



REPORT FOR ACTION

Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study

Date: May 1, 2017

To: Public Works and Infrastructure Committee

From: Chief Engineer and Executive Director, Engineering and Construction Services
General Manager, Toronto Water
General Manager, Transportation Services

Wards: Ward 25 (Don Valley West)

SUMMARY

The Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study was initiated in April 2012 to develop a Master Plan to address road infrastructure problems and mitigate the risk of basement flooding.

The study was carried out in accordance with the requirements for a Master Plan, completing the first two phases of the Municipal Class Environmental Assessment (Class EA) process. The recommended Plan contains a series of recommended infrastructure improvements which were selected from a broad range of alternatives, based on current City policies and standards, the unique characteristics of the neighbourhood, and input received through an extensive public consultation process. The alternatives were evaluated against a comprehensive set of criteria.

Broad public consultation, over a four year period, was used to confirm the study objectives, establish the evaluation criteria to select and assess alternatives, select the preferred solutions and provide input on the development of the Master Plan.

The Master Plan, as summarized in Attachment 23, contains the following recommended infrastructure improvements:

- Reconstruction of a number of streets, in whole or in part as shown on Attachment 10, with pavement widths of 7.2 metres, curb and gutter road drainage and underground storm sewers;
- New sidewalks on one side of five of these streets; and,
- New storm sewers on three streets (as shown in Attachment 11) and sanitary sewer improvements on five streets (as shown in Attachment 12) to reduce the risk of surface and basement flooding.

In accordance with the Municipal Class Environmental Assessment process, a Notice of Completion must be issued and the Master Plan report, which documents the study process and decisions, must be filed in the public record for a minimum 30-day review period. If no concerns or objections are raised during the review period, the recommended projects may proceed to implementation.

While the exact timing of projects proceeding to implementation is subject to the availability of funding, prioritization and coordination with other projects, construction could begin in 2021. Public consultation will continue through the implementation phases of these projects to provide input and ensure that potential impacts are minimized.

RECOMMENDATIONS

The Chief Engineer and Executive Director of Engineering and Construction Services, the General Manager of Toronto Water and the General Manager of Transportation Services recommend that:

1. City Council endorse the Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study Master Plan as summarized by the projects listed in Attachment 23 to this report.
2. City Council authorize the Chief Engineer and Executive Director of Engineering and Construction Services to publish a Notice of Completion and file the Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study Master Plan report in the public record for a minimum 30 days, in accordance with the requirements of the Municipal Class Environmental Assessment process.
3. The General Manager of Toronto Water investigate disconnection rates in the Lawrence Park neighbourhood and undertake education, communication and outreach with the goal to achieve higher rates of disconnection to reduce the risk of basement flooding in the Lawrence Park Neighbourhood.
4. The Chief Engineer and Executive Director of Engineering and Construction Services and the Director of Urban Forestry work to promote the City's Proactive Tree Planting Program to property owners within the Lawrence Park Neighbourhood, to help ensure that a compensatory number of trees are planted by the City, within the municipal right-of-way, in advance of the construction of works identified in the Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study Master Plan.

FINANCIAL IMPACT

There is no immediate financial impact resulting from the recommendations contained in this report.

Construction of the recommended infrastructure improvements identified through the Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study Master Plan is estimated at \$64 million. This includes design, construction and construction supervision costs together with a contingency allowance.

Toronto Water and Transportation Services have sufficient funding allocated within their 2017-2026 Capital Budget and Plan to address the recommendations within this report.

The Deputy City Manager and the Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting of September 5, 2012, the Bid Committee adopted the recommendations in the Staff Report from the Director of Purchasing and Materials Management dated August 14, 2012 and authorized the retention of Aquafor Beech Limited to provide Professional Engineering Services for the Municipal Class Environmental Assessment (EA) for Basement Flooding Mitigation in Study Area 20; Local Road and Traffic improvement in Lawrence Park Neighbourhood as per the scope of work outlined in Request for Proposal No. 9117-12-7049. The Bid Committee decision can be found at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.BD90.1>

COMMENTS

Class Environmental Assessment Study Process

The Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study was undertaken as a Master Plan and fulfills the requirements for Schedule 'B' projects under the Municipal Class Environmental Assessment.

The Master Plan report describes in detail the first two phases of the Class EA process, which are as follows:

- Phase 1 – identification of the problem or opportunity; and
- Phase 2 – identification and evaluation of alternative solutions and selection of the preferred solution(s).

This study was carried out with the assistance of engineering and technical consultants, and supported by a Technical Advisory Committee (TAC) comprised of City staff from

Engineering and Construction Services, Toronto Water, Transportation Services, Policy, Planning, Finance and Administration, and Parks, Forestry and Recreation.

Consultation with the public and other impacted stakeholders early and often throughout the process is a key component of a Class Environmental Assessment study. Extensive public consultation, which began in 2013, has been completed for the Lawrence Park study as detailed later in this report. As key stakeholders, staff from emergency services and external agencies, including Toronto and Region Conservation Authority and the Toronto Transit Commission, were also consulted.

Study Findings

Phase 1: Identification of the Problem or Opportunity

The Lawrence Park neighbourhood is located in the central part of the City, within Ward 25 – Don Valley West. The study area is shown in Attachment 1 and is roughly bounded by Blythwood Road, Ridgefield Road and Sunnydene Crescent to the south, Mildenhall Road to the north, Mount Pleasant Road to the west, and Bayview Avenue in the east.

Specific problems within the study area were identified through field investigations, geotechnical assessments, traffic studies, a review of City customer complaint records based on location, frequency and type of flooding problems, and hydraulic modelling of the sewer systems. Area residents were also requested to provide information on problems they have identified within the study area, through a questionnaire issued in 2013.

The following summarizes problems identified within the study area:

- **Deteriorated road infrastructure**
Many roads were built over 50 years ago and are approaching the end of their service life. The underlying road structures on several streets are deteriorated to the point that road resurfacing cannot address the road condition and, therefore, these must be reconstructed with functional road drainage systems.

Pavement widths vary across the study area from approximately 6.0 metres to 9.0 metres. Roads less than 7.2 metres in width are considered to be sub-standard because they are too narrow to meet current requirements for emergency, maintenance and service vehicle access.
- **Road drainage issues**
In the eastern section of the study area (east of St. Ives Crescent), the road drainage system is predominantly serviced by open ditches, ditch inlet catchbasins, and driveway culverts. This system has been filled in over time, at least in part by private property owners or developers who have re-graded individual properties. As a result, the existing road drainage system no longer performs as originally designed resulting in excessive ponding.

- **Pedestrian safety**
The majority of the roads in the western section (i.e. former City of Toronto) of the study area have sidewalks on both sides. In contrast, the eastern section (i.e. former City of North York) of the study area generally does not contain sidewalks. However, an area along the western shoulder of Mildenhall Road between Blythwood Road and Lawrence Avenue East, which is delineated by a solid white pavement marking, is used by pedestrians.

The lack of sidewalks combined with the narrow roads in the area can lead to potential vehicle and pedestrian conflicts which may be compounded in winter by snow windrows that further reduce the useable road width. Furthermore, there is limited connectivity to existing sidewalks in the western portion of the study area and reduced accessibility and linkages to key destinations within the neighbourhood (i.e., elementary schools, parks, a church, a daycare, and TTC bus stops).

- **Traffic Operations**
Traffic volumes in the study area were found to be within the City expected range for local and collector roads as identified in the City's road classification system.

Substandard sightlines were noted at the intersections of Blythwood Road and Strathgowan Crescent; Mount Pleasant Road and Lawrence Crescent; and Mount Pleasant Road and St. Leonards Avenue due to trees and structures.

Residents also identified concerns with speeding, particularly on Mildenhall Road (between Lawrence Avenue and Blythwood Road).

- **Basement flooding**
Basement flooding incidents were reported following the storm events that occurred on May 12, 2000, August 19, 2005, and July 8, 2013 and through questionnaires completed by residents and returned as part of this study.

General locations of reported basement flooding are shown on Attachment 2. The intense rainfall during these extreme storm events resulted in stormwater volumes entering the sewers that exceeded the system design capacities.

Engineering assessments using hydraulic modelling identified specific locations at risk of basement flooding during extreme events which overload the existing storm, sanitary, combined and partially-separated sewer systems. The frequency and specific causes of basement flooding vary between the different sewer systems which service the study area.

Phase 2: Identification and Evaluation of Alternative Solution(s)

Under Phase 2 of the Municipal Class Environmental Assessment process, alternative solutions are developed to address the identified problems and evaluated using a comprehensive set of evaluation criteria. The recommended solution(s) are then made available for public and agency review and a preferred alternative solution(s) is selected.

For the Lawrence Park neighbourhood, alternatives were first developed according to current City policies and standards and later refined to take into account the unique characteristics of the neighbourhood. As required under the Municipal Class Environmental Assessment, the "Do Nothing" Alternative was also considered.

Road, Drainage and Sidewalk Alternatives

The applicable City policies, standards and practices that were used to develop the road design alternatives are as follows:

- Following the Road Classification System and Transportation Services Division practices, a typical local road has a width of 8.5 metres and a sidewalk on one or both sides, and a typical collector road has a width of 9.5 metres and sidewalks on both sides;
- Where these typical road widths cannot be implemented due to potential significant impacts, the Transportation Services Division has established that a 7.2 metre wide road may be used as the minimum width for local roads while meeting the current requirements for emergency, maintenance and service vehicle access; and
- Consistent with the City's Wet Weather Flow Management Policy, ditches or swales, where they currently exist, are to be used where feasible to convey storm water runoff. Where these are not feasible, curb and gutter drainage systems with storm sewers are used.

Due to the potential impacts on the large number of trees in the City's rights-of-way, the study team included road alternatives with a wide range of road widths and drainage systems, both with and without sidewalks. Attachment 3 summarizes these alternatives.

Basement Flooding Alternatives

Approximately 70 percent of the study area is serviced by fully-separated storm sewers, roadside ditches and sanitary sewers, 20 percent by a partially-separated system of combined sewers and storm sewers, and 10 percent by combined sewers alone

To address basement flooding, two sets of alternatives were developed: one for the west section (i.e. former City of Toronto) of the study area where there are partially-separated sanitary sewers and combined sewers; and one for the east section (i.e. former City of North York) where there are fully-separated storm and sanitary sewers. The alternatives, presented in Attachment 4, were developed to meet the required level of basement flooding protection adopted by City Council, which provides for the storm drainage system to accommodate a 100-year design storm event, and capacity in the sanitary sewer system to accommodate flows equivalent to the May 12, 2000 storm event.

Evaluation Criteria

In accordance with the Municipal Class Environmental Assessment requirements, a systematic evaluation of the alternatives was undertaken using a comprehensive set of evaluation criteria. The evaluation criteria, presented in Attachments 5 and 6, were based on assessing the potential benefits or impacts on the natural, socio-cultural, and economic environments of the study area, as well as the technical effectiveness of each alternative in addressing the identified problems.

For each alternative, a score was assigned (i.e. based on the degree of improvement or impact) against each evaluation criterion, and a total score was established based on the sum of each criterion score. Subject to comments received through agency and public input, the alternative with the highest total score was defined as the recommended alternative.

Evaluation Results

For the Roads, Drainage and Sidewalk alternatives, the evaluation was essentially completed on a street-by-street basis. The Do Nothing alternative did not solve any of the identified problems, and was screened out from further evaluation, early in the process.

The following criteria were the most significant in selecting a recommended alternative:

- **Pedestrian Safety**
Alternatives including sidewalks scored highest as they provide safe conditions for pedestrian movement within the neighbourhood.
- **Impact to urban green spaces (i.e. street trees)**
Alternatives with narrower road widths, curb and gutter drainage, and one or no sidewalks scored highest as they require an overall narrower "construction width" which in turn results in fewer tree removals.
- **Cost**
Alternatives with narrower road widths and no sidewalks scored highest as the excavation and material costs would be lower compared to wider roads with sidewalks.

As an example, the evaluation scoring summary for the works proposed on St. Leonards Avenue is provided in Attachment 7.

The selection of alternatives to address Basement Flooding used a drainage and sewer systems-wide approach rather than a street-by-street assessment. Again, the Do Nothing alternative did not solve any of the identified problems, and was screened out of further evaluation, early in the process.

The following criteria were the most significant in selecting a recommended alternative:

- **Feasibility of Control Measure**
The alternatives involving in-line or off-line storage scored lower because of the limited availability of space and the greater potential for conflicts with other underground utilities during construction, which make them more difficult to construct.

- **Cost**
In the case of the partially-separated sewer systems, an off-line storage facility (e.g. an underground tank) is a more complex structure to construct and has significant longer term operations and maintenance requirements, increasing life-cycle costs.

The summary of the evaluation scoring for the partially-separated sewer system (i.e. former City of Toronto) and for the separated sewer system (i.e. former City of North York) are presented in Attachment 8, respectively.

Public Consultation

The consultation efforts for this study far exceeded the minimum requirements set out in the Municipal Class Environmental Assessment process. The public was notified and consulted early and often throughout the development and evaluation of alternatives and on the study recommendations.

The following is a brief summary of consultation and notification activities:

- A Notice of Commencement was delivered in January 2013 to approximately 2,000 property owners to inform them of the study and opportunities for engagement.
- Questionnaires were distributed in January and February 2013 to all property owners in the study area to gather input on flooding and road conditions, pedestrian safety and traffic issues. There were 387 responses received.
- A total of seven public meetings were held between April 2013 and May 2016 to receive input on the problems/opportunities, the long list of alternatives, evaluation criteria and results, the preferred solutions and the supplementary detailed assessment of tree impacts.
- A Community Advisory Group (CAG) was established. The CAG Members met in advance of larger public events for initial feedback on presentation materials.
- Numerous meetings were held, and correspondence had, with individuals and various interest groups (Mildenhall Pedestrian Safety Group, Lawrence Park Ratepayers Association, Mildenhall Ratepayers Association, WalkTO, Toronto Centre for Active Transportation, Toronto French School).
- A dedicated project website, www.toronto.ca/lawrencepark, was created to make information about the study publicly available and to provide the opportunity for members of the public who could not attend public meetings to see all documents presented, and to advise of future consultation events.

Attachment 9 provides further details on the public notification and consultation activities that took place throughout the study.

During and following each public consultation event, City staff received extensive feedback from the local community and interested stakeholders. Comments received from the public and interested stakeholders included the following key messages:

- Preserving trees is a priority;
- Maintaining an open ditch drainage system and the unique character of the neighbourhood is desired;

- Installing sidewalks is seen as the best way to provide a safe route to key destinations in the neighbourhood;
- Reducing the number of sidewalks is favoured in order to reduce tree impacts;
- Implementing traffic safety recommendations is supported; and,
- Constructing sewer upgrades to reduce basement flooding risk is accepted.

In addition to the consultation initiated by City staff, the Lawrence Park Ratepayer Association (LPRA) provided a summary of comments received from 278 study area residents in response to a door-to-door survey conducted by the LPRA in the fall of 2016. The survey findings were similar to the key messages received from the public and interested stakeholders described above.

City staff reviewed and gave careful consideration to all public feedback including comment forms, e-mail and written correspondence, and the LPRA survey responses. Based on the public feedback received, adjustments were made to the alternatives considered and to the recommended solutions. In particular, local residents raised concerns that an 8.5 metre pavement width on Mildenhall Road (between Lawrence Avenue and Blythwood Road) would not address problems with safety and speeding. The study team, in view of these concerns, included and evaluated alternatives for Mildenhall Road that consist of a 7.2 metre road width with a curb and gutter drainage system and one or two sidewalks. These alternatives narrow the road to address concerns about speeding and provide protection for pedestrians. It was determined that the 7.2 metre road width with two sidewalks alternative would result in greater tree impacts than the 8.5 metre road with one sidewalk, while the 7.2 metre road with one sidewalk reduces the number of tree removals required by approximately 7 trees.

Master Plan Overview

Attachments 10, 11 and 12 show the recommended infrastructure improvements to address the identified problems with roads, drainage and sidewalks, and basement flooding in the study area. These were developed based on a comprehensive evaluation of the alternatives and comments received through the public consultation process. The recommended infrastructure improvements are briefly described below and summarized in Attachment 23.

Roads and Drainage

- Many streets, in whole or in part, will be reconstructed to a 7.2 metre road width;
- All streets being reconstructed will include a curb and gutter drainage system with storm sewers and, where technically and operationally feasible and supported by underground conditions, the installation of a perforated pipe system to promote infiltration of stormwater into the surrounding ground and thereby reduce pollutant loading and flow volumes to the West Don River.

Sidewalks

- To determine the most critical locations for the addition of sidewalks, the study team mapped the location of the existing sidewalks, pathways, bus stops, churches, parks, schools, and nursery schools in the study area. The recommended new sidewalks provide linkages and greater connectivity to these key destinations, and improve the safety of pedestrian movements within the study area while balancing

impacts to street trees. The recommended solution includes a new sidewalk on one side of the street for the following five streets:

1. Mildenhall Road is the most direct north-south pedestrian route in the neighbourhood connecting all east-west roads in the neighbourhood. A new sidewalk on Mildenhall Road from Blythwood Road to Rothmere Drive provides linkages to the following destinations:

- Toronto French School;
- Existing sidewalks on Blythwood which lead to Sunny View Public School
- Blythwood Public School; and
- Cheltenham Park.

2. St. Leonards Avenue has a sidewalk on both sides of the road west of St. Ives Crescent and an undefined, uneven path on the roadside shoulders east of St. Ives. A new sidewalk on St. Leonards Avenue from Bayview Avenue to just west of Mildenhall Road provides linkages to the following destinations:

- Existing sidewalks which improves connectivity between the west and east side of the neighbourhood;
- Lawrence Park Community Church;
- Lawrence Park Nursery School;
- Sunnybrook Hospital; and
- The recommended sidewalk on Mildenhall Road.

3. Dawlish Avenue has a sidewalk on both sides of the road west of St. Leonards Crescent. A new sidewalk on Dawlish Avenue from Bayview Avenue to Mildenhall Road provides linkages similar to the recommended sidewalk on St. Leonards Avenue plus a connection to the TTC bus stop on Bayview Avenue.

4. Pinedale Road connects Dawlish Avenue and Strathgowan Crescent. A new sidewalk on Pinedale Road provides linkages to the following destinations:

- Existing sidewalks on Dawlish Avenue and Strathgowan Crescent which is currently a missing pedestrian link in the north-south direction;
- Sunny View Public School
- Blythwood Public School; and
- The recommended sidewalk on Glenallan Road/Strathgowan Crescent which further connects to the recommended sidewalk on Mildenhall Road.

5. Glenallan Road/Strathgowan Crescent (between Pinedale Road and Glenallan Road) is located in the south-eastern section of the study area. A new sidewalk in this location provides linkages to following destinations:

- Sunny View Public School;
- Blythwood Public School; and
- The recommended sidewalks on Mildenhall Road and Pinedale Road.

Basement Flooding

- Increased conveyance capacity for stormwater flows in the west section (partially-separated sewer system) through the installation of 830 metres of new storm sewers;

- Increased conveyance capacity for sanitary sewer flows in the east section (fully-separated sewer system) by:
 - replacing 1,020 metres of sanitary sewers with larger diameter pipes; and
 - installing a 1,100 cubic metre underground in-line sanitary storage facility on Valleyanna Drive;
- Sealing sanitary manholes in low lying areas; and,
- Increase the level of downspout disconnection through education, communication and outreach aimed at property owners.

It is the conclusion of the study team that the recommended solutions contained within the Master Plan:

- Address the concerns of the public;
- Comply with City policies and standards;
- Fulfill the City's obligation to ensure infrastructure is in a state of good repair;
- Address road and drainage problems;
- Provide opportunities for water quality improvements;
- Meet the access requirements for emergency and maintenance/service vehicles;
- Create pedestrian linkages to existing sidewalks and key destinations; and
- Reduce the risk of surface and basement flooding.

Tree Impact Assessment and Mitigation

Given the importance of minimizing tree impacts to the local community, a detailed assessment of the tree impacts was completed by examining the type, size, species and location of each tree currently located along the roads to be reconstructed. This was done to better define tree removals and to identify opportunities in design and construction best management practices to minimize impacts to the trees.

Based on this assessment and the recommended infrastructure improvements, 99 of the 1,201 trees located within the municipal right-of-way and on streets to be reconstructed will need to be removed and replaced. A street-by-street assessment of tree impacts is summarized in Attachment 16.

Opportunities to further reduce the number of tree removals to accommodate the construction of the recommended solutions and to keep more of the existing trees in place are expected to be identified during the detailed design and construction stages, which may include:

- Localized narrowing of the road and/or shifting of the road alignment horizontally away from existing trees were feasible;
- Using construction techniques that will minimize the damage to tree roots (i.e. hand digging near trees); and
- Providing on-site supervision by a certified arborist.

In addition to providing replacement for any trees requiring removal, a tree planting strategy is being developed to plant approximately 100 additional trees in the City rights-of-way well ahead of construction. This allows the trees time to mature and help maintain the visual and aesthetic characteristics of the tree canopy when existing trees

are later removed and replaced by less mature trees. During the public meeting held in May 2016, residents were encouraged to provide their contact information on sign-up sheets or to contact City staff to initiate the process of planting trees adjacent to their properties. Urban Forestry staff will proactively initiate tree planting by canvassing the neighbourhood. Trees will be planted in locations that will not be impacted during construction.

Property Requirements

The replacement and upgrading of existing storm sewers and sanitary sewers currently located on private property will require easement agreements with the owners of three institutional properties and one residential property. Each property owner has been informed of the requirements and staff are involved in ongoing discussions to address questions and comments. The locations of the affected properties are shown in Attachments 13, 14 and 15.

Costs

Preliminary capital costs were prepared for each of the road reconstruction and basement flooding projects. Implementation of the entire Master Plan is estimated at \$64 million, where the road reconstruction projects cost approximately and basement flooding projects represent an estimated cost of \$45 million and \$19 million, respectively. These cost estimates will be further refined during the detailed engineering design phases for each of the individual projects.

Next Steps and Implementation

Pending approval by City Council, the Master Plan report will be filed in the public record for a minimum 30-day review period as required under the Municipal Class Environmental Assessment process. During the review period, any interested party with concerns may bring them forward to the attention of City staff. If there are concerns which cannot be resolved, the interested party may request the Minister of the Environment and Climate Change (the Minister) to issue a Part II Order under the Province of Ontario's Environmental Assessment Act. The Minister shall consider the request and can:

1. Deny the request with or without conditions;
2. Refer the matter to mediation; or
3. Require compliance with Part II of the Province of Ontario's Environmental Assessment Act.

If a Part II Order is granted, an Individual EA must be prepared and submitted to the Minister for government review and approval before any recommended projects can proceed to implementation. If a Part II Order is not granted, requests or objections received during the filing period are to be resolved, or if there are no concerns or objections, City staff will proceed to implement the recommended works, subject to capital budget funding approval through Toronto Water's and Transportation Services' forthcoming Capital Budget submissions.

A preliminary construction sequencing plan has been developed which includes six (6) bundles of work that are grouped according to sewer system drainage areas and each considered as a separate construction contract. The size and sequencing of the

contracts are based on providing basement flooding protection infrastructure as a first priority, limiting the extent of disruption in the neighbourhood, and ensuring that newly built infrastructure is not damaged by subsequent construction of the works proposed.

Attachments 17 to 22 show the works included in each construction contract. The overall sequencing of work and actual construction schedule will be dependent on funding, prioritization and coordination of works with other City Divisions and utility companies, and securing the necessary property easements, permits and approvals. Further, it should be noted that recommended basement flooding protection projects that are identified through completed Class EA studies are prioritized and sequenced for implementation as per Council-adopted criteria to prioritize sanitary sewer improvements and protect the greatest number of properties as soon as possible, within approved budgets, and in coordination with other capital project and population growth needs in the area. Recommended projects that continue to meet the prioritization criteria, during the preliminary design stage that follows the EA study stage, are moved into detailed design and subsequently construction. The Council-adopted criteria were established at the City Council meetings of September 24, 2008 and September 21, 2011 and the corresponding staff reports can be found at:

<http://www.toronto.ca/legdocs/mmis/2008/ex/bgrd/backgroundfile-15074.pdf>

and,

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.PW7.6>

A preliminary construction schedule over an estimated 10 year period is provided as follows:

1. Contract 1 – This contract has an estimated 3-year construction duration (anticipated to be 2012 to 2023) and includes works on the following streets:

- Bayview Avenue (Armistice Drive to Lawrence Avenue);
- Bayview Wood;
- Dawlish Avenue (east of Daneswood Road);
- Lewes Crescent;
- Plembury Avenue;
- Rochester Avenue (east of Mildenhall Road);
- St. Aubyns Crescent;
- St. Leonards Avenue (east of Lewes Crescent);
- Valleyanna Drive;
- Wood Avenue; and
- Sewer upgrades on three private properties.

2. Contract 2 – This contract has an estimated 2-year construction duration (anticipated to be 2024 to 2025) and includes works on the following streets:

- Buckingham Avenue (St. Ives Avenue to Mildenhall Road);
- Cheltenham Avenue (St. Ives Avenue to and including Cheltenham Park);
- Daneswood Road;
- Dawlish Avenue (St. Leonards Crescent to Daneswood Road);
- Glenallan Road (east of Mildenhall Road);
- Rochester Avenue (St. Ives Avenue to Mildenhall Road);
- St. Leonards Avenue (just east of St. Ives Avenue to Lewes Crescent);
- St. Leonards Crescent; and
- Stratheden Road (east of Mildenhall Road).

3. Contract 3 – This contract has an estimated 2-year construction duration (anticipated to be 2026 to 2027) and includes works on the following streets:

- Dawlish Avenue (from St. Leonards Crescent east to the end of the cul-de-sac);
- Dundurn Road (Rochester Avenue to St. Leonards Avenue);
- Fidelia Avenue;
- Garland Avenue;
- Glenallan Road (west of Mildenhall Road);
- Glengowan Road (from Dundurn Road to Strathgowan Crescent);
- Pinedale Road;
- Pine Forest Road;
- St. Ives Crescent (from Cheltenham Avenue to Rochester Avenue);
- St. Leonards Avenue (Dundurn Road to St. Ives Avenue);
- Stratheden Road (west of Mildenhall Road);
- Strathgowan Avenue;
- Strathgowan Crescent (from Strathgowan Avenue to Stratheden Road); and
- Sewer upgrades through City of Toronto Blythwood/Sherwood Ravine.

4. Contract 4 – This contract has an estimated 1-year construction duration (anticipated to be 2028) and includes works on Mildenhall Road (Rothmere Drive to Blythwood Road).

5. Contract 5 – This contract has an estimated 2-year construction duration (anticipated to be 2029 to 2031) and includes works on the following streets:

- Blanchard Road;
- Blyth Dale Road; and
- Blyth Hill Road.

6. Contract 6 – This contract has an estimated 2-year construction duration (anticipated to be 2029 to 2031) and includes works on the following streets:

- Braeside Crescent
- Mildenhall Road (north of Rothmere Drive);
- Proctor Crescent
- Rothmere Drive; and
- Sewer upgrades on one private property.

City staff remain committed to working with local residents on a street-by-street basis, and with affected property owners, through the detailed engineering design and construction stages. Residents will be consulted on sidewalk locations and various design options, including localized narrowing of roads and road alignment shifts to help minimize tree impacts, where feasible.

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ATTACHMENTS

- Attachment 1. Lawrence Park Neighbourhood Study Area Map
- Attachment 2. Reported Incidents of Basement Flooding
- Attachment 3. Summary of Road, Drainage and Sidewalk Alternatives
- Attachment 4. Summary of Basement Flooding Alternatives
- Attachment 5. Evaluation Criteria for Road, Drainage and Sidewalk Alternatives
- Attachment 6. Evaluation Criteria for Basement Flooding Alternatives
- Attachment 7. Road, Drainage and Sidewalk Alternatives Evaluation – St. Leonards Avenue
- Attachment 8. Partially-Separated & Separated Sanitary Sewer System Alternatives Evaluation
- Attachment 9. Summary of Public Consultation Activities
- Attachment 10. Recommended Solution for Roads, Drainage and Sidewalks
- Attachment 11. Recommended Basement Flooding Solution for Partially-Separated Sanitary System
- Attachment 12. Recommended Basement Flooding Solution for Sanitary System
- Attachment 13. Property Impacts at 101 Mildenhall Road (Toronto French School)
- Attachment 14. Property Impacts at 2275 Bayview Avenue (York University)
- Attachment 15. Property Impacts at 28 Valleyanna Drive and 2075 Bayview Avenue (University of Toronto)
- Attachment 16. Street Tree Impacts for the Recommended Road, Drainage and Sidewalk Solution
- Attachment 17. Implementation Sequencing Plan – Contract 1
- Attachment 18. Implementation Sequencing Plan – Contract 2
- Attachment 19. Implementation Sequencing Plan – Contract 3
- Attachment 20. Implementation Sequencing Plan – Contract 4
- Attachment 21. Implementation Sequencing Plan – Contract 5
- Attachment 22. Implementation Sequencing Plan – Contract 6
- Attachment 23. Recommended Projects for the Lawrence Park Neighbourhood Investigation of Basement Flooding (Area 20) and Road Improvement Class Environmental Assessment Study