholder Consultation
- ▶ Toronto and Region Conservation Authority
- ▶ Canadian Pacific Rail

2.3.2 TAC Meeting (March 19, 2020)

As part of the project, one TAC meeting was held. At the TAC meeting, the Project Team presented the project background, vision, and guiding principles, as well as details regarding the alternative design solutions being considered, evaluation criteria, and emerging preferred design. The Project Team heard and responded to questions and comments from TAC members on the emerging preferred design and project background, evaluation criteria, and if the emerging preferred design met the appropriate design criteria and vision for the project. Feedback received during the TAC meeting was reviewed and incorporated into the design prior to undergoing additional consultation to ensure an iterative design process. A summary of comments received from the TAC can be found in **Table 2-3**. Minutes to the TAC Meeting is provided in **Appendix B**.

Table 2-3: Summary of TAC Comments and Responses

Comment Received	Response / How Comment was Addressed
<ul style="list-style-type: none"> ▶ Why is the tunnel option not feasible? 	<ul style="list-style-type: none"> ▶ A review of options indicated that the tunnel presents a significant construction challenge to build under a live (main) rail corridor, since rail operation cannot be disrupted.
<ul style="list-style-type: none"> ▶ AODA requirements-higher ramp slope could be allowed? 	<ul style="list-style-type: none"> ▶ If 1:15 slope is used, more ramps and flat sections would be required. Ramps are relatively long (~200 m) so several flat sections would be needed to slow down cyclists.
<ul style="list-style-type: none"> ▶ Generally the city does not like utilities attached to bridge structure, might be best not to include this in features list-is anything planned for utilities? 	<ul style="list-style-type: none"> ▶ The trial the bridge is tying into does not have utilities; just the live utilities in the rail corridor. Lighting conduit would need to be run on the bridge.
<ul style="list-style-type: none"> ▶ Is the clearance between rail and corridor 8 m? 	<ul style="list-style-type: none"> ▶ Yes, 8 m from the top of rail below (7010 mm clearance required). Project Team’s internal discussion includes whether there is enough cost savings between 200 mm difference of Box versus I-Girder to negate aesthetic preferences.
<ul style="list-style-type: none"> ▶ Did you get precedents of what decorative truss would look like? 	<ul style="list-style-type: none"> ▶ Typical truss structure are more robust than what was shown; actual look of truss is not finalized.
<ul style="list-style-type: none"> ▶ Potential Metrolinx corridor? 	<ul style="list-style-type: none"> ▶ Meeting with CP Rail revealed that the corridor is not currently under Metrolinx jurisdiction and that there are no plans yet to identify it as a potential Metrolinx corridor in the future.

Comment Received	Response / How Comment was Addressed
<ul style="list-style-type: none"> ▶ Can you consider Crime Prevention through Environmental Design (CPTED) as a specific measure for the evaluation? 	<ul style="list-style-type: none"> ▶ CPTED can be added as a specific measure in the evaluation matrix.
<ul style="list-style-type: none"> ▶ Has the landing area been designed yet? 	<ul style="list-style-type: none"> ▶ Landing area functionality is being examined. Options to be considered by the developer include integrating public art to establish a landmark for the beginning of the ramp (ramp will actually tie into Street F).
<ul style="list-style-type: none"> ▶ Was there a decision not to explore the switchback option? 	<ul style="list-style-type: none"> ▶ Ultimately the switchback was not the preferred option from the Mobility Planning Study for maintenance and some access/safety concerns.
<ul style="list-style-type: none"> ▶ Will maintenance vehicles use this structure? 	<ul style="list-style-type: none"> ▶ Design considerations include providing year-round access to the trail; the bridge and ramps have been designed such that winter maintenance equipment can be accommodated to facilitate snow removal.
<ul style="list-style-type: none"> ▶ How much will the tunnel option cost? 	<ul style="list-style-type: none"> ▶ We did not cost the tunnel option for this project; the tunnel would require lengthy ramps due to grade differences which would result in higher construction costs.
<ul style="list-style-type: none"> ▶ Understanding that the MPS did not rule out the switchback option, but did make note that there would be maintenance issues. 	<ul style="list-style-type: none"> ▶ Switchbacks often increase the difficulty of snow removal, and present additional maintenance issues.
<ul style="list-style-type: none"> ▶ Are stairs still an option or have they been ruled out? 	<ul style="list-style-type: none"> ▶ They have been looked at; they would cost an additional \$500,000 to \$750,000.
<ul style="list-style-type: none"> ▶ Shared versus separate structure; would be interested in seeing those options compared. 	<ul style="list-style-type: none"> ▶ Not a major cost difference since the 4.1 m deck structure can include 1 m overhangs. Don Mills Trail currently terminates so its hard to forecast crossing volumes.
<ul style="list-style-type: none"> ▶ Does 4.1 m refer to clearway? 	<ul style="list-style-type: none"> ▶ Yes, there is an additional 1 m buffer on either side. For separated option, 2.1 m are for pedestrians, and 4 m for cyclists. Providing 2.1 m for AODA already shows a relatively wide ramp.

Comment Received	Response / How Comment was Addressed
<ul style="list-style-type: none"> Typically it is preferred to avoid 90 degree angle to turn for example where ramp meets the bridge. 	<ul style="list-style-type: none"> The angle affects the speed people can travel at; 90 degrees promotes slowing down. Also affects constructability and cost since steel is harder to curve. A non-right angle may be considered.
<ul style="list-style-type: none"> What is the horizontal measurement from pier to pier for the bridge? 	<ul style="list-style-type: none"> It is about 30 m; intent is to not do work within the corridor, the bridge should extend out of it.
<ul style="list-style-type: none"> Include snow removal and connections 	<ul style="list-style-type: none"> Ramps and bridge will be designed to accommodated for snow removal equipment

2.3.3 City of Toronto Design Review Panel

The City of Toronto’s Design Review Panel (DRP) provides professional design advice on public and private development with a goal of improving people’s quality of life through the promotion of design excellence. This includes improving designs related to the public realm as it relates to the pursuit of high-quality architecture, landscape architecture, urban design, and environmental sustainability. The DRP includes experts from the architecture, urban design, landscape architecture, and environmental and sustainability fields.

The Project Team presented the emerging recommended plan to the DRP on July 16, 2020. The Project Team recognized that engagement with the DRP on the emerging recommended plan would provide valuable guidance on the proposed aesthetic and urban design elements of the crossing.

These comments provided to the Project Team were considered in the evaluation and refinement of the emerging preferred design. The DRP generally supported the emerging recommended plan but also cautioned the Project Team against developing too far beyond a functional design as part of the EA and recommended that aesthetic and landscape design elements be developed more completely during the detailed design phase of the project following completion of the EA process.

A future presentation to the Design Review Panel is recommended during the subsequent design phase to develop the bridge and ramp design elements for the crossing, aesthetics, and landscaping, as well as other improvements to the immediate public realm such as through the installation of public art.

2.3.4 Key External Stakeholders

2.3.4.1 Canadian Pacific (CP) Rail

CP Rail was as key external stakeholder because the study was exploring options for an active transportation crossing of a CP Rail corridor. CP Rail was also included on the TAC, and the Project Team regularly engaged with representatives of CP Rail to obtain required design requirements and guidelines, and to ensure the bridge designs met CP requirements for a crossing over their rail corridor.

A meeting was held between Project Team, TRCA and CP Rail on January 8, 2020 to introduce the project, review recommendations from previous studies, discuss existing conditions, use of the CP rail within the corridor, required design guidelines (e.g. setbacks, height separation, fencing heights, maintenance, safety, etc.), and project schedule.

The Project Team provided an update to CP Rail through the TAC meeting held on March 19, 2020. Further details on the discussed are provided in **Section** Error! Reference source not found..

Discussions with CP Rail confirmed that while there were no concerns or objections to the proposed crossing, the Project Team acknowledged design requirements and guidelines are to be adhered to during the detailed design phase following the completion of this EA study. These requirements are documented in **Appendix C**. Early consultation with CP Rail is also required during detailed design.

Key correspondence and meeting minutes with CP Rail are provided in **Appendix C**.

2.3.4.2 Toronto Region and Conservation Authority (TRCA)

The Toronto Region and Conservation Authority (TRCA) was identified as a key external stakeholder because the study area is located in close proximity to TRCA regulated lands. The Project Team engaged TRCA as part of the TAC and throughout the study.

A meeting was held between the Project Team, TRCA, and CP Rail on January 8, 2020 to introduce the project, review recommendations from previous studies, discuss the natural heritage feature within the vicinity of the proposed crossing and potential environmental affects, required design guidelines (e.g. setbacks, design considerations, TRCA limits, etc.), permitting requirements, and project schedule.

TRCA did not identify any issues or concerns with the bridge design. Any direct impacts to TRCA lands should be avoided. Further consultation with TRCA is required during detailed design to confirm TRCA regulatory limits, and any potential impacts to TRCA land.

Key correspondence and meeting minutes with TRCA are provided in **Appendix C**.

2.3.4.3 Crosstown Development

Crosstown Development was consulted throughout the EA process, including participating in the City of Toronto's Design Review Panel meeting regarding the design of the crossing and ramps. The City's Project Manager kept the group informed during each stage of the study.

2.4 PUBLIC CONSULTATION AND ENGAGEMENT

Throughout the study, the Project Team has solicited public feedback, and has given the public opportunity to engage with and shape the study process by making comments, identifying problems, and providing additional information. The comments provided have broadened the information base and facilitated decision making in the process.

The public consultation program undertaken for the study is summarized in the following sections.

2.4.1 Online Public Event (March 1 – March 22, 2021)

Due to the COVID-19 pandemic, and in response to provincial emergency order to prohibit organized public events and social gatherings of more than five people, the City of Toronto cancelled all City-led mass participation events in March 2020 for the foreseeable future. As a result, an online public event was officially held from March 1, 2021 to March 22, 2021, during which time members of the public were able to review consultation materials posted on the project website, which included informational panels with images and charts as well as a text-only summary, and submit questions and comments to the Project Team. Throughout the event and in the weeks following, the Project Team actively monitored and responded to online and phone feedback.

A Public Event Consultation/Engagement Summary Report has been included in **Appendix A**.

2.4.1.1 Comments Received from the Public Event

During the online public event from March 1 to March 22, 2021, the Project Team received 55 submissions via the online feedback form, email and phone. There was general support for the recommended design of the bridge. Comments received included questions of the clarification about the rationale for the bridge, potential future trail connections to the bridge to Leslie Street west of the rail corridor, and a range of design suggestions which will be carried forward into the detailed design process. These suggestions are summarized below in **Table 2-3** and include considering for how cyclists and pedestrians will be separated, reviewing how the bridge design can be optimized to improve winter maintenance, providing seating where possible, and ensuring that the ramp interfaces with Don Mills Trail and Wynford Drive are safe.

Table 2-3: Feedback Received from the Public Event

Key Comments / Questions Raised During the Public Event	How Comments were Responded to / Addressed by the Project Team
<p>Why was a tunnel option not recommended?</p>	<p>An underground option in the form of a tunnel was considered as part of the 2019 Don Mills Crossing Mobility Planning Study (MPS), which serves as the basis for the current Environmental Assessment. The tunnel option was not preferable as a result of safety concerns and challenges in integrating the ramp with the design of the Wynford Drive extension. It would require lengthy ramps due to grade differences and would be hidden from the roadway presenting security and safety issues. In addition, the lowered tunnel profile presented constructability challenges and limited opportunities for public realm enhancements.</p>
<p>Why does the east side ramp go north, not south? Why no switchback</p>	<p>There are a number of physical constraints in the immediate area, including the grade of the adjacent Wynford Drive, valley and ravine system, and available land. A switchback ramp design was evaluated and determined to not be feasible as there is insufficient space between the rail corridor and the Wynford Drive extension to accommodate a switchback ramp with a minimum 5-metre turning radius required for cyclists to turn safely (see Figure 1). As illustrated in the drawing below, a switchback design with a 5-metre turning radius will cause the ramp to encroach onto the planned extension of Wynford Drive. Previous Don Mills Crossing MPS and current Environmental Assessment study also identified that a switchback design at this location would make it difficult for cyclists to maneuver, creating a safety concern for both pedestrians and cyclists.</p> <p>The current ramp design has been developed to meet the requirements outlined in the Accessibility for Ontarians with Disability Act, while minimizing the amount of backtracking. However, the east ramp must go north due the grade differences on the south side and inability to connect to the proposed street network.</p> <p>An additional staircase connection closer to Street C is being proposed to provide pedestrians and cyclists a more direct way to access the crossing. The staircase can be fitted with channels for cyclists walking</p>

Key Comments / Questions Raised During the Public Event	How Comments were Responded to / Addressed by the Project Team
	their bikes, and other design enhancements can be studied further following the completion of this EA.
When will the bridge be constructed?	The City anticipates the bridge crossing will be constructed within the next 5 years. Detailed design and construction will be led by private development, overseen by the City.
How will the trail connect east of the rail corridor?	<p>Previous planning studies like the Don Mills Crossing MPS identified the transportation network needed to support the redevelopment of this area, including these various trails to enhance and connect the existing active transportation network.</p> <p>Through the redevelopment of 844 Don Mills Road and 1155 Eglinton Avenue East a new multi-use trail will be constructed along the west side of Wynford Drive. How the ramps will interface with the multi-use trail will be determined during the detailed design phase following the completion of the EA study.</p>
Will there be a trail crossing connecting to Leslie Street?	A connection from the west side of the bridge from the Don Mills Trail west to Leslie Street was not part of the scope of this EA but was considered during the development of design options. Currently, the Don Mills Trail terminates at the approximate location of the future bridge and trail users access Leslie Street using a path on privately owned land not maintained by the City. It is anticipated that a future trail connection to Leslie Street can be secured through the development approval process. During the detailed design phase following completion of the EA, further consideration will be given to the current use and future condition of this connection.
Will the crossing be a shared or separated pedestrian and cyclist facility?	The preferred design provides a shared pedestrian and cycling space across the bridge and along the west ramp matching the layout of the Don Mills Trail. The ramp on the east side of the rail corridor proposes a separation of pedestrian and cyclist space matching the planned multi-use trail along Wynford Drive. The design of the interface between ramps and trails will be further developed in the detailed design phase following the completion of this EA study.
What other bridge locations were considered?	The Don Mills Crossing MPS concluded that the northwest quadrant of the area currently exhibits poor connectivity in pedestrian and cycling networks with CP Rail Corridor identified as the major barrier to it. As such, a grade separated crossing at the railway location, in the form of a tunnel or a bridge, emerged as a key recommendation of the MPS. This location will provide the best opportunity for easy pedestrian and cyclist access from the new development to existing Don Mills Trail, Leslie Street, Wilket Creek Park and the greater Don Valley parklands to the west.
Request for seating where possible	The provision of streetscape, including street furniture (e.g. benches) will be determined during the next design phase.

Key Comments / Questions Raised During the Public Event	How Comments were Responded to / Addressed by the Project Team
Will there be snow removal during winter?	The bridge and ramps have been designed such that winter maintenance equipment can be accommodated to facilitate snow removal.
Will there be lighting on the bridge?	The preferred design developed through this EA is to a functional level of design, where development of lighting options and other public realm improvements will be a focus of the following detailed design phase. Future consideration will also include integration of public art, signage and wayfinding, landscaping, and the treatments for the ramp landing areas. The design elements will be developed according to parameters set out in the EA and opportunities for public review and comment will be provided.
Access to the Don Mills Trail from the west side should be considered; currently there is an informal shortcut though private property; suggest including stairs on the west side	The informal access is located on private property; this is a legacy driveway on private property.
Why is the east ramp going north? What is the tunnel status? Have you considered bike lanes on Street C?	Responses sent with link to web update including new details that address related questions and comments.
Bridge is a waste of money	Response sent with link to web update including new details that address related questions and comments.
Proposed an alternative location for the bridge crossing	Response sent with link to web update including new details that address related questions and comments
Clarification about staircase and its accessibility	<p>The bridge will be accessible from Wynford Drive at two locations:</p> <ol style="list-style-type: none"> 1. Stair connection on the south end of Street C 2. Ramp connection on the north end of Street F <p>How the ramp entrance will look as it meets the sidewalk will be determined during detailed design in the next stage.</p>
Is the proposal to have a 1 m wide bridge structure?	Apologies, the web content contained a typo, it has been corrected and the bridge structure is 6.1 m wide.
Bridge design looks nice; completion date of 2025 is not soon enough.	Comment noted.
Have any wind studies been conducted?	Link to web update including new details that address related questions and comments.
Stated that they wished the city finished the trail dead end path, and connect it properly to the West Don Trail.	Comment noted.

Key Comments / Questions Raised During the Public Event	How Comments were Responded to / Addressed by the Project Team
Interested in discussing the bridge project	No further response made.
Ramps should curve Should have a south ramp on east side	Email sent with link to web update including new details that address related questions and comments
Concerns with wind, connections to Leslie St, steel structure	Sent email with link to web update including new details that address related questions and comments
Resident had question; requested a call back	Call back was conducted; left message.

2.5 INDIGENOUS COMMUNITY / ORGANIZATION ENGAGEMENT

The Project team engaged Indigenous and First Nations communities during this study, including:

- ▶ Mississaugas of the Credit First Nation
- ▶ Six Nations of the Grand River, including:
 - ▶ Six Nations Elected Council
 - ▶ Haudenosaunee Confederacy Chiefs Council

A Stage 1 Archaeological Assessment (AA) was conducted as part of this study, which involved an area identified as outside of the scope of the previous Stage 1 Study Area for the Don Mills Crossing Mobility Planning Study. The Stage 1 AA was shared with the Mississaugas of the Credit First Nation, and they did not have any issues or comments regarding its conclusions. General project updates were sent to all identified Indigenous Communities throughout the duration of the study. The City of Toronto received a comment from the Mississauga of the Credit First Nation on April 21, 2021 requesting additional project information as it relates to archaeology, cultural/historical, environmental and FLR participation. A response was sent May 11, 2021 providing the requested information, and a copy of the Stage 1 Archaeological Assessment Report.

3 EXISTING CONDITIONS

The Municipal Class Environmental Assessment (MCEA) process requires that an inventory of the existing environment, which includes the natural, cultural, and socio-economic environments, to support the evaluation of alternatives, to identify potential environmental effects, and to recommend mitigation measures to minimize impacts. The following section provides a summary of the existing and planned conditions within the study area, including Socio-Economic Environment (Section 3.1), Transportation Network and Utilities (Section 3.2) Natural Environment (3.3), and Cultural Environment (Section 3.4).

The existing conditions documentation for this study was developed through a review of secondary source information (e.g. Don Mills Crossing MPS, online databases, aerial photography/mapping), agency correspondence, and field investigations.

3.1 SOCIO-ECONOMIC ENVIRONMENT

3.1.1 Land-Use and Planning Policy

The following provincial and municipal policies, plans, and guidelines were reviewed as they provide the framework under which this MCEA Study was conducted, as well as set out the applicable planning vision, design standards, and guidelines.

3.1.2 Provincial Policies, Plans, and Guidelines

3.1.2.1 *Provincial Policy Statement, 2020*

The *Provincial Policy Statement* (PPS) is the strategic vision regulating land use and development within the province, with an emphasis on healthy communities, active modes of transportation, clean environment, and a strong economy. The transportation infrastructure system should be sustainable, multi-modal, and linked with land use considerations.

With regards to the Don Mills Trail Crossing study area, the PPS outlines policies that encourage the safe and energy efficient movement of people and goods, connectivity facilitated via a multi-modal transportation system, and land use patterns that aim to increase the use of active transportation and transit over other transportation modes. These policies were taken into consideration when examining the Don Mills Trail Crossing alternatives and how each alternative would best reflect an active transportation system within the study area.

3.1.2.2 *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020*

A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan) is a provincial document that guides decisions on a wide range of issues, such as land use, urban form, housing, environment, resource protection, transportation, and infrastructure, in the interest of economic prosperity. Key tenets of the Growth Plan include encouraging complete communities that are accessible to transit and support employment and a variety of housing. Further, the vision outlined by the Growth Plan is for a region supported by resilient infrastructure and an integrated transportation network that includes active transportation as a practical and viable element of the network to support growth. Providing a new active transportation crossing of the CP Rail line to connect future residential development in the Don Mills and Eglinton Avenue area aligns with the policies set out in the Growth Plan.

3.1.2.3 Accessibility for Ontarians with Disability Act, 2005

The *Accessibility for Ontarians with Disabilities Act* (AODA) is a law concerning the process for creating and enforcing accessibility standards in Ontario. The primary goal is to remove barriers for Ontarians with disabilities province wide. The AODA includes standards applicable to transportation systems and networks as well as for public spaces to ensure public areas and infrastructure, including outdoor areas and transportation infrastructure, are accessible to all. The design proposed for the pedestrian and cyclist crossing of the CP Rail line includes AODA standards to ensure there are no barriers to accessing this crossing for any individual wishing to utilize the crossing.

3.1.3 Municipal Policies, Plans, and Guidelines

3.1.3.1 City of Toronto Official Plan, 2019

The City of Toronto's *Official Plan* (2019) establishes a vision and policies for future development, with overarching goals of supporting a more livable city. The *Official Plan* provides specific policy direction related to public realm, which seeks to ensure that new developments enhance the quality of the public realm and improve the quality and convenience of active transportation options within the community with consideration for the needs of pedestrians, cyclists, and transit users.

The Vision of the *Official Plan* (identified in Section 1...Making Choices) is about creating an attractive and safe city that evokes pride, passion and a sense of belonging (...). A city with, among others,

- A ravine system that offers wilderness, respite, recreation, beauty and a link to our past; and
- Beautiful architecture and excellent urban design that astonish and inspire.

Considering this, the Don Mills crossing/overpass should connect a system of natural features, contribute to civic life, and bring people together through beautiful architecture and urban design that will astonish and inspire.

The *Official Plan* has several policies/criteria that addresses the need to create high-quality design, improves connectivity, and prioritizes active transportation. These policies and criteria were considered in the design and evaluation of a grade-separated crossing:

2.2 (1) This plan will create a better urban environment, a competitive local economy and a more socially cohesive and equitable City through the integration and coordination of transportation planning and land use planning by:

c) Increasing accessibility throughout the City by taking advantage of the combined travel benefits afforded by improved mobility and increased proximity.

2.2 (2) Growth will be directed to the Centres, Avenues, Employment Areas and the Downtown as shown on Map 2 in order to:

d) Promote mixed-use development to increase opportunities for living close to work and to encourage walking and cycling for local trips;

f) Facilitate social interaction, public safety and cultural economic activity

2.2.4 (4) Employment Areas will be enhanced to ensure they are attractive and function well, through actions such as:

e) Promoting a high-quality public realm and creating comfortable streets, sidewalks, parks and open spaces for workers and landscaped streetscapes to promote pedestrian/transit use and attract new business ventures

2.4 Bringing the City Together

(1) Given the health benefits of physical activity, active forms of transportation will be encouraged by integrating and giving full consideration to pedestrian and cycling infrastructure in the design of all streets, neighbourhoods, major destinations, transit facilities and mobility hubs throughout the City.

These various official plan policies were considered when evaluating the various alternatives for the grade separated crossing of the CP Rail track.

In addition to [City of Toronto Official Plan](#) (2019), land use is regulated within the study area through the [City of Toronto City-wide Zoning By-law 569-2013](#) (Note: a number of Site-Specific Exceptions apply to the properties located directly north of Eglinton Avenue East, between the rail corridor and Don Mills Road. The specific details of the exceptions can be found under Chapter 900.7.10 of the Citywide Zoning By-law), [Don Mills Crossing Secondary Plan](#), Wynford Green Master Plan, and Site and Area Specific Policy 245 (59 and 75 Wynford Drive).

3.1.3.2 Don Mills Crossing Secondary Plan, 2019

As the Eglinton Avenue East and Don Mills area is undergoing major transformation and intensification, a Secondary Plan Study was conducted to identify policies and a vision to guide the anticipated growth in the community. *Amendment 404* to the City of Toronto's Official Plan for the *Don Mills Crossing Secondary Plan* was adopted in April 2019. The general objectives of the Don Mills Crossing Secondary Plan included:

- ▶ Establishing a distinct and complete community around the intersection of Don Mills Road and Eglinton Avenue East that celebrates natural heritage and builds on the area's tradition of cultural and technological innovation.
- ▶ Ensuring the community evolves to include a full range of mobility options integrated into a well-designed public realm that supports civic life, intensification, and opportunities to connect the new community with the places and people in the surrounding areas.
- ▶ Creating a vibrant mixed-use community that is inclusive, connected to nature, and enhanced by a mobility network that offers choice, comfort and connectivity.

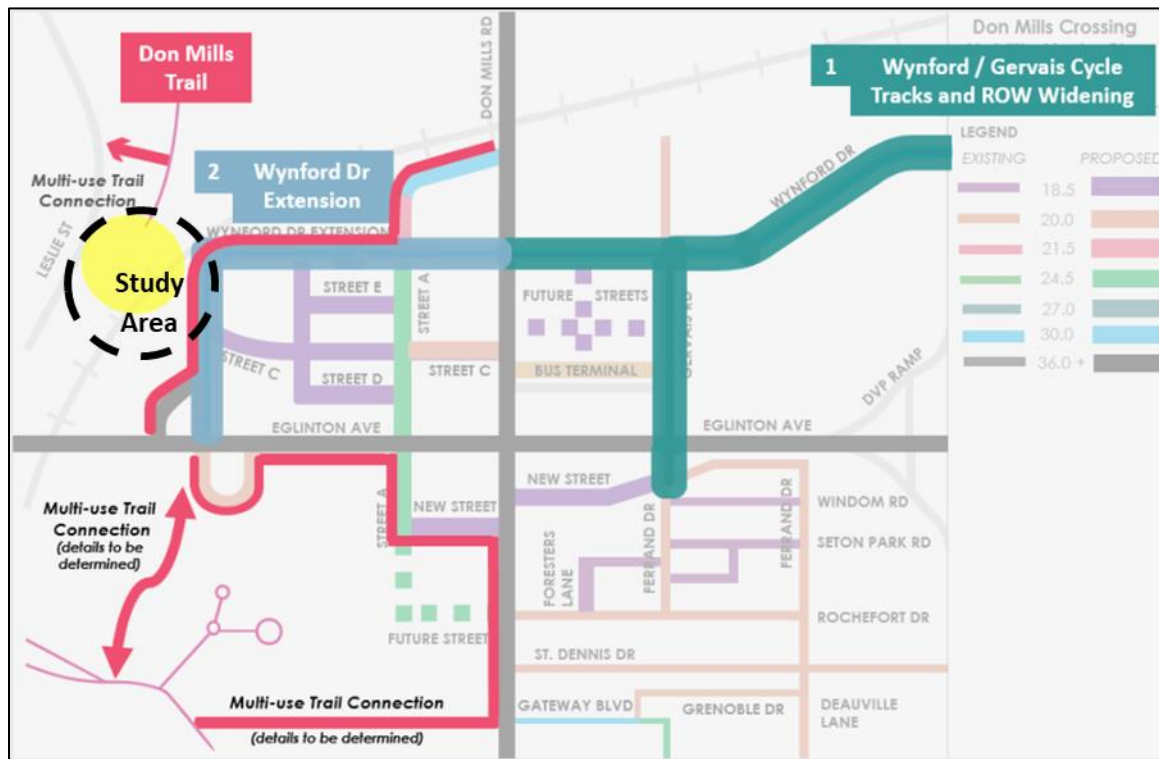
The recommendations within the Don Mills Crossing Secondary Plan and Don Mills Crossing Mobility Planning Study form the justification for the Don Mills trail crossing the CP Rail corridor.

3.1.3.3 Don Mills Crossing Mobility Planning Study, 2019

In 2019, City Planning completed a Transportation Master Plan referred to as the Don Mills Crossing Mobility Plan Study (MPS) to support and inform policies in the Don Mills Crossing Secondary Plan. The MPS identified a transportation mobility framework for the Crosstown Development lands and surrounding lands adjacent to the intersection of Don Mills Road and Eglinton Avenue East and set a vision for a complete, connected multi-modal transportation network that addresses existing deficiencies and supports intensification. Of note, the MPS identified the potential to provide a link between the Don Mills Leaside Spur Multi-Use Trail and the Celestica/Crosstown Community development site.

The transportation network of new local and collector streets was identified, including new pedestrian and cycling infrastructure as shown in **Figure 3-1**.

Figure 3-1: MPS Recommended Transportation Network



3.1.3.4 Eglinton Connects, 2014

The *Eglinton Connects Planning Study* was undertaken for the Eglinton Avenue corridor in the City of Toronto in response to the Eglinton Crosstown LRT project. The Eglinton Crosstown LRT marks a significant investment in transit infrastructure along the Eglinton corridor and will operate between Weston Road and Kennedy Subway Station. The *Eglinton Connects Planning Study* assessed the future land use, built form, public realm, and road layout contexts envisioned along Eglinton Avenue and identified a number of implementation measures to accommodate projected growth and intensification along the corridor.

Recommendations arising from the study included the provision of separated bike lanes and wide sidewalks along the Eglinton Corridor. These recommendations contribute to the overall vision for the transportation network along the corridor, including within the study area for this EA Study.

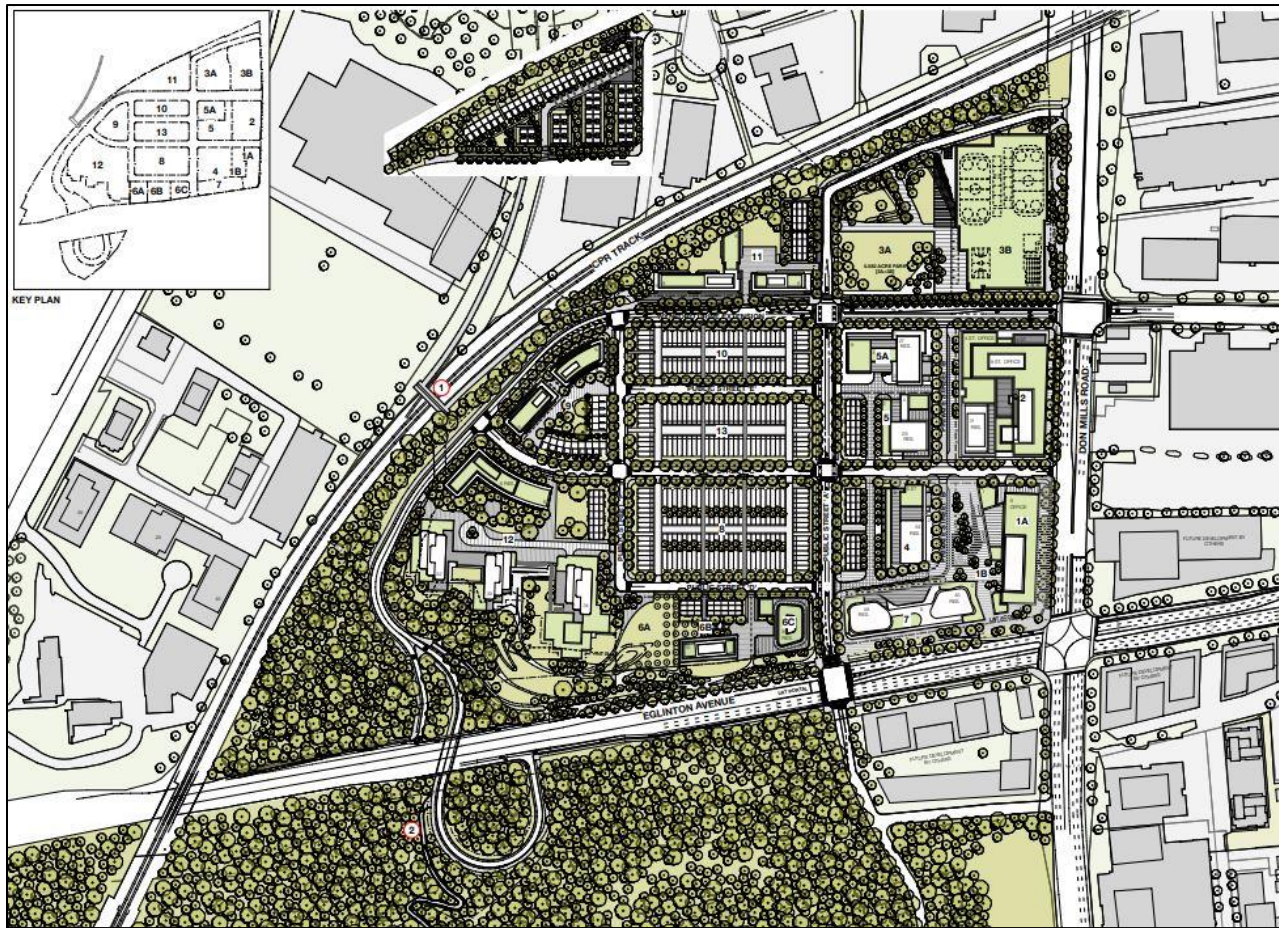
3.1.3.5 Crosstown Development (formerly Wynford Green) Master Plan

The study area is focused primarily on the former Celestica site at 844 Don Mills Road, encompassing the northwest quadrant of the Don Mills Road and Eglinton Avenue East intersection and adjacent to the CP Rail corridor. Now known as the “Crosstown Community,” the 60-acre master planned, transit-oriented development, is slated to feature commercial space, office buildings, community space, parklands, and residential uses in a mix of towers and townhouses. This neighbourhood is in the process of major transformation with an influx of high-density residential and commercial development and a project growth of approximately 16,000 new residents and over 9,000 jobs. This is consistent with the development trends occurring along the entire length of Eglinton Avenue near stops on the planned Eglinton Crosstown LRT.

The Master Plan also lays out the internal road network proposed for the site. A grade-separated crossing of the rail corridor is also shown on the Master Plan connecting the existing trail system north of the rail corridor to the proposed development to the south. The proposed Master Site Plan as submitted for the

Official Plan Amendment and Zoning By-law Amendment applications for the development is shown in **Figure 3-2**. Error! Reference source not found.

Figure 3-2: Crosstown Development (Formerly Wynford Green) Master Plan



Source: Lifetime, Diamond Corp, and Context Development, 2018 (purchased by Aspen Homes in 2019)

3.1.3.6 Toronto Multi-Use Trail Guidelines, 2015

The City of Toronto *Multi-Use Trail Guidelines* (Guidelines) were developed to inform the design and maintenance of multi-use trails throughout the City. The Guidelines recognize the various locations and urban design contexts within which the City's multi-use trail system is located and were developed in adherence with City of Toronto and Provincial planning and policy documents that includes examples of best practices in use across North America and internationally.

The Guidelines include parameters for minimum, default, and exemplary scenarios and include different guidelines specific to different trail capacities and contexts.

3.1.3.7 Vision Zero, 2019

Vision Zero and the *Vision Zero Road Safety Plan* is a comprehensive plan developed by the City of Toronto that seeks to reduce traffic-related fatalities and injuries within the City's street network. The Vision Zero Plan addresses safety for vulnerable road users, with a focus on pedestrians, cyclists, children, and older adults.

The *Vision Zero 2.0 Plan* was endorsed by Toronto City Council in July 2019 and outlines a number of strategies to address safety concerns for road users. Through the Vision Zero Plan, a number of focused safety guides were developed for different road users identified as vulnerable, including pedestrians and cyclists.

3.1.3.8 Updated Cycling Plan, 2019

The 10-Year Cycling Network Plan was initially approved by Toronto City Council in June 2016 and provided a 10-year vision for the City's cycling network. In July 2019, the Cycling Network Plan Update was subsequently approved to provide an updated, longer-term vision for the overall network, as well as identify a detailed 3-year rolling implementation program. The Cycling Network Plan Update identifies long-term projects, major city-wide cycling routes, and a near-term implementation program with a 3-year horizon.

Improvements to the area's cycling network has been identified, including providing bike lanes along Eglinton Avenue East, as well as neighbourhood connections throughout the Flemingdon Park and Thorncliffe Park neighbourhoods

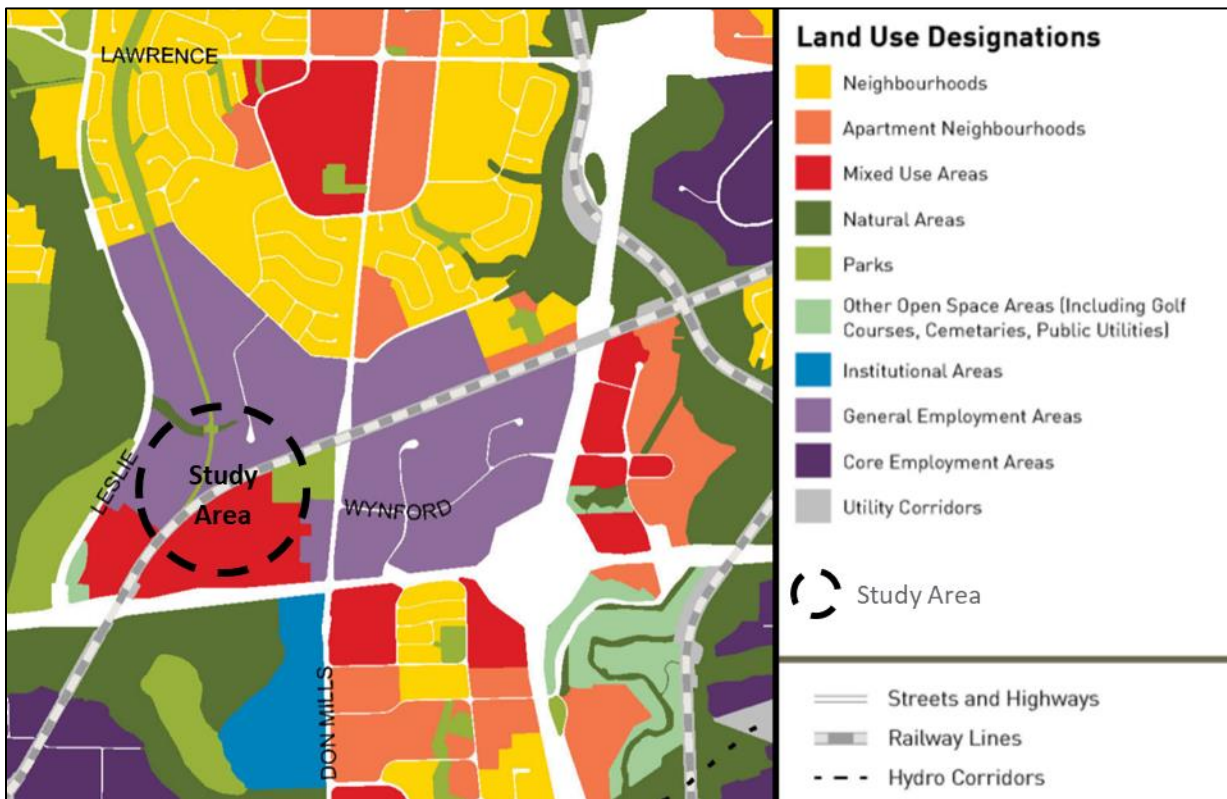
3.1.4 Don Mills Trail Crossing Study Area

As illustrated in **Figure 3-3**, the study area is primarily designated as a *Mixed-Use Area*. It is directly adjacent to other land uses, including *Parks and Natural Areas*, *General Employment Areas*, and *Institutional Areas*. It is also in proximity to City designated *Neighbourhoods* and *Apartment Neighbourhoods*.

The study area is located along the CP Rail Corridor near the intersection of Eglinton Avenue East and the Don Valley Parkway, two major roadways that provide east-west and north-south access spanning the entirety of the Greater Toronto Area. Historically, in this area of the City, the Eglinton Avenue corridor has been oriented towards the efficient movement of motor vehicles, and as a result, lacks street-fronting businesses and a well-developed public realm. However, the implementation of *Eglinton Connects* initiative, and expansion of the Eglinton Crosstown (LRT) into the community is likely to shift development trends toward master planned communities with fine-grain urban grids, including street facing shops and pedestrian-oriented uses.

The study area is adjacent to major cultural and community institutions that draw a significant number of visitors annually, namely the Aga Khan Museum, Ontario Science Centre, and The Toronto Ismaili Centre. Additionally, the study area is well located to provide access to some of the largest green spaces in the city, including the: Wilket Creek Park and path network, Sunnybrook Park, E.T. Seton Park, and the Don Recreation Trail. However, the CP Rail Corridor directly adjacent to the west side of the study area impedes access to some of these green spaces.

Figure 3-3: Toronto Official Plan Land Use Map 20 (Image: City of Toronto)



3.1.5 Population, Housing and Employment

3.1.5.1 Demographic Overview

Ward 16 is a stable, family-oriented community. Demographic data from the 2016 census indicates that the average number of people per household is 2.45. The Ward has a Dependency Ratio of 66.8, meaning there are approximately 67 senior and youth dependents for every 100 working age persons.

Over the last half decade, Ward 16 has grown at a significantly slower pace than the City of Toronto as a whole. Between 2011-2016, the City of Toronto grew by 4.5% and increased its housing stock by 6.2%. In contrast, over the same period Ward 16 grew by only 1.7% and expanded its housing stock by only 1.2%. Most of the housing stock in Ward 16 dates from between 1961 and 2000 (76%).

Most residents in Ward 16 rent their housing (55%), with a significant share of residents living in 5+ storey buildings (58%) and low-rise apartment and condo complexes (13%). The remainder of residents are split between single-family homes (14%), rowhouses (8%) and semi-detached homes (6%).

Mode share data from the 2016 Transportation Tomorrow Survey (TTS) indicates the following transportation trends in this area¹:

Resident Trips (24 hr period)

- Driver: 50–58%
- Passenger: 12–14%
- Transit: 19–26%
- Walk /Cycle: 6–10%

Inbound Trips (24 hr period)

- Driver: 57–60%
- Passenger: 12–14%
- Transit: 18–20%
- Walk/Cycle: 6–9%

The median trip length for residents of this area is 4.9 km when driving, 3.8 km when riding as a passenger in a private vehicle, and 7.4 km when utilizing public transit.

3.2 TRANSPORTATION NETWORK AND UTILITIES

3.2.1 Road Network

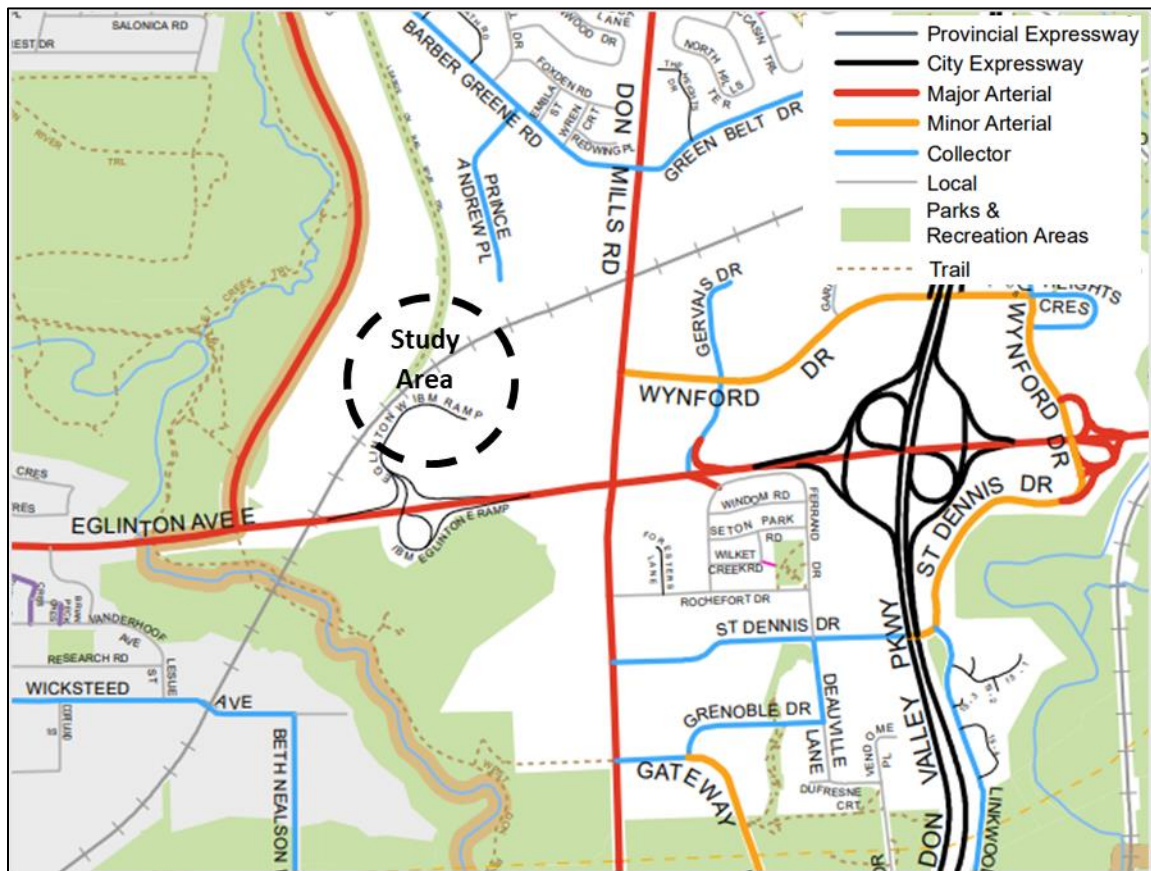
The proposed Don Mills trail crossing is within the vicinity of the intersection of Don Mills Road and Eglinton Avenue East. Don Mills Road and Eglinton Avenue East are arterial roads that carry significant traffic volumes, especially due to their proximity to the Don Valley Parkway.

The existing transportation network in the study area is auto-oriented, however the existing mode share for transit and other sustainable modes of transportation (walking, cycling, carpooling, etc.) is approximately 47%. Auto is the predominate mode of travel for AM inbound and PM outbound trips during peak periods. The local mode of travel in the transportation influence area highlights the need to improve active transportation and transit modes to help facilitate the travel choices and movements of residents, employees, visitors and other users to and from the study area, and to support the range of land uses included within the study area.

The area road network follows the City of Toronto’s roadway classification system, as shown in **Figure 3-4**.

¹In 2018, ward boundaries in Toronto were redrawn. The TTS survey aligns with the old ward boundaries. The numbers above represent data from the old Wards 25, 26 & 34 in the TTS survey, which all intersect with the current Ward 16.

Figure 3-4: Existing Area Roadway Classification (Image: City of Toronto)

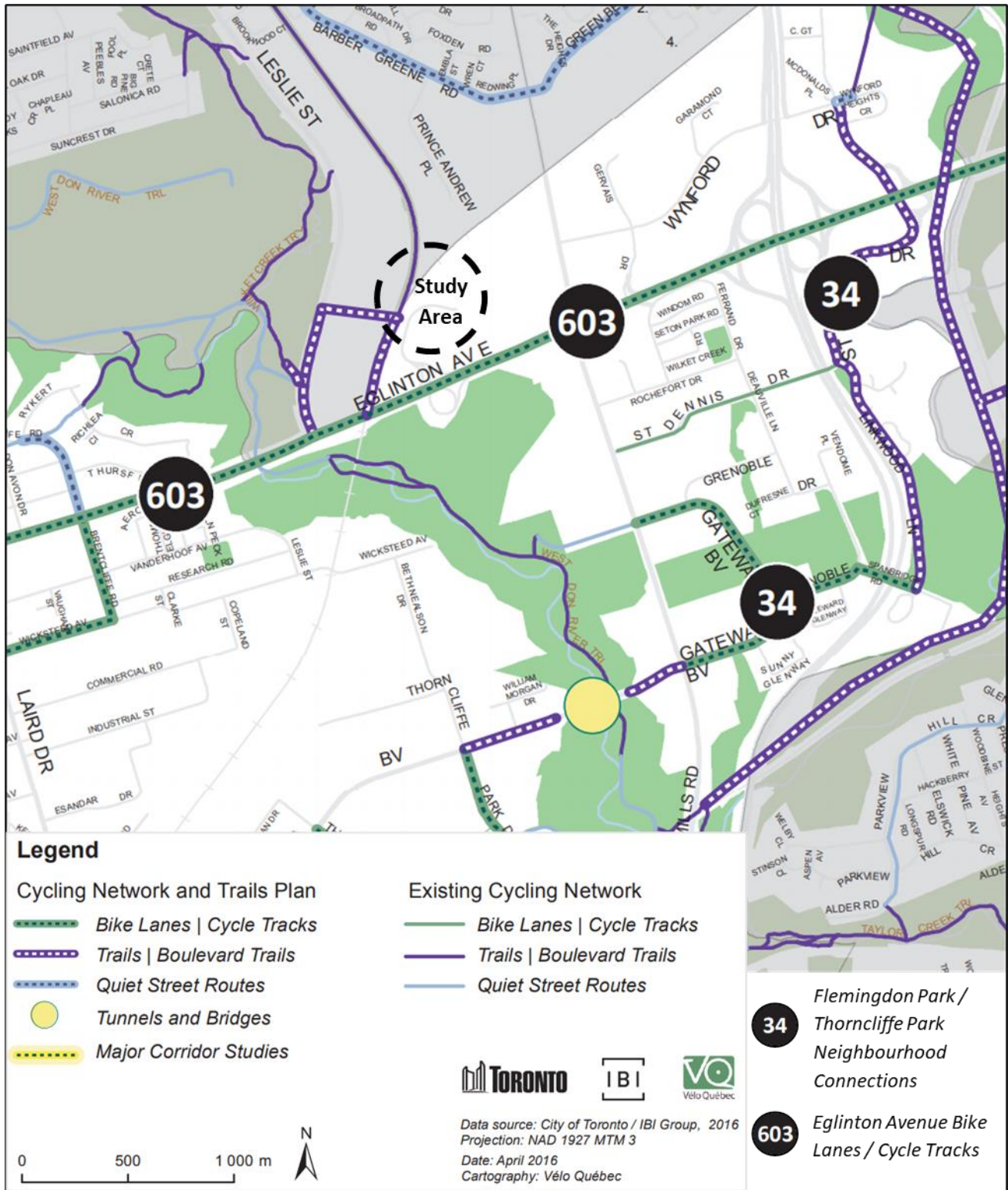


3.2.2 Active Transportation Facilities and Transit Network

The pedestrian and cycling networks in the study area are poorly connected. The poor connectivity can be attributed to the lack of local streets, presence of cul-de-sacs, and discontinuous sidewalks and cycling facilities with physical barriers (e.g. valley/ravine system, Don Valley Parkway, CP rail corridor). There is an extensive recreational trail system located within the vicinity of the study area, comprised of the Don Mills Leaside Spur Trail, West Don Trail, and trails located along the West and East Don River. There are a few key locations in the study area where the trails are not continuous which results in longer walking distances for nearby residents and visitors. Currently, the Don Mills Trail to the north terminates at the rail corridor with no connection to new planned transit services, public amenities, and natural areas to the south.

As discussed throughout **Section 3.1.3**, a number of planning studies and initiatives concerning the general study area have been, or are in the process of being, undertaken. Throughout these studies, several improvements to the area’s active transportation network have been identified. These include providing bike lanes along Eglinton Avenue East, as well as neighbourhood connections throughout the Flemingdon Park and Thorncliffe Park neighbourhoods. These projects are identified under the City’s Cycling Network Plan. The existing active transportation network, including planned or proposed improvements, is shown in **Figure 3-5**.

Figure 3-5: Existing Cycling Network Plan Map (Image: City of Toronto)



Safety is another key concern for active transportation users, especially crossing at the major intersection of Don Mills Road and Eglinton Avenue, where a higher number of lanes, traffic exposure and longer clearance distances present higher collision risks.

While the main arterial roads are served by bus transit, the neighbourhoods within the study area exhibit a “transit desert” effect which are pockets that are underserved by the TTC. The implementation of the Eglinton Crosstown LRT and enhanced bus service along Don Mills Road will increase transit options in the area, and along with active transportation network improvements can help develop a multi-modal hub. The existing TTC bus network and the future Eglinton Crosstown LRT are shown in **Figure 3-6** and **Figure 3-7**.

Figure 3-6: Existing Transit Network – June 2021 (Image: TTC)

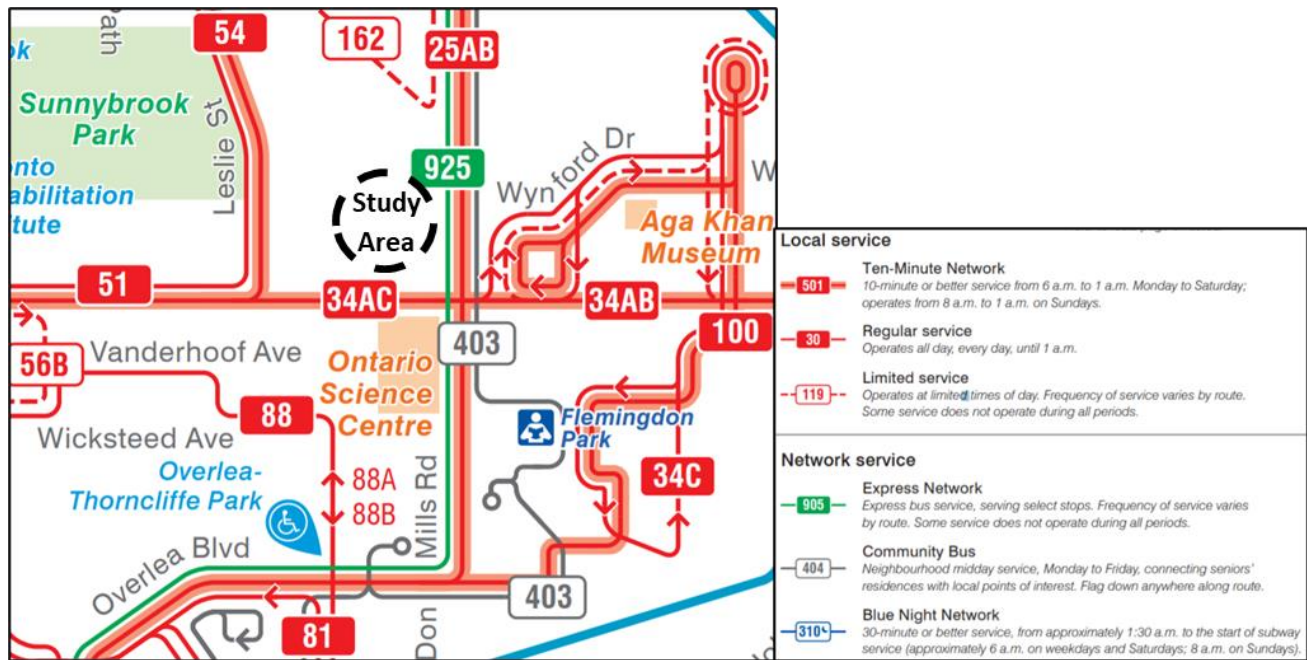


Figure 3-7: Eglinton Crosstown LRT Map (Image: Metrolinx)



3.2.3 Utilities

Based on documentation outlined in a previous study completed by BA Group, there are three oil pipelines adjacent to the CP tracks approximately 50 m south of the proposed location for the rail crossing.

In addition, sanitary sewer, storm water and potable water pipes, are located around Eglinton Avenue East and Leslie Street, a few hundred metres south of the proposed crossing location.

3.3 NATURAL ENVIRONMENT

A review of secondary data and aerial satellite imagery, as well as a field investigation conducted in February 2020, were completed to document the existing natural environment within the study area.

A map illustrating the natural environmental features within the study area is provided in **Figure 3-8**.

3.3.1 Vegetation

The vegetation communities within the study area observed during field investigations have been generally affected by human disturbance / influence within the study area. The area along the Don Mills Trail north of the rail line consisted of landscape plantings of Norway Maple and an understory of mixed herbaceous and graminoid species and scattered shrubs bordering the trail. The area on the north side of Eglinton Avenue East, south of the rail line, is defined by a small valley like feature parallel to the rail line that flattens towards Eglinton Avenue East. The valley is steeply sloped and heavily vegetated with both mature trees and a moderate understory. Although the area is sloped it is also heavily vegetated and likely limits sun penetration during the growing season.

Four vegetation communities identified immediately north of Eglinton Avenue East are listed below and shown in **Figure 3-8**:

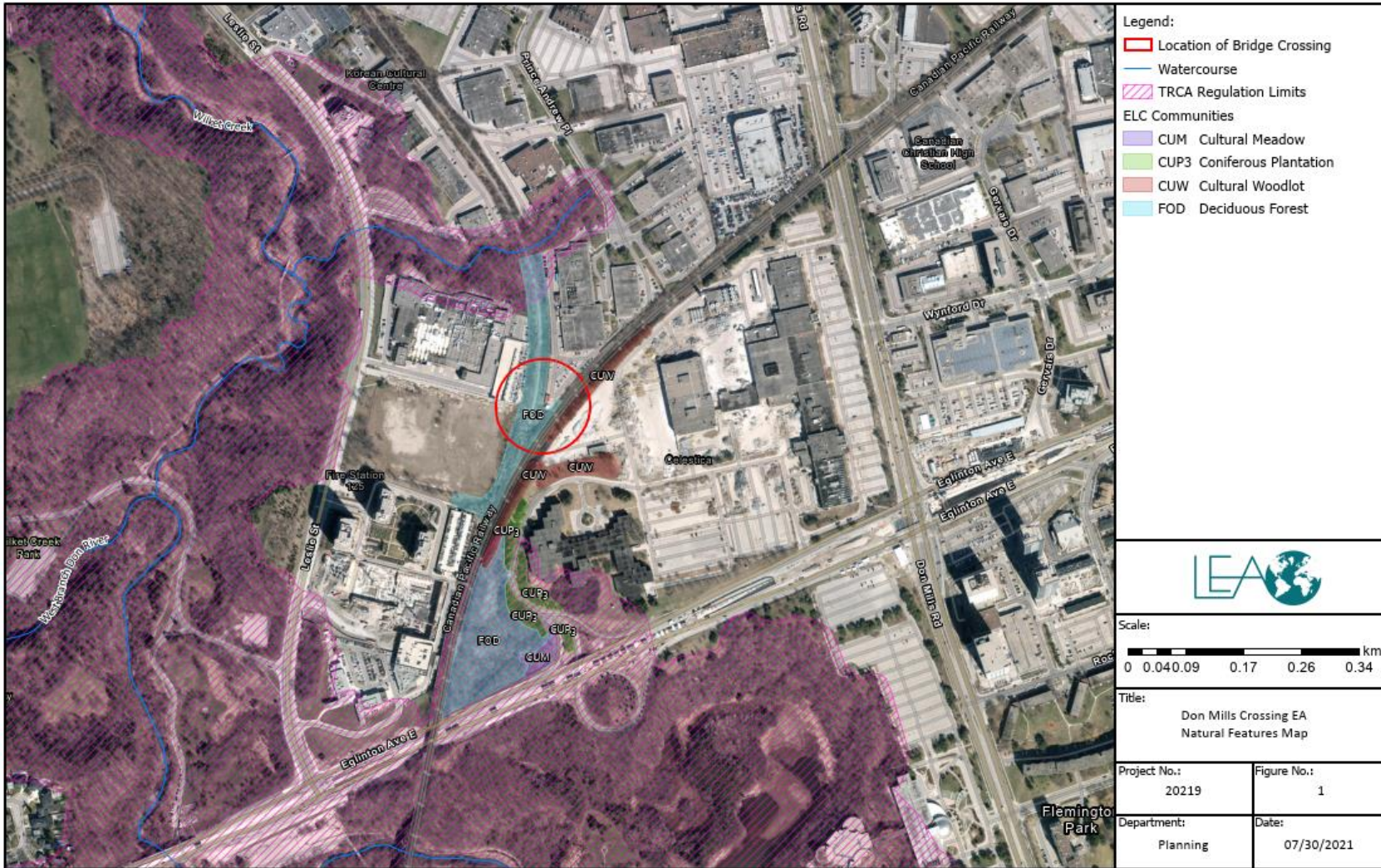
- ▶ Deciduous Forest (FOD)
- ▶ Cultural Meadow (CUM)
- ▶ Coniferous Plantation (CUP3)
- ▶ Cultural Woodlot (CUW)

Common vegetation species found within the study area include Black Chokecherry (*Prunus virginiana*), Black Cherry, Common Buckthorn (*Rhamnus cathartica*), Common Reed (*Phragmites australis*), Crab Apple (*Malus sylvestris*), Norway Maple (*Acer platanoides*), Paper Birch (*Betula papyrifera*), Red Maple, Red Oak, Red Pine, Staghorn Sumac (*Rhus typhina*) and Sugar Maple.

3.3.2 Wildlife and Wildlife Habitat

The Don Mills Crossing MPS indicated that wildlife habitat within the study area is generally highly disturbed by urban activity, with the exception of natural areas associated with the West Branch of the Don River. Wildlife within the urbanized sections of the study area are generally limited to common to urban-tolerant species due to their adaptation to human activities and noise. Urban species which have the potential to be found in the primary study area include examples such as House Sparrow (*Passer domesticus*), European Starling (*Sturnus vulgaris*), Northern Cardinal (*Cardinalis cardinalis*) and Eastern Cottontail (*Sylvilagus floridanus*).

Figure 3-8: Existing Natural Environmental Features Map

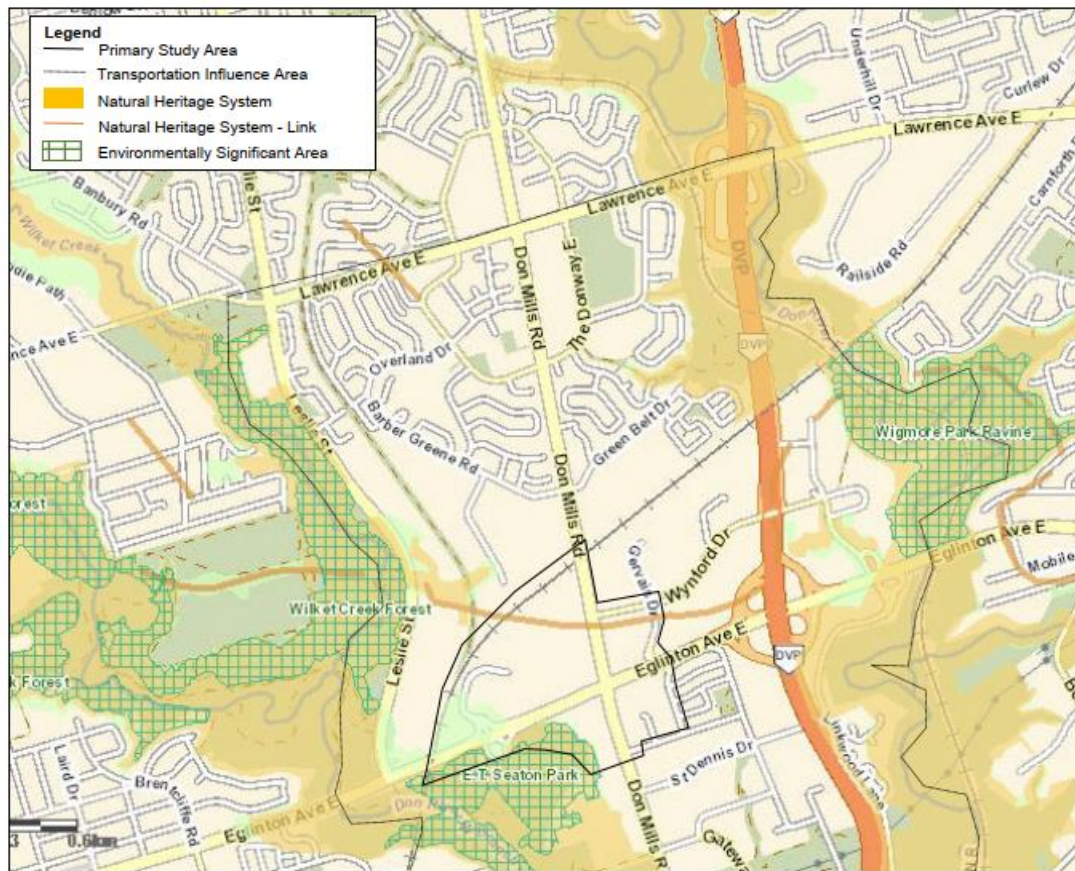


3.3.3 Environmentally Sensitive Areas

Natural features located within the vicinity of the study area include one candidate Area of Natural and Scientific Interest (ANSI), two Environmentally Significant Areas (ESAs) and areas regulated by the Toronto and Region Conservation Authority (*Ontario Regulation 166/06*), and the City of Toronto's *Ravine and Natural Feature Protection (RNFP) By-law* were identified within the vicinity of the Don Mills Trail Crossing EA study area.

The location of the ESAs within the study area are shown in **Figure 3-9**.

Figure 3-9: Environmentally Significant Areas Map



3.3.4 Species of Conservation Concern

A review of the natural heritage features of the study area indicated a few historic records of plant species and wildlife regulated under the Ontario *Endangered Species Act, 2007 (ESA)* within the Don Mills Secondary Plan study area. Seven species of conservation concern (SCC) were identified to be potentially present based on occurrence records within the study area, including: Snapping Turtle (*Chelydra serpentina*) (SC), Queensnake (*Regina septemvittata*) (END), Spiny Softshell (*Apalone spinifera*) (END), Blanding's Turtle (*Emydoidea blandingii*) (END), Barn Swallow (*Hirundo rustica*) (THR), Eastern Wood-Pewee (*Contopus virens*) (SC), and Chimney Swift (*Chaetura pelagica*) (THR). Based on a high-level screening of the habitat, it was determined there is a low likelihood for the majority of the above noted SAR to be located within the study area with the exception of Snapping Turtle, Barn Swallow, Spiny Softshell, Eastern Wood-pewee, and

Chimney Swift. Prior to the commencement of any construction related activities, efforts should be undertaken to identify the location and sensitivity of potential SAR habitat.

A Butternut survey was completed in February 2020 by LEA Consulting ecologists. Although there were confirmed occurrence records for Butternut (SAR) within the general area from a review of secondary source data, and suitable habitat was identified for Butternut within the study area, no mature Butternut trees were confirmed during field investigations. It should be noted that seasonal limitations may have restricted the proper identification of Butternut during the winter months, particularly young trees/saplings, however, it is still unlikely that any Butternut trees are present within the study area. It is recommended that during detailed design, an additional survey be undertaken during the leaf-out period to confirm the absence of Butternut within the study area. Should Butternut be identified at that time, it is recommended that a Butternut Health Assessor be retained to confirm permitting/approval requirements under the *ESA*.

3.3.5 Fish and Fish Habitat

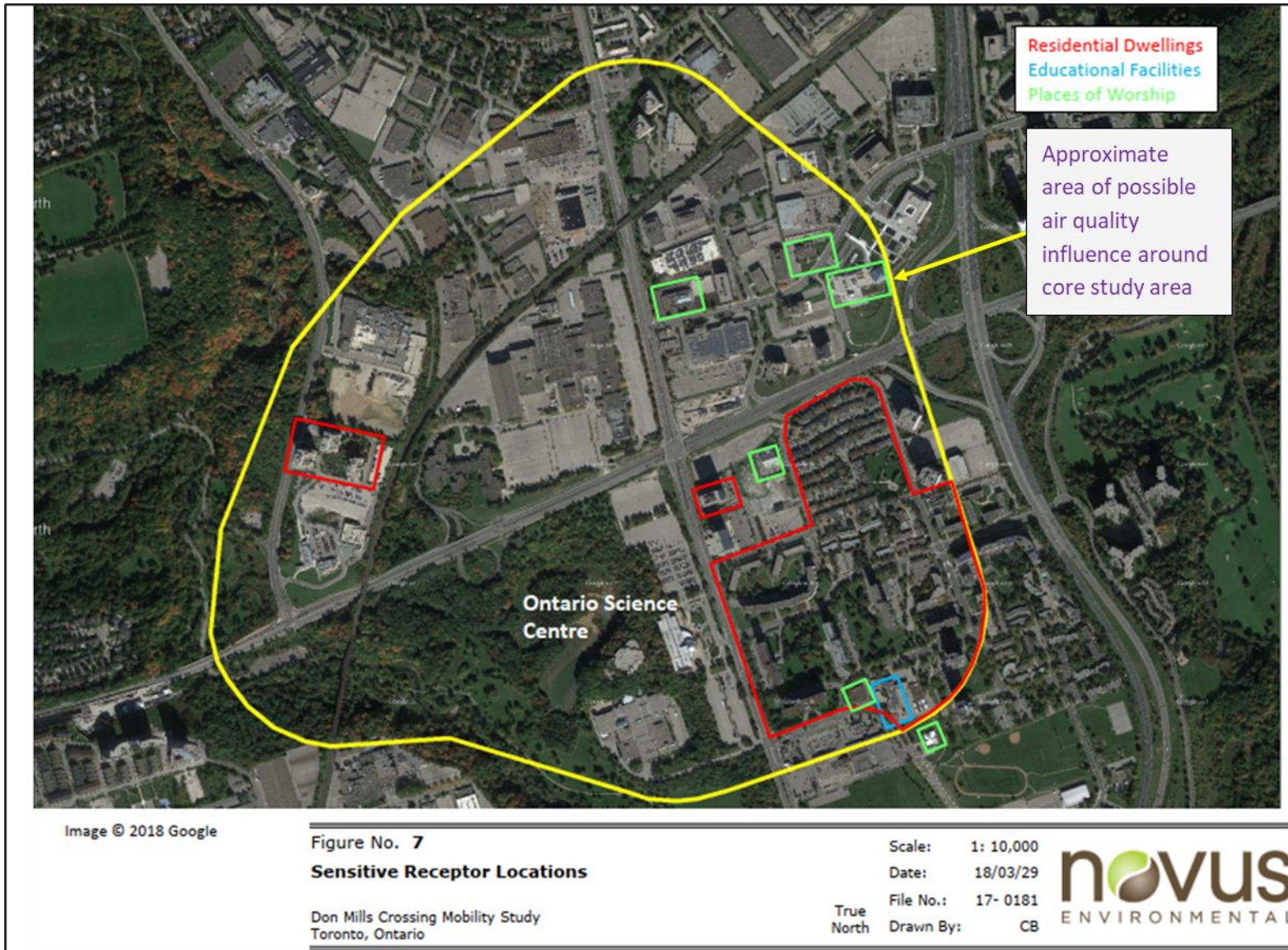
The study area is located within the Don River Watershed. The Don River West Branch/Wilket Creek is located adjacent to the study area, however there are no watercourses located directly within the Don Mills Trail Crossing EA study area.

3.3.6 Air Quality

An air quality review was completed as part of the MPS by Novus Environmental. The purpose of the review was to identify potentially sensitive receptors in the area, summarize existing ambient concentrations, identify potentially sensitive receptors in the area, summarize existing ambient concentrations, and identify applicable air quality criteria and guidelines. The infrastructure planning for the study area focuses on shifting trips to sustainable modes such as cycling, transit and walking. These activities are expected to reduce the number of vehicles on the roadway, therefore reducing total vehicle emissions within the study area which reduces the negative impacts on human health. Sensitive receptors within the study area are mainly residential, including both low rise and high-rise buildings, several churches and one school. The Ontario Science Centre is not typically considered a sensitive receptor, however since it is frequented by children it is considered one from an air quality perspective.

Air quality sensitive reception locations within the general study area are shown in **Figure 3-10**.

Figure 3-10: Air Quality Sensitive Receptor Map



3.3.7 Noise

A noise assessment was completed as part of the Don Mills Crossing MPS which identified a number of noise sensitive areas (NSAs) within the study area, as illustrated in **Figure 3-11**. NSAs include receptors with the following land-uses provided they have an outdoor living area (OLA) associated with them:

- ▶ Private homes such as single-family residences;
- ▶ Townhouses;
- ▶ Multiple unit buildings such as apartments with OLA's for use by all occupants; and
- ▶ Hospitals and nursing homes for the aged, provided they have an OLA for use by patients.

Based on the background review of the study area, the primary source of noise is from road traffic along Eglinton Avenue East and Don Mills Road, as well as rail traffic from the CP corridor. The Don Valley Parkway (DVP) east of Don Mills Road, and the minor local roadways within the vicinity of the study area are considered secondary transportation noise sources. Given it is not anticipated that there will be an additional increase in road traffic in the study area due to the construction of pedestrian and bicycle bridge since the bridge is not part of the interior access roads for vehicular traffic, and the new bridge will result in a shift of existing or new trips to more sustainable modes (e.g. transit, cycling, walking), there will be no negative long-term changes in transportation noise as a result of the new trail crossing.

It is expected that noise levels will be increase during construction in the neighbouring area, however, construction noise is temporary in nature and largely unavoidable. The adjacent area is currently industrial/commercial area, and the closest existing residential building is approximately 150 metres away. With the implementation of the City's standard mitigation measures for noise for construction, and the recommended mitigation measures outlined in **Figure 3-11**, noise impacts to neighbouring areas will be minimized.

3.3.8 Contamination

A Contamination Overview Study (COS) was completed as a modified Phase 1 Environmental Site assessment as part of the Don Mills Crossing MPS to identify properties with medium and high potential for contamination within the study area.

Based on a review of historical records and a site reconnaissance, the following properties with medium and high potential source of environmental concern were identified within the study area, as showing in **Figure 3-12**:

High Potential for Contamination

- ▶ 843 Don Mills Road
- ▶ 1075-1095 Leslie Road
- ▶ 1109 Leslie Road
- ▶ 1121 Leslie Road
- ▶ 1123 Leslie Road

Medium Potential for Contamination

- ▶ 1150 Eglinton Avenue East
- ▶ 4 Prince Andrew Place
- ▶ 8 Prince Andrew Place

Figure 3-11: Noise Sensitive Areas Map

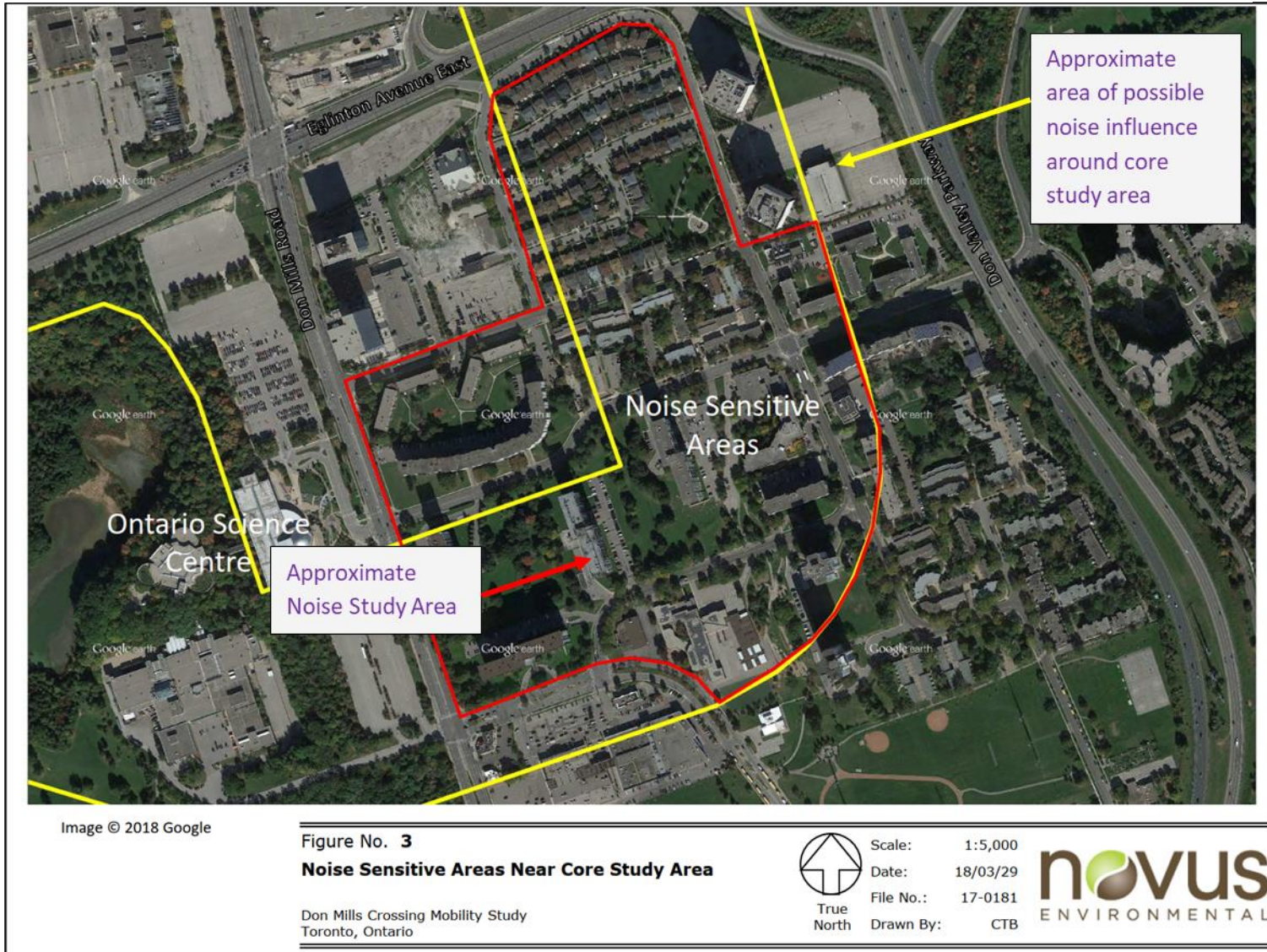
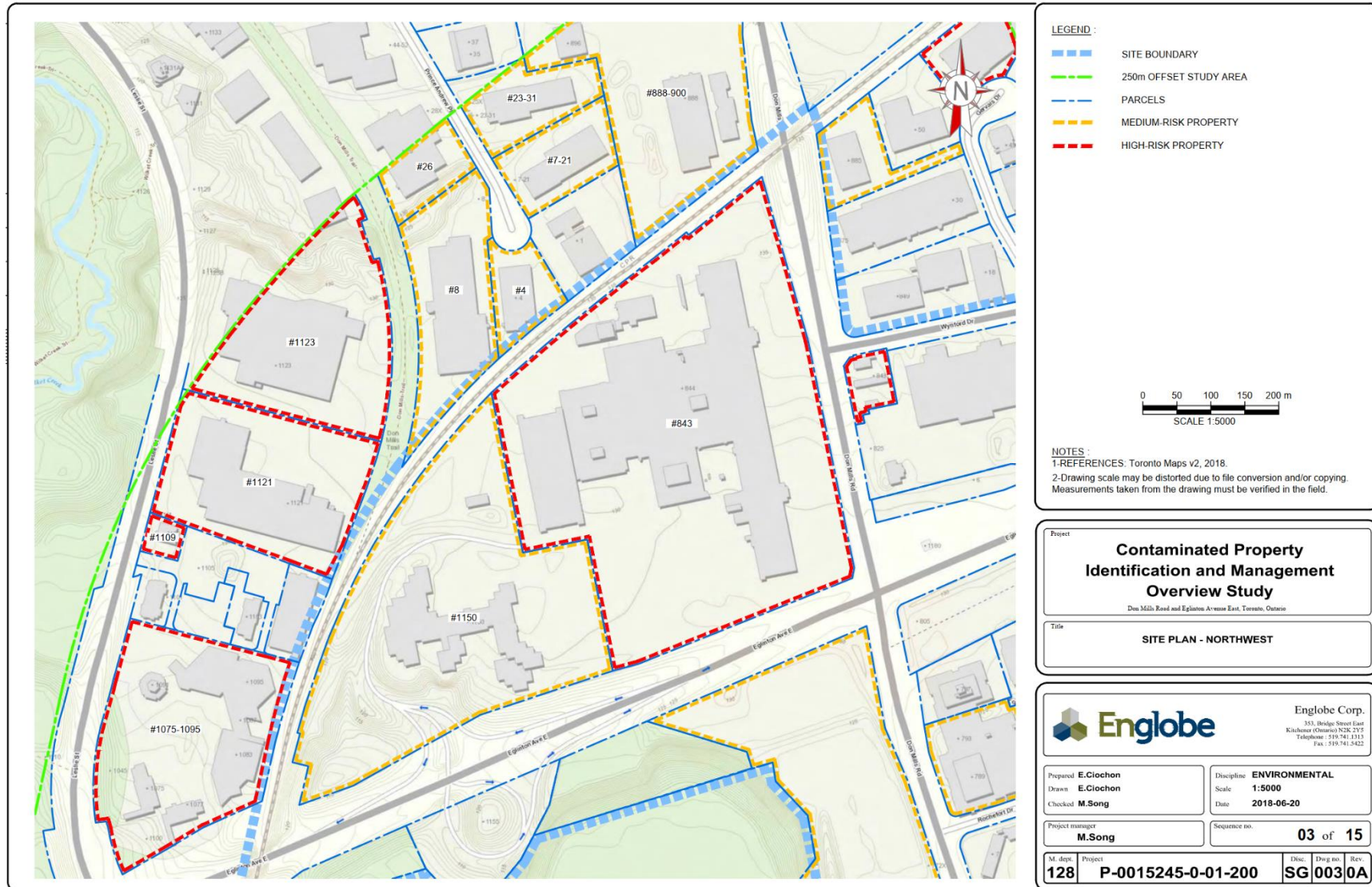


Figure 3-12: Location of Potentially Contaminated Properties Map



3.4 CULTURAL HERITAGE ENVIRONMENT

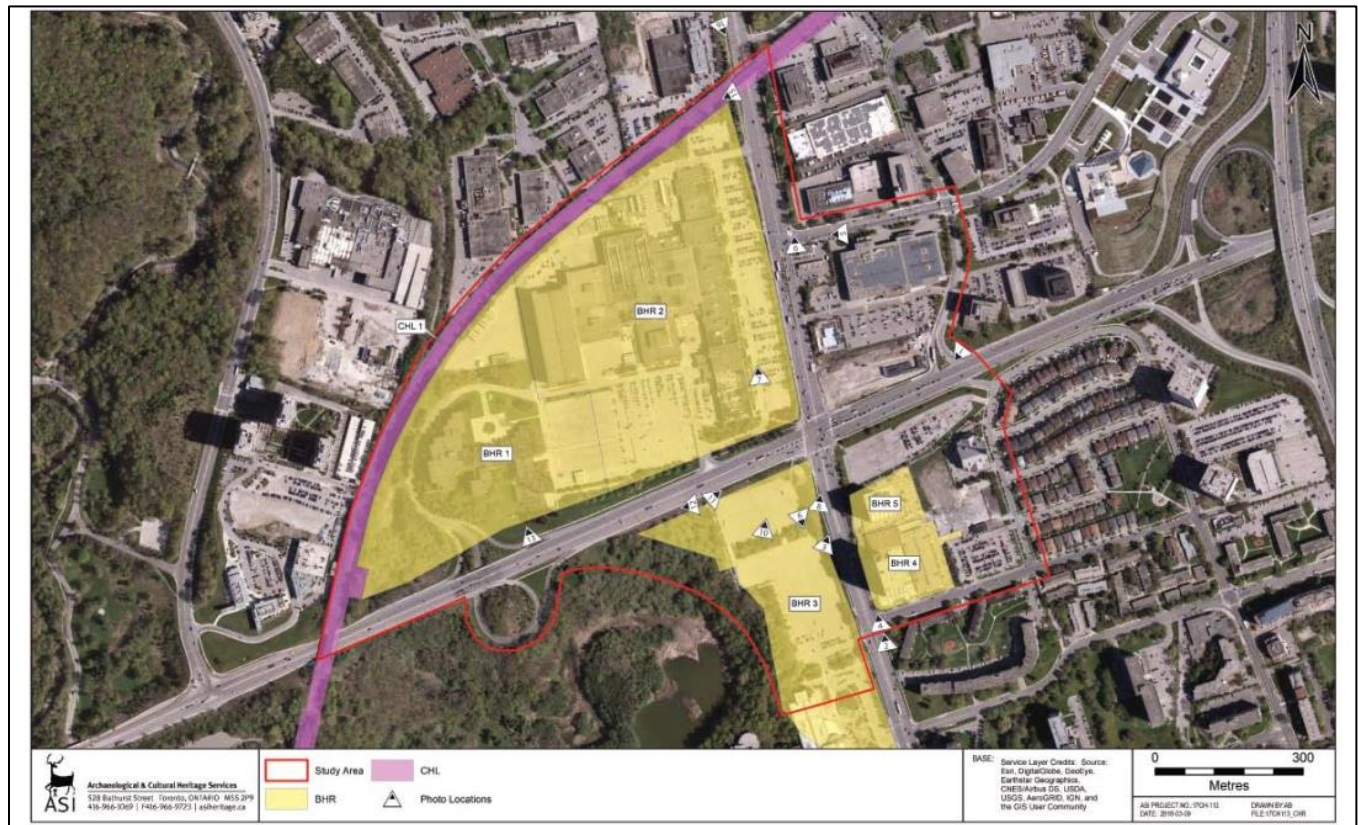
3.4.1 Cultural and Built Heritage

A cultural heritage assessment was completed as part of the Don Mills Crossing MPS which identified six cultural heritage resources are located within or adjacent to the MPS area. Of the six resources, two built heritage properties and one cultural heritage landscape was identified within the Don Mills Trail Crossing EA study area. The identified cultural heritage resources are summarized in **Table 3-1** and shown in **Figure 3-13**.

Table 3-1: Summary of Cultural Heritage Resources

Municipal Address	Property Name	Heritage Recognition / Status (2018)
Built Heritage Resources		
1150 Eglinton Avenue East (BHR 1)	Parkin Building / Formerly Celestica (IBM)	OHA Part IV Intention to Designate This property is identified in the document North York’s Modernist Architecture Revisited, (2010) which led to the municipal designation nomination
844 Don Mills Road (BHR 2)	MacLean Building	Listed: OHA Part IV Intention to Designate
Cultural Heritage Landscapes		
N/A – CPR Rail Line (CHL 1)	Canadian Pacific Rail Corridor	Identified during field review Potential Cultural Heritage Landscape

Figure 3-13: Cultural Heritage Resources Map



A heritage impact assessment (HIA) was completed for the Crosstown Development properties at 844 Don Mills Road and 1150 Eglinton Avenue East (*formerly Wynford Green*) in October 21, 2016 which confirmed both properties were of cultural heritage significance. The HIA was subsequently updated in February 2018 to establish a framework for describing building retention strategies for the heritage buildings at 844 Don Mills Road and 1150 Eglinton Avenue East.

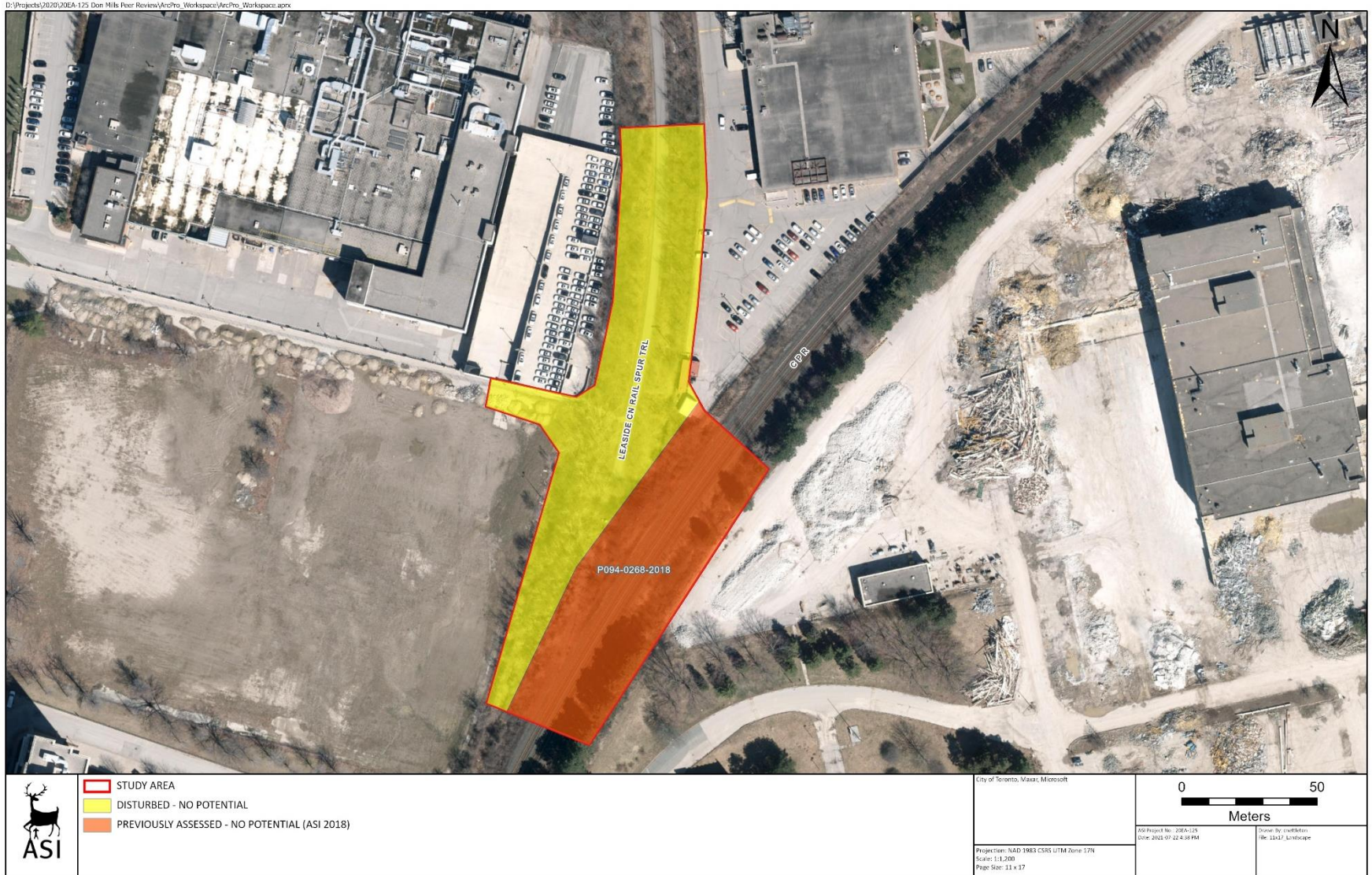
A copy of the updated HIA report is included in **Appendix D**.

3.4.2 Archaeology

A Stage 1 Archaeological Assessment was completed as part of the Don Mills Trail Crossing EA and included secondary source research and a property inspection in November 2020 to determine the archaeological potential of the study area. One previously registered archaeological site is located within one kilometre of the study area but is not within 50 m of the study area. Based on the secondary source research, and the onsite property inspection, it was determined that the study area does not retain archaeological potential and no further archaeological work is required. The results are presented in **Figure 3-14**.

The Stage 1 Archaeological Assessment Report is included in **Appendix E**.

Figure 3-14: Archaeological Assessment Results Map



4 REVIEW OF THE MCEA PHASES 1 AND 2

The Don Mills Crossing MPS (2019) followed the Transportation Master Planning process under the MCEA and satisfied the requirements of Phases 1 and 2 of the MCEA Process. This section summarizes the information and recommendations from the MPS, and the project team’s review of the MPS.

4.1 PHASE 1: PROBLEMS AND/OR OPPORTUNITIES STATEMENT

Phase 1 of the MCEA involves the identification of a project’s problems and/or opportunities and the development of a statement to describe the problems and/or opportunities within the study area. As stated within the Don Mills Crossing MPS, the Problems and/or Opportunities Statement identified for the study is as follows:

Within the study area, Eglinton Avenue and Don Mills Road serve as regional roads that carry significant through traffic volumes, especially due to their proximity to the Don Valley Parkway. Historically, the intersection of these two major roads has experienced some of the highest traffic volumes and collision risks in the City of Toronto. There is currently limited transportation network connectivity, especially for active modes, due to major natural or man-made barriers including the Don Valley Parkway, Don Valley Ravine, CP Rail corridor, wide roadways, and separated development blocks. As a result, there is a lack of coherent and integrated multi-modal transportation network.

However, the construction of the Eglinton Crosstown Light Rail Transit will transform the area surrounding Don Mills Road and Eglinton Avenue, creating an opportunity to shift away from the originally planned vehicle-oriented place towards a more multi-modal and people-oriented place. A review of the existing transportation conditions confirms the need for a more integrated multi-modal transportation network, internally and to the surrounding areas, that allows for:

- ▶ *Walkable and connected communities;*
- ▶ *Cycling infrastructure with a connected network; and*
- ▶ *Safe and convenient access to transit.*

The arrival of new transit infrastructure will unlock the redevelopment of existing large, single use parcels of underutilized lands into a complete community with a range and mix of uses and fine-grained street network, and connectivity with higher priority to transit, walking, cycling and other sustainable shared vehicle modes or technologies.

The Don Mills Crossing MPS provides an opportunity to shape and manage the emerging multi-modal transportation network which includes: linkages to open spaces and the ravine system planned in conjunction with natural heritage considerations; new active transportation crossings, such as over the CP rail corridor, for a more complete and connected network; and new and safe street connections that do not significantly affect roadway operations that are based upon high quality urban design.

Within the study area are few crossing opportunities for active modes of travel over the CP rail corridor, which hinders the ability to achieve a complete and connected multi-modal transportation network. The existing Don Mills Trail is disjointed as it abruptly terminates north of the CP rail corridor and does not connect south of Eglinton Avenue into the ravine system. With the construction of the Eglinton Crosstown

LRT and other planned transit improvements, new opportunities have merged to create a complete multi-modal transportation network. This includes providing a grade-separated crossing connecting the existing Don Mills Trail multi-use path north of the CP rail corridor over the rail corridor to the Crosstown Development south of the rail corridor.

The problem and opportunities statement was reviewed by the Project Team during this study and it was confirmed that it remains accurate and continues to present a strong justification to provide a crossing over the CP rail corridor in order to enhance the mobility options for residents across the rail tracks and future connectivity to the Crosstown Development, future Eglinton Crosstown LRT station, and overall trail system.

4.2 PHASE 2: IDENTIFICATION AND EVALUATION OF ALTERNATIVE SOLUTIONS

Phase 2 of the MCEA involves the identification and evaluation of a reasonable range of alternative solutions to the problem. This includes an inventory of existing conditions within the study area, the identification and consideration of a range of alternative solutions, an evaluation of the alternative solutions, and recommendations of a preferred alternative solution.

The MPS identified and evaluated three alternative solutions for the crossing of the CP rail tracks, including:

- ▶ Underground
- ▶ Elevated with “straight” ramps
- ▶ Elevated with “switchback” ramps

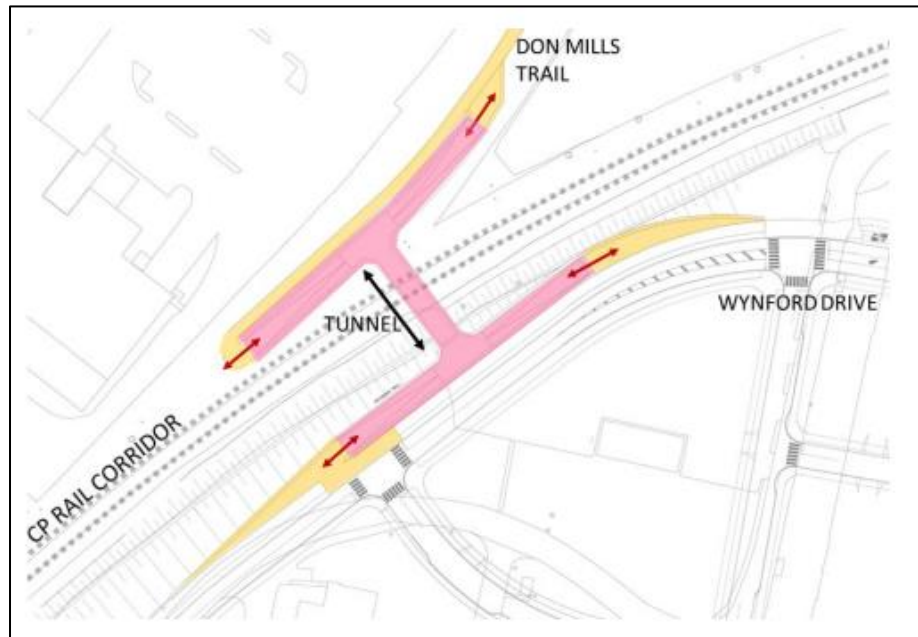
The three alternatives were evaluated, and a preferred alternative solution was selected. The following section provides a summary of the alternative solutions identified and the preferred alternative solution of the elevated ramps as presented in the MPS. Further details on the recommended alternative solution are provided in **Section 4.2.1.3**.

4.2.1 Alternative Solutions

4.2.1.1 *Alternative # 1: Underground*

The underground option involves a tunnel constructed under the CP rail tracks, with two entrance ramps on either side of the tunnel, on both sides of the track. On the north side of the tracks, the ramps connect to the Don Mills Trail. The underground crossing option is shown in **Figure 4-1**.

Figure 4-1: Underground Crossing Option



The advantages and disadvantages of the underground alternative are provided below:

Advantages

- ▶ Easily accessible by pedestrians & cyclists
- ▶ Minimal visual impact
- ▶ Small footprint
- ▶ Minimizes interaction with rail tracks

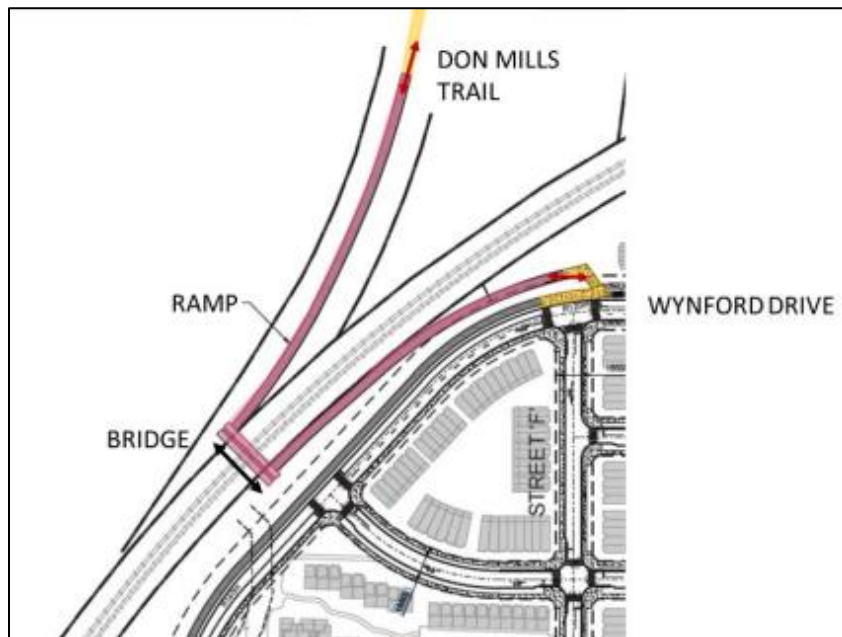
Disadvantages

- ▶ High potential impacts to CP Rail Corridor during construction
- ▶ Minimal visibility reduces perception of safety
- ▶ High potential for operational issues (i.e. drainage, lighting, graffiti prevention & removal)
- ▶ Minimal public realm opportunities
- ▶ Highest estimated construction cost

4.2.1.2 Alternative # 2: Elevated “straight” ramps

The elevated “developer concept” option consists of a bridge constructed over the CP rail tracks. A ramp on either side provides access to the structures with no switchbacks. While the bridge is in the same location as the other two options, the access ramp from Wynford Drive is located at the north end of Street F, instead of the west end of Street C, due to the length of ramp required. The elevated, developer concept crossing option is shown in **Figure 4-2**.

Figure 4-2: Elevated Crossing Option (Developer Concept, No Switchbacks)



The advantages and disadvantages of the elevated developer concept (no switchbacks) are provided below:

Advantages

- ▶ Easily accessible by cyclists
- ▶ Greater visual impact and public realm opportunities
- ▶ Higher visibility increases perception of safety
- ▶ Access ramp maintains sightlines
- ▶ Less impact on CP Rail Tracks during construction
- ▶ Less costly than tunnel option

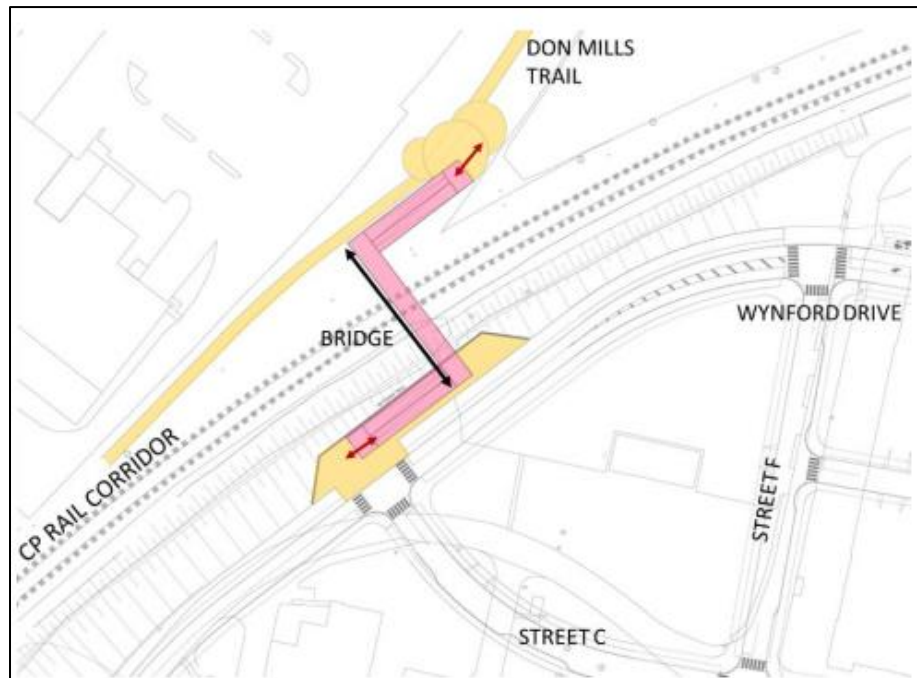
Disadvantages

- ▶ Less accessible by pedestrians due to lengthy ramps
- ▶ Higher potential for interaction with CP Rail corridor
- ▶ Potential for operational issues (i.e. snow clearance, graffiti prevention & removal)
- ▶ Greater footprint & associated tree removal

4.2.1.3 Alternative # 3: Elevated “switchback” ramp

The elevated “switchback” option also consists of a bridge constructed over the CP Rail tracks. The ramp on either side is segmented with switchbacks to reduce the profile of the bridge and prevent pedestrians from having to walk far out of their way if coming from the south to access the structure (i.e. less circuitry, enhanced directness for users to continue along the trail to the south). On the north side of the tracks, a connection to the Don Mills Trail is provided. The elevated, alternative concept crossing option is shown in **Figure 4-3**.

Figure 4-3: Elevated Crossing Option (Alternative Concept, Switchbacks)



The advantages and disadvantages of the elevated switchback concept are provided below:

Advantages

- ▶ Easily accessible by pedestrians
- ▶ Greater visual impact and public realm opportunities
- ▶ Smaller footprint than Developer Concept
- ▶ Less impact on CP Rail tracks during construction
- ▶ Less costly than tunnel option

Disadvantages

- ▶ Less accessible by cyclists due to switchbacks
- ▶ Higher potential for interaction with CP Rail corridor
- ▶ Potential for operational issues (i.e. snow clearance, graffiti prevention & removal)
- ▶ Switchbacks minimize sightlines & reduce perception of safety
- ▶ Property requirements

Based on a review of the MPS Phase 1 and 2 evaluation, preliminary assessment of the design and space requirements for an overpass option involving switchbacks, and a review of design precedents of mediocre and best-practices in switchback ramp design from a cyclist user experience perspective, significant constraints to providing the crossing with switchback ramps have been identified. While the switchback ramp option was not explicitly ruled out during the MPS, significant issues regarding the viability of an overpass were identified for the switchback ramp option but not the straight ramp option. Specifically, safety concerns for cyclists and issues with facilitating snow removal and maintenance were identified for the switchback option. Recognizing the current design of Wynford Drive and property constraints for the overpass, the space requirements to provide ramps with a switchback design that meets the identified criteria and design goals on the south side of the rail corridor are not met without affecting the Wynford Drive right-of-way. It was determined that there is insufficient space between the rail corridor, landscaped berm, and multi-use path along Wynford Drive to accommodate a switchback ramp that meets the minimum 5 m radius where the switchback curves, as well as the minimum width to accommodate cyclists and pedestrians in either a shared or separated-use path as per the City of Toronto MUT Guidelines. Therefore, the elevated option with straight ramps was identified as the preferred alternative solution.

4.2.2 Evaluation of the Alternative Solutions

The evaluation of alternative solutions that was conducted as part of the MPS utilized eight criteria headings which was further divided into sub criteria categories to provide a high level, qualitative evaluation of the three alternative solutions under consideration.

The eight main criteria headings were as follows while the sub-criteria for each heading are provided in **Table 4-1**:

1. Stakeholder requirements
2. Accessibility
3. Public realm/aesthetics
4. Environment
5. Safety
6. Maintenance
7. Implementation
8. Cost

Table 4-1: Alternative Solution Sub-Evaluation Criteria

Criteria	Sub-Criteria
Stakeholder Requirements	<ul style="list-style-type: none"> ▶ Meets City of Toronto goals and objectives ▶ Compliance with CP Rail Regulations
Accessibility	<ul style="list-style-type: none"> ▶ Ease of access and exit / accessibility for cyclists and pedestrians ▶ User experience
Public Realm/ Aesthetics	<ul style="list-style-type: none"> ▶ Visibility ▶ Architectural design & aesthetics
Environment	<ul style="list-style-type: none"> ▶ Impact on TRCA protection area ▶ Archaeological impact ▶ Impact on Don Valley trail system
Safety	<ul style="list-style-type: none"> ▶ Crime risk ▶ Interaction with rail tracks (e.g. reducing risk of objects falling on the tracks, feasibility to incorporate suicide prevention measures into structure)
Maintenance	<ul style="list-style-type: none"> ▶ Frequency of maintenance requirements ▶ Difficulty of maintenance (e.g. rail track access requirements)
Implementation	<ul style="list-style-type: none"> ▶ Construction time ▶ Impact on CP Rail tracks during construction ▶ Complexity of construction staging
Cost	<ul style="list-style-type: none"> ▶ Final cost and contingency

Stakeholder Requirements

The stakeholder requirements criteria are described identically for each of the three options under consideration, which results in no difference in the evaluation. Each option is equally viewed as meeting the goals/in compliance with the various stakeholders. All are positively described.

Accessibility

The accessibility criteria examine the ease for both pedestrians and cyclists to access the crossing, focusing on grades, footprints, and ease for cyclists to navigate the crossing.

Public Realm/Aesthetics

The public realm/aesthetics criteria focuses on visual impacts of either the tunnel or two bridge options. High degree of visual impact was considered a negative feature of the alternatives. The tunnel option had minimal visual impact, followed by the two elevated options.

Environment

The environment criteria focused on TRCA and City of Toronto environmental regulations, with all three alternatives being equally subject to these regulations and approvals. The differentiator focused on the

footprint of each of the alternatives and the amount of tree removal that would be required. The Elevated option (Alternative Concept) is expected to have the least amount of tree removal.

Safety

The safety criteria focused on whether the alternative has any type of enclosure, what the potential sightlines may be, and the potential to interact with the existing rail tracks. Since the tunnel option does not involve any interaction with the rail tracks, there is no risk to the public's safety when crossing the tracks. With regards to the two bridge options, the developer option was perceived to be safer from a user perspective when compared to the elevated option, which has switchbacks that minimize sightlines and therefore creates the perception that this option is less safe.

Maintenance

The maintenance criteria refers to the removal of snow during the winter months from the crossing structures under consideration. With regards to snow removal, the tunnel option would require the least amount of maintenance, while the elevated alternative bridge structure is considered to have greater maintenance requirements due to the presence of switchbacks which present a challenge when plowing snow.

Implementation

The implementation criteria considers impacts to the CP rail corridor during construction. The tunnel option is viewed to have higher potential for impact on the CP rail tracks during construction while the two bridge crossing options are considered to have no impact to the CP rail corridor operations during construction.

Cost

The cost criteria presents the construction cost for each of the three alternatives under consideration. Both bridge options appear to cost the same, despite the elevated concept bridge having shorter ramps versus the developer concept having longer ramps (which may result in higher construction costs). The cost for the tunnel option is estimated to be the costliest.

4.2.3 Recommended Alternative Solution

Based on the evaluation of the three alternative solutions, the preferred CPR corridor crossing solution is the **Elevated pedestrian/cycling bridge** option which was selected as the recommended alternative solution for the following reasons:

- ▶ Safety / Security
 - Given the resulting Wynford Drive extension vertical profile (i.e. grades) in the vicinity of the proposed crossing, a tunnel solution would require lengthy ramps and be essentially hidden from the roadway presenting potential security / safety issues
 - An elevated solution minimizes these issues, particularly with appropriate design initiatives (i.e. open railings making all walkways visible)
- ▶ Operations / Maintenance
 - The lowered tunnel profile would present additional operations and maintenance issues, such as: drainage (potentially requiring a pumping station), illumination, and graffiti removal
 - Elevated solutions significantly reduce on-going operations and maintenance costs

► Public Realm

- The lowered tunnel profile present limited public realm opportunities
- A bridge option has the potential to create a meeting place (i.e. destination), incorporating bike share facilities, and providing enhanced public realm opportunities (i.e. wall along the railway right-of-way / berm, providing a viewing location of the downtown Toronto vista from the bridge itself)

5 DEVELOPMENT OF DESIGN ALTERNATIVES

Based on the recommendations within the MPS, design alternatives for an elevated bridge crossing were developed as part of the Don Mills Trail Crossing MCEA.

The design alternatives were broken into two categories and independently evaluated to determine the recommended design for the two structural elements that make-up the crossing structure, including:

1. **Bridge Structure:** This entails determining the bridge type that will make-up the horizontal crossing over the CP rail corridor
2. **Ramps:** This entails determining the ramp type for the two ramps leading to and from the ground up to the bridge structure (i.e. north approach and south approach)

Together, the bridge and ramps form the crossing structure over the CP rail corridor. Three alternatives were developed for each of the two structural elements.

5.1 DESIGN VISION AND GUIDING PRINCIPLES

At the onset of the study, a set of design vision and guiding principles was developed to guide and inform the development of the design alternatives and ensure the proposed crossing is consistent with the City’s vision, and sympathetic to the surrounding area and features. The design vision and guiding principles were established through a review of City policies (e.g. multi-modal planning, integrated urban design/complete street design, and safe mobility choices), recommendations from previous studies (e.g. Don Mills Crossing MPS, Wynford Green Heritage Impact Assessment, etc.), and continued consultation with City stakeholders.

The vision and guiding principles that were developed to inform the identification and evaluation of alternative designs is provided in **Table 5-1**.

Table 5-1: Design Vision and Guiding Principles

Policy / Plan	Vision / Guiding Principle
Don Mills Crossing Mobility Planning Study	<ul style="list-style-type: none"> ▶ Enhance mobility choice, comfort, and resilience ▶ Connect with Nature and Build Resiliency
City Policy and Policy and Consultation with City Stakeholders	<ul style="list-style-type: none"> ▶ Establish a landmark crossing for the community ▶ Maintain safe, year-round access ▶ Accessibility and safety for all users
Crosstown Development: Block 12 SPA	<ul style="list-style-type: none"> ▶ 1150 Eglinton Ave. E. to be partially retained in-situ with 3 towers above ▶ Integration of existing heritage elements: <ul style="list-style-type: none"> ○ Reclaimed brick as permeable paving ○ Heritage wall to be maintained in landscaped area ▶ Towers feature alternating extruded/recessed rectangular volumes clad in black metal panels
Cultural & Built Heritage	<ul style="list-style-type: none"> ▶ Modernist architecture a feature of the Don Mills/Eglinton area, including:

Policy / Plan	Vision / Guiding Principle
	<ul style="list-style-type: none"> ▶ 1150 Eglinton Avenue East (“Parkin Building”) modernist building ▶ 844 Don Mills Road modernist industrial / beaux arts building ▶ Key architectural characteristics of the Parkin buildings include: <ul style="list-style-type: none"> ○ Orange-brown toned brick cladding of a smooth finish ○ Black anodized door frames ○ Concrete staircases with brick balustrades ○ Dark metal coping at eaves and sills & bronze-tinted glass window glazing ○ Narrow, vertical fenestration ○ Modernist style
Natural Heritage	<ul style="list-style-type: none"> ▶ Bridge to be located within Toronto’s ravine system and impacts to the natural environment will be minimized to the extent possible ▶ Bridge will provide access to trails and views of the surrounding ravine and Toronto’s downtown skyline

5.2 BRIDGE ALTERNATIVES

Three alternative design solutions were considered for the bridge structure, including:

- ▶ Alternative B1: Steel I-Girder
- ▶ Alternative B2: Precast Concrete Box Girder
- ▶ Alternative B3: Steel Truss

5.2.1 Alternative B1: Steel I-Girder

This bridge type is a single span steel I-Girder bridge type. In this alternative, three steel I-Girders would run under the bridge’s concrete deck and span the entire CP Rail corridor, avoiding impacts to the railway. No piers are required for the bridge and the abutment wall will be supported on spread footing. The discoloration of the steel girders would contrast with the concrete deck and may provide added aesthetic appeal due to the contrast in materials and colours. Open steel railings have also been incorporated in the design. Construction for this bridge would require overhead work over the CP railway corridor and a medium maintenance level is anticipated to be required following construction. A cross section of Alternative B1 is provided in **Figure 5-1**, while examples of steel I-Girder bridges are provided in **Figure 5-2**, **Figure 5-3** and **Figure 5-4**.

Figure 5-1: Cross Section of Alternative B1

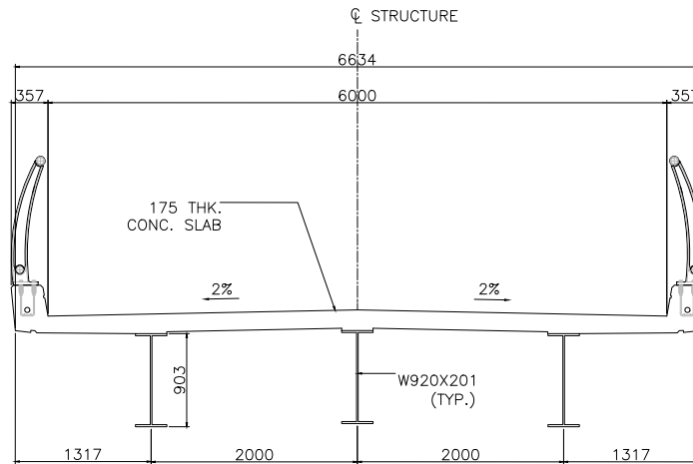


Figure 5-2: Steel I-Girder Bridge Profile

Figure 5-3: Steel I-Girder Bridge Approach



Pine Valley Pedestrian Bridge, Vaughan, ON (Source: LEA)

Pine Valley Pedestrian Bridge, Vaughan, ON (Source: LEA)

Figure 5-4: Steel I-Girder Bridge



Flora Footbridge, Ottawa (Source: <https://dtah.com/work/flora-footbridge>)

5.2.2 Alternative B2: Precast Concrete Box Girder

This bridge type is a single span precast concrete box girder bridge type. The bridge’s concrete deck would sit on top of four concrete box girders placed side-by-side and span the CP Rail corridor avoiding impacts to the railway. No piers are required for the bridge, and the abutment wall will be supported on spread footing. The concrete box girder and concrete deck would result in uniform bridge materials, which may be considered aesthetically less interesting. Open steel railings have been incorporated in the design. Construction for this bridge would require less overhead work over the CP railway corridor compared with the other bridge design alternatives. A low maintenance level is anticipated to be required following construction. A cross section of Alternative B2 is provided in **Figure 5-5**, while an examples of a concrete box girder bridge are provided in **Figure 5-6** and **Figure 5-7**.

Figure 5-5: Cross Section of Alternative B2

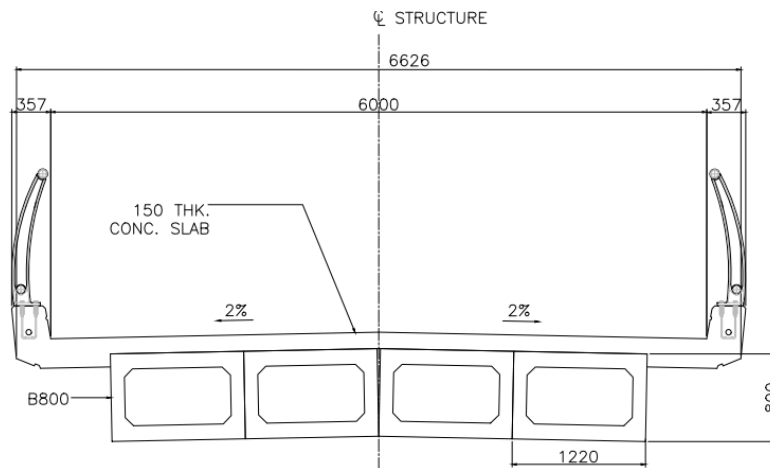


Figure 5-6: Concrete Box Girder Bridge Profile

Figure 5-7: Concrete Box Girder Bridge from Below



Place de la Concorde Pedestrian Bridge, Montreal, QC
(Source: Wally Gobetz, 2009)



No. 2 Road Bridge, Richmond, B.C. (Source: Homelist Vancouver, n.d.)

5.2.3 Alternative B3: Steel Truss

This bridge type is a steel truss bridge type. The bridge’s concrete deck would be supported by a steel truss and span the CP Rail corridor avoiding impacts to the railway. The steel truss with a height of 4.5 m is proposed for this bridge design. A steel truss is a distinctive characteristic for the bridge and may be designed to serve as a landmark crossing for the neighbourhood. Similar to Alternative B1, the discoloration of the steel truss would contrast with the concrete deck and may provide further aesthetic appeal due to the contrast in materials and colours. Open steel railings have been incorporated in the design. Construction for this bridge would require overhead work over the CP railway corridor and a high maintenance level is anticipated to be required following construction. A cross section of Alternative B3 is provided in **Figure 5-8**, while examples of a steel truss bridge are provided in **Figure 5-9** and **Figure 5-10**.

Figure 5-8: Cross Section of Alternative B3

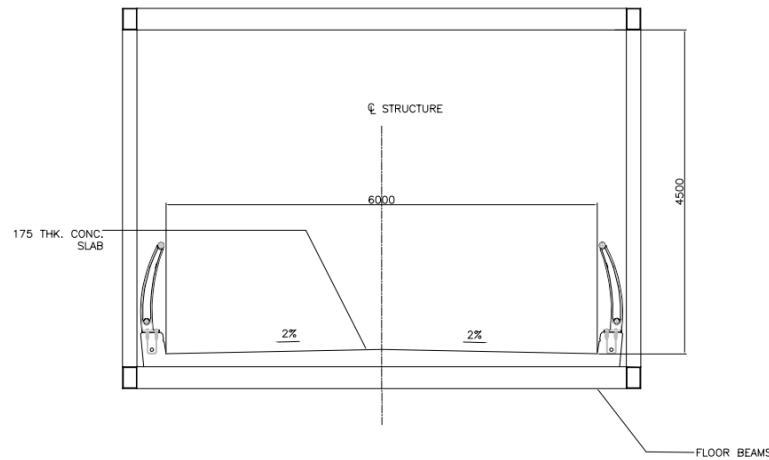


Figure 5-9: Steel Truss Bridge Profile



New Creemore Bridge, Clearview Township, ON (Source: <https://www.flickr.com/photos/cmhpictures/37155082985>)

Figure 5-10: Steel Truss Bridge



New Creemore Bridge, Clearview Township, ON (Source: <https://www.flickr.com/photos/cmhpictures/36341729453>)

5.3 RAMP ALTERNATIVES

Three alternative design solutions were considered for the ramp structure, including:

- ▶ Alternative R1: Elevated Ramp on Concrete Solid Slab Piers
- ▶ Alternative R2: Elevated Ramp on Steel Girder Piers
- ▶ Alternative R3: Reinforced Soil Slope (RSS) Wall-Supported Ramp

5.3.1 Alternative R1: Elevated Ramp on Piers (Concrete Solid Slab)

The ramp design for Alternative R1 is an elevated ramp on a concrete solid slab. The ramp's concrete deck will be supported by a 0.3 m concrete slab which will be held up by a number of piers that will be spaced approximately 9 m apart. The appearance / design and location of the piers will be refined in the next design phase. This option maintains an open space under the ramp and allows light penetration under the ramp. A cross section of Alternative R1 is provided in **Figure 5-11** while examples of a ramp elevated by concrete solid slab are provided in **Figure 5-12** and **Figure 5-13**.

Figure 5-11: Cross Section of Alternative R1

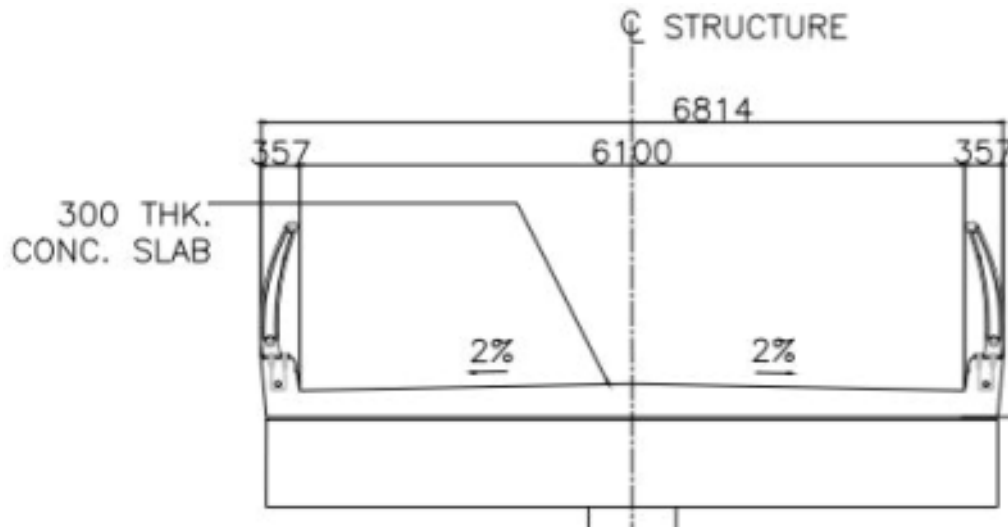
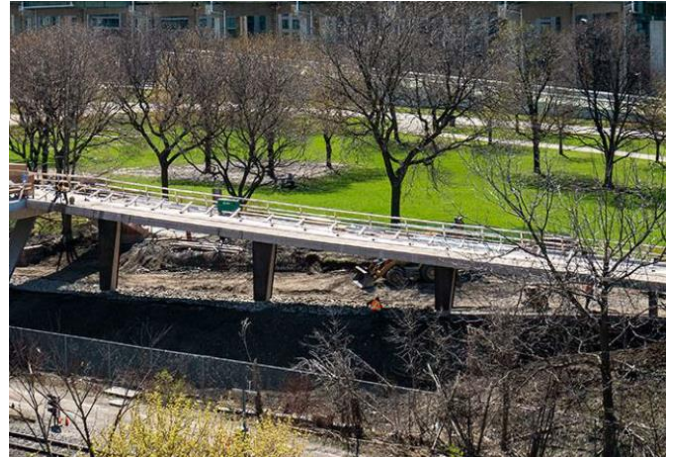


Figure 5-12: Example 1: Ramp Elevated by Concrete Solid Slab



*Puente de Luz Pedestrian & Cyclist Bridge, Toronto, ON
(Source: Google Maps)*

Figure 5-13: Example 2: Ramp Elevated by Concrete Solid Slab



Garrison Crossing Pedestrian & Cyclist Bridge, Toronto, ON
(Source: https://www.dufferinconstruction.com/wp-content/uploads/2019/04/ForkYork_Gallery_03.jpg)

5.3.2 Alternative R2: Elevated Ramp on Piers (Steel Girders)

The ramp design for Alternative R2 is an elevated ramp on steel girder piers. The ramp’s concrete deck will sit on top of three steel I-Girders and will be supported by intermediate pier supports that will be spaced approximately 20 m apart. This option maintains an open space under the ramp and allows light penetration under the ramp. The design and location of the ramp piers will be developed and refined in the next design phase. A cross section of Alternative R2 is provided in **Figure 5-14**, while examples of a ramp elevated by steel girders are provided in **Figure 5-15** and **Figure 5-16**.

Figure 5-14: Cross Section of Alternative R2

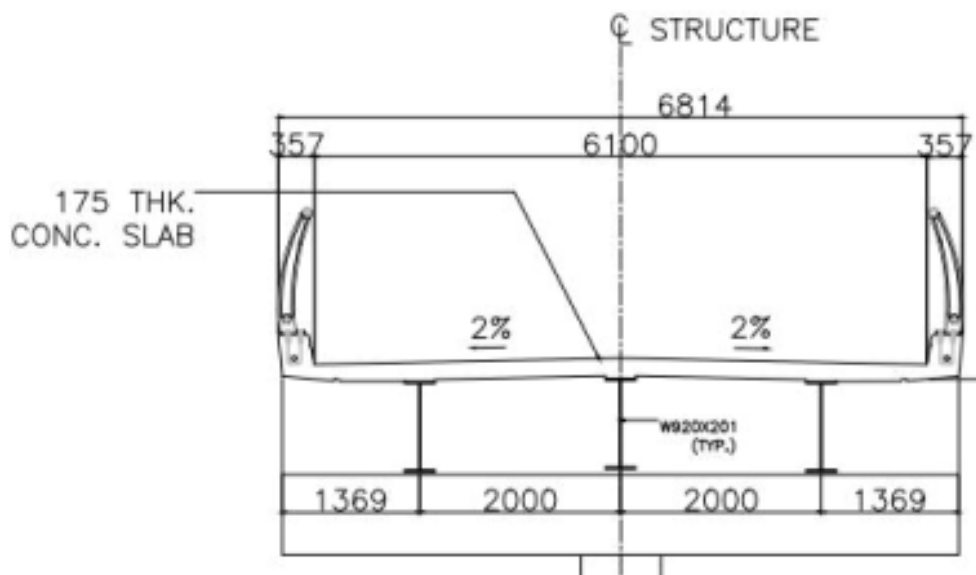


Figure 5-15: Example 1: Ramp Elevated by Steel Girders



The Big Four Bridge, Louisville, KY (Source: Louisville.com)

Figure 5-16: Example 2: Ramp Elevated by Steel Girders



N-II Motorway, Madrid, Spain (Source: <https://www.mc2.es/en/proyect/bridge-access-pryca-a-2>)

5.3.3 Alternative R3: Reinforced Soil Slope (RSS) Wall-Supported Ramp

The ramp design for Alternative R3 is a reinforced soil slope (RSS) wall supported ramp. The ramp structure, a 0.25 m concrete slab, will be supported by a RSS wall to support the grade change. The RSS wall provide a significant visual impact to the landscape. Examples of a ramp elevated by concrete solid slab are provided in **Figure 5-17** and **Figure 5-18**.

Figure 5-17: Example 1: RSS Wall-Support Ramp



Source: <http://www.recocanada.com>

Figure 5-18: Example 2: RSS Wall-Support Ramp



Robert-Bourassa Boulevard, Montreal, QC
(Source: http://www.recocanada.com/ta/wRECO_en.nsf/sb/projct.the-bonaventure-project)

5.4 USER EXPERIENCE

5.4.1 Pathway Design

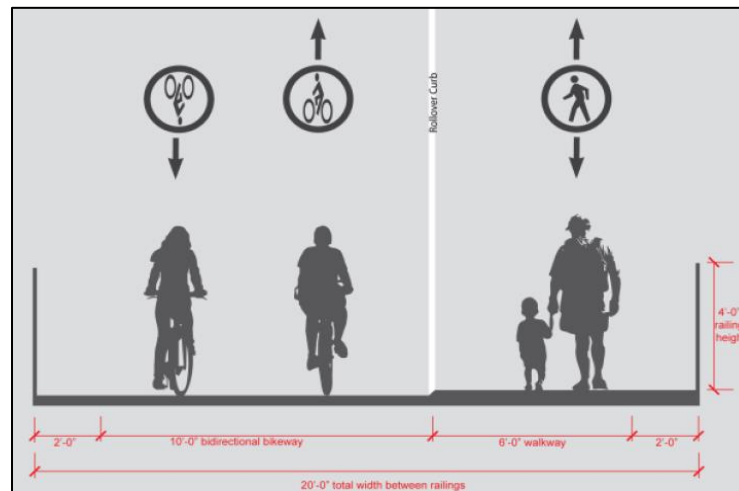
Alternative cross-sections were explored for the pathway along the bridge and approach ramp. The aim was to provide a high-quality user experience, tying back into the guiding principles of enhanced mobility choice, comfort, and resiliency. Two alternatives were developed for the pathway design for Don Mills Crossing:

1. Shared Multi-User Trail: Pedestrians and cyclists would share the trail
2. Separated Pedestrian and Cycling Facilities: Dedicated pedestrian and cycling lanes would be provided in this alternative

The two alternatives were considered for different segments of the pathway, including bridge and the north and south approach ramps.

Figure 5-19 below provides an ideal cross-section of a separated pedestrian and cyclist path.

Figure 5-19: Recommended Cross-Section for Separated Pedestrian and Cyclist Facility



Contextually, the north approach ramps will connect to the existing Don Mills trail which is a shared multi-use pathway while the south approach ramp will connect to a future shared multi-use path to the west along Wynford Drive.

5.4.1.1 Shared Pedestrian and Cycling Facility

Mixing cyclists and pedestrians should be considered where there is low-density traffic flow and slower expected speeds. The shared-use option may work to achieve slow speeds if there is a high-density of users as mixed facilities should operate on the general rule of pedestrian priority. Other treatments may be implemented to slow cyclist speeds and enhance safety for all users of the crossing. This option may also be chosen where the pathway connects to shared-use facilities on either side regardless of volumes and speeds, which removes complexity regarding transition zones. Separation of facilities requires accessibility treatments to ensure that visually impaired pedestrians can orient themselves onto the correct pathway and direction.

At this location, there are two shared-use facilities tying into the ramp and one separated facility. A shared pathway could be used to simplify navigation between the connecting facilities. The transition from the bridge ramp to the Don Mills multi-use shared pathway is also simplified in the shared-use option.

5.4.1.2 Separated Pedestrian and Cycling Facility

Separation of cyclists and pedestrians should be considered in the case of high-density bi-directional traffic flow, significant speed differentials between users, limited clearway for navigating speed differentials, and where cyclist speeds may be expected to exceed 30 km/hr. Separation of users can provide comfort for managing speeds but can also introduce complexity with providing appropriate guidance for visually impaired users. These users need clear communication regarding which pathway is to be taken, given that space has been allocated separately for cyclists and pedestrians. Delineation can become increasingly complex where shared-use facilities transition to separated facilities.

There are several potential transition points where shared-used facilities may transition to a separated facility. The first is from the Don Mills shared multi-use pathway to the north side approach ramp, the second is from the bi-directional cycle track/sidewalk to the south side approach ramp, and the third is from the shared-use facility along Wynford Drive to the south approach ramp.

5.5 EVALUATION CRITERIA

To evaluate the alternative design concepts, a set of evaluation criteria were developed in consultation with the TAC and presented to members of the public at the virtual public event held from March 1 to March 22, 2021.

5.5.1 Bridge and Ramp Structure

The criteria fall under eight criteria headings, including: Socio-Economic Environment, Natural Environmental, Cultural Environment, Safety, Accessibility, Maintenance, Public Realm and Aesthetics, and Cost. The evaluation criteria and their corresponding measures are detailed in **Table 5-2**.

Table 5-2: Alternative Design Concept Evaluation Criteria

Criteria	Sub Criteria
Socio-Economic Environment	<ul style="list-style-type: none"> ▶ Conformity with City of Toronto policies and objectives ▶ Conformity with provincial and federal approvals ▶ Degree of property impacts and requirements
Natural Environmental	<ul style="list-style-type: none"> ▶ Degree of impact to TRCA protection area ▶ Degree of vegetation and tree removal required ▶ Opportunities to enhance natural heritage features
Cultural Environment	<ul style="list-style-type: none"> ▶ Impacts to designated archaeology or heritage resources
Safety	<ul style="list-style-type: none"> ▶ Crime Prevention Through Environmental Design (CPTED) ▶ Consideration for pedestrian-scale lighting ▶ Reduces bike and pedestrian conflicts on structure ▶ Reduces bike and pedestrian conflicts where ramps meet Wynford Drive
Accessibility	<ul style="list-style-type: none"> ▶ Compliance with AODA ▶ Opportunities to create direct routes between destinations

Criteria	Sub Criteria
	<ul style="list-style-type: none"> ▶ Level of consideration to all bikes and mobility devices ▶ Ensures continuity with adjacent facilities ▶ Level of difficulty to use and navigate crossing
Maintenance	<ul style="list-style-type: none"> ▶ Ability of snow clearing equipment to maneuver bridge and ramps ▶ Considers windrow locations for snow clearing
Public Realm and Aesthetics	<ul style="list-style-type: none"> ▶ Opportunities for landscaping ▶ Opportunities for public space at base of ramp ▶ Opportunities for views from bridge and ramp structure ▶ Opportunities for congregation and rest areas ▶ Consideration to visibility of bridge from adjacent property
Cost	<ul style="list-style-type: none"> ▶ Life-cycle costs ▶ Service life ▶ Degree of utility impacts

5.6 ASSESSMENT OF DESIGN ALTERNATIVES

5.6.1 Bridge Structure

The three bridge design alternatives were assessed based on the evaluation criteria outlined in **Table 5-2** to identify the preferred bridge type of the crossing. The summary of the evaluation of the three bridge design alternatives are provided in **Table 5-3**, while detailed evaluation tables are provided in **Appendix F**.

Generally, the three bridge design alternatives scored equally on a number of evaluation criteria, however, there were a number of key differences to identify the preferred bridge alternative. Based on evaluation of the three bridge alternatives, Alternative B1 (Steel I-Girder) was selected as the preferred bridge alternative for the following key reasons:

- ▶ Steel ribbon reflects the industrial character of the study area;
- ▶ Provides the greatest opportunities for enhanced public realm and aesthetics (i.e. steel overhang enhances slenderness, steel contrasts with concrete deck); and,
- ▶ Lower cost.

5.6.2 Ramp Structure

The three ramp design alternatives were assessed based on the evaluation criteria outlined in **Table 5-2** to identify the preferred ramp type. The summary of the evaluation of the three ramp design alternatives are provided in **Table 5-4**, while detailed evaluation table are provided in **Appendix F**.

Generally, the three ramp design alternatives scored equally on most of the evaluation criteria, however, there were a number of key benefits to identify the preferred ramp alternative. Based on evaluation of the ramp alternatives, Alternative R1 (Elevated Piers on Steel I-Girders) was selected as the preferred ramp alternative for the following reasons:

- ▶ Provides the greatest opportunities for enhanced public realm and aesthetics (i.e. most visually open, continuous 'steel ribbon');
- ▶ Least opportunity for graffiti; and,
- ▶ Lower cost.

5.6.3 Pathway Design (Ramp Cross-Sections)

To determine the pathway design, a separate set of factors were developed to determine the recommended design for the pathway design alternatives. The key factors that were considered included:

- ▶ Available space (must not interfere with adjacent property lines);
- ▶ Expected volumes and density of users on the pathway;
- ▶ Expected speeds of users on the pathway;
- ▶ Connections to existing and planned pathways (shared-use or separated); and,
- ▶ Accessibility treatments for transitions between shared-use and separated facilities.

Given the existing Don Mills Trail north of the CP rail corridor is a shared pedestrian and cycling facility, a shared facility on the north approach ramp would provide a simplified connection from the existing Don Mills trail to the crossing and removes the complexity of a transition zone. Based on the expected volumes and speeds of users on the pathway, a shared pathway along the north ramp meets the general guidelines and is recommended as the preferred pathway design.

A separated pedestrian and cycling lane on the south approach ramp connecting to the Wynford Drive extension is recommended to accommodate the expected difference in speeds between people on bicycles and pedestrians on the ramp.

Table 5-3: Evaluation of Bridge Alternatives

Legend:



Evaluation Criteria	Alternative B1: Steel I-Girder	Alternative B2: Precast Concrete Box Girder	Alternative B3: Steel Truss
Socio-Economic Environment	<ul style="list-style-type: none"> Conform with City objectives; minimizes property impacts 	<ul style="list-style-type: none"> Conform with City objectives; minimizes property impacts 	<ul style="list-style-type: none"> Conform with City objectives; minimizes property impacts
Cultural Environment	<ul style="list-style-type: none"> No archaeology impacts; 'steel ribbon' reflects industrial character 	<ul style="list-style-type: none"> No archaeology impacts; doesn't reflect cultural heritage 	<ul style="list-style-type: none"> No archaeology impacts; truss reflects industrial character
Accessibility	<ul style="list-style-type: none"> All cyclists and mobility devices can be accommodated 	<ul style="list-style-type: none"> All cyclists and mobility devices can be accommodated 	<ul style="list-style-type: none"> All cyclists and mobility devices can be accommodated
Public Realm / Aesthetics	<ul style="list-style-type: none"> Steel overhang enhances slenderness Steel contrasts with concrete deck 	<ul style="list-style-type: none"> Uniform concrete material Minimal design variation 	<ul style="list-style-type: none"> Steel truss offers visual variety Impacts adjacent building views
Natural Environment	<ul style="list-style-type: none"> Requires some tree removal 	<ul style="list-style-type: none"> Requires some tree removal 	<ul style="list-style-type: none"> Requires some tree removal
Safety	<ul style="list-style-type: none"> Opportunities for lighting Some opportunity for graffiti 	<ul style="list-style-type: none"> Opportunities for lighting Some opportunity for graffiti 	<ul style="list-style-type: none"> Opportunities for lighting Some opportunity for graffiti
Maintenance	<ul style="list-style-type: none"> Moderate maintenance required 	<ul style="list-style-type: none"> Low maintenance required 	<ul style="list-style-type: none"> Significant maintenance required
Cost	<ul style="list-style-type: none"> Lower cost 	<ul style="list-style-type: none"> Lower cost 	<ul style="list-style-type: none"> Highest cost
Summary of Evaluation	Recommended	Not Recommended	Not Recommended

Table 5-4: Evaluation of Ramp Alternatives

Legend:



Evaluation Criteria	Alternative R1: Elevated on Piers (Concrete Solid Slab)	Alternative R2: Elevated on Piers (Steel I-Girder)	Alternative R3: RSS Wall-Supported
Socio-Economic Environment	<ul style="list-style-type: none"> Conform with City objectives; minimizes property impacts 	<ul style="list-style-type: none"> Conform with City objectives; minimizes property impacts 	<ul style="list-style-type: none"> Conform with City objectives; minimizes property impacts
Cultural Environment	<ul style="list-style-type: none"> Minimal impacts to archaeology or heritage resources 	<ul style="list-style-type: none"> Minimal impacts to archaeology or heritage resources 	<ul style="list-style-type: none"> Minimal impacts to archaeology or heritage resources
Accessibility	<ul style="list-style-type: none"> All cyclists and mobility devices can be accommodated 	<ul style="list-style-type: none"> All cyclists and mobility devices can be accommodated 	<ul style="list-style-type: none"> All cyclists and mobility devices can be accommodated
Public Realm / Aesthetics	<ul style="list-style-type: none"> Visually open Significant concrete visible 	<ul style="list-style-type: none"> Most visually open Continuous 'steel ribbon' 	<ul style="list-style-type: none"> Not visually open Significant impacts to landscape
Natural Environment	<ul style="list-style-type: none"> Requires some tree removal 	<ul style="list-style-type: none"> Requires some tree removal 	<ul style="list-style-type: none"> Requires some tree removal
Safety	<ul style="list-style-type: none"> Opportunity for graffiti (CPTED) 	<ul style="list-style-type: none"> Least opportunity for graffiti (CPTED) 	<ul style="list-style-type: none"> Greatest opportunity for graffiti (CPTED)
Maintenance	<ul style="list-style-type: none"> Moderate maintenance required to mitigate deterioration 	<ul style="list-style-type: none"> Moderate maintenance required to mitigate deterioration 	<ul style="list-style-type: none"> Less structural maintenance Some aesthetic maintenance
Cost	<ul style="list-style-type: none"> Lowest cost 	<ul style="list-style-type: none"> Moderate cost 	<ul style="list-style-type: none"> Highest cost
Summary of Evaluation	Not Recommended	Recommended	Not Recommended

6 DESCRIPTION OF THE RECOMMENDED PREFERRED DESIGN

The recommended preferred design for Don Mills Trail crossing was selected through a comprehensive evaluation of alternatives and consultation with the public, agencies, and other stakeholders. Based on the evaluation of bridge and ramp alternatives, the preliminary recommended design includes:

- ▶ Bridge: Steel I-Girder bridge
- ▶ Ramp: Steel I-Girder ramp elevated on piers

Through this EA study, the preferred design has been developed to a 10% or functional level of design. Public realm, public art, aesthetic, and landscape design elements will be developed more completely during the detailed design phase of the project following completion of the environmental assessment.

6.1 BRIDGE TYPE

The recommended bridge type is a 24.5 m long and 6.1 m wide (clear width) single span bridge supported on three steel I-Girders spaced approximately 2.0 m apart. The abutment walls will be supported on spread footing on either side of the CP Rail tracks, and no additional piers are required to support the structure. A conceptual view from the top of the bridge is provided in **Figure 6-1: Conceptual Aerial View of the Bridge Looking South**



Figure 6-2

6.1.1 Design Criteria

Based on consultation with City staff, TAC, DRP, CP Rail, and other key stakeholders, the following design criteria shall be met as the bridge design is refined in the detailed design phase:

- ▶ Provision of an 8 m vertical clearance from the CP Rail tracks
- ▶ 6.1 m structural width
- ▶ 175 mm concrete deck
- ▶ 1130 mm superstructure depth
- ▶ 1.0 m cantilevers
- ▶ 0.9 m deep girders
- ▶ “Steel ribbon” concept concealing substructure beneath bridge

- ▶ Open Steel railings will be provided on both sides of the bridge

CP Rail Requirements

The Project Team consulted with CP Rail throughout the study and has received confirmation CP Rail has no concerns with the recommended bridge design concept. Further consultation with CP Rail is required in the next design phase to confirm CP Rail's design requirements and guidelines are met for this railway corridor.

Figure 6-1: Conceptual Aerial View of the Bridge Looking South



Figure 6-2: Conceptual View from On Top of the Bridge



Based on correspondence with CP Rail during the study, the bridge design crossing is required to meet the following design guidelines / policies and criteria:

- ▶ Vertical clearance shall meet CP's non-electrified tracks requirements (8 m)
- ▶ Overpass should span CP Right-of-Way
- ▶ Adhere to CP guidelines for excavating within CP operating corridor

6.1.2 Preferred Bridge Materiality

The palette of the materials utilized for the crossing will be identified during the detailed design phase. It is recommended that the palette of materials selected be complementary to key features within the study area (e.g., heritage buildings, etc.).

6.2 RAMP DESIGN

The recommended ramp design identified is a 6.1 m wide elevated steel girder ramp on piers that would connect to Street F. The 200 m long ramps will be fully accessible, and a viewing area / rest spot is proposed at the top of the ramp. A conceptual view from the ramp from extended Wynford Drive is provided in **Figure 6-3** and **Figure 6-4**.

6.2.1 Design Criteria

Based on consultation with City staff, TAC, DRP, CP Rail, and other key stakeholders, the following design criteria shall be met as the ramp design is refined in the detailed design phase:

- ▶ Elevated Ramp on Piers
- ▶ Approx. 200m long on each side
- ▶ Steel I-Girders
- ▶ 5% maximum slope
- ▶ 15 m flat landing areas, no greater than 50m apart
- ▶ Overhang at bridge

Additional urban design considerations at the top of the ramp also should be made for cyclist to improve the cyclist movement and experience on the ramp. Key improvements that should be considered include:

- ▶ Rounding out corners at the turns and providing adequate turning radii are required for cyclists to navigate corners without stopping or dismounting;
- ▶ Switching the location of the pedestrian and cycling paths in the separated option to give cyclists more room to navigate turns at the bridge;
- ▶ Provide added width at the bridge for navigating potential conflicts, steering around stopped pedestrians, as well as changing speed and direction; and,
- ▶ Delineating space for stopping and street furniture to give pedestrians and stopped cyclist's direction for where to rest.

Figure 6-3: Conceptual View of Ramp from Wynford Drive



Figure 6-4: Conceptual View from Wynford Drive at Street C



6.3 PATHWAY DESIGN

The recommended preferred design includes shared pedestrian and cycling space on the bridge and north ramp to connect to existing shared Don Mills Trail and separated pedestrians and cyclist facilities along Wynford Drive. A staircase on the east side of the rail corridor is also included which will provide an additional connection point to the bridge. The bridge itself will cross the rail corridor at the approximate location where the planned Wynford Drive extension will intersect with the planned Street C as part of the Crosstown Development street network.

6.3.1 North Approach

The preferred pathway design for the north approach ramp is a 4.5 m wide shared pedestrian and cycling facility. This allows for a simplified connection to the existing Don Mills Trail which is a shared-use pathway, and facilitates slow speeds on the bridge itself, which is intended to be an area for pedestrian priority. Although not within the scope of this EA, the Project Team learned through consultation with the public that there is a strong desire to ultimately extend a trail connection from Leslie Street to the Don Mills Trail's current southern terminus and the new bridge. The City anticipates that this trail connection could be secured through a future development application of adjacent land but has not programmed any new trail in its 10-year capital plan. As the bridge design develops during detailed design, attention should be given whether any new public realm, utility, geotechnical, or other considerations may impact the feasibility of this future trail connection.

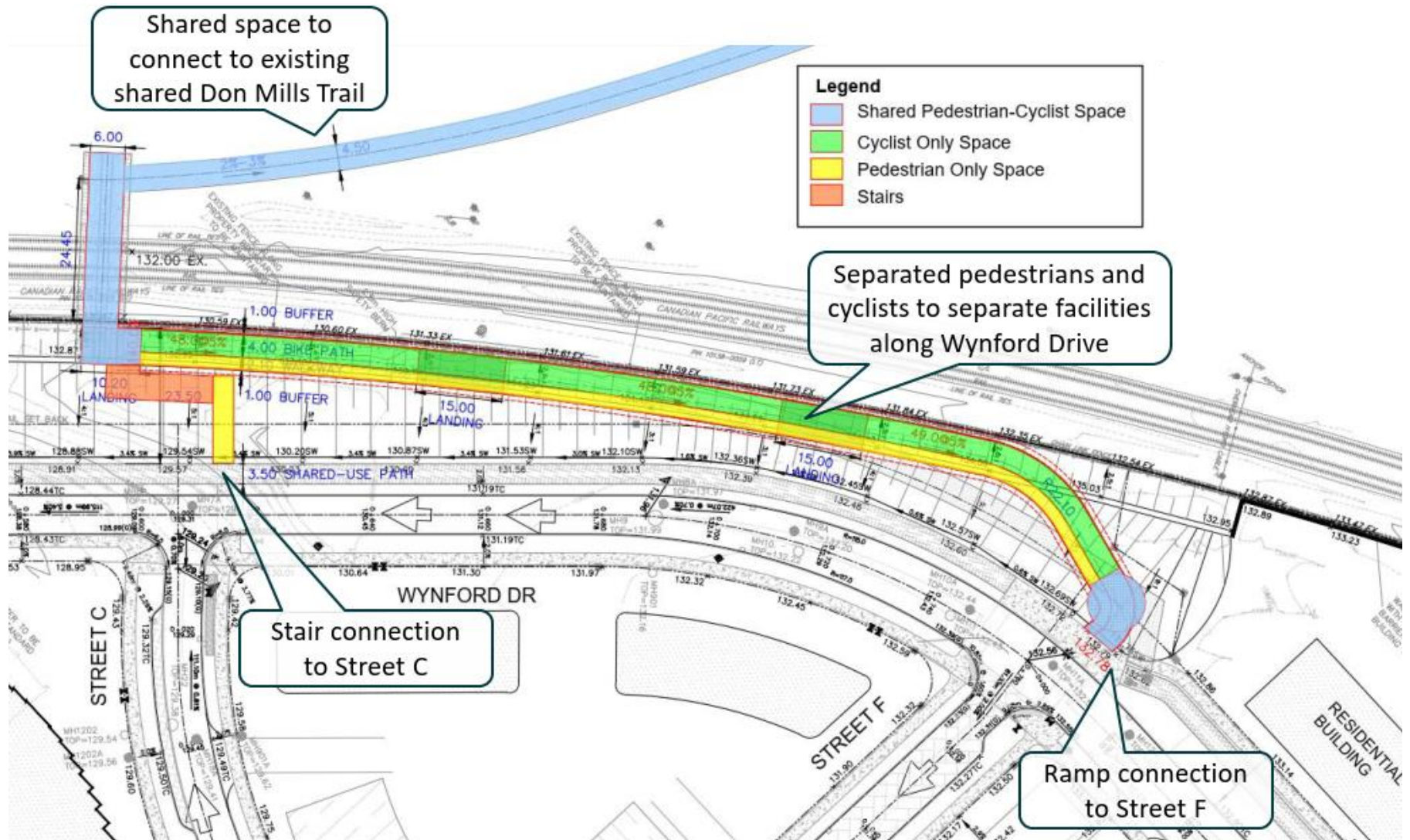
6.3.2 South Approach

The preferred pathway design for the south approach ramp is a separated pedestrian and cycling facility in order to accommodate the expected difference in speeds between cyclists and pedestrians on the ramp. It is recommended that the pedestrian pathway be provided on the railway side of the ramp and the bicycle pathway be provided on the road-side of the ramp to provide contiguous connection to the sidewalk facility and bi-directional cycle track facility east on Wynford Drive.

The terminus of the south approach ramp and the feasibility to incorporate a roundabout into the final design should be further considered in the next design phase.

A design plan illustrating the emerging preferred solution for the pathway design is shown in **Figure 6-5**.

Figure 6-5: Preferred Design Pathway



6.3.3 Design Criteria

6.3.3.1 Separated Facility

The following design characteristics are recommended for the separated path:

- ▶ 4.0 m bike path, 2.1 m pedestrian walkway (6.1 m total);
- ▶ Maximum 5% slope;
- ▶ 15 m flat landings every 50 m;
- ▶ Dedicated pathways for pedestrians and cyclists, which is particularly important where there are significant speed differentials on the 5% slope;
- ▶ Two complex transitions where the ramp moves from mixed-use pathway to separated pathways on the bridge and to mixed-use pathway once again at Wynford Drive; and,
- ▶ Clear guidance for people with visual impairments should be provided at the transition points between shared-use and separated facilities.

To provide an enhanced user experience for pedestrians, cyclists, and all active transportation users, a set of design criteria were followed for both pathway options and shall be carried forward into the detailed design phase. These criteria reference the Transportation Association of Canada’s Geometric Design Guide for Canadian Roads (2017), the updated Ontario Traffic Manual Book 18, and the City of Toronto’s Multi-Use Trail Design Guidelines, including but not limited to:

- ▶ Turning radii greater than 5.0 m (10-20 m preferred) allow for comfortable and continuous movement of people on bicycles and other higher speed users. The absolute minimum radius is 3.0 m to ensure higher speed users can make turns without having to stop and dismount
- ▶ Grades less than 4 % are ideal for people on bicycles, but a target of up to 5 % has been used to provide flexibility in constrained locations
- ▶ Pathway widths of at least 4.0 m (plus shoulders of 1.0 m to the railings) should be provided to accommodate a higher volume of bi-directional movement

6.3.3.2 Transition Zone

To transition the shared-use path from the north approach ramp to the separated pedestrian and cyclist path from the south approach ramp, a mixed transition zone will be required at the top of the ramp, and at the terminus of the south ramp approach.

Facilities with higher design speeds must account for slower-moving users by providing elements that facilitate safe passing, such as additional facility width, pullout refuges, and separation of travelers by mode and/or direction of travel. If intersections or corners in the middle of a ramp are unavoidable, it is strongly recommended to make that specific section of the ramp flat. This will make it easier and more comfortable for cyclists to negotiate the ramp.

The following factors should be considered when designing the mixing zone at the ramp terminus at Wynford Drive and at the top of the ramp:

- ▶ Avoiding discharge of cyclists directly into the intersection of Wynford Drive and Street F
- ▶ The mixing zone at Wynford Drive is the merging point of four separate pathways with different cross-sections and surface treatments

- ▶ The location may be a “destination” requiring benches, wayfinding, and additional space for stopping and orienting
- ▶ The operation of the ramp will depend on volume, density, and directionality of users
- ▶ The intersection configuration (visibility, method of traffic control) will influence safety
- ▶ The design of the approach to the ramp should allow cyclists to maintain momentum and use it to help them up the grade
- ▶ Adequate turning radii are required for cyclists to navigate corners without stopping or dismounting
- ▶ Space at landings and turns should be provided for navigating potential conflicts as well as changing speed and direction
- ▶ Various surface treatments such as thermoplastic banding patterns can alert cyclists to a mixing zone and be used to encourage slower speeds

6.4 STAIRCASE

A set of stairs is proposed at the top of the ramp to connect to Wynford Drive within the vicinity of Street C. The design of the staircase will be developed during the next design phase and shall adhere to Toronto’s *Accessibility Design Guidelines (2004)*, and the Design of Public Spaces Standards under Ontario’s *Accessibility for Ontarians with Disabilities Act (2005)*, including but not limited to:

- ▶ Exterior steps should be constructed with firm, non-slip materials with a recommended maximum rise of 180 mm, and a maximum tread length of 280 mm
- ▶ Tread nosing should be clearly marked with either a brightly painted non-slip finish and/or include an integrated non-slip nosing that clearly contrasts in tone/colour from the tread
- ▶ Stairs must be equipped with tactile walking surface indicators that are built in or applied to the walking surface
- ▶ Continuous handrails should be provided on both sides of all exterior flights of stairs or steps, which include 3 or more risers

6.5 URBAN DESIGN: PUBLIC REALM DESIGN

Urban Design features for the crossing have been considered at a high-level during this study to set parameters for further development during the next design phase. The vision for the public realm design has developed based on the guidelines in the Crime Prevention Through Environmental Design (CPTED), City policies and plans, and in consultation with City of Toronto staff.

6.5.1 Access Points and Wayfinding

Further study is required in the next design phase to confirm the location of the crossing and the connections to surrounding trails and cycling network. The appropriate signage and wayfinding measures will also be further studied in the next design phase to identify optimal locations to install wayfinding and safety signage within the vicinity of the crossing. Accessibility elements should also be incorporated, particularly clear guidance for visually impaired persons at the transition points between shared-use and separated facilities.

6.5.2 Illumination

Lighting will be provided to enhance safety for pedestrian and cyclists utilizing the crossing. The lighting design will be developed in the next design phase and will be coordinated with the Crosstown development for uniformity of illumination and will meet all safety requirements stipulated by City design standards and guidelines (e.g., pedestrian level lighting to be mounted between 3m-6m apart, high contrast light to avoid shadow areas).

6.5.3 Views and View Termini

There are opportunities to incorporate observational deck(s) in the crossing structure and will be confirmed in the next design phase. The location and design of the observational deck(s), if required, will be developed in the next design phase.

6.5.4 Public Art Opportunities

There are opportunities to incorporate public art into the bridge and ramp design, and opportunities should be further explored in the next design phase and incorporated into the final design. The City of Toronto's City Planning division administers a "Percent for Public Art Program" which secures funds for public art through the planning and development approval process. A minimum value of 1% of gross construction costs is recommended for public art in development projects.

6.5.5 Landscaping

There are opportunities to provide landscaping to beautify the public realm, and a landscape plan shall be developed in the next design phase in accordance with City guidelines and requirements. Landscaping provided shall maintain a clear view of the crossing, and shrubs will be offset by 1 m from paths and have a maximum height of 0.8 m.

6.5.6 Safety and Landing Area

Intersection improvements at Wynford Drive and Street F should all consider special treatments to ensure that motorists are aware of the crossing and potential pedestrian and cyclist (e.g., raised crossings, signage, high visibility treatments, sharrows).

6.5.7 Crime Prevention

A number of crime prevention measures using environmental design (CPTED) elements have been considered at a high-level in this study and will be further assessed and implemented into the final design during the next design phase. Potential CPTED elements include:

- ▶ Sightlines
- ▶ Maintaining trees and shrubs
- ▶ Designated gathering areas
- ▶ Signage
- ▶ Selection of construction materials
- ▶ Lighting
- ▶ Electronic Security Devices
- ▶ Emergency Call Stations

A CPTED assessment is also recommended following construction to reevaluate the design intentions after user familiarization and activity patterns are established to ensure elements are functioning as intended and determine if additional CPTED elements are warranted.

6.6 PHASING AND IMPLEMENTATION

It is anticipated the bridge crossing will be constructed within the next 5 years, subject to the completion of this EA study, the subsequent detailed design phase, obtaining required permits and approvals, and availability of funding. Construction cost will be shared between the City and the developers of 844 Don Mills Road and 1155 Eglinton Avenue East. Funding for the City’s share of construction and a construction year will be identified through Transportation Services division’s capital budget process.

The City is working closely with the developer to coordinate construction timing for the construction for the crossing and with the redevelopment of the area. Following completion of the EA, the developer will be responsible for completing the detailed design and constructing the crossing. A detailed implementation schedule will be prepared by the developer after the completion of the EA. The City will review and approve the final design of the bridge and ramps.

6.7 PRELIMINARY COST ESTIMATES

The preliminary cost estimate for the construction of the recommended plan is \$8,000,000 - \$8,300,000 and will be confirmed during the subsequent detailed design process. A breakdown of the cost estimate is provided in **Table 6-1**.

Table 6-1: Emerging Preferred Design High Level Cost Estimate

Component	Estimated Cost
Bridge	\$1,000,000 – 1,100,000
Ramp	\$6,500,000 – 6,700,000
Stair Connection	\$500,000
*Observational Deck (Optional)	\$250,000
Total	\$8,000,000 - \$8,300,000

*Cost estimate for observational deck is not included in the total estimated cost.

An agreement between the City and the landowners of 844 Don Mills Road and 1155 Eglinton Avenue East has been secured under Section 37 of the *Planning Act* for the landowners to complete detailed design and construct the bridge before conveying the bridge to the City. As part of this agreement, the City and landowners will share the cost of construction, each contributing approximately 50% of the cost with the landowners' share capped at \$4,000,000.

7 ANTICIPATED IMPACTS, RECOMMENDED MITIGATION MEASURES AND COMMITMENTS TO FUTURE WORK

7.1 NATURAL ENVIRONMENT

7.1.1 Vegetation

The Don Mills Crossing will require the removal of trees to facilitate construction and the footprint of the bridge. The following mitigation measures and commitments to future work are recommended:

- ▶ A detailed tree inventory will be completed and documented in an Arborist Report
- ▶ Tree presentation plans will be prepared during the next design phase
- ▶ Any tree removals shall be replaced and/or compensated in accordance with applicable City of Toronto by-laws and TRCA regulations (if applicable):
 - City trees, any size: Compensation is based on a 1:1 replacement ratio
 - Tree Injury compensation is based on a 1:1 replacement ratio
 - Private Trees By-law: >30cm DBH, compensation is based on a 3:1 replacement ratio
 - Ravines and Natural Features Protection By-law: Trees <5cm DBH, compensation is based on a 1:1 replacement ratio while Trees >5cm DBH, compensation is based on a 3:1 replacement ratio
 - TRCA replacement ratios vary per size of tree
- ▶ During construction, the contractor shall comply with the City's Tree Protection Policy and Specifications for Construction Near Trees to protect trees that will not be removed

7.1.2 Wildlife

Given wildlife within the study area are anticipated to be limited to common urban-tolerant species and wildlife habitats within the study area are generally highly disturbed due to urban activity, impacts to wildlife and wildlife habitats is anticipated to be minor. The City's standard mitigation measures to minimize affects to wildlife and wildlife habitats shall be implemented during construction.

7.1.3 Environmentally Sensitive Areas

Impacts within environmentally sensitive areas and lands regulated by TRCA and under the Ravines and Natural Features Protection By-law are not anticipated to be required. Should impacts to ESAs be identified during the next design phase, further consultation with relevant agencies (e.g., TRCA, Toronto Urban Forestry, MNRF, etc.) is required should impacts be situated within their regulated lands, and associated permits and compensation plans may be required to be obtained prior to the start of construction.

7.1.4 Species of Conservation Concern

It is recommended that an additional survey during detailed design be undertaken during the leaf-out period to confirm the absence of Butternut within the study area. Should Butternut be identified at that time, a Butternut Health Assessor shall be retained to confirm permitting/approval requirements under the ESA.

If a SAR or possible SAR is encountered during construction, construction activities in the area that would result in a contravention of the ESA, 2007 shall be immediately halted, and the Ministry of Natural Resources and Forestry (MNRF) shall be contacted.

7.1.5 Fish and Fish Habitat

Impacts to fish and fish habitat are not anticipated given there are no watercourses within 30 m of the undertaking.

7.1.6 Contamination

Based on results of the Contamination Overview Study outlined in **Section 3.3.8**, areas with medium and high potential for environmental concern exist within the study area. It is recommended that further Phase Two ESAs be completed at all impacted properties with high or medium potential for environmental concern to determine the soil and groundwater quality at the locations of the APECs, and identify mitigation measures and management plans to manage potentially impacted soils and/or groundwater during construction.

7.1.7 Air Quality

The pedestrian/cycling crossing of the CP rail corridor is anticipated to have little or no implications for motor vehicle traffic in the study area. The bridge will, if anything, have a positive impact on vehicle emissions by promoting sustainable modes of transportation. Overall, it is expected that the impact of the bridge on air contaminant emissions in the study area to be minimal and further air quality conditions after the construction of the bridge, whether detailed or screening-level, is not required.

To mitigate potential air quality impacts during construction, a study of construction-related emissions and an appropriate air quality management plan should be established prior to commencing construction and should be carried out throughout the construction period. Dust/debris from construction will be controlled following the City's standard construction practices.

7.1.8 Construction Noise

During construction, mitigation measures to minimize construction noise and dust impacts shall be written into the contract document, including but not limited to:

- ▶ The Contractor will be required to comply with the City of Toronto's noise by-law (Toronto Municipal Code, Chapter 591, Noise)
- ▶ Construction should be limited to the time periods allowed in the City of Toronto bylaw. If construction activities are required outside of these hours, the Contractor must seek permits / exemptions directly from the City in advance of the work
- ▶ There should be explicit indication that Contractors are expected to comply with all applicable requirements of the contract and the City noise bylaw. Enforcement of the noise control bylaw is the responsibility of the City for all work done by Contractors
- ▶ All equipment should be properly maintained to limit noise emissions. As such, all construction equipment should be operated with effective muffling devices that are in good working order
- ▶ The Contract documents should contain a provision that any initial noise complaint will trigger verification that the general noise control measures agreed to be in effect

- ▶ In the presence of persistent noise complaints, all construction equipment should be verified to comply with MECP NPC-115 guidelines
- ▶ In the presence of persistent complaints and subject to the results of a field investigation, alternative noise control measures may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration should be given to the technical, administrative and economic feasibility of the various alternatives

7.1.9 Construction Vibration

Since the construction site is adjacent to the CP railway, a potential vibration impact on the railway structure should be investigated in accordance with vibration guidelines from CP prior to commencing any construction activity, and a vibration criterion should be developed for potential construction vibration monitoring.

The Contractor will also be required to comply with the City of Toronto's vibration by-law No. 514-2008 regarding vibration emission standards for construction equipment that may be in place at the time of construction.

7.2 CULTURAL HERITAGE ENVIRONMENT

7.2.1 Archaeology

As noted in **Section 3.4.2**, a Stage 1 Archaeological Assessment was completed and cleared the study area of archaeological potential and no further investigations is required. Should the proposed work extend beyond the areas assessed to be cleared of archaeological potential, further Stage 1 archaeological assessment is required to determine the archaeological potential of any unassessed previously undisturbed land.

No archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, construction and alteration of the site shall stop immediately, and the relevant authorities and Indigenous Communities shall be immediately notified.

7.2.2 Cultural Heritage

Following the selection of the preferred urban design and footprint in the next design phase, further cultural heritage assessment is recommended to update and confirm the impacts of the undertaking on the confirmed and potential cultural heritage resources identified within and/or adjacent to the study area documented in **Section 3.4.1**. Appropriate mitigation measures may be recommended, and provincial guidelines should be consulted for advice and further heritage assessment work should be undertaken, as necessary.

7.3 CLIMATE CHANGE

The construction of a new active transportation crossing over the CP rail corridor will improve the trail connectivity in the area and provide better pedestrian and cycling connections to the trail/parks system, and future Eglinton Crosstown LRT. The improved connectivity promotes sustainable modes of transportation will encourage residents to switch from vehicular use to choosing active transportation or transit. The reduction in vehicular use as residents opt for active transportation choices will result in reduction on

vehicle emissions thereby reducing greenhouse gas emissions (GHG). This reduction in GHG emissions will support the City's TransformTO Net Zero Strategy and achieving GHG emission targets.

Enhancing connectivity within the area also increases the resilience for existing and future communities by providing pedestrians and cyclists with facility crossing over the CP rail corridor, a barrier for north-south connectivity for pedestrians and cyclists, and also improves the connectivity of the extensive trail system by eventually providing future connections to Eglinton Avenue East, and eventually the West Don Trail.

7.4 TECHNICAL

7.4.1 Utilities

Consultation with utility agencies, detailed and up-to-date survey data from Toronto Water infrastructure and utility infrastructure, and subsurface investigations within the study will be required to be obtained during the next design phase to confirm the presence of utilities in the study area and identify potential conflicts with utilities. Any utility conflicts and/or impacted utilities identified will require consultation with applicable utility companies and relocation plans may be required.

7.4.2 Property Requirements

Property will be required from the Crosstown Development for the proposed bridge over the CP Rail corridor, and the City of Toronto has coordinated with the Crosstown Development in this regard. No additional private property requirements are anticipated to be required.

Additional easements, construction staging areas, or additional property requirements may be identified during detailed design. The City will engage with any affected property owners during detailed design.

7.4.3 Additional Consultation and Engagement

7.4.3.1 Public Consultation

During the detailed design phase, the Project Team will obtain public comment and review into the design of the new crossing and ramps.

7.4.3.2 Canadian Pacific Rail

Consultation and engagement with CP Rail shall continue into the next design phase to ensure design plans adhere with CP railway requirements regarding potential excavations on CP rail property. Adherence to CPs Guidelines for excavations on CP Rail property will be followed during construction, should any excavation need to occur on CP Rail property.

7.4.3.3 City of Toronto Design Review Panel

As stated in **Section 2.3.2**, the DRP generally supported the emerging recommended plan but also cautioned the Project Team against developing too far beyond a functional design as part of the EA and recommended that aesthetic and landscape design elements be developed more completely during the detailed design phase of the project following completion of the EA process.

7.4.4 Permits and Approvals

Permits and approvals may be required to facilitate construction of the bridge and ramps. Any required permits, approvals, or exemptions required for the bridge and ramps shall be obtained prior to the start of construction.

7.4.4.1 Canadian Pacific Rail

Additional consultation with CP Rail will also be required during the next design phase to ensure the bridge adheres to all CP Rail guidelines and requirements (e.g., bridge clearance, etc.), and to identify and obtain necessary rail corridor access permits and flagging during construction.

7.4.4.2 Toronto and Region Conservation Authority

While TRCA regulated lands are located within close proximity the study area, the proposed crossing is not located within TRCA's regulatory limits and does not require a permit. TRCA's regulatory limits shall be reviewed during detailed design to confirm there are no changes within TRCA limits within the study area that could require permitting. If development or site alterations are proposed within TRCA regulated lands (*O.Reg. 166/06*) during detailed design, including areas that are part of the staging area, further consultation with TRCA is required, along with potential permitting requirements.

7.4.4.3 Ravines and Natural Features Protection

Lands protected under the City's *Ravines and Natural Features Protection (RNFP) By-law* are located within close proximity the study area, however, impacts to these regulated areas are not anticipated. If impacts to areas protected under the RNFP are identified as the design is refined in the next design stage, including the staging area, further consultation with the City's Parks, Forestry & Recreation division is required along with potential permitting requirements.

7.4.4.4 Water-Taking Permit

A water-taking permit may be required to facilitate the construction of the ramp pillars. Further hydrogeological assessment studies may be required to be completed in the next design phase to determine if registry under MECP's Environmental Activity and Sector Registry or permit-to-take-water application is required for construction.

7.4.4.5 Noise

Construction activities will comply with the City of Toronto noise control by-law. Should construction outside of allowable times be required, a noise by-law exemption shall be sought. During construction, appropriate notice will be provided to the community.

7.4.4.6 Species-at-Risk

The presence of species-at-risk (SAR) should be reconfirmed during the next design phase. If impacts to confirmed SAR are identified, consultation with the Ministry of Environment, Conservation and Parks (MECP) is required, and permitting requirements associated with the impacts may be required.

7.5 SUMMARY OF ENVIRONMENTAL EFFECTS AND RECOMMENDED MITIGATION MEASURES AND COMMITMENTS TO FUTURE WORK

Table 7-1 summarizes the identified concerns and the proposed mitigation measures, based on the identified environmental sensitivities and the proposed preliminary design plan. All of the mitigation measures identified by this study will be further refined and finalized during the detailed design phase based on the final design of the bridge and ramps.

Table 7-1: Summary of Identified Concerns and Recommended Mitigation Measures and Commitments to Future Work

Legend:

City: City of Toronto	MNRF: Ministry of Natural Resources and Forestry
CPR: Canadian Pacific Rail	RES: Residents
DRP: City of Toronto Design Review Panel	RNFPO: City of Toronto – Ravines and Natural Features Protection Office
MECP: Ministry of Environment, Conservation and Parks	TRCA: Toronto and Region Conservation Authority
MHSTCI: Ministry of Heritage, Sport, Tourism, and Culture Industries	UTL: Utility Companies

Environmental Issue / Concern	Applicable Agency	Recommended Mitigation Measures and Commitments to Future Work
Natural Environment	MNRF TRCA	Vegetation
		▶ A detailed tree inventory shall be completed and documented in an Arborist Report
		▶ Tree presentation plans will be prepared during the next design phase
		▶ Any tree removals shall be replaced and/or compensated in accordance with applicable City of Toronto by-laws and TRCA regulations (if applicable)
		▶ During construction, the contractor shall comply with the City’s Tree Protection Policy and Specifications for Construction Near Trees to protect trees that will not be removed
		Wildlife
		▶ A detailed impact assessment will be required during the next design phase based on the detailed design plan to identify mitigation measures to minimize affects to wildlife and wildlife habitat
		Environmentally Sensitive Area
		▶ Confirmation of the limits of TRCA regulated area and the limits of the Ravines and Natural Features Protection By-law shall be reviewed in the next design phase
		Species of Conservation Concern
▶ A butternut health assessment shall be undertaken during the leaf-out period by a qualified Butternut Health Assessor to confirm the absence of Butternut within the study area during detailed design		
▶ The presence of species-at-risk (SAR) should be reconfirmed during the next design phase, and if impacts to confirmed SAR are identified, consultation with the Ministry of Environment, Conservation and Parks (MECP) is required, in addition to further permitting requirements associated with the impacts		
▶ If a SAR or possible SAR is encountered during construction, and the construction activities are such that continuing construction in that area would result in a contravention of the ESA, 2007, all activities shall stop, and the Ministry of Natural Resources and Forestry (MNRF) shall be contacted		
Contamination	MECP	▶ Further Phase Two ESAs be completed at all impacted properties determined to be of high or medium APEC in order to determine the soil and groundwater quality at the locations of the APECs
		▶ Soil and groundwater management plans may be required during construction
Groundwater	MECP	▶ A water-taking permit may be required to facilitate the construction of the ramp pillars. Further hydrogeological assessment studies shall be completed during detailed design to determine if registry under MECP’s Environmental Activity and Sector Registry or permit-to-take-water application is required for construction
Air Quality	MECP City	▶ A study of construction-related emissions and an appropriate air quality management plan should be established prior to commencing construction and should be carried out throughout the construction period
		▶ Dust/debris from construction will controlled following the City’s standard construction practices
Construction Noise	MECP	▶ The Contractor will be required to comply with the City of Toronto’s noise by-law (Toronto Municipal Code, Chapter 591, Noise)

Environmental Issue / Concern	Applicable Agency	Recommended Mitigation Measures and Commitments to Future Work
	City RES	▶ Construction should be limited to the time periods allowed in the City of Toronto bylaw. If construction activities are required outside of these hours, the Contractor must seek permits / exemptions directly from the City in advance of the work
		▶ There should be explicit indication that Contractors are expected to comply with all applicable requirements of the contract and the City noise bylaw. Enforcement of the noise control bylaw is the responsibility of the City for all work done by Contractors
		▶ All equipment should be properly maintained to limit noise emissions. As such, all construction equipment should be operated with effective muffling devices that are in good working order
		▶ The Contract documents should contain a provision that any initial noise complaint will trigger verification that the general noise control measures agreed to be in effect
		▶ In the presence of persistent noise complaints, all construction equipment should be verified to comply with MECP NPC-115 guidelines
		▶ In the presence of persistent complaints and subject to the results of a field investigation, alternative noise control measures may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration should be given to the technical, administrative and economic feasibility of the various alternatives
Vibration	City	▶ A potential vibration impact on the railway structure should be investigated in accordance with vibration guidelines from CPR prior to commencing any construction activity, and a vibration criterion should be developed for potential construction vibration monitoring
		▶ During construction, the Contractor will also be required to comply with the City of Toronto's vibration by-law No. 514-2008 regarding vibration emission standards for construction equipment that may be in place at the time of construction
Archaeology	MHSTCI	▶ Should the proposed work extend beyond the areas assessed to be cleared of archaeological potential, further Stage 1 archaeological assessment is required to determine the archaeological potential of any unassessed previously undisturbed land
		▶ In the event that archaeological remains are found during subsequent construction activities, construction and alteration of the site shall stop immediately, and the relevant authorities and Indigenous Communities shall be immediately notified
Cultural Heritage	MHSTCI	▶ Further cultural heritage studies may be required in the next design phase to determine potential construction vibration impacts to the cultural heritage resources within the study area
Utilities	UTL	▶ Up-to-date surface and subsurface utility information will be required to be obtained during the next design phase to identify potential utility conflicts
		▶ Any utility conflicts and/or impacted utilities identified will require consultation with applicable utility companies and relocation plans may be required
Consultation	DRP CPR TRCA RNFPO	▶ Consultation with the DRP shall occur during the next design phase to allow opportunities for the DRP to further review and comment on the design and aesthetics of the crossing
		▶ Consultation and engagement with Canadian Pacific Rail shall continue into the next design phase to ensure design plans adhere with CP railway requirements and identify / confirm any permitting requirements
		▶ Further consultation with TRCA and Toronto Urban Forestry to confirm project impacts do not extend into regulated lands, and to confirm permitting requirements

8 REVISIONS AND ADDENDA TO THE ESR

This section will delineate minor adjustments that have been contemplated in the proposed design and major changes that would necessitate a formal addendum to the ESR. Any addenda required shall be led with the Environmental Study Report and the Notice of Filing of Addendum shall be given immediately to all potentially affected members of the public and review agencies as well as those who were notified in the preparation of the original Environmental Study Report. The Environmental Study Report addendum will be placed on the public record with the City of Toronto for a 30-day review period. An eligible person or party with concern regarding the addendum may make a written request to the Minister of the Environment for a Section 16 Order of the *Environmental Assessment Act* within this 30-day review period as described in **Section 1.3.2**. Provided that no Section 16 Orders are received, the City of Toronto may proceed to Phase 5 of the Class EA process, design and construction.

8.1 LAPSE OF TIME

According to the MCEA process, “If the period of time from the filing of the Notice of Completion of Environmental Study Report in the public record or the MECP’s denial of a Section 16 Order request(s), to the proposed commencement of construction for the project exceeds ten (10) years, the proponent shall review the planning and design process and the current environmental setting to ensure that the project and the mitigation measures are still valid given the current planning context. The review shall be recorded in an addendum to the Environmental Study Report which shall be placed on the public record.”

8.2 CHANGES IN PROJECT OR PLANNING CONTEXT

Subsequent to the filing of the Environmental Study Report, any modification to the project or change in the environmental setting for the project shall be reviewed by the proponent. Should the change be considered significant, it should be documented as an addendum to the Environmental Study Report detailing the circumstances necessitating the change, the environmental implications of the change, and the mitigating measures. Minor change to the undertaking can proceed without an addendum.