CITY OF TORONTO

New East-West Street: Kenaston Gardens and Rean Drive

Municipal Class Environmental Assessment (EA) Study

PROJECT FILE REPORT

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Executive Summary

The City of Toronto has conducted a Municipal Class Environmental Assessment Study (the "EA Study") for a new east-west street between Kenaston Gardens and Rean Drive under the Schedule "B" process. The recommendations of this EA Study implement the policies and planning objectives outlined in the City's Official Plan, the Sheppard East Subway Corridor Secondary Plan and the Southeast Bayview Node Context Plan. The recommendations of this EA Study also address the Official Plan policies related to the need to develop a more pedestrian and cycling-friendly environment aligned with the Accessibility for Ontarians with Disabilities Act (AODA).

This study, which was undertaken by City of Toronto, initiated undertaking background studies of the area in May of 2016, with the formal Notice of Commencement being issued in September of 2016. In accordance with the Municipal Class Environmental Assessment Planning Process, the study followed a process of developing and evaluating alternative solutions and recommending a preferred solution.

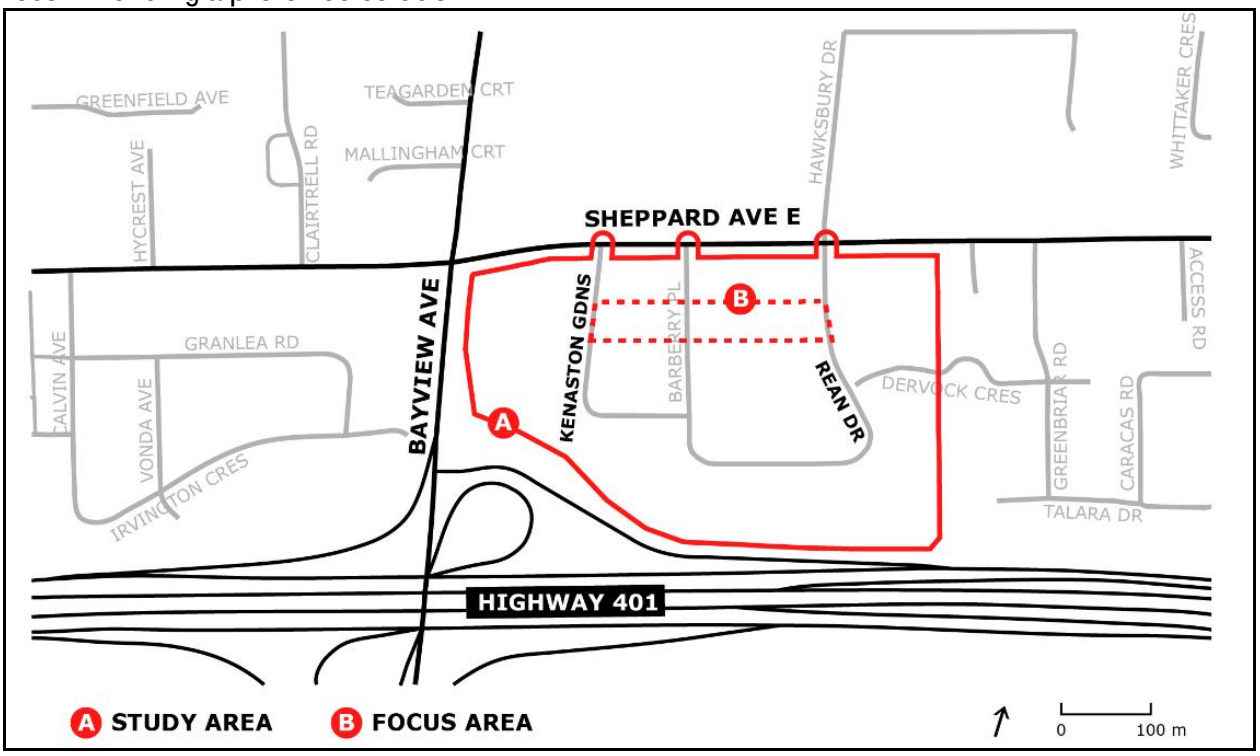

Figure E.1 –Study Area and Focus Area

Problem and Opportunity Statement

The following Project Problem/Opportunity statement was developed by the Project Team through the review of existing and future conditions of the study area and through consultation with the public and stakeholders:

Under the Southeast Bayview Node Context Plan, a new east-west street between Kenaston Gardens and Rean Drive is envisioned to provide improved pedestrian connections, smaller block sizes, and further frontage for street-oriented buildings. The new street will also serve and be accessible to users of all ages.

A portion of this new street has already been constructed through development. There may be potential to coordinate timing for construction of the new street with development.

The existing private driveway between Barberry Place and Rean Drive will be updated to meet City of Toronto standards for elements such as roadway and sidewalk widths, street lighting, etc.

Alternative Solutions and Evaluation

Alternative Solutions are reasonable, feasible ways of addressing the problem/opportunity statement. Alternative Solutions include the "Do Nothing" alternative. The alternative solutions that were considered are as follows:

Alternative 1 - Do Nothing. This alternative would maintain the existing private driveway between Rean Drive and Barberry Place. In this case since the driveway does not meet City standards, the City could not assume the driveway and take over its operation and it would remain private.

Alternative 2 - New east-west street (Kenaston Gardens to Barberry Place). The new portion of street would be built to City standards. Approximately the west half of this street (Station 0+000 to 0+068 as shown on Figure 7.5 and in detail in Appendix E) is planned to be built by the adjacent Chestnut Hill development and turned over to the City. The existing driveway between Rean Drive and Barberry Place would remain as-is.

Alternative 3 - Reconstruct existing street (Barberry Place to Rean Drive). In this case the City would rebuild the existing driveway to City standards and could assume this street, but the portion from Barberry Place to Kenaston Gardens remain as-is.

Alternative 4 - Combination of New and Reconstructed Street (Alternative 2 and Alternative 3). With this alternative the City would rebuild the east portion and build the remaining unbuilt and full west portion to City standards and the City would assume the roadway to operate it as a City street. (Alternative 2 and Alternative 3)

Consultation with technical agencies and stakeholders helped identify Alternative 4 as the "Preliminary Preferred Solution". Alternative 4 was then confirmed as the Preferred Solution based on input at the Public Information Centre and subsequent input and review.

Summary of Refined Preferred Solution

The Refined Preferred Solution (Figure 7.1 to Figure 7.5) is for new and reconstructed street by providing a new street between Kenaston Gardens and Barberry place and reconstructing and improving to standards the existing private driveway between Barberry place and Rean Drive.

Key Design Features of the Preferred Solution include:

- New 2-lane east-west street between Kenaston Gardens and Barberry Place
- Reconstructing the existing east-west street between Barberry Place and Rean Drive to a 2-lane urban cross-section
- Providing 2-way stop signs at the intersections of Kenaston Gardens, Barberry Place and Rean Drive
- Providing continuous sidewalks on both sides of the new east-west street to enhance the pedestrian environment and thereby improve accessibility within the immediate study area
- Opportunity for new tree plantings, street furniture and street lighting
- Providing a storm sewer system to provide quantity and quality control to stormwater runoff

Consultation Process

Throughout the study, the public and various interest groups have had opportunities to make comments, identify issues and provide additional information. Opportunities to provide feedback included one public information centre, five stakeholder meetings, three Technical Advisory Committee meetings, and correspondence with several agencies. The comments provided by the public and interest groups have broadened the information base for the project and facilitated decision making in the process.

Anticipated Impact, Mitigation and Monitoring

Anticipated impacts include traffic impacts at the intersections including pedestrian access at sidewalks of the New Street on Rean Drive, Barberry Place and Kenaston Gardens. The construction will need to be coordinated with the Liberty Development access and the building frontages with their main access, sidewalks.

Mitigation is limited mainly to coordination of the design, features and grading with adjacent properties. The design must avoid impact to the heritage property at #9 Barberry Place.

Cost and Implementation

The total estimated cost is $631,242, exclusive of costs associated with property acquisition requirements. The estimate is based on the recommended pavement structure of 40mm HL3, 60mm HL8, 150mm Granular A and 250 mm Granular B. The estimate also includes the anticipated storm water infrastructure, demolition of the existing homes and relocation of utilities.

Since most of the proposed right-of-way requires the acquisition of private property, the City will need to work closely with property owners to acquire the necessary property. In total, the City will need to acquire property and/or acquire permanent easements from 2 landowners.

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1 INTRODUCTION AND PROJECT BACKGROUND

1.1 INTRODUCTION

The City of Toronto has completed a Municipal Class Environmental Assessment (EA) Study (the "EA Study") to examine and evaluate options for a new street between Rean Drive and Kenaston Gardens. This EA was carried out as a Schedule "B" project in accordance with the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (MCEA) process. This Project File documents the rationale and justification for the project; study background; existing and future conditions within the study area; the traffic study and results; the alternatives considered; and the consultation undertaken with interested stakeholders, that led to the identification of a preferred alternative solution.

1.2 STUDY AREA

This study focuses on the recommendations identified as part of the Southeast Bayview Node Context Plan (2004) as shown below as Area "B" in Figure 1.1, specifically a new east-west street connection between Kenaston Gardens and Rean Drive. Since approval of the Context Plan in 2000, the recommendations have been implemented as development proceeded with the only remaining recommendation being the new east-west street connection. The Context Plan is shown in Appendix L. The study area is bounded to the west by Bayview Avenue, to the east by the property blocks east of Rean Drive, to the north by Sheppard Avenue East, and to the south by Highway 401.

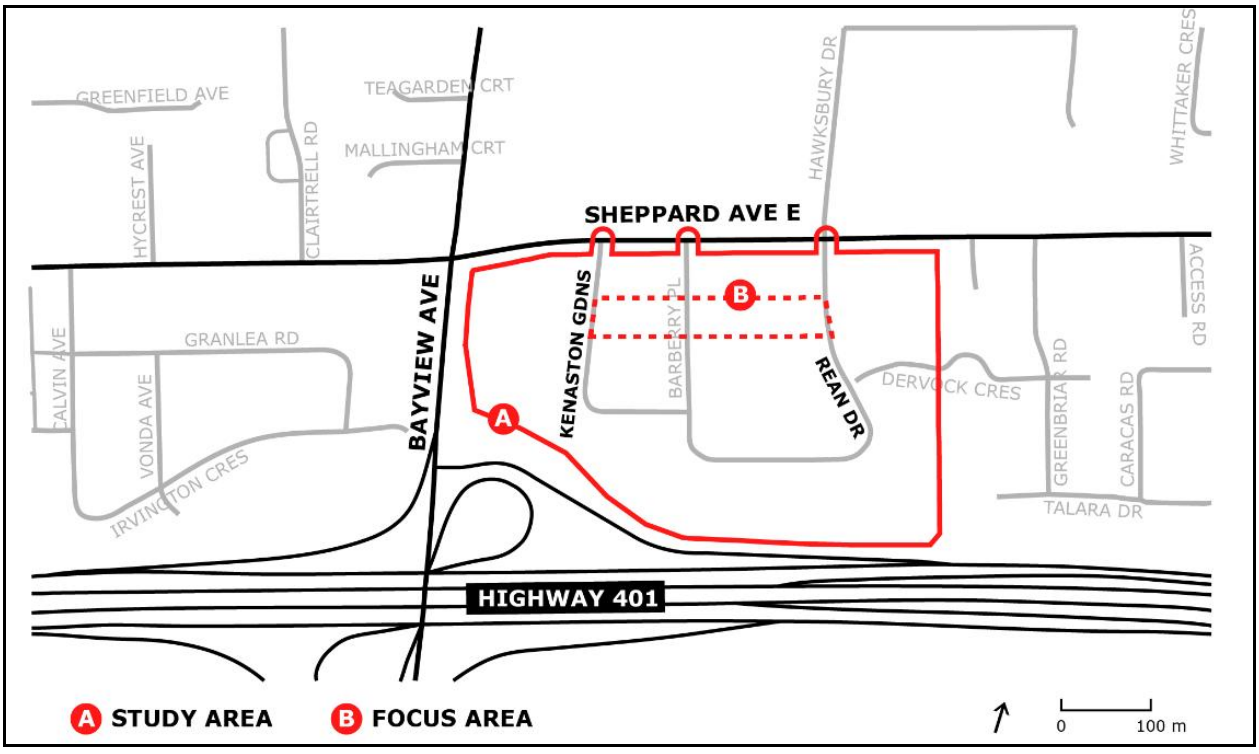

Figure 1.1 –Study Area and Focus Area

1.3 PROJECT BACKGROUND AND POLICY CONTEXT

Since the completion of the TTC's Sheppard subway line in 2002, the communities south of Sheppard Avenue East and east of Bayview Avenue in North York have and continue to experience a significant amount of residential development. Guiding this development is the Sheppard East Subway Corridor Secondary Plan which identifies site-specific policies for key development areas along Sheppard Avenue East corridor. The "Bayview Node" area, as illustrated in Figure 1.2 below, centres around the TTC's Bayview subway station with residential and mixed-use development within walking distance to transit.

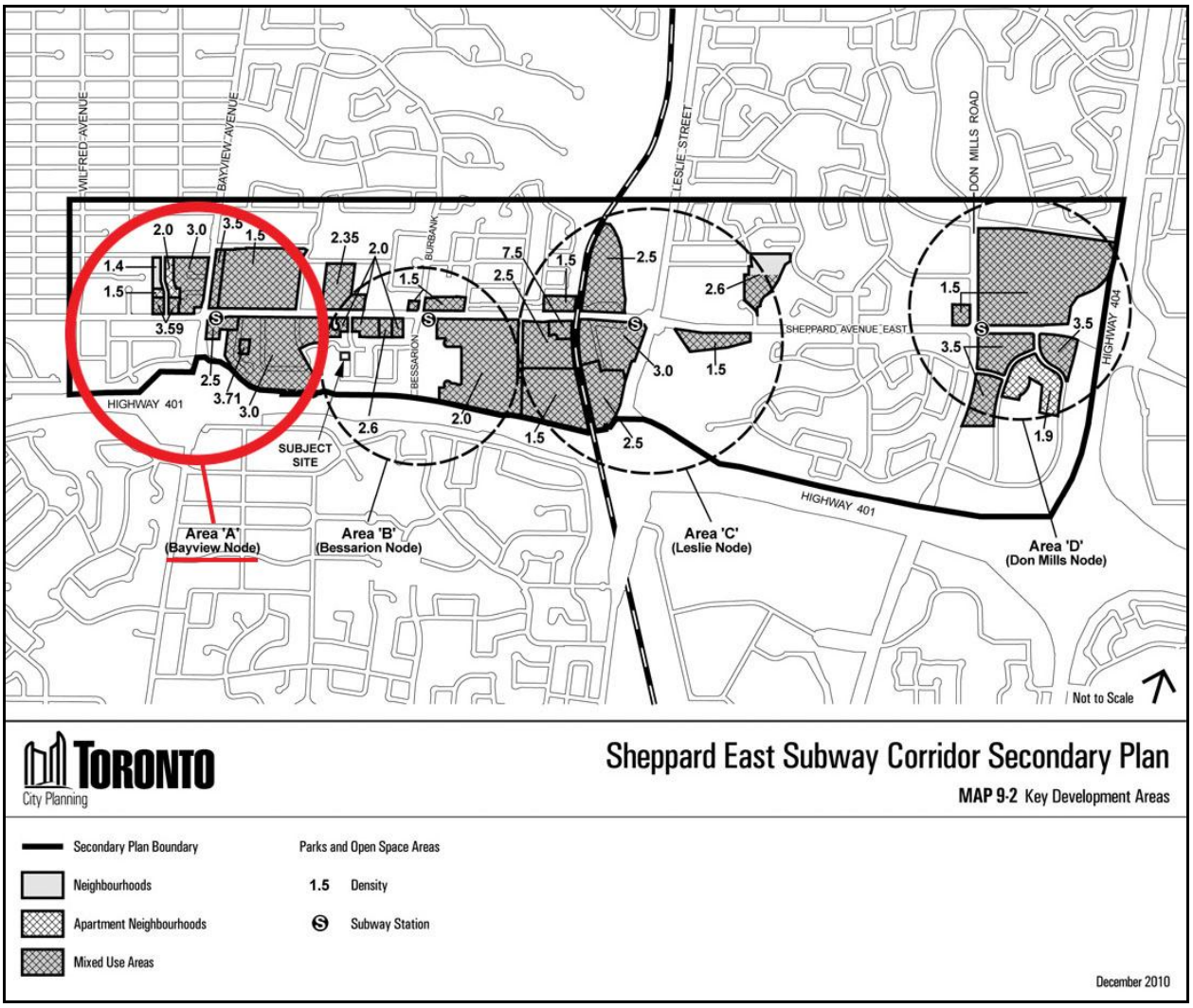

Figure 1.2 – Sheppard Avenue East Corridor – Bayview Node

Development within the southeast quadrant of the "Bayview Node" was further refined in the Southeast Bayview Node Context Plan adopted by City Council in 2000. The Context Plan provides a framework for a public realm that includes a fine grain of public streets, with new east-west streets through existing large blocks to provide further frontage for street-oriented buildings and improved pedestrian connections to access all sites including the subway station.

Figure 1.3 below illustrates the various transportation improvements that were recommended in the Context Plan and subsequently implemented over the years as development unfolded. The new east-west street connection is the final transportation recommendation remaining to be studied and implemented.

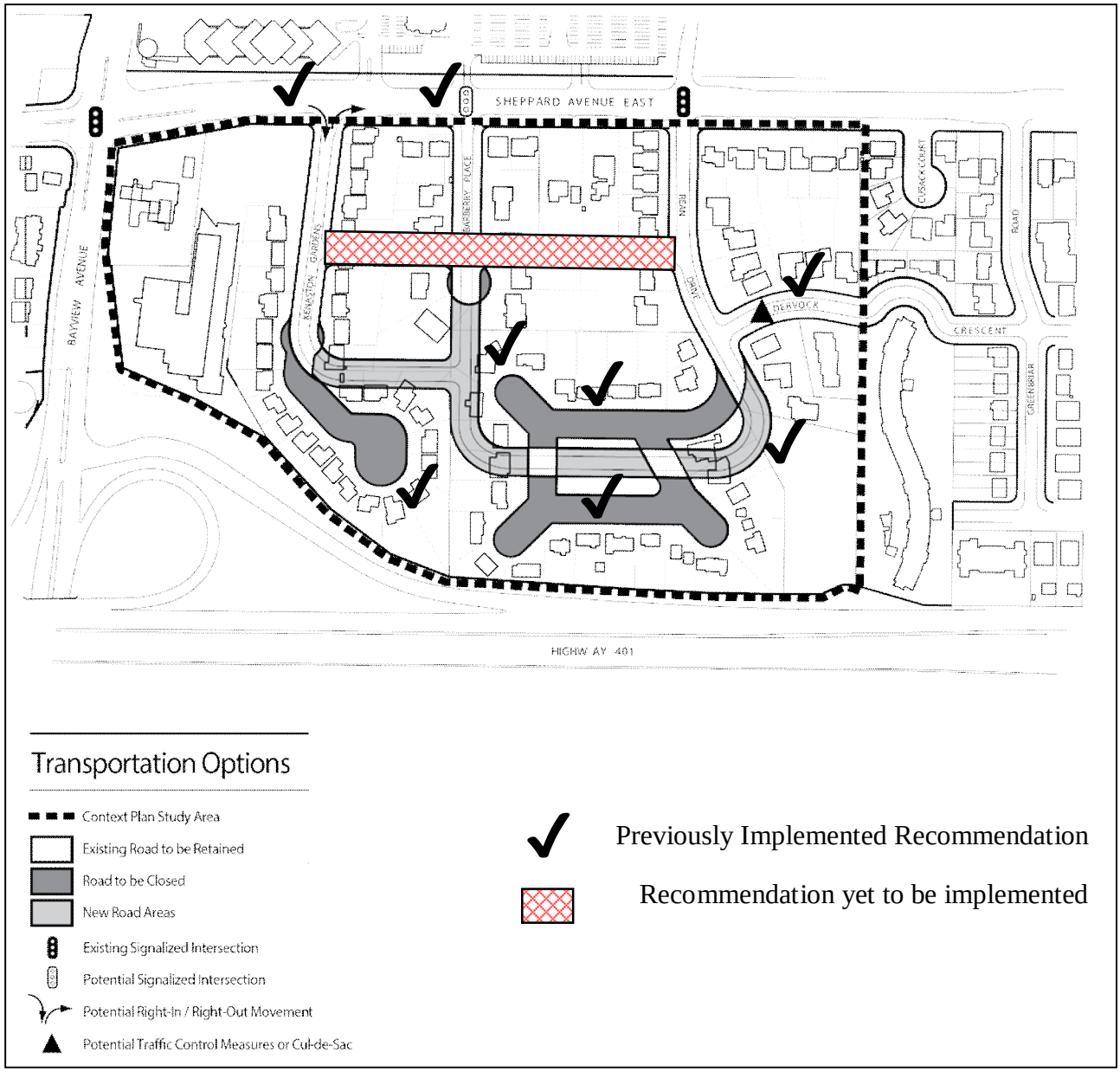

Figure 1.3 - Focus Area

1.4 THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS

1.4.1 THE ENVIRONMENTAL ASSESSMENT ACT OF ONTARIO

The Environmental Assessment Act of Ontario (EAA) provides for the protection, conservation, and wise management of the environment in Ontario. The EAA applies to municipal infrastructure projects, including municipal road projects. Activities with common

characteristics and common potential effects may be assessed as part of a "class", and are therefore approved subject to compliance with the pre-approved Class EA process.

1.4.2 THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS

The Municipal Class Environmental Assessment (EA), Schedule 'B' being followed for this EA, is an approved Class EA process that applies to municipal infrastructure projects including roads, water, and wastewater. The Municipal Class EA outlines a comprehensive planning process as follows:

- Problem definition
- Identification of alternatives (including "Do Nothing")
- Analysis and evaluation of their effects on the environment including natural, social, economic, and engineering
- Determination of a preferred alternative and associated mitigation measures
- Consultation with technical agencies and public throughout the process

This process provides a comprehensive planning approach to consider several alternative solutions and evaluate their impact on a set of criteria (e.g. technical, environmental, social, cost) and determine any mitigating measures to arrive at a preferred alternative for addressing the problem (or opportunity). The Municipal Class EA is an approved planning process that describes the process that must be followed to meet the requirements of the Ontario EA Act. Providing the Class EA planning process is followed, a proponent does not have to apply for formal approval under the EA Act.

Four types of projects or activities to which the Municipal Class EA applies are:

Schedule 'A' — Projects that are limited in scale have minimal adverse environmental effects and include the majority of municipal road maintenance, operation, and emergency activities. These projects are pre-approved and therefore, a municipality can proceed without further approval under the EA Act.

Schedule 'A+' — As part of the 2007 amendments, Schedule A+ was introduced where Schedule A+ projects are pre-approved; however, the public is to be advised prior to project implementation.

The purpose of Schedule A+ is to ensure some type of public notification for certain projects that are pre-approved under the municipal class EA, it is appropriate to inform the public of municipal infrastructure project(s) being constructed or implemented in their area.

Schedule 'B' — Projects that have the potential for some adverse environmental effects. These projects are approved subject to a screening process, which includes directly contacting affected public and relevant review agencies.

Schedule 'C'	Projects that have the potential for significant environmental effects that must proceed under the planning and documentation procedures outlined in the Municipal Class EA document.

This study has been classified as a Schedule 'B' Municipal Class Environmental Assessment, which includes the Phase 1 and Phase 2 of the EA Process as illustrated in the flow chart found below. Phase 1 involves identifying the problems and the opportunities for the modifications and discretionary consultation with the public to review the problem and opportunity statements. Phase 2 involves identifying alternative solutions and design concepts, evaluation of the alternatives, and selection of the preferred solution through technical analysis and public consultation.

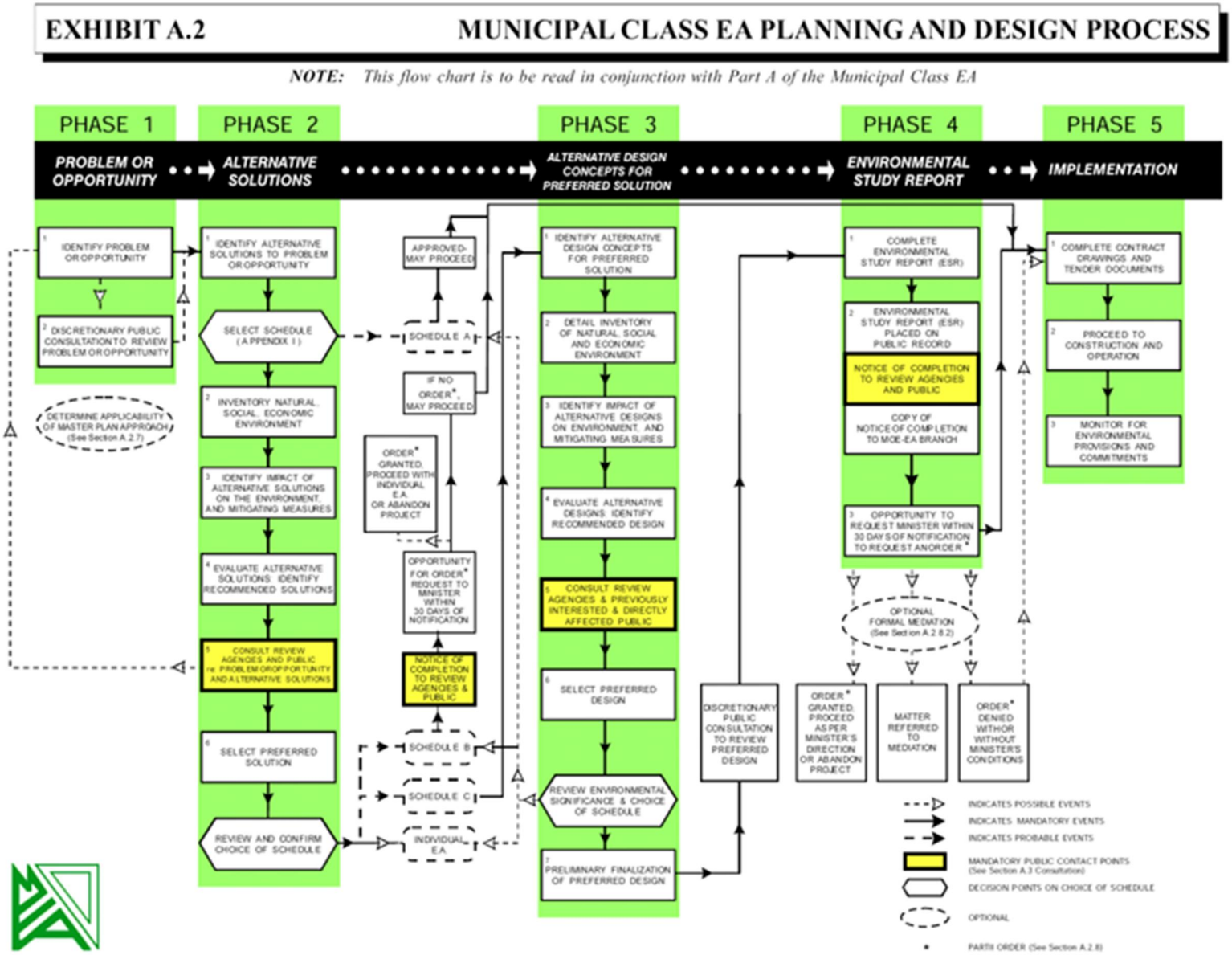

Figure 1.4 – Municipal Class EA Planning and Design Process

1.5 THE PROJECT TEAM

Proponent Project Team	City of Toronto	
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	Sara Fadaee	Traffic Planner
	Matthew Hooker	Arborist

Sub-Consultants	A.M Archaeological Associates	
	Andrew Murray	Archaeologist
	GeoPro Consulting Limited	
	David Liu	Geotechnical Engineer

2 PROBLEM AND OPPORTUNITY STATEMENT

Based on the need and justification for a new east-west street between Kenaston Gardens and Rean Drive as identified in the Context Plan, the following Problem and Opportunity Statement was developed:

Under the Southeast Bayview Node Context Plan, a new east-west street between Kenaston Gardens and Rean Drive is envisioned to provide improved pedestrian connections, smaller block sizes, and further frontage for street-oriented buildings. The new street will also serve and be accessible to users of all ages.

A portion of this new street has already been constructed through development. There may be potential to coordinate timing for construction of the new street with development.

3 EXISTING ENVIRONMENT

3.1 ROADWAY ENVIRONMENT

The existing transportation network in the study area reflects nearly all the recommendations identified in the Southeast Bayview Node Context Plan with exception of the new east-west extension between Kenaston Gardens and Barberry Place.

All access to the study area is provided through intersections with Sheppard Avenue. The Barberry Place / Sheppard Avenue and Rean Drive / Sheppard Avenue intersections are currently signalized while the Kenaston Gardens intersection is a right-in / right-out movement.

There is an existing private driveway built from Rean Drive to Barberry Place. There is a 20 metre right-of-way at the Rean Drive intersection for approximately 95m. The private driveway narrows for the west half of the length as it approaches Barberry Place. In the narrowed portion of driveway, fire route signing is in place given the tight driveway width. There are existing lay-bys in front of 12 Rean Drive (The Claridges) and 15 Barberry Place (Amica). Figure 3.1 below illustrates the locations of these conditions and active development that is presently underway.

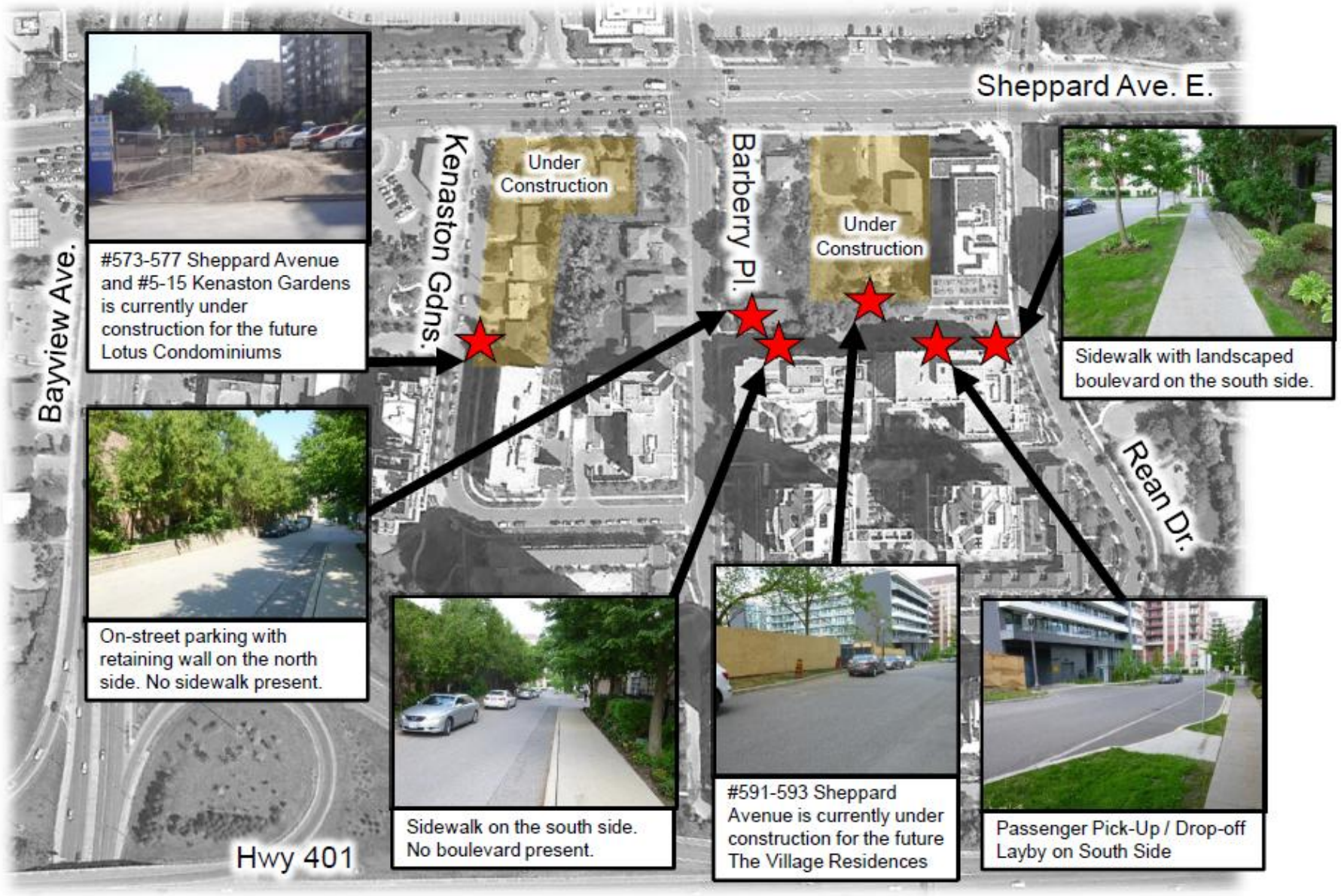


Figure 3.1 – Existing Conditions

3.2 PEDESTRIAN SIDEWALK AND BIKE LANES

Sidewalks are provided on both the north and south sides of the existing east-west driveway at the Rean Drive. Currently, there are no plans for bike lanes in the area. Also the 5.9% grade on the east segment of the existing roadway would be problematic for bicycle traffic.

3.3 TRAFFIC OPERATIONS

There are 3 intersections that provide access to the study area which are all located on Sheppard Avenue: the Kenaston Gardens intersection is controlled through a right-in-right-out access due to its proximity to the Sheppard Avenue and Bayview Avenue intersection, the Barberry Place intersection which is controlled through traffic signals and the Rean Drive intersection which is also controlled through traffic signals with an exclusive eastbound right-turn lane into Rean Drive.

The need for the new street aligns with previous traffic and development studies and the development construction already completed in the right-of-way, allowing for a frontage road for planned and future development parcels in the area.

The Study Team has built on the assumption based on the Southeast Bayview Node Context Plan that the street will operate with one lane each direction with likely no turn lanes on the road or at the intersections given the limited available right-of-way. Parking need will be based on the approach with condo development planning already completed on the east portion and then considered separately for the west portion based on any commitments made or the allowances to be built into the plan.

3.4 FUTURE GROWTH AND DEVELOPMENT

Construction of new condominium developments are ongoing at the parcel of 591 and 593 Sheppard Avenue East just west of 20 Rean Drive called the Liberty Development with portions of the plans found in Appendix D. Construction of new development is also taking place on the parcel of 5, 7, 9 and 11 Kenaston Gardens and 577 Sheppard Avenue East, called the Chestnut Hill development with portions of the plans found in Appendix E. The Study Team has met with both developers to discuss the undertaking and investigate opportunities for coordinating plans and construction activities.

3.5 MUNICIPAL SERVICES AND DRAINAGE

All existing streets within the study area have already been urbanized with stormwater conveyed through curb and gutters and catchbasins.

There are local storm sewers, sanitary sewer, and watermain along Rean Drive, Barberry Place and Kenaston Gardens servicing the area as shown in the Existing Conditions and Composite Utility Plan (Aerial). On Kenaston Gardens and on Rean Drive the watermain, storm sewer and sanitary sewer carry continuously past the potential new street right-of-way. On Barberry Place watermain carries continuously past the existing private driveway, but the storm sewer and

sanitary sewer are not continuous, each carrying down from Sheppard Avenue with a second storm sewer and sanitary sewer from the south ending 40 metres south of the south curb line of the existing private driveway as shown on the Existing Conditions and Composite Utility Plan (Aerial).

The storm sewer is expected to have both on site control of quantity as well as quality of runoff will be required to meet the City of Toronto "Green Streets Standards". To achieve grades for outletting, storm sewer would be required to outlet to each of the three intersecting streets respecting the existing and proposed road grades.

The Liberty Development plans illustrate a detailed road design plan identifying the installation of a 300mm PVC storm sewer, 300mm PVC watermain and 250mm PVC sanitary sewer which connect to the existing services to the east along Rean Drive. The services were installed in 2017 as part of the first phase of the Liberty Development construction. The storm sewer identified the possible extension upstream to capture the runoff from the future road widening near Barberry Place with future catchbasins located approximately 60m downstream of the intersection. These catchbasins would be connected to a new storm sewer segment that would connect to the existing storm manhole #3.

The Chestnut Hill development plans illustrate a detailed road design plan along the depth of the 15 Kenaston Gardens property to the back of the 23 Barberry Place rear property line. This road and associated storm sewer drainage back and connected to the Kenaston Gardens storm sewer are expected to be built and be part of the new street design. The Chestnut Hill design plans developed along with the City of Toronto also carried the road alignment through to Barberry Place and this will form part of the plan for the new street alternative. The grade along the length of 23 Barberry Street drains toward Barberry Street and the storm sewer is expected to also drain from west to east to outlet to the Barberry Street storm sewer.

The existing drainage pattern from Barberry Place will be maintained with flow generally from west to east. The east segment drains strongly down the steep slope to Rean Drive and the two offset catchbasins just before Rean Drive that connect to the storm sewer along Rean Drive.

3.6 HYDRO AND UTILITIES

There are some remaining hydro poles located on the boulevards from Sheppard Avenue East to the south of the existing and new potential street alignment, behind the curbs on the west boulevard of Barberry Place and east boulevard of Kenaston Gardens that ends at the south property line of 15 Kenaston Gardens. A Bell underground and cable TV service box is also located in this area. These service the redevelopment of 15 Kenaston Gardens along with properties to the north.

There are three lighting poles on the north boulevard east of Rean Drive. In consultation with Toronto Hydro, it was determined that these poles do not meet City of Toronto standards and will be further reviewed during detailed design. Further details are provided in the subsurface utility engineering (SUE) report in Appendix C.

3.7 ENVIRONMENTAL SITE ASSESSMENT (ESA)

3.7.1 PHASE I ESA

A Phase I Environmental Site Assessment (Phase I ESA) was prepared for this EA. The study area of the ESA extends from Highway 401 to the south, Sheppard Avenue East to the north, Bayview Avenue to the west and to approximately 100 m east of Rean Drive. The focus area of the EA Study and this ESA includes:

- The existing road segment between Barberry Place and Rean Drive and the right of way;
- The lands between Kenaston Gardens and Barberry Place where the new road segment and the right of way are proposed to be built. These lands are occupied by residential dwellings and are expected to be acquired by the City of Toronto to complete the new road and the right-of-way.

The Phase I ESA was completed in general accordance with the November 2001 Canadian Standards Association document entitled Phase I Environmental Site Assessment, Z768-01 (R2012) and included a records review for the Site and the study area, a walkover of the Site and study area, evaluation of the available information, and reporting The purpose of a Phase I ESA is to identify actual and potential site contamination within the study area in order to assist in the preliminary evaluation of the alternatives.

The CSA Phase I ESA was enhanced by including a review of the land use and cultural heritage as part of the EA study carried out for the project.

The Site (focus area) and the adjacent lands have been used for residential purposes since 1940s until present with the exception of the east part of the Site between Barberry Place and Rean Drive which was developed as an access road in the early 2000s. The adjacent lands have been mostly redeveloped with midrise condominium buildings or are currently under development with residential buildings.

In general, the lands within the study area have been used mainly for residential (residential houses and apartment buildings) and community uses (church and YMCA). In addition, a retail fuel outlet with four (4) underground storage tanks (USTs) is located within the study area at 2831 Bayview Avenue, approximately 100 m west of the west most part of the Site at the southeast corner of the intersection of Sheppard Avenue and Bayview Road. The retail fuel outlet has been in operation for over 50 years. In addition, several spills have been reported to occur on this property in 1994, 2007 and 2011. The spills reportedly consisted of spilling/releasing of 3,700 L, 500 L and 14 L of fuel to the ground and/or to the concrete surface.

A former fuel UST was located at a residential property located at 591 Sheppard Avenue East (the adjacent property north of the Site). This property is currently under redevelopment with residential buildings. Previous Phase II ESA studies completed by others for this property in 2012 did not identify soil or groundwater impacts at 591 Sheppard Avenue. In addition, a Record of Site Condition (RSC) was filed for the property in 2015. As such, the former UST is not considered to be an issue of potential environmental concern for the Site.

Based on the information obtained and reviewed as part of this Phase I ESA, no potentially contaminating activities (PCAs) were identified on the Site or on adjacent lands in immediate vicinity of the Site. However, the following PCA was identified within the study area that may have impacted the Site:

- Presence of a retail fuel outlet at 2831 Bayview Avenue with 4 USTs, approximately 100 m west and up-gradient of the Site. The retail fuel outlet has been in operation for over 50 years and there is potential for subsurface contamination associated with the 4 USTs and the reported spills. Given the distance between the Site (the focus area) and this PCA and that the Site is separated from this potential source of contamination by midrise buildings with deeper foundations, it is considered that the retail fuel outlet represents a medium risk for potential subsurface impact on the Site (focus area).

Based on the above findings, a scoped Phase II Environmental Site Assessment (Phase II ESA) was recommended to be completed in conjunction with the proposed geotechnical and hydrogeological studies to assess the presence/absence of soil and/or groundwater impacts in the west part of the Site at Kenaston Gardens due to potential contaminant migration from the retail fuel outlet.

The full Phase I ESA report is provided in Appendix I.

3.7.2 PHASE II ESA

Based on the findings of the Phase I ESA, a scoped Phase II Environmental Site Assessment (Phase I ESA) was prepared for the new East-West connection between Rean Drive and Kenaston.

The purpose of a Phase II ESA is to determine the presence or absence of soil and/or groundwater contamination on the property and to that end Morrison Hershfield followed the methodology described in the Canadian Standards Association (CSA) standard Z769-00, Phase II Environmental Site Assessment. The scope of work included intrusive subsurface investigations at a total of 10 boreholes, chemical analysis of soil and groundwater, assessment of remedial options, and generation of this report.

Based on the findings of the soil sampling and analysis, the following conclusions are made.

1. PAHs, VOCs and PHCs were not detected in soil. This indicates that the retail fuel outlet at 2831 Bayview Avenue has not acted as a source of contamination.

2. Only the shallow fill layer have Sodium Absorption Rate (SAR) and/or Electrical Conductivity (EC) above the Table 3 RPI standards, and the elevated level of EC and SAR is attributable to road salt application for the purpose of keeping the roadway safe for traffic under conditions of snow or ice; therefore, in accordance with Section 48(3) of O. Reg. 153/04, EC and SAR are deemed not to be exceeding the MOECC Table 3 RPI standards at the Site. Leaving the salt impacted soil onsite or re-using it for

the on-site road development does not pose human health risks to the current or future site receptors (construction and trench workers) or ecological risks if no vegetation is planted onsite. Therefore, no remedial action is required for the EC and SAR impacted soil.

The following recommendations are made based on the findings of this assessment:

1. No remedial action is required for the EC and SAR impacted soil. The EC and SAR impacted soil can be re-used for the on-site road development.

2. If the salt impacted soil is to be disposed off-site, the soil may only be placed:
   a) A minimum of 1.5 m below the finished grade at the disposal location; and
   b) On non-agricultural property.

These findings will be reviewed further as part of the detailed design of the road.

The full Phase II ESA report is provided in Appendix I.

3.8 GEOTECHNICAL INVESTIGATION

The existing pavement between Rean Drive and Barberry Place consisted of asphalt concrete with an average thickness of about 104 mm (ranging from about 80 mm to 140 mm) overlying granular base and subbase materials with an average thickness of about 466 mm.

In general, the existing pavement on this section was observed to be in fair condition. The most significant distresses are intermittent low to medium severity transverse cracking, few low severity edge cracking, few low severity segregation and few low to medium severity patching.

This existing roadway was designed and constructed to an urban cross-section (curb and catchbasins). The overall surface drainage is generally considered to be fair. Observations along the length of the roadway indicate that the pavement surface water generally follows along the existing pavement grades and is being directed to the concrete curb and to catch basins.

However, drainage is impaired by surface distresses, with unsealed cracks allowing surface water to infiltrate into the underlying pavement and subgrade. The catch basins were observed to be in fair to good condition.

The recommendations to meet the low traffic volumes projected are for 100 mm of asphalt (40 mm HL3 top course over 60 mm HL8 base course) and 150 mm of Granular A over 250 mm of Granular B west of Barberry Place to Kenaston Gardens and 280 mm of Granular B east of Barberry Place to Rean Drive for widenings.

The geotechnical report recommendation is that the portion of existing new street between Barberry Place and Rean Drive that has an average of 90 mm of asphalt could be milled 50 mm (leaving only 40mm of old asphalt) or the full depth of 90 mm of pavement be removed and the

new street be paved with 100 mm of new pavement which is the endorsed recommended given the roadway design, staging and other issues noted below:

1. The existing asphalt has been in place since approximately the Year 2010;
2. The Liberty development will cut the existing laneway for the easterly portion to build the new sanitary sewer within the roadway surface in the north half of the roadway, which will require cutting away a width of 1 to 1.5m of pavement in the westbound lane and then patching the asphalt for approximately half of this portion of the new street.
3. The Liberty plan also has shown a future storm sewer design that is much what was planned to drain the new street with a new set of catchbasins just west of the Liberty driveway that would capture the flow from the portion new street from 5 to 10 m east of Barberry Place, with that short potion flowing back to Barberry Place. The construction of the storm sewer would require cutting away approximately 1 to 1.5 meter of the pavement in the eastbound lane and then patching the asphalt for approximately half of this portion of the new street;
4. The design for the new street at the ends at Barberry Place and Rean Drive will include updates from a driveway specification to a new street specification, this will include new slightly larger radii and removing the curb and gutters at both street connections as well as removing the two sidewalk crossings through the new street, in addition the narrow strip of pavement remaining (3-4m) between the crossing curb and gutter and sidewalks should then be removed. In addition, a few more metres of pavement will be removed and patched just west of the sidewalk to place the sanitary manhole and in the future in this jobs design for the storm manhole. In total about 10 metres of new pavement at the Rean Drive end and 6-7 metres at the Barberry Place end will need to be placed when the new street is built. Catchbasins and catchbasin leads and sanitary sewer connections will also require asphalt patching.
5. Only 40 mm of existing asphalt will be left after milling. The pavement has some evidence of cracking, and has the numerous patches proposed and will not provide the best base for the new street.
6. The west half of the new street would only salvage just over 3 m of existing pavement and require 5 to 6 metres of widening.
7. Crossfalls will not necessarily match the proposed design cross section.

Given the points above, including the above cutting and patching of the existing pavement that will be nearing at least ten years of age even if the new street is budgeted and built within the next 2-3 years, it is proposed that the new street be repaved full depth (100mm asphalt). It is recommended that the staging of the construction of the new street should be planned to defer the removal of the pavement surface until later in the staging as near to final paving as practical to limit the time that the driving surface is on granular material with the ramping required at numerous connections at a grade of 100 mm lower than the final pavement elevation. This staging will maintain surface grades to the abutting properties including the parking garages, driveways and existing lay-bys to the building main entrances. Use of the existing pavement during construction will also provide a cleaner environment than having construction and normal road traffic driving over a gravel surface with the tracking of mud and

dust affecting the area.

The full geotechnical report is provided In Appendix J.

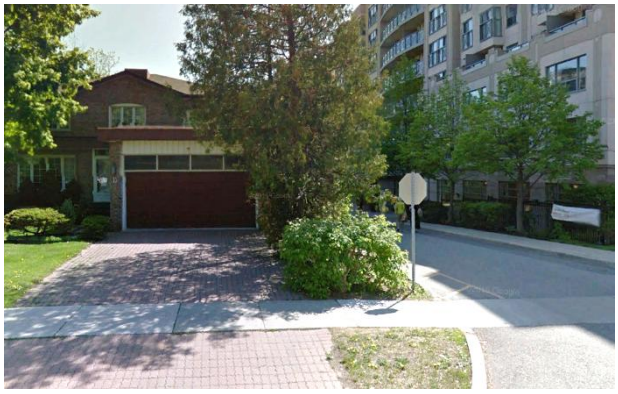
3.9 NATURAL ENVIRONMENT AND CULTURAL AND HERITAGE ENVIRONMENT

The study area is located in an urban with residential, recreational and commercial land uses. Rean Park is situated within the study area, located southeast of Rean Drive, north of Highway 401. There are no identified watercourses within the project area.

The vegetation in the area consist of trees lined in an urban setting. The section between Barberry Place and Rean Drive consists of landscaped trees which will likely be impacted by the proposed reconstruction of the Barberry Place – Rean Drive link. Vegetation removal along the west end of this intersection may be required if sightlines are impacted.

Site visits have determined that the majority of vegetation for the #591 and 593 Sheppard Avenue properties has been removed as part of the on-going construction of the development. Only 3 to 4 trees are still standing within the construction area that can be reviewed after construction during detailed design to determine if they could be maintained.

Between Barberry Drive and Kenaston Gardens, all vegetation within the proposed corridor will most likely need to be removed, including several trees in the existing backyards and mature trees in front of #15 Kenaston Gardens.



#15 Barberry Place

Existing vegetation along the south side of 13 Barberry Place would need to be removed for the alternatives being considered.

The study area also contains the Thomas Clark House at #9 Barberry Place, which is designated under the Ontario Heritage Act. As identified in the Southeast Bayview Node Context Plan, the Thomas Clark House at #9 Barberry Place is to be retained. The history of the property is identified on page 2 of the Stage 1 Archaeological Assessment Report provided in Appendix G.

The Southeast Bayview Node Context Plan has identified that in the future, the house could become a public building to be used as a community facility. Further documentation for the Ontario Heritage Act designation of 9 Barberry Place is on file.

The draft Functional Design plan illustrates that 9 Barberry Place will not be impacted. Implementation of the new street may result in an excess portion of the 13 Barberry Place property that would not be required to build the new street. The north portion of the property would not be required for the planned 20 metre wide right-of-way. Adjacent to the east-west street right-of-way, there is a strip of property approximately 5 metres to the south of the existing structure which could be protected during removal of the home and grading of the site. This could save 2-3 trees. This strip of property could be also be considered for uses including a wider new street right-of-way including streetscaping or buffering beside 9 Barberry Place, or for addition of this strip of property directly added to 9 Barberry Place.

4 ALTERNATIVE SOLUTIONS AND EVALUATION METHODOLOGY

4.1 TRAFFIC STUDY

A traffic impact assessment study was conducted for new east-west street extension from Rean Drive to Kenaston Gardens, and the potential impact of the site generated traffic was investigated. Level-of-service analyses and operational reviews were completed for area roads and intersections within the study area.

The study brief including assumptions, analysis findings, suggested improvements at problem locations are summarized below.

The traffic data was collected from the City and the analysis was undertaken by using Synchro 8

and Sim-Traffic software. City's Synchro Guideline "*Guidelines for Using Synchro 9 (including SimTraffic 9)*" was used to carry out the analysis. Level-of-service (LOS) analyses and operational reviews were completed for area roads and intersections using:

- Existing traffic levels (2013)
- Future traffic with background traffic growth and proposed site generated traffic for the year 2031.

A growth factor of 1% was applied to the 2013 eastbound and westbound traffic volumes on Sheppard Avenue E to project them to the year 2016 and 2031, respectively.

The analysis of existing conditions show that signalized and un-signalized intersections are currently operating at an overall LOS of C and A during the AM and PM peak hours, respectively. Sheppard Avenue East and Rean Drive/Hawksbury Drive intersection is experiencing LOS F on the eastbound movement during the AM peak hour and eastbound and westbound movements during the PM peak hour. In order to improve operations at this intersection the following improvements were made:

1. A protected/permitted left-turn phase was introduced to the failing movements.
2. The cycle length at the Sheppard Avenue East and Rean Drive/Hawksbury Drive intersection was optimized/adjusted.

The proposed site generated traffic volumes were based on 1) 5-15 Kenaston Gardens TIS report conducted by BA Group in 2013 and 2) 591-593 Sheppard Avenue East TIS report conducted by COLE in 2013. The site generated traffic west and east of Barberry Place were increased by 100% and 30% respectively to include all the remaining developable sites within the study area.

For future traffic conditions, a sensitivity analysis was conducted to estimate an optimized signal timing/phasing at the signalized intersections. The results of the analysis shows that signalized intersections are expected to operate at an overall LOS of D or better during the AM and PM peak hours. The future conditions analysis indicates that un-signalized intersections are expected to operate at LOS A during the AM and PM peak hours.

This study concludes that the addition of the new east-west extension is feasible and will have a minimal traffic impact on the level of service and volume to capacity ratios in the adjacent road network.

The final Traffic Study Report can be found in Appendix F.

4.2 ALTERNATIVE SOLUTIONS

Alternative Solutions are reasonable, feasible ways of addressing the problem/opportunity statement. Alternative Solutions include the "Do Nothing" alternative. The alternative solutions that were considered are as follows:

Alternative 1 - Do Nothing. This alternative would maintain the existing private driveway between Rean Drive and Barberry Place. In this case since the driveway does not meet City standards, the City could not assume the driveway and take over its operation and it would remain private.

Alternative 2 - New east-west street (Kenaston Gardens to Barberry Place). The new portion of street would be built to City standards. Approximately the west half of this street (Station 0+000 to 0+068 as shown on Figure 7.5 and in detail in Appendix E) is planned to be built by the adjacent Chestnut Hill development and turned over to the City. The existing driveway between Rean Drive and Barberry Place would remain as-is.

Alternative 3 - Reconstruct existing street (Barberry Place to Rean Drive). In this case the City would rebuild the existing driveway to City standards and could assume this street, but the portion from Barberry Place to Kenaston Gardens remain as-is.

Alternative 4 - Combination of New and Reconstructed Street (Alternative 2 and Alternative 3). With this alternative the City would rebuild the east portion and build the remaining unbuilt and full west portion to City standards and the City would assume the roadway to operate it as a City street. (Alternative 2 and Alternative 3)

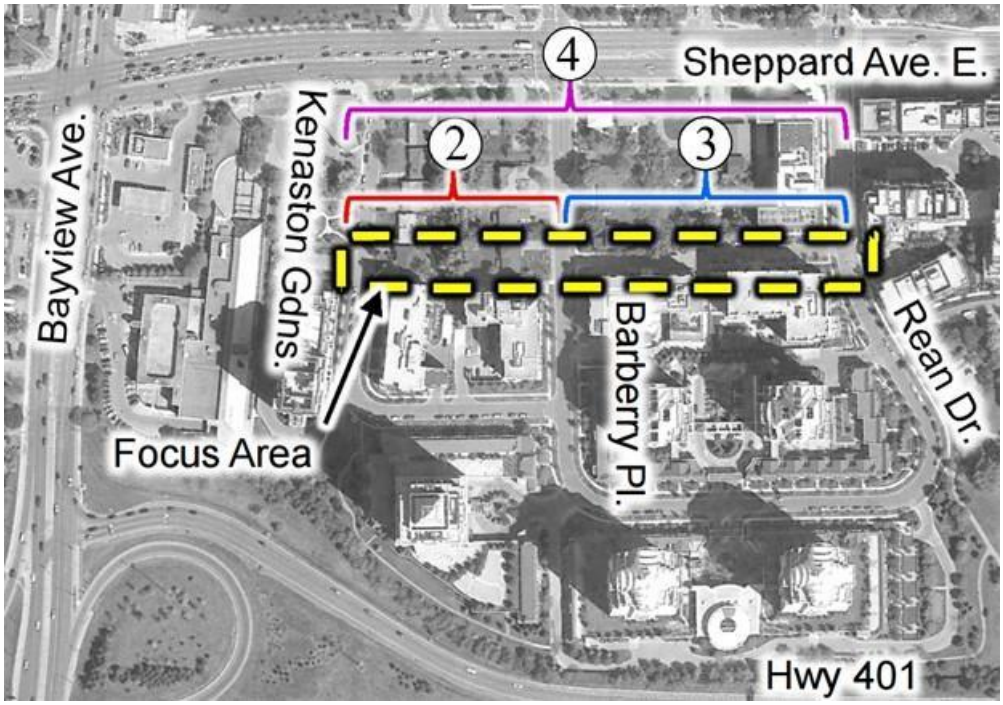


Figure 4.1 – Alternative Solutions

4.3 EVALUATION METHODOLOGY

The Alternative Solutions developed to satisfy the Problem and Opportunity Statement were evaluated with respect to their impact on the *physical*, *social/cultural, natural,* and *economic*

environments as follows. The comprehensive evaluation process compares the Alternative Solutions against each other, including a baseline "Do Nothing" option.

The assessment process scored each criterion on a 5-point scale, from most to least desirable, and compared alternatives against each other and the baseline as shown in Figure 4.2. The general evaluation criteria shown in bolded text below in Table 4.1 were developed by the Project Team and reviewed by TAC members to reflect a complete and comprehensive range of considerations. For each criteria, indicators were developed to allow for an analysis of the advantages and disadvantages of each alternative solution. These criteria are shown in the Evaluation Table in Figure 5.1.

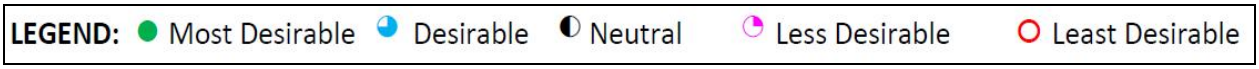


Figure 4.2 – Evaluation Scale

Table 4.1 - Evaluation Criteria

<u>Planning and Policy</u> • Addressing objectives of the Official Plan, Sheppard East Subway Corridor Secondary Plan, and Southeast Bayview Node Context Plan • Provide connectivity through direct access and address existing and future development • Urban design considerations	<u>Natural Environment</u> • Vegetation, existing trees and wildlife • Opportunities for street tree plantings • Noise impacts • Air quality • Climate
<u>Transportation</u> • Safety • Operations • Accessibility for Ontarians with Disabilities Act (AODA) and City of Toronto Standards • Multimodal provisions • Provision for Emergency Services	<u>Engineering & Utilities</u> • Construction feasibility and staging • Drainage/Stormwater management • Utilities (Relocation/Replacement)

Cultural and Built Heritage • Cultural heritage landscapes • Built heritage • Potential archaeological impacts	Costs • Property acquisition requirements • Construction costs • Operations and Maintenance costs

4.4 EVALUATION OF ALTERNATIVE SOLUTIONS

The evaluation of Alternative Solutions was completed by the Project Team through an iterative approach and building a consensus through discussion with TAC members, stakeholders, and the public. The detailed evaluation scoring of the Alternative Solutions is shown below in Table 4.1.

4.5 PREFERRED SOLUTIONS

Consultation with technical agencies and stakeholders helped identify Alternative 4 as the "Preliminary Preferred Solution". Alternative 4 was then confirmed as the Preferred Solution based on input at the Public Information Centre and subsequent input and review.

Key Design Features of the Preferred Solution include:

- New 2-lane east-west street between Kenaston Gardens and Barberry Place
- Reconstructing the existing east-west street between Barberry Place and Rean Drive to a 2-lane urban cross-section
- Providing 2-way stop signs at the intersections of Kenaston Gardens, Barberry Place and Rean Drive
- Providing continuous sidewalks on both sides of the new east-west street to enhance the pedestrian environment and thereby improve accessibility within the immediate study area
- Opportunity for new tree plantings, street furniture and street lighting
- Providing a storm sewer system to provide quantity and quality control to stormwater runoff

Table 4.2 – Alternative Solutions Evaluation

Category	Criteria	Indicator	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
			Do nothing		New east-west street (Kenaston Gardens to Barberry Place)		Reconstruct existing street (Barberry Place to Rean Drive)		Combination of New and Reconstructed Street (2 and 3)	
Planning and Policy	Official Plan, Sheppard East Subway Corridor Secondary Plan, and Southeast Bayview Node Context Plan	Ability to address the goals and objectives of the Official Plan, Sheppard East Subway Corridor Secondary Plan, and Southeast Bayview Node Context Plan	○	Does not meet planning objectives for roadway between Rean Drive and Kenaston Gardens	◐	Partly meets planning objectives for roadway between Rean Drive and Kenaston Gardens by continuous route	◔	Partly meets planning objectives for roadway between Rean Drive and Kenaston Gardens	●	Meets the planning objectives for roadway between Rean Drive and Kenaston Gardens
	Connectivity	Ability to provide access and address existing and future development in adjacent properties	○	No direct access is provided as traffic is forced to travel along Rean Drive and along Kenaston Gardens to reach opposite sides	◐	Increases feasibility for the redevelopment (including started Chestnut Hill) on adjacent property (discourages additional access to Sheppard)	◔	Partly increases feasibility for the potential adjacent property redevelopment (discourages additional access to Sheppard)	●	Increases feasibility for the potential adjacent property redevelopment (discourages additional access to Sheppard)
	Urban design considerations	Potential to provide, improve, or enhance urban design elements on solution (sidewalks, streetscaping, street trees, street furniture, lighting)	○	No change to design characteristics	◐	Application of urban design principles to maintain slow speed traffic and pedestrian accessibility	◐	Provides full-length sidewalk on both sides and wider street	●	Application of urban design principles to provide a low speed continuous multi-modal street
Transportation	Safety	Ability to improve safety from existing conditions	○	No improvements to safety	◕	Reduced traffic flows along nearby streets would result in some safety improvements	◐	Reduced traffic flows along nearby streets would result in some safety improvements	●	Reduced traffic flows along nearby streets would result in safety improvements
	Operations	Ability to improve traffic flow and congestion and level-of-service	○	Increase in congestion expected due to increased traffic volume as a result of nearby future residential/commercial developments	◕	Improves traffic flow and potential future traffic congestion	◐	Improves traffic flow and potential future traffic congestion by encouraging traffic onto widened roadway	●	Improves traffic flow and potential traffic congestion and level-of-service by providing alternative to Kenaston Gardens , Barberry Place & Rean Drive
	Accessibility for Ontarians With Disabilities Act (AODA) and City of Toronto Standards	Ability to maintain and/or maximize opportunities for improved access into adjacent residential and commercial properties	○	No accessibility improvements	◐	Increases accessibility between Kenaston Gardens and Barberry Place	◐	Increases accessibility between Rean Drive and Barberry Place	●	Significantly increases accessibility between Kenaston Gardens , Barberry Place and Rean Drive
	Multimodal provisions	Ability to provide opportunities for pedestrians and cyclists in the study corridor	○	No opportunities provided	◕	Improves pedestrian and cyclist access	◕	Improves pedestrian access with continuous sidewalk, slightly improves cyclist access/safety with greater visibility of a through-road	●	Improves pedestrian and cyclist access/safety and encourages active transportation in nearby area
	Provision for Emergency Services	Ability to provide opportunities for emergency services access in the study corridor	○	No opportunities provided	◕	Improves emergency services access within alternative limits	◐	Improves emergency services access within alternative limits	●	Improves emergency services access within full project limits
Natural Environment	Vegetation, existing trees, and wildlife	Potential for disruption of vegetation, existing trees, and wildlife	●	No impacts to vegetation or existing trees	◔	Removal of vegetation and trees on existing residential property along the path of the proposed solution	◔	Removal of vegetation and trees on portion of currently unbuilt roadway required for solution	○	Removal of vegetation and trees along length and width of solution
	Opportunities for street tree plantings	Potential for new tree plantings along the proposed street	○	No new tree plantings	◐	Opportunity for street tree plantings along new roadway	◐	Opportunity for new street tree plantings along widened portion	●	Opportunity for new street tree plantings along new roadway and widened portion
	Noise impacts	Ability to minimize impacts on ambient noise levels after construction	◐	Overall noise impacts are neutral over the area	◐	Overall noise impacts are neutral over the area	◐	Overall noise impacts are neutral over the area	◐	Overall noise impacts are neutral over the area
	Air Quality	Change in Air Quality	◐	Overall air quality impacts are neutral over the area	◐	Overall air quality impacts are neutral over the area	◐	Overall air quality impacts are neutral over the area	◐	Overall air quality impacts are neutral over the area
	Climate	Change in climate impacts	◐	Overall climate impacts are neutral over the area	◐	Overall climate impacts are neutral over the area	◐	Overall climate impacts are neutral over the area	◐	Overall climate impacts are neutral over the area

Category	Criteria	Indicator	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
			Do nothing		New east-west street (Kenaston Gardens to Barberry Place)		Reconstruct existing street (Barberry Place to Rean Drive)		Combination of New and Reconstructed Street (2 and 3)	
Cultural and Built Heritage Environment	Cultural heritage landscapes	Potential for disruption of cultural landscape features	●	No impacts	●	No impacts	●	No impacts	●	No impacts
	Built heritage	Potential for disruption of built heritage	●	No impacts	●	No impacts	●	No impacts	●	No impacts
	Potential archaeological impacts	Archaeology study has archaeology findings or potential for archaeological findings	●	No impacts	●	No impacts	●	No impacts	●	No impacts
Engineering and Utilities	Construction feasibility and staging	Implementation of construction staging plan	●	Not required to be considered	◔	Depending on timing, construction may need to be coordinated with construction of underground parking garage near Kenaston Gardens	◔	Construction staging must allow access with adjacent condominium entrances (pedestrian and parking)	○	Depending on timing, construction may need to be coordinated with construction of an underground parking garage near Kenaston Gardens and also allow access to adjacent condominium entrances (pedestrian and parking)
	Drainage / Stormwater management	Potential for impacts on existing system and requirements for new portions	●	No impacts	◔	New drainage system required	◔	Extension of existing drainage system	○	New drainage system between Kenaston Gardens and Barberry Place and extension between Barberry Place and Rean Drive
	Utilities (relocation / replacement)	Potential for impacts on existing utilities	●	No impacts	◔	Impacts on utilities, requiring relocation and replacement	◔	Minimal impact on utilities, possibly requiring some relocations	○	Highest impact on utilities, requiring relocation and replacement
Implementation and Operations and Maintenance Costs	Property acquisition requirements	Amount of property impacted to implement solution	●	No impacts to property	◔	Property requirement from detached home between Kenaston Gardens and Barberry Place	◔	Property requirement from detached home at Barberry Place	○	Property requirements along new connected road (detached homes)
	Construction costs	Complete cost to implement the construction of alternative	●	No cost	◔	Moderate cost	◔	Lowest cost	○	Highest cost
	Operations and Maintenance costs	Cost of maintenance and operation of solution	◕	Operations and maintenance costs will increase as road condition degrades	◔	Lowest cost of maintenance and operation	◔	Moderate cost of maintenance and operation	○	Highest cost of maintenance and operation
Ability to Address Problem/Opportunity Statement			○	No	◐	Somewhat	◐	Somewhat	●	YES
Recommendation			**Not recommended;** Does not address the City's Official Plan, Secondary Plan, and Southeast Bayview Node Context Plan objectives and problem/opportunity statement		**A partial solution;** Partly meets City's Official Plan, Secondary Plan, and Southeast Bayview Node Context Plan objectives and problem/opportunity statement		**A partial solution;** Partly meets City's Official Plan, Secondary Plan, and Southeast Bayview Node Context Plan objectives and problem/opportunity statement		**RECOMMENDED** Meets the City's Official Plan, Secondary Plan, and Southeast Bayview Node Context Plan objectives and problem/opportunity statement	

5 SUMMARY OF PREFERRED SOLUTION

Consultation with technical agencies and stakeholders helped identify Alternative 4 as the "Preliminary Preferred Solution". Alternative 4 was then confirmed as the Preferred Solution based on input at the Public Information Centre and subsequent input and review.

Following the PIC, the preferred solution was updated to become the "Refined Preferred Solution" which is presented and discussed in further details in section 7.2.

The following is the summary of preferred solution (Alternative 4) and how it addresses the project statement and project needs.

Planning and Policy

- Consistent with the City's planning policies and objectives.

Transportation

- Improves transportation connectivity within the Southeast Bayview node area
- Provides access to residential properties along Kenaston Gardens, Barberry Place and Rean Drive
- Maintains on-street parking and passenger pick-up / drop-off between Barberry Place and Kenaston Gardens
- Improves pedestrian access and environment between Kenaston Gardens and Rean Drive with continuous sidewalks and pedestrian amenities

Natural Environment

- Does not result in significant impact to vegetation
- Provides an opportunity for new tree plantings
- Does not result in significant impact to wildlife habitat

Cultural and Built Heritage

- Does not impact heritage features or result in cultural impacts
- Does involve construction in areas of identified archaeological potential

Engineering

- Requires the installation of a new storm sewer system to convey stormwater

- Relocation of existing utilities

Costs

Will require the acquisition of property between both Kenaston Gardens and Barberry Place and between Barberry Place and Rean Drive to implement the recommended design as shown in Figure 7.3 and Figure 7.4. This alternative has the highest property requirement out of all the alternatives.

6 CONSULTATION PROCESS

As mentioned above, the New East-West Street Environmental Assessment was carried out as a Schedule 'B' study in accordance with the Municipal Class Environmental Assessment, October 2000 (as amended in 2007, 2011, and 2015).

One element of responsible environmental decision-making is ensuring that those with a potential interest in the undertaking are provided with opportunities to contribute to decision-making and to influence decisions where possible. Public consultation protects the public interest and helps ensure that concerns are identified early and addressed where possible.

As part of the Schedule 'B' study process, the public must be consulted at least once regarding the study's problem and opportunity statement and the development and evaluation of the alternative solutions.

The filing of the Project File Report completes the planning stage of the project. The Project File Report is filed in the public record and made available for review for a thirty (30) calendar day review period. A public notice is published at commencement of the 30-day review period.

6.1 STAKEHOLDER CONSULTATION

External Stakeholder Consultation

The project team engaged local condo boards and developers with an interest in the EA study to provide progress updates and to discuss plans, alternative solutions, and opportunities for coordinating schedules and construction timing. The project team formally met with the following stakeholders:

- Pine Ridge Chestnut Hill Development – July 28, 2016
- Liberty Development – August 16, 2016
- Amica on Bayview (#12 Rean Drive) and The Claridges (#15 Rean Drive) – September 1, 2016
- 9 Barberry Place (Heritage Building) – September 1, 2016
- Chelsea Resident (19 Barberry Place) – October 14, 2016

Meeting minutes of the stakeholder meetings are provided in Appendix B.

City of Toronto Senior Staff Consultation

Three (3) Technical Advisory Committee meetings were held throughout this study – on June 30, 2016; August 5, 2016 and on September 22, 2016. The minutes of these meetings are provided in Appendix A.

A staff report was prepared and presented to the Public Works and Infrastructure Committee meeting held on November 21, 2016 which detailed the progress of the study and the preliminary preferred plans. At its meeting on December 13, 2016, City Council received and adopted the recommendations of the report.

6.2 PUBLIC CONSULTATION

Public Information Centre

The public was invited to participate in the consultation process during a Public Information Centres (PIC). The study team was available to answer questions and concerns about the study. The PIC was held on September 27, 2016 and presented the need and justification for the project, the alternative solutions, and evaluation of the alternatives. The PIC was advertised to the public on the project website, through flyers, as well as an advertisement that was published in the North York Mirror newspaper. The display panels that were presented at the PIC are provided in the Public Consultation Summary Report in Appendix B. There were 34 registered members of the public who signed-in to the PIC. Most participants were in general concurrence with the recommended design for the extension of the street between Rean Drive and Kenaston Gardens.

The majority of people who submitted comments support the proposed new street from Rean Drive to Kenaston Gardens and welcome improved pedestrian and street connections for the growing Neighbourhood. Concerns received about the project are focused on the rationale, cost and property impacts of the new street extension between Barberry Place and Kenaston Gardens.

The detailed comments have been compiled and documented in the the Public Consultation Summary Report in Appendix B.

7 DESIGN AND IMPLEMENTATION

7.1 TIMING

Subject to available funding of the new east-west street and the necessary property acquisition needed to implement it, detailed design for the new road could be completed in one year. Delivery of the road construction is anticipated to be completed within two years of the required funding being approved.

The project timing will also depend on the duration of the property acquisition of #13 and #23 Barberry Place which will be acquired through the expropriation process. The expropriation of property is a lengthy process which can take a minimum of 12 to 18 months to complete. This process could potentially push back the construction from the anticipated schedule.

7.2 TYPICAL CROSS-SECTIONS

The proposed preferred typical cross sections are shown in Figure 7.1 and Figure 7.2.

Figure 7.1 – Typical Section - New east-west street (Kenaston Gardens to Barberry Place) (Facing East)

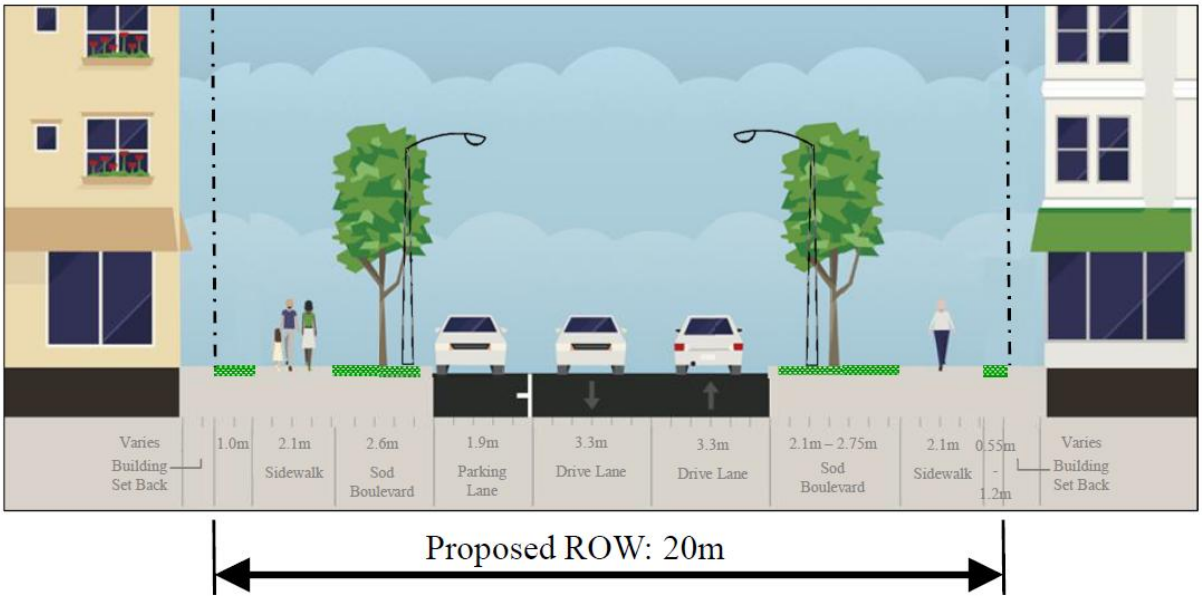


Figure 7.2 – Typical Section - Reconstruct existing street (Barberry Place to Rean Drive) (Facing East)

The profile has been developed to match existing profile along with existing developments. The plan and typical cross sections include element width, sidewalks, driveway connections, parking stall locations, pick-up and drop-off locations, development constraints, and schematic tree locations.

7.3 HORIZONTAL ALIGNMENT OF REFINED PREFERRED SOLUTION

To minimize impacts to adjacent properties, the proposed horizontal alignment shifts slightly northward with back-to-back 300 metre radii from the west limit at Kenaston Gardens as it approaches towards Barberry Place to align with the existing private driveway/road between Barberry Place and Rean Drive.

Between Barberry Place and Rean Drive, the alignment is shifted to the north so that it is centered along the 20.0m right-of-way with maintains the southern property lines and building frontages between Barberry Place and Rean Drive.

The proposed alignment also respects the development plans and the narrower 16.5 m right-of-way for the Chestnut Hill development at the corner of the New Street and Kenaston Gardens, compared to the 20.0m minimum right-of-way proposed for the remainder of the New Street. The plans for the Liberty development is also coordinated with the proposed alignment mid-way between Barberry Place and Rean Drive.

Continuous sidewalks will be provided along both sides of the roadway, the planned width is 2.1 m each. A 5.0m sidewalk connection from Sheppard Avenue East to the north side New

street sidewalk is being planned along 591 Sheppard Avenue East redevelopment by Liberty Developments, which is shown on the refined preferred solution plan.

The refined preferred solution plan design is presented in Figure 7.3 and Figure 7.4.

7.4 PROFILE OF REFINED PREFERRED SOLUTION

The proposed preferred profile is shown in Figure 7.3. The profile illustrates the profile developed by the Chestnut Hill development from Kenaston Gardens easterly for 40 metres. Grades are matched at the three intersecting roads and the plans developed by Liberty Developments for their driveway between Barberry Place and Rean Drive. The profile matches the existing approximately 5.9% gradient.

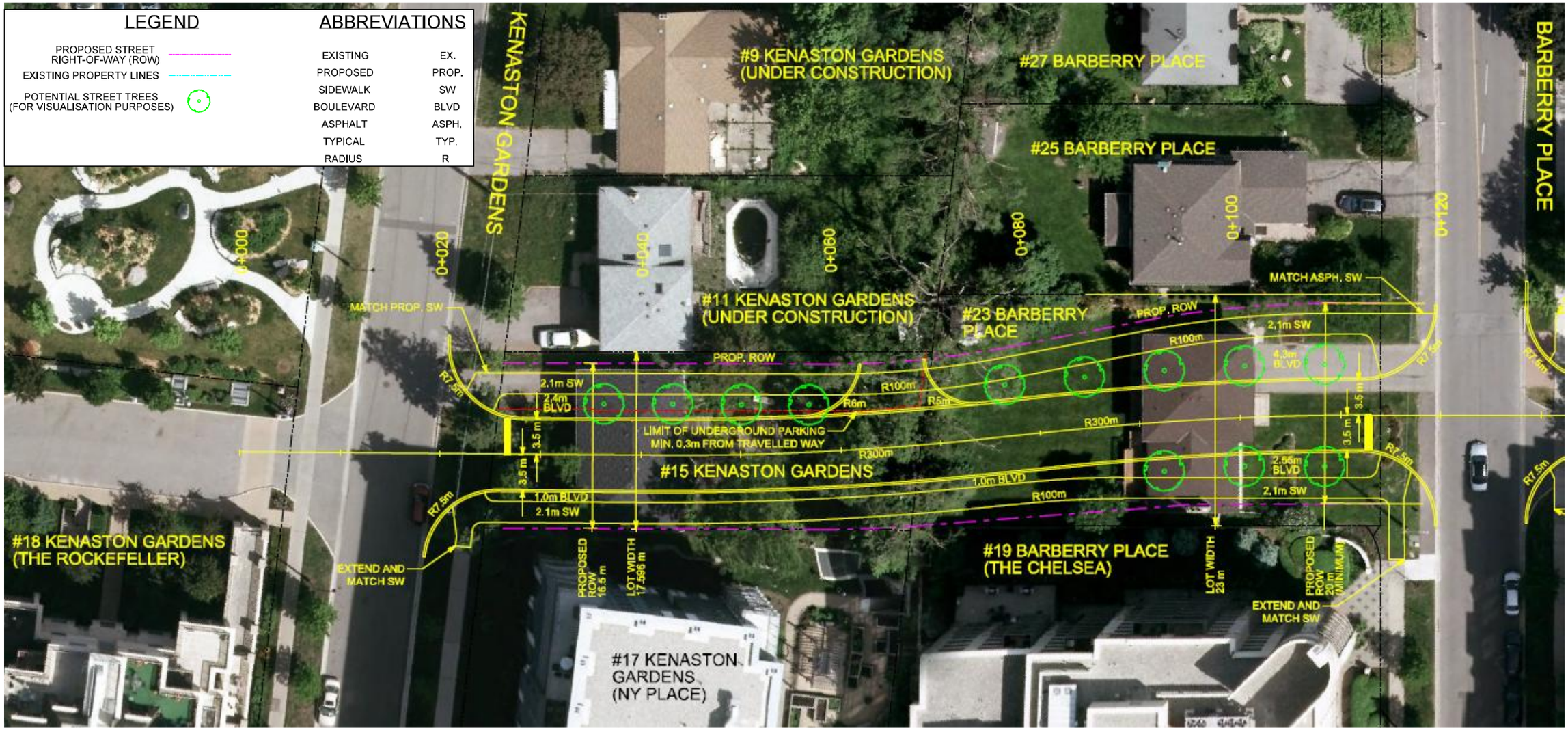
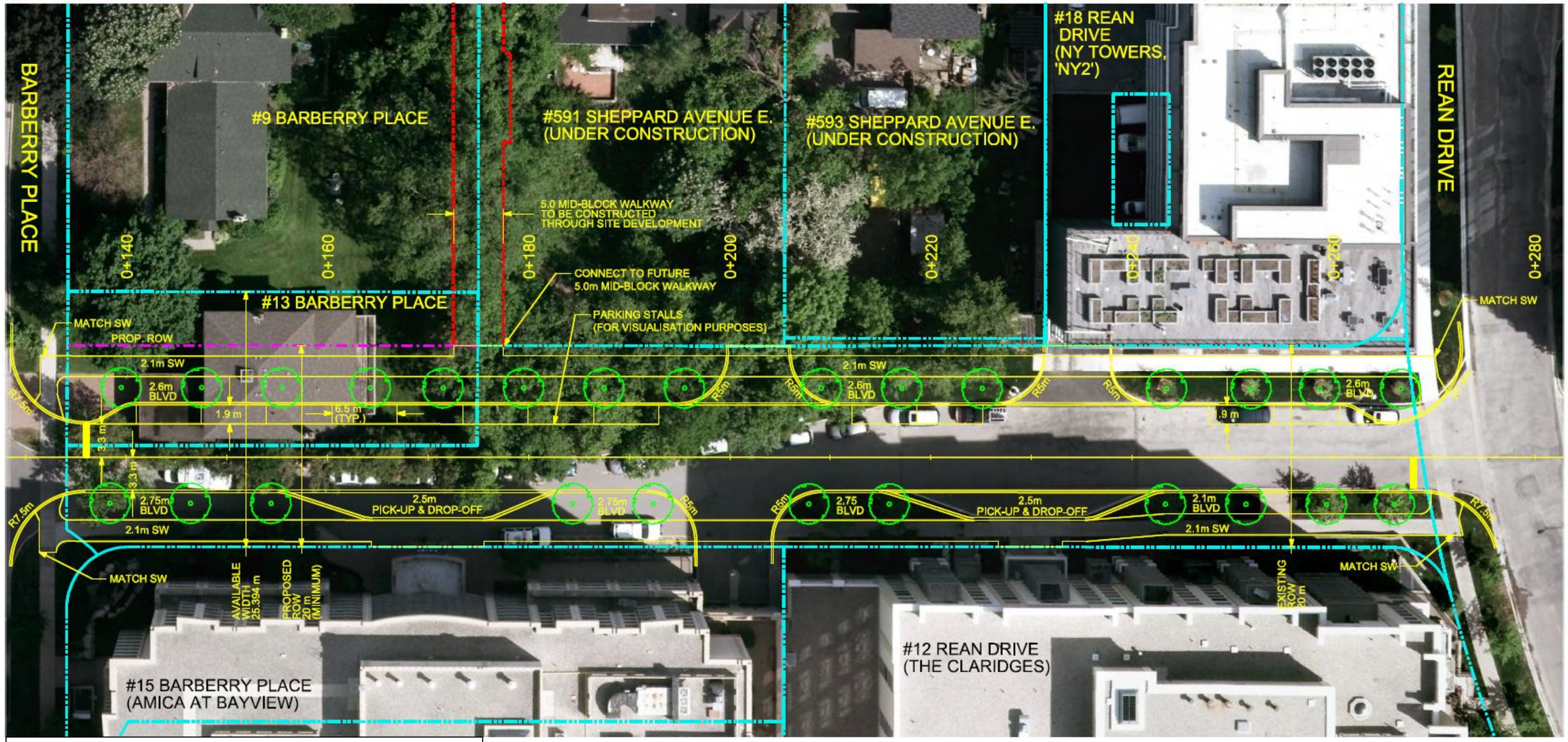


Figure 7.3 – –Refined Preferred Solution - New east-west street (Kenaston Gardens to Barberry Place)



LEGEND

- PROPOSED STREET RIGHT-OF-WAY (ROW)
- EXISTING PROPERTY LINES
- POTENTIAL STREET TREES (FOR VISUALISATION PURPOSES)

ABBREVIATIONS

EXISTING	EX.
PROPOSED	PROP.
SIDEWALK	SW
BOULEVARD	BLVD
ASPHALT	ASPH.
TYPICAL	TYP.
RADIUS	R

Figure 7.4 – Refined Preferred Solution - Reconstruct existing street (Barberry Place to Rean Drive)

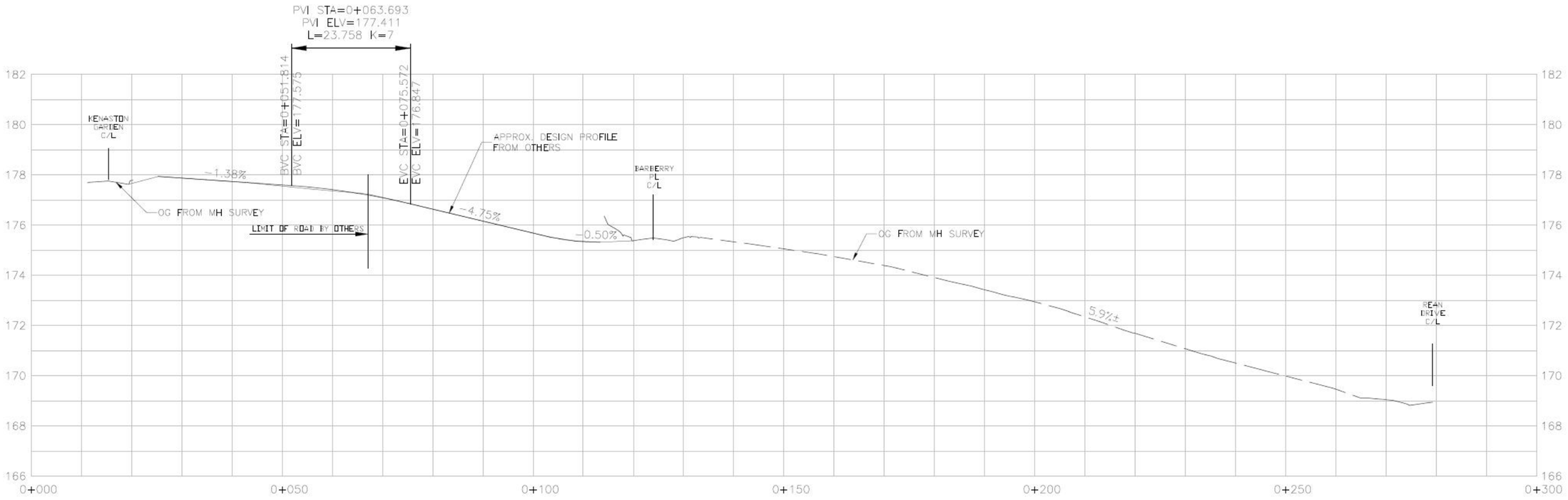


Figure 7.5 – Existing and Proposed Profile of new east-west street

7.5 MUNICIPAL SERVICES AND DRAINAGE IMPACTS

The installation of new watermain and sanitary sewers are not expected to be required as part of the construction of the new east-west street. Storm sewers will be designed to address storm drainage. The Chestnut Hill development will be building the portion of the new street from Station 0+000 to 0+068 including a storm sewer and a location for a future potential watermain, if required, as shown and in detail in Appendix E. The remaining street requires storm sewer to drain the street following the grades shown on the profile in Figure 7.5. In the remaining portion of the street just west of Kenaston Gardens and a short section on the east to 0+135+/-, storm sewers would be required and would connect to the storm sewers on Kenaston Gardens. The reconstruction of the east portion of the street would drain to Rean Drive as it does now but a storm sewer with catchbasins near the midpoint to lessen overland flows to Rean Drive would be required, and these are illustrated on the Liberty Development plans in Appendix D. As part of the Liberty Development construction, a storm sewer, sanitary sewer and watermain will be installed to service the site on the east street section between Barberry Place and Rean Drive.

The eastern segment between Kenaston Gardens and Barberry Place may require water and sanitary servicing to accommodate any redevelopment at #23 or #25 Barberry Place. The development would have to review the requirements to confirm if servicing would go through the east-west street or Barberry Place.

7.6 HYDRO AND ELECTRICAL IMPACTS

Street lighting is proposed for the roadway to meet City requirements and to address comments by the public for providing a safe and well-lit public realm. The proposed street lighting will be reviewed in detailed design and is expected to be located along the full length of the north boulevard. The three existing lighting standards in the north boulevard west of Rean Drive do not meet City standards and are expected to be replaced. Upon the City assuming ownership of the new street, the operation of these three lighting fixtures would also cease to be operated be Amica on Bayview condominium and would be operated by the City and Toronto Hydro. The project team met with Toronto Hydro to discuss lighting issues, including the need for further discussion during detailed design about the type of fixtures to be used.

7.7 VEGETATION IMPACTS

The Study Area is an urban environment made up mainly of single unit residential homes that have undergone redevelopment in recent years. As such, the area has been disturbed and is now relatively devoid of natural features other than man made features that are part of the developments, such as newer street tree plantings. Where the new right-of-way for this study is proposed, the land is presently made up in part by the private driveway and residential properties. Trees adjacent to and within the portion of land being turned over to the City of Toronto for the new road right-of-way as part of the Liberty Development (591, 593 and 595

Sheppard Avenue) was the major concentration of vegetation in the Study Area, but these have since been removed during the study as the development proceeded into construction.

Existing boulevard trees along the east portion of the planned New Street in front of #12 and #15 Rean Drive are expected to be maintained and a few new trees planted along the new right-of-way are planned with the Chestnut Hill development, as shown in Appendix E. Additional new trees will be placed in the remaining portion of the street to be designed during detailed design and it will be determined if the existing trees in those areas can be salvaged or if grading impacts will be too significant to avoid tree and root system impacts.

7.8 GEOTECHNICAL RECOMMENDATIONS

The western road segment is estimated based on constructing the new street from the planned driveway to be built by the Chestnut Hill development from the connection at Kenaston Gardens to Station 0+068. The new roadway would thus begin at Station 0+068 to connect to Barberry Place at Station 0+120.

It is recommended that sidewalks be constructed on both sides of the east-west street for a an approximate length of 200m To the east of Barberry Place, the existing south sidewalk is only 1.7m wide. This sidewalk will be reconstructed and widened to 2.1m wide.

Between Barberry Place and Rean Drive, a portion of the roadway is already built. Through geotechnical investigations carried out as part of the EA, it has been determined that the road base is in an acceptable conditions and asphalt is near the minimum 100 mm depth required for this type of roadway.

Once the Liberty Development is completed, the full road width will have been built from Station 0+190 to 0+275. Given the asphalt cutting and patching with resulting joints required for the Liberty Development for the driveway, for the water main and for the sanitary sewer cuts in the roadway to Rean Drive and given the asphalt will be approximately ten years old when the new east-west street is constructed, The asphalt can be removed and repaved 100 mm as per the full-depth hot mix asphalt resurfacing recommendation in the Geotechnical report, rather than the milling and repaving 50 mm of asphalt. For the eastern portion, the existing granular material can be left in place.

If the construction is completed during wet conditions and granulars become contaminated or the top granulars do not seem acceptable, then that the top portion of the existing granulars could be removed allowing for 150 mm of fresh Granular A base, with the existing granulars used for other areas deemed suitable off of the roadway driving lanes, under non-vehicle driving areas such as in the parking areas or under other roadway elements.

The remainder of the eastern portion will involve a full depth road reconstruction with 40mm HL3, 60mm HL8, 150mm Granular A and 280 mm Granular B. This would cover the remaining area from Station 0+127 to 0+275.

7.9 ARCHAEOLOGICAL, HERITAGE, AND CULTURAL ENVIRONMENT

Based on the recommendations of the Archaeological Assessment, all of the Kenaston Gardens and Read Drive study area including the design limit has been determined through background research and visual inspection to have been intensively and extensively disturbed and no longer has potential for archaeological remains.

In the event that deeply buried archaeological remains are encountered on the property during construction activities, the Archaeology Programs Unit, Programs and Services Branch Unit of the Ministry of Tourism, Culture and Sport should be notified immediately as well as the City of Toronto, Heritage Preservation Services Unit

In the event that human remains are encountered during construction, both the Ministry of Tourism, Culture, and Sport and the Registrar or Deputy Registrar of Cemeteries at the Cemeteries Regulation Unit, Ministry of Government Services should be contacted immediately.

#9 Barberry Place is a heritage home as discussed in section 3.11 and as shown in Figure 7.4 the property will not be affected by any of the construction works proposed.

7.10 COST ESTIMATE

The preliminary estimated construction cost for the recommended solution is presented in Table 7.1. The total estimated cost is $631,242, exclusive of costs associated with property acquisition requirements.

Table 7.1 – Preliminary Construction Cost Estimate

Component	Cost
Construction	$485,571.00
Engineering (10%)	$48,557.00
Contingency (20%)	$97,114.00
Total Construction Cost	$631,242.00

The estimate is based on the recommended pavement structure noted in the geotechnical report consisting of 40mm HL3, 60mm HL8, 150mm Granular A and 250 mm Granular B. The estimate also includes the anticipated storm water infrastructure, demolition of the existing homes and relocation of utilities.

There are additional opportunities to reduce costs, primarily for the pavement structure, by salvaging the existing asphalts and granular materials in areas that have already been built

without the need for a total reconstruction. Areas that can be salvaged will be determined during the detailed design stage.

Since most of the proposed right-of-way expansion requires the acquisition of private property, the City will need to work closely with property owners to acquire the necessary property. In total, the City will need to acquire property and/or acquire permanent easements from 2 landowners, which include:

- #13 Barberry Place
- #23 Barberry Place

The property requirements will be finalized during detailed design. The detailed cost estimate is presented in Appendix K.

7.11 PERMITS AND APPROVALS

There are no permits for any Natural Environmental factors or issues required for the New Street between Rean Drive and Kenaston Gardens. Further coordination with Toronto Hydro on the illumination design including, the poles and fixtures to be supplied, will be necessary.

Further consultation with internal departments at the City of Toronto will continue throughout detailed design. Any permits for work within the right-of-way will be obtained prior to construction.

7.12 MITIGATION MEASURES

Mitigation is limited mainly to coordination of the design, features and grading with adjacent properties shown on Figure 7.3 and 7.4. The design must avoid impact to the heritage property at #9 Barberry Place. The City will also determine what would be done with property that is in excess of the right-of-way shown with consistent widths where possible. There is excess property adjacent to #11 Kenaston Gardens (should be addressed through the Chestnut Hill development planning and design), #17 Kenaston Gardens, #9 Barberry Place, #19 Barberry Place, and #25 Barberry Place.

The detailed design and construction will also need to be coordinated with traffic and impacts at the intersections including pedestrian access at sidewalks of the New Street on Rean Drive, Barberry Place and Kenaston Gardens. The detailed design and construction will also need to be coordinated with traffic and impacts at the Liberty Development access and the building frontages with their main access, sidewalks along the south side of the driveway and parking garage access for the #12 Rean Drive (The Claridges) and #15 Rean Drive (Amica at Bayview) properties.

The recommendations of the Geotechnical Report should be followed.

The following recommendations are made based on the findings of the Phase II Environmental Site assessment (ESA):

1. No remedial action is required for the EC and SAR impacted soil. The EC and SAR impacted soil can be re-used for the on-site road development.

2. If the salt impacted soil is to be disposed off-site, the soil may only be placed:
   a) A minimum of 1.5 m below the finished grade at the disposal location; and
   b) On non-agricultural property.

8 CONCLUSION

This Project File Report presents the results of the Environmental Assessment Study carried out to determine the specific needs for the new east-west street between Kenaston Gardens and Rean Drive and recommends constructing a new 2-lane roadway between Kenaston Gardens and Barberry Place and reconstructing the existing laneway between Barberry Place and Rean Drive to a 2-lane roadway. Sidewalk improvements and provision of streetscaping features will also be implemented.

The project was found to be feasible with no major impediments or unacceptable environmental impacts. It conforms to the requirements for Schedule 'B' projects, in accordance with the Municipal Engineers Association, Municipal Class Environmental Assessment (October 2000, as amended in 2007 and 2011).