Welcome
Riverside Drive Public Open House

- Please sign-in
- Walk around and view display boards
- The Project Team wants to hear from you. Please provide comments and ask questions
- Comment forms are available tonight or to take home and send to the Project Team by March 9, 2016
- Panels and comment forms are available on the project website at www.toronto.ca/riversidedrive

Project Description

Riverside Drive is in poor condition with deteriorating pavement and a retaining wall in need of replacement. In 2015 City staff identified the road as a priority for reconstruction including a new roadway, retaining wall, watermain and sidewalks in accordance with *'City of Toronto Walking Strategy'* and the *'Essential Links Capital Program'*. Riverside Crescent was identified for road resurfacing.

Sanitary sewer & storm sewer replacement is not included in this project.

Project Team Contact for Riverside Drive

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CANDEVCON LIMITED
CONSULTING ENGINEERS & PLANNERS

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LANDSCAPE ARCHITECTS, ARBORISTS, ENVIRONMENTAL & RECREATIONAL PLANNERS
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TORONTO

Goals of this Open House

Provide information on the preliminary design being considered, gather feedback from the community, and answer questions.

Design Objectives

1. Improvement of the roadway pavement, both structurally and geometrically.
2. Replace the existing retaining wall to stabilize the slope.
3. Minimize negative impacts on the ravine and natural environment.
4. Enhance pedestrian safety.
5. Replace the watermain.
6. Beautification of the street.

The Project Team is here to listen to your comments, please speak with them directly.

Outcomes

Feedback gathered will inform the Project Team's decision making, help progress the design and finalize the preferred reconstruction design.

Stakeholders identified to date:

1. Local Residents
2. Transportation Services
3. Urban Forestry
4. Toronto Water
5. City Planning
6. Toronto & Region Conservation Authority (TRCA)
7. Ministry of Tourism, Culture and Sport (MTCS)
8. Utilities

The Project Team is responsible for balancing the needs of the various stakeholders with technical requirements and City Guidelines.

Please take a moment here or at home to review the panels, provide comments by completing the comment form, calling, e-mailing or speaking with the Project Team. The information you provide is valuable in determining the preferred reconstruction design.

Project Timeline

December 2015 to May 2016 Fieldwork is being undertaken to gather information on the existing conditions including:

- Topographic Survey
- Archeological Assessment
- Subsurface Utility Engineering (SUE)
- Geotechnical and Chemical Investigation
- Tree Inventory and Health Assessment

January 2016 The Project Team is reviewing City standards and guidelines, summarizing fieldwork, and consulting stakeholders to develop the reconstruction design.

February 2016 A Notice outlining the purpose and key stages of the project along with information about the Open House was distributed to residents of Riverside Drive, Riverside Crescent and neighbouring streets.

February 25, 2016 Public Open House.

Ongoing City staff are receiving and answering phone calls and e-mails about the project.

Late Spring 2016 A 2nd Public Meeting will be held to provide information on the final design, construction scheduling and to answer questions.

Fall 2016 Replacement of the retaining wall is anticipated to commence, it is expected to take 6 months to complete.

Spring 2017 Reconstruction of Riverside Drive and resurfacing of Riverside Crescent is anticipated.

Timeline is subject to change

Project Team and Responsibilities

The Project Team is comprised of the City of Toronto Transportation Services, City Planning, Toronto Water, Engineering and Construction Services (ECS), Public Consultation Unit, engineering firm Candevcon Limited and Landscape Architecture firm HKA.

Toronto Transportation Services

Toronto Transportation Services is responsible for identifying roads requiring rehabilitation or reconstruction, arranging for budgets to complete the work and for the coordination of the reconstruction of roads.

City Planning - Complete Streets Guidelines & Streetscape Manual

The City of Toronto is developing Complete Streets Guidelines to provide a holistic approach for how city streets are designed. Complete streets are streets that are designed to be safe for all users, such as people who walk, bicycle, take transit or drive, and people of varying ages and levels of ability. They also consider other uses like sidewalk cafés, street furniture, street trees, utilities, and stormwater management.

Toronto Water - Green Streets

New ‘Green Streets’ standards are being developed to promote the use of ‘green infrastructure’ incorporating natural and human-made systems design to reduce the environmental impacts of the urban built form.

Green infrastructure supports a resilient city by performing important ecological services such as absorbing rain, improving the water quality of stormwater runoff, reducing the effects of urban heat, enhancing bio-diversity, increasing the urban forest canopy, and improving air quality. Designed to meet environmental performance requirements over the long-term, green infrastructure is also a cost effective means of reducing future infrastructure demands while creating more desirable communities to live in.

Engineering & Construction Services (ECS)

ECS is responsible for the design and construction of the project.

Public Consultation Unit

The Public Consultation Unit is responsible for communication with the Public on the details of the project.

Neighbourhood Context

What we've heard to date

The Project Team has received comments and questions from local residents. This information is valuable to the design process and stakeholders are encouraged to continue providing feedback. Below is a high-level summary of comments:

- The road is in poor condition, there is a desire for improvements.
- A number of people have written, phoned or spoken with the Project Team directly in support of including a sidewalk in the reconstruction of Riverside Drive.
- Some residents have expressed concern about the potential of installing a sidewalk.
- Maintaining the tree canopy, improving the lighting and narrowing the road width is important to some residents.
- Traffic is too fast. Some key items have been identified to cause speeding include; sightlines, block length, road width, perceived road width and drivers using the road as a by-pass during the morning/evening rush hour.
- Rumble strips were considered as a traffic calming measure, however city staff and some stakeholders expressed concern regarding the noise created by them, as such rumble strips are no longer proposed.
- Features within the boulevards have often been hit by passing vehicles.
- Some sections are difficult to drive due to curvature of the road and gullies.
- Safety for cyclists, runners and pedestrians is a concern.

What have we missed? Speak to staff, fill out the comment form, call or e-mail us.

Traffic Calming Measures for Consideration

Traffic calming is intended to improve the quality of life for residents, achieve slower speeds for motor vehicles, and increase the safety and the perception of safety for non-motorized users of the street. The following traffic calming methods are being considered to address some of the concerns on Riverside Drive:

Narrowing of the Road/Road Bump outs

The pavement can be narrowed by extending the boulevard and/or adding planters. This will provide opportunities for landscaping along the boulevard and encourage speed reduction due to a narrower pavement width. Existing driving pavement width is 9.0m to 9.5m, proposed pavement width is 8.0m.

Permanent Parking on Roadway

24hr Parking on the road will provide a visual and physical barrier that will encourage slower traffic. Vehicles passing parked vehicles typically yield to oncoming traffic.

Unit Pavers

Unit paver strips provide visual and audible cues to alert drivers to areas that require special care. Unit paver strips are installed in a line across the road. Drivers can lessen the vibration and the abrasive sound they create by slowing down.

Intersection Interlock Paving

Changing the surface material at intersections can have the same effect as rumble strips. Interlock paving helps delineate and create awareness of a pedestrian crosswalk and make a street appear narrower than it is to deter speeding.

Planting along the Street

Installing street planting along the length of the roadway usually narrows the corridor of the roadway. Narrowing the visual corridor may influence motorists to drive more cautiously along the roadway.

Geotechnical Investigation

Site and Subsurface Conditions

A preliminary investigation of the soils indicates that the soils are predominantly sandy silt to sand and silt underlain by silty clay and/or silty clay till. Such soils are good for Low-Impact Development Design (LID). LID is a term used to describe a land planning and engineering design approach to manage stormwater runoff. LID emphasizes conservation and use of on-site natural features to protect water quality.

Pavement design & watermain installation

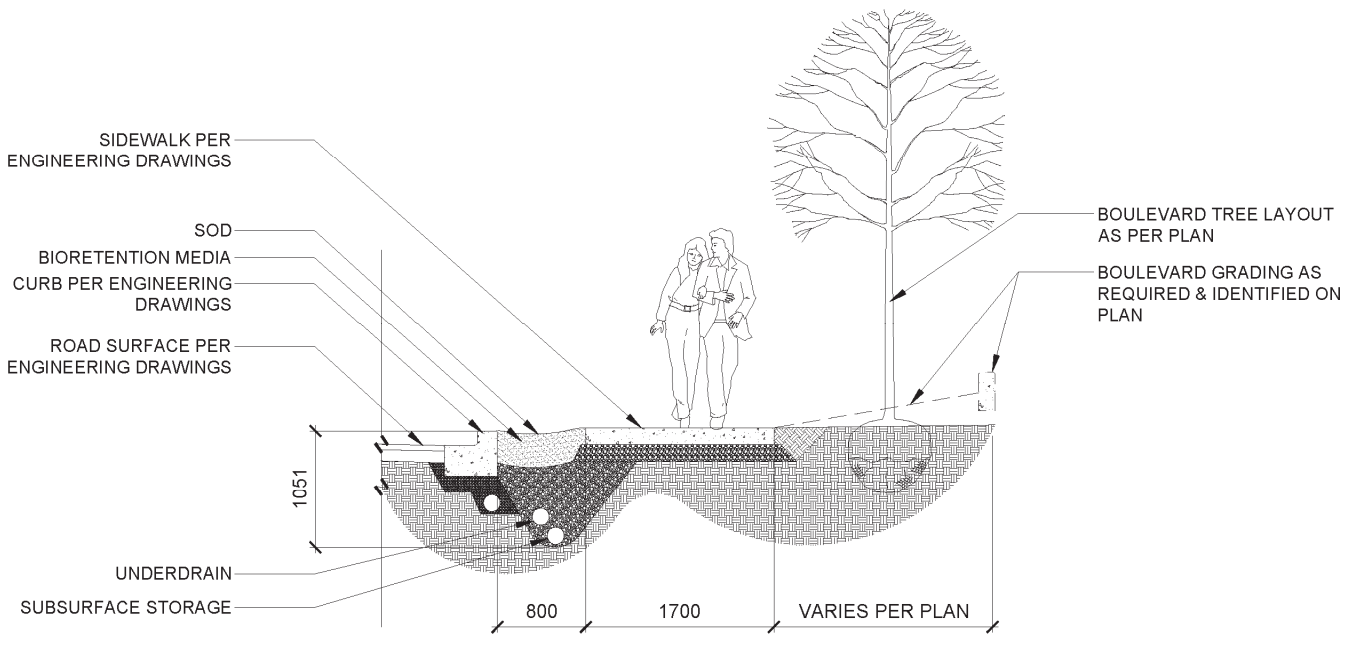
- The road base requires complete rebuilding.
- The Watermain needs to be replaced from Riverside Crescent to South Kingsway due to high failure rates.

Chemical analysis & asbestos testing

Any asbestos identified in sections of the existing asphalt will be removed as per MOECC guidelines, then taken to an appropriate licensed waste disposal site.

Stormwater Management

Stormwater management may include various Low-Impact Development Design strategies (LID's) such as Bioswales, Infiltration Trenches and Rain Gardens. A number of areas along the roadway have been identified to be suitable for LID's.



Low-Impact Development Design (LID)

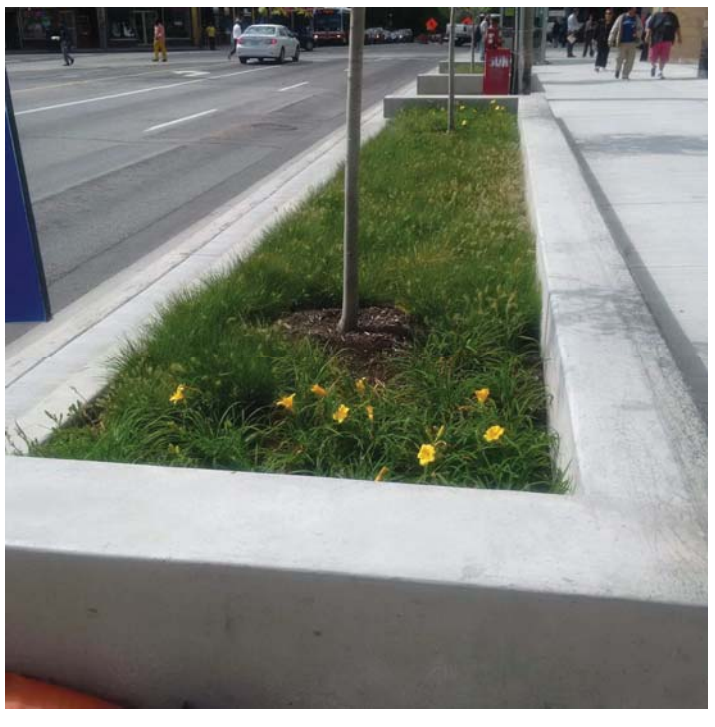
The following LID measures are being considered for Riverside Drive:

Biorentenation Areas

Bioretention areas are shallow excavated surface depressions containing mulch and a prepared soil mix and planted with specially selected vegetation that captures and treats water runoff. Bioretention areas can be integrated into a range of landscape areas including medians and boulevards. Bioswales and Rain Gardens are some forms of bioretention being considered along Riverside Drive.

Soakaways/Infiltration Trenches

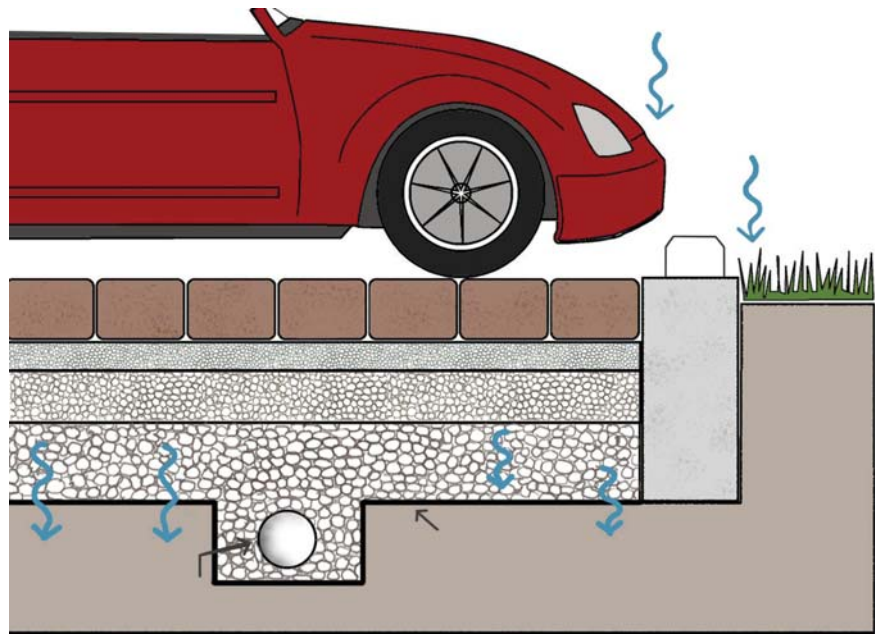
Soakaways, also referred to as infiltration trenches, galleries or chambers, are constructed below grade, therefore taking up little or no space at the surface. There are various locations along Riverside Drive that could be suitable for infiltration trenches.



Low-Impact Development Design (LID)

Permeable Pavement

Permeable pavement is a variation on traditional pavement design that utilizes pervious paving material underlain by a uniformly graded stone reservoir. The pavement surface may consist of permeable asphalt, permeable concrete, permeable interlocking concrete pavers, concrete grid pavers and plastic grid pavers. Openings in permeable interlocking concrete pavers, concrete grid pavers and plastic grid pavers are typically filled with pea gravel, sand or top soil and grass.



What are the benefits of LID's?

Some benefits of using LID's Include:

Improved Water Quality

Protects stream and lake quality from large volumes of polluted runoff.

Flood Control

Helps reduces frequency & severity of floods.

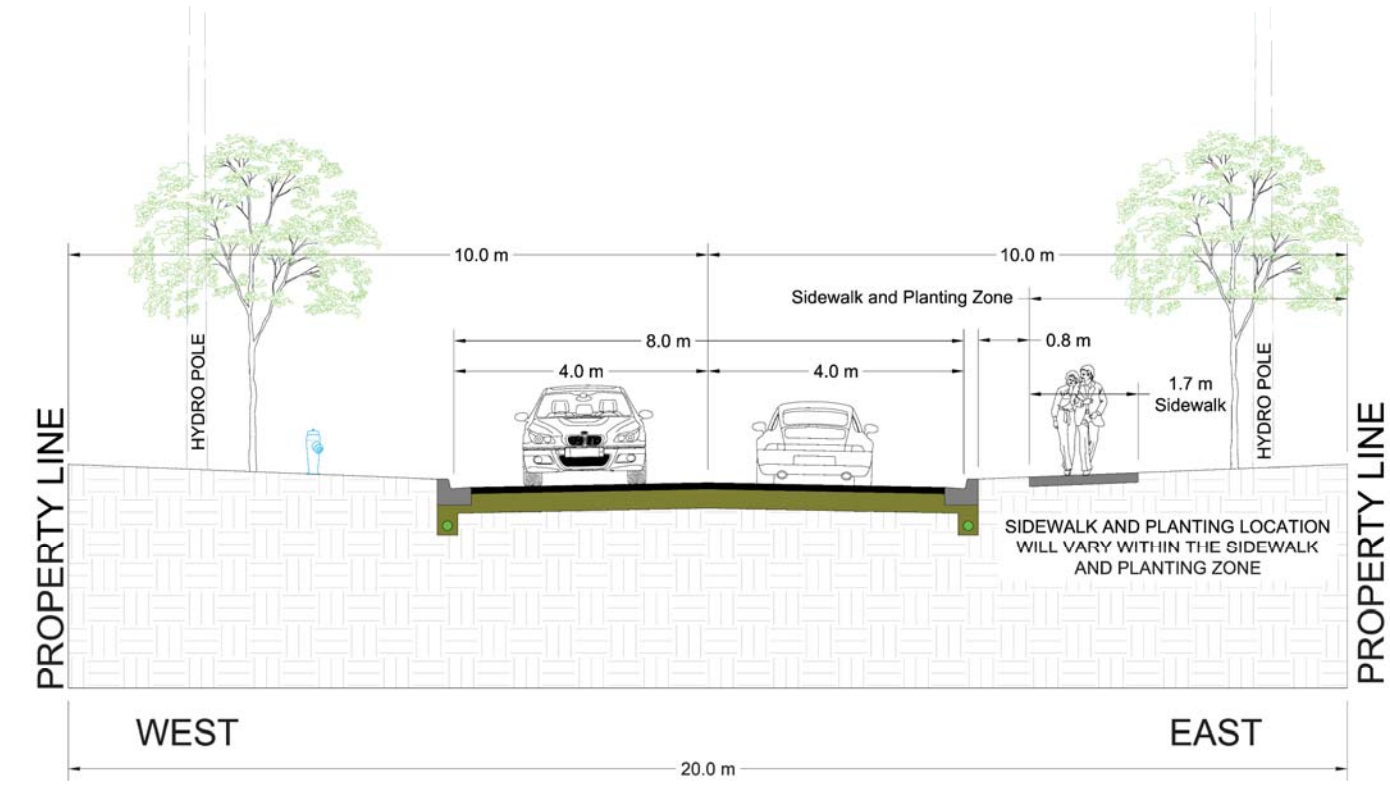
Habitat Protection

Aids in the preservation of regional trees & vegetation.

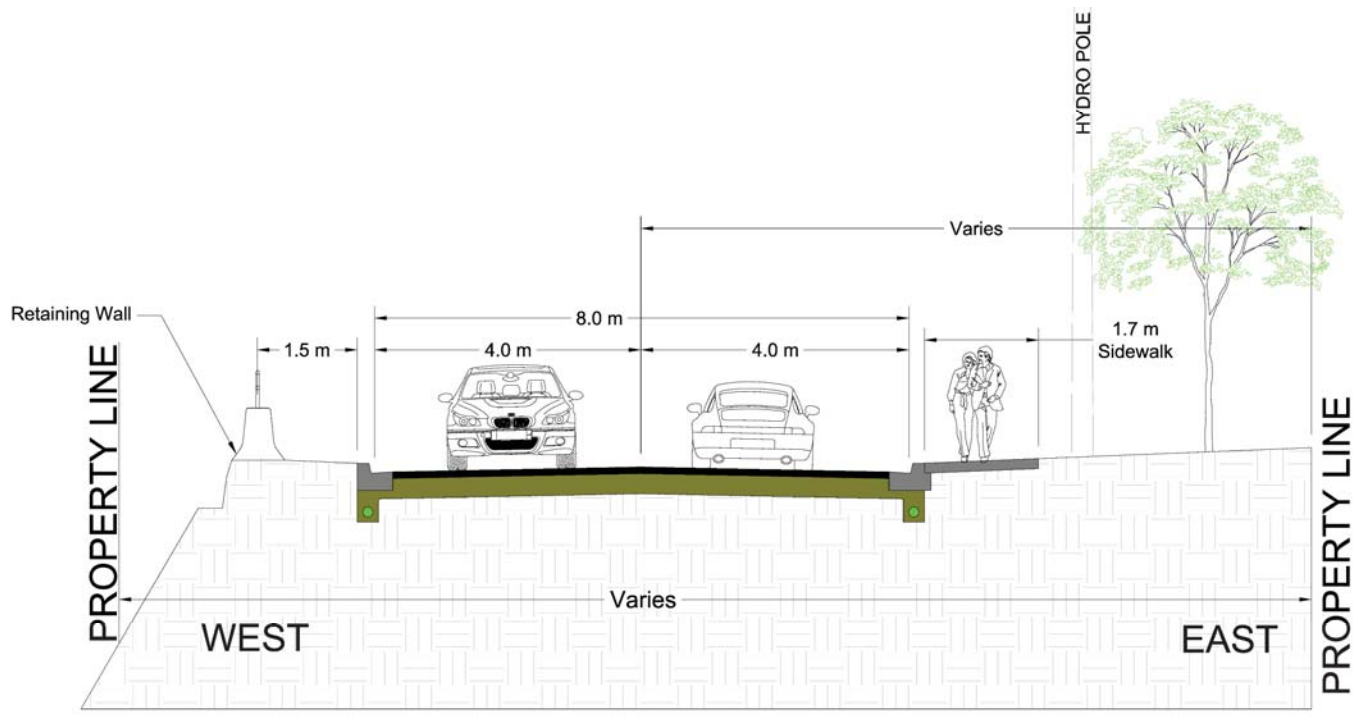
Enhanced Neighborhood Beauty

Helps enhance communities by making them more sustainable and wildlife friendly.

Typical Proposed Road Cross-Sections



House #197 to Brule Gardens



House #163 to House#197

- Conforms with City Policies & Guidelines.
- Provides reconstructed road surface void of potholes for safer conditions for cars in terms of maintenance of vehicles and lessens swerving to avoid poor pavement conditions such as potholes and uneven surface.
- Improves pedestrian safety along the roadway by providing a pathway.
- Pathway provides off-street pedestrian connection.
- Hydro poles may require relocation adjacent to the retaining wall.
- Alternate on street parking can be accommodated on both sides of the road.
- Some private features may require relocation. The specifics of which features may be impacted will be presented at the next Public Open House, anticipated for late Spring.

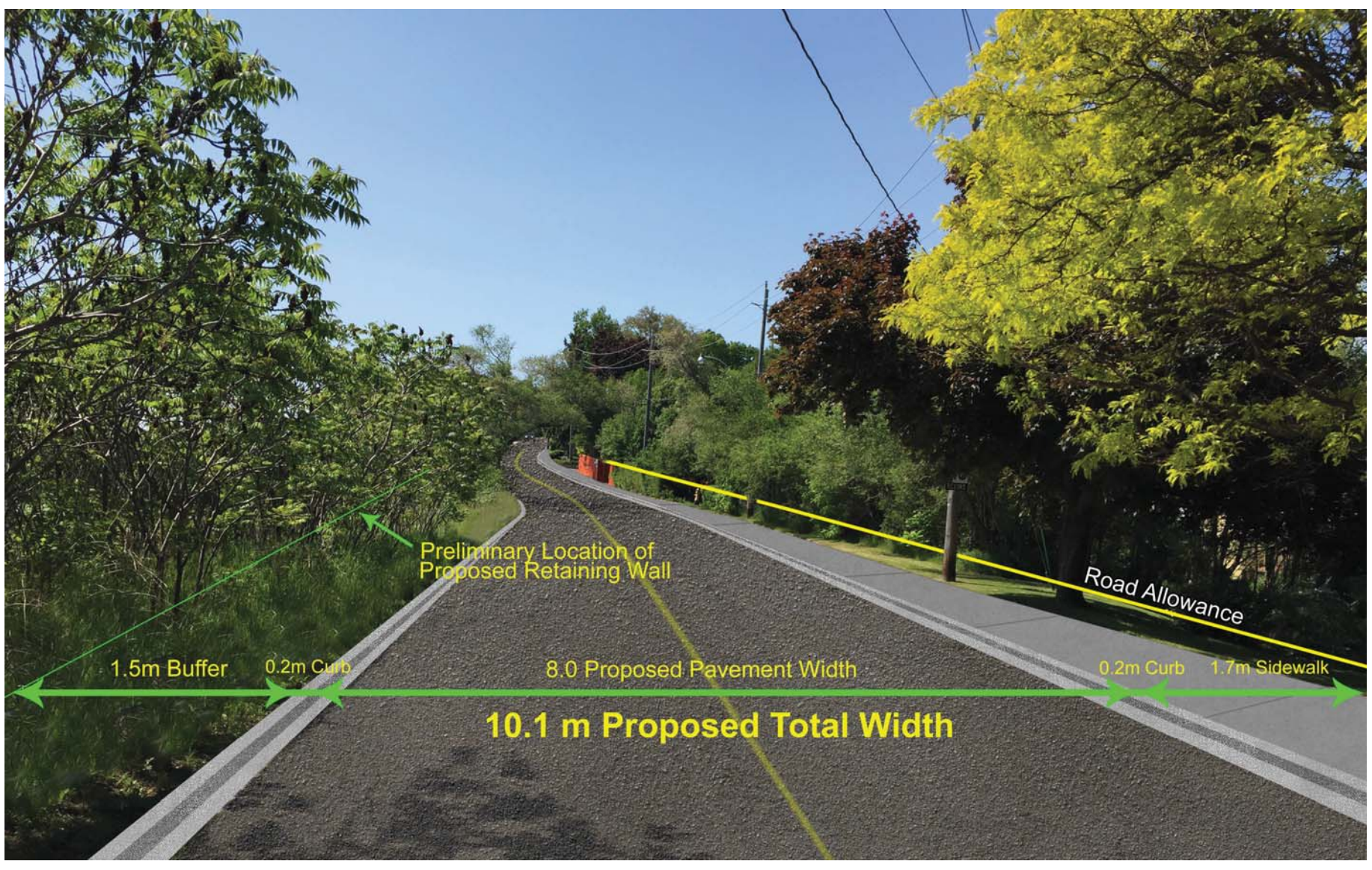
Typical Proposed Road Cross-Sections
Riverside Crescent to Bloor Street West

Existing Road Cross Section

Proposed Road Cross Section

Typical Proposed Road Cross-Sections
House # 163 to House # 197

Existing Road Cross Section



Proposed Road Cross Section

Why Sidewalks?

The Project Team must follow the guidance provided by the *Essential Links Capital Program* and *City of Toronto Walking Strategy* in the design for the reconstruction of Riverside Drive.

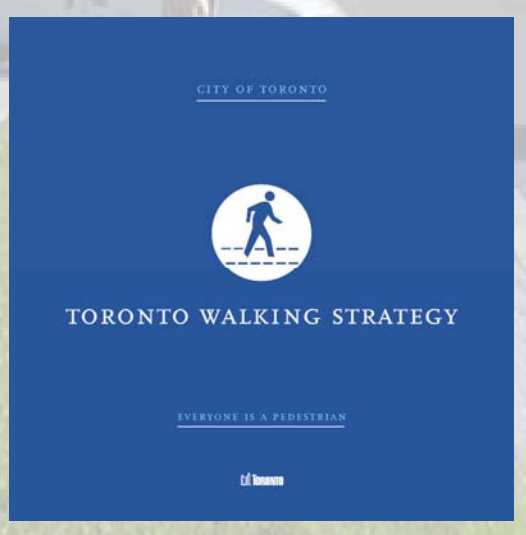
Essential Links Capital Program (2002)

The Essential Links Capital Program states that:
"connected and continuous sidewalks are needed throughout Toronto to ensure a safer and more accessible walking environment."

The objective of the Program is to ***"ensure(s) that all road reconstruction and resurfacing projects include the construction of new sidewalks where they are currently missing."***

Toronto Walking Strategy (2009)

"3.5 Construct new sidewalks – during road reconstruction and resurfacing, or when applicable through the development review process – on both sides of the street in all areas where they are missing."



Toronto Public Health recognizes the importance of sidewalks in pedestrian safety, noting that pedestrians and vehicles are more likely to collide at intersections when sidewalks are not provided.

Riverside Drive is classified as a Local Road. The City's practice is to recommend sidewalks on one or both sides of local roads.

Recognizing the character of Riverside Drive and to minimize removal of healthy trees, the Project Team is recommending installing a sidewalk with a planted boulevard on only one side of the road.

Tree Inventory & Preservation Measures

In the Spring, the City's arborist will identify trees within the road allowance and adjacent properties that could be impacted during reconstruction. The City is making every effort to minimize the impacts to trees.

City guidelines require any trees above 10 cm diameter at breast height be removed as a result of reconstruction and be replaced at a minimum ratio of 1:1.

The Project Team will consider a number of measures to minimize removal and negative impacts to trees, including:

- Minimizing the roadway and sidewalk widths and shifting the sidewalk with the boulevard.
- Localized shifting of the road.
- Lowering or raising the road and proposing a semi-mountable curb to minimize grading.
- Identifying transplanting opportunities.
- Locating infiltration trenches away from tree roots.

Tree Preservation Measures

Prior to, during and after construction the City may further protect tree health through:

- Crown and root pruning, fertilization and irrigation.
- Use of alternative road materials.
- Alternative construction techniques such as hand digging and root protection to preserve tree root structure.
- Pruning of trees prior to construction to maintain health.

Preliminary Plant List

Trees

American Sycamore
Platanus occidentalis

Burr Oak
Quercus macrocarpa

Crescendo Sugar Maple
Acer saccharum Morton

Green Mountain Sugar Maple
Acer saccharum Green Mountain

Hackberry
Celtis occidentalis

October Glory Red Maple
Acer rubrum October Glory

Kentucky Coffee Tree
Gymnocladus dioicus

Swamp White Oak
Quercus bicolor

Tulip Tree
Liriodendron tulipifera

Red Oak
Quercus rubra

PLANT PALETTE FOR CONSIDERATION ONLY – NOT ALL PLANTS WILL BE PLANTED.

Preliminary Plant List

Small Trees

Alternate Leaf Dogwood
Cornus alternifolia

Flowering Dogwood
Cornus florida

Hawthorn
Crataegus spp.

Choke Cherry
Prunus virginiana

Pin Cherry
Prunus pensylvanica

Serviceberry
Amelanchier canadensis

Witch Hazel
Hamamelis virginiana

Yellow Birch
Betula alleghaniensis

PLANT PALETTE FOR CONSIDERATION ONLY – NOT ALL PLANTS WILL BE PLANTED.

Preliminary Plant List

Woody Shrubs

Elderberry
Sambucus canadensis

Gro-Low Sumac
Rhus aromatic 'Grow-Lo'

Ninebark
Physocarpus opulifolius

Purple Raspberry
Rubus odoratus

Red Osier Dogwood
Cornus alternifolia

Rose
Rosa blanda

Snowberry
Symphoricarpos albus

Wild Red Currant
Ribes rubrum

Wild Black Currant
Ribes americanum

Winterberry
Ilex verticillata

PLANT PALETTE FOR CONSIDERATION ONLY – NOT ALL PLANTS WILL BE PLANTED.

Preliminary Plant List

Grasses and Perennials

Grasses

Northern Sea Oats
Chasmantheum latifolium

Overdam Feather Reed Grass
Calamagrostis x Acutiflora 'Overdam'

Perennials

Blue Vervain
Verbena hastata

Dwarf Bearded Iris
Iris pumila

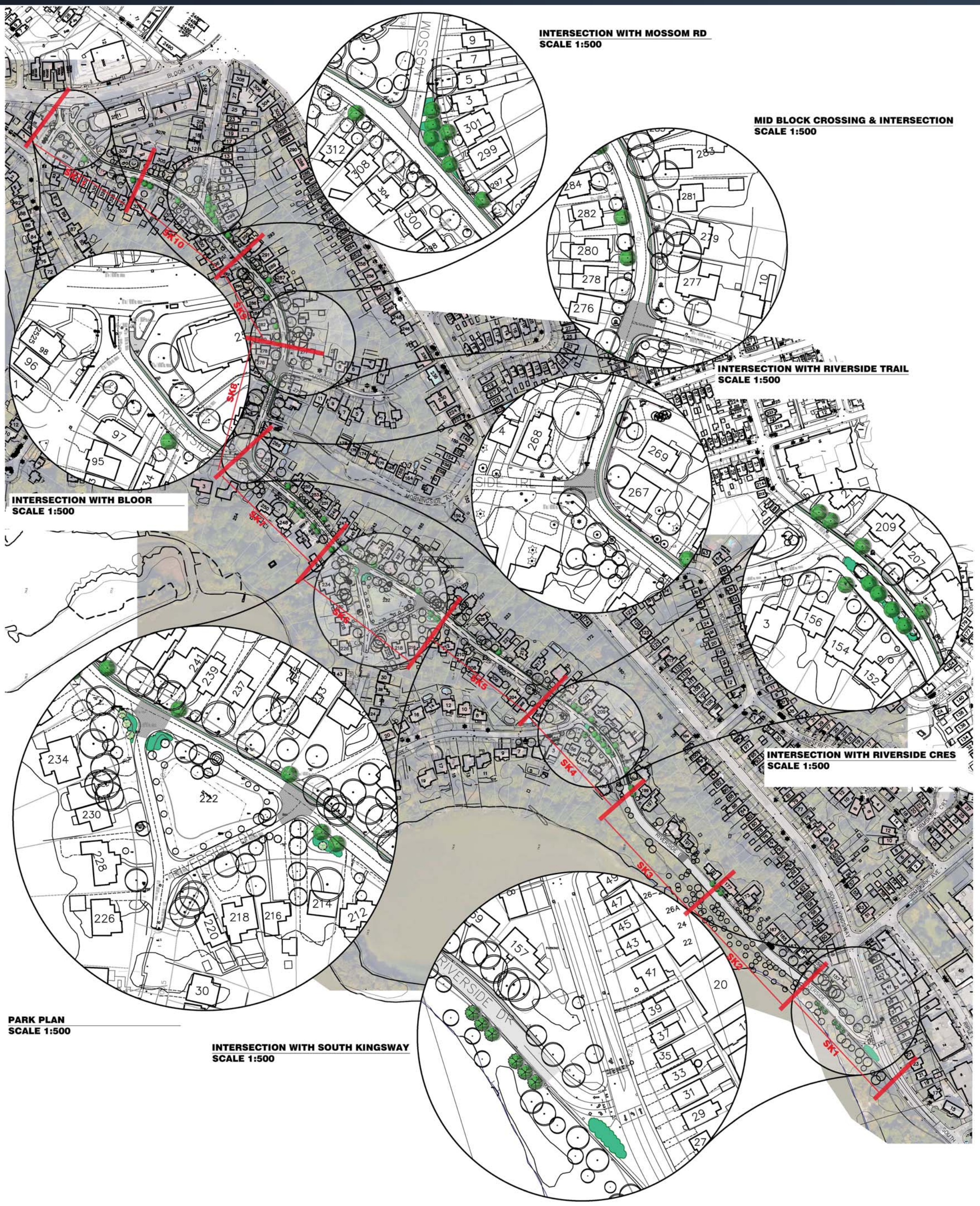
Daylily
Hemerocallis spp.

Northern Blue Flag Iris
Iris versicolor

PLANT PALETTE FOR CONSIDERATION ONLY – NOT ALL PLANTS WILL BE PLANTED.

Preliminary Landscape Overview

L-CO



RIVERSIDE DRIVE CONCEPT PLAN

SCALE 1:1250
0 5 10 25 50 75 100 125 150m

Preliminary Landscape Layout

L-SK1

Preliminary Landscape Layout

L-SK2

Preliminary Landscape Layout

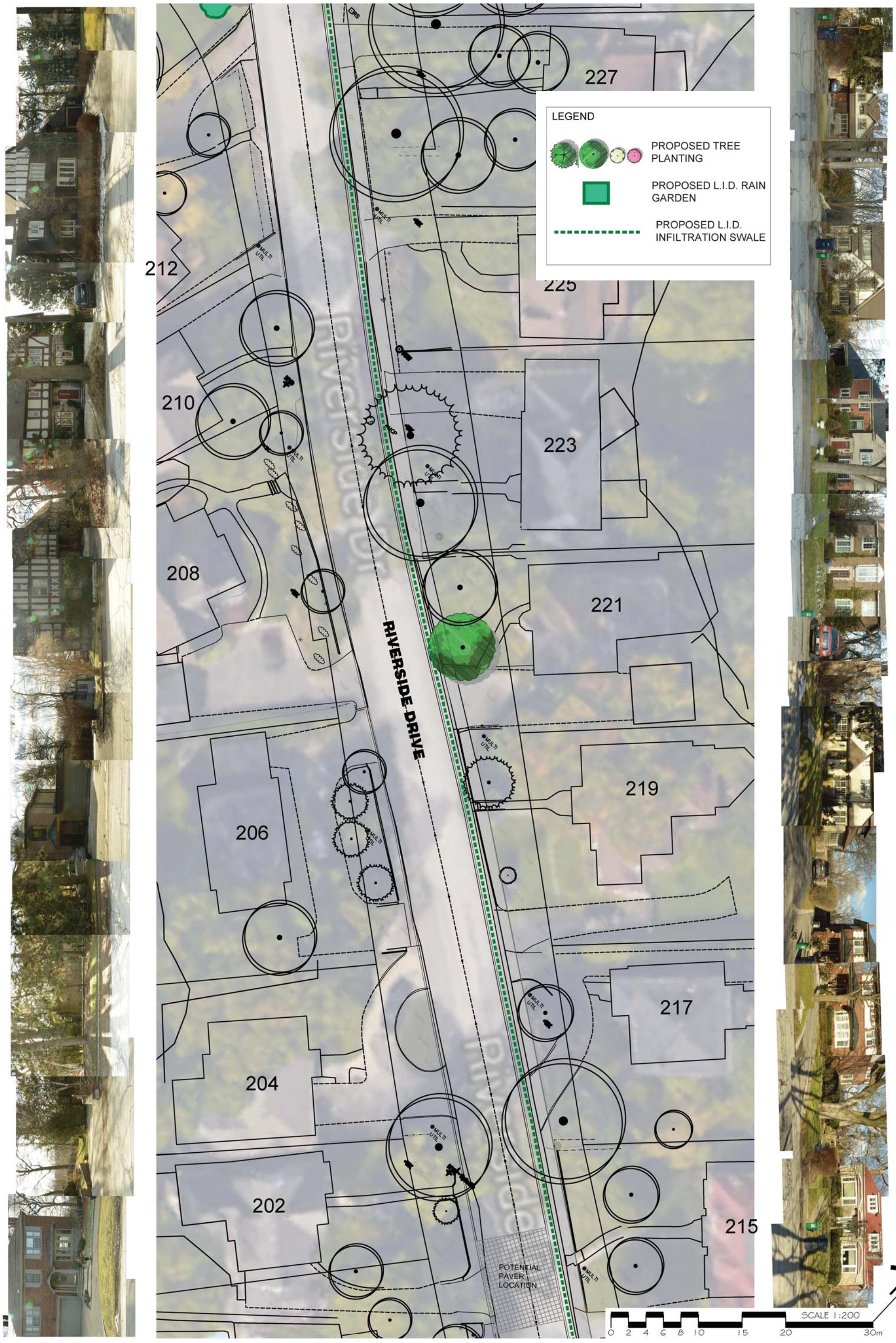
L-SK3

Preliminary Landscape Layout

L-SK4

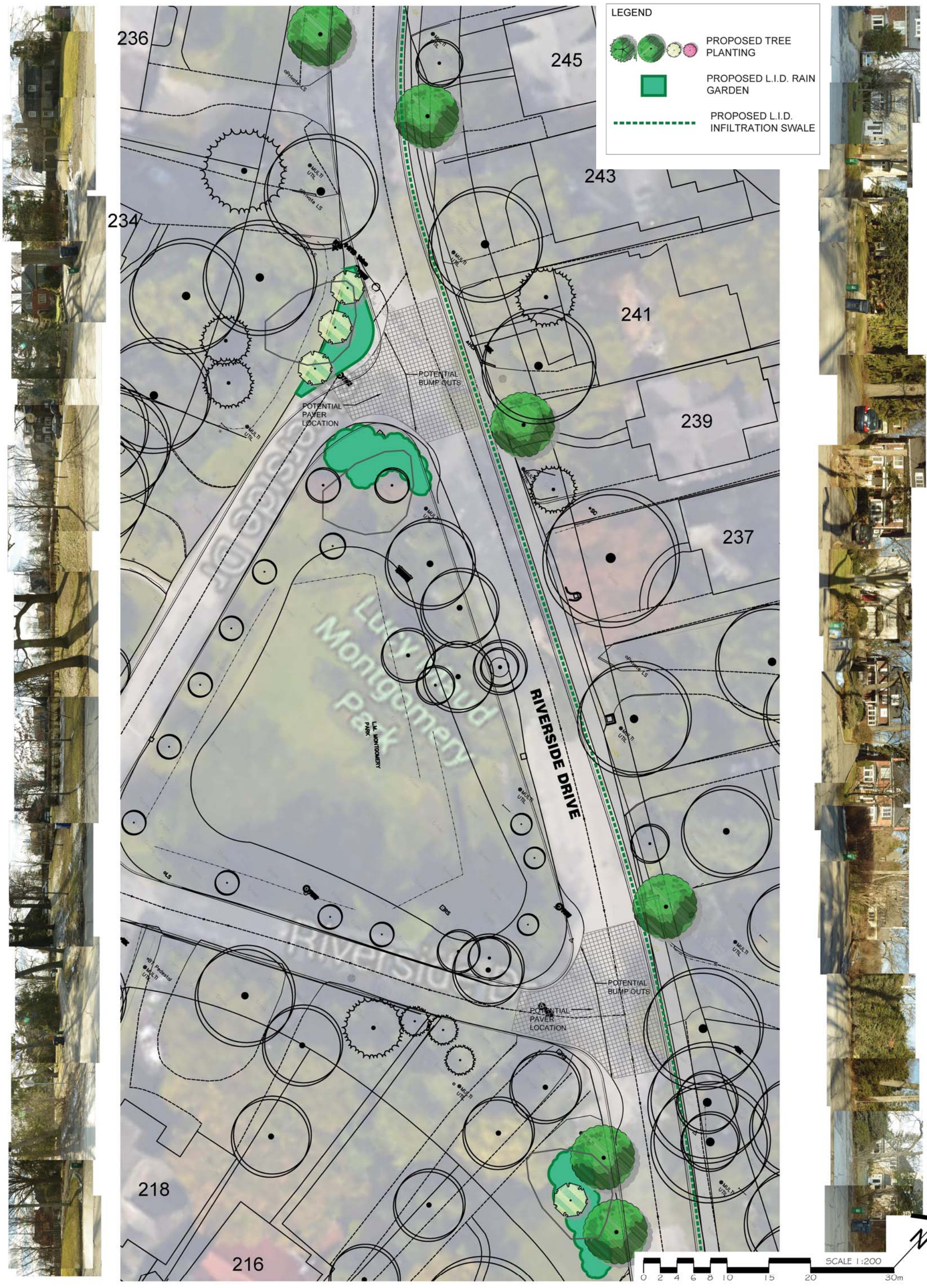
Preliminary Landscape Layout

L-SK5



Preliminary Landscape Layout

L-SK6

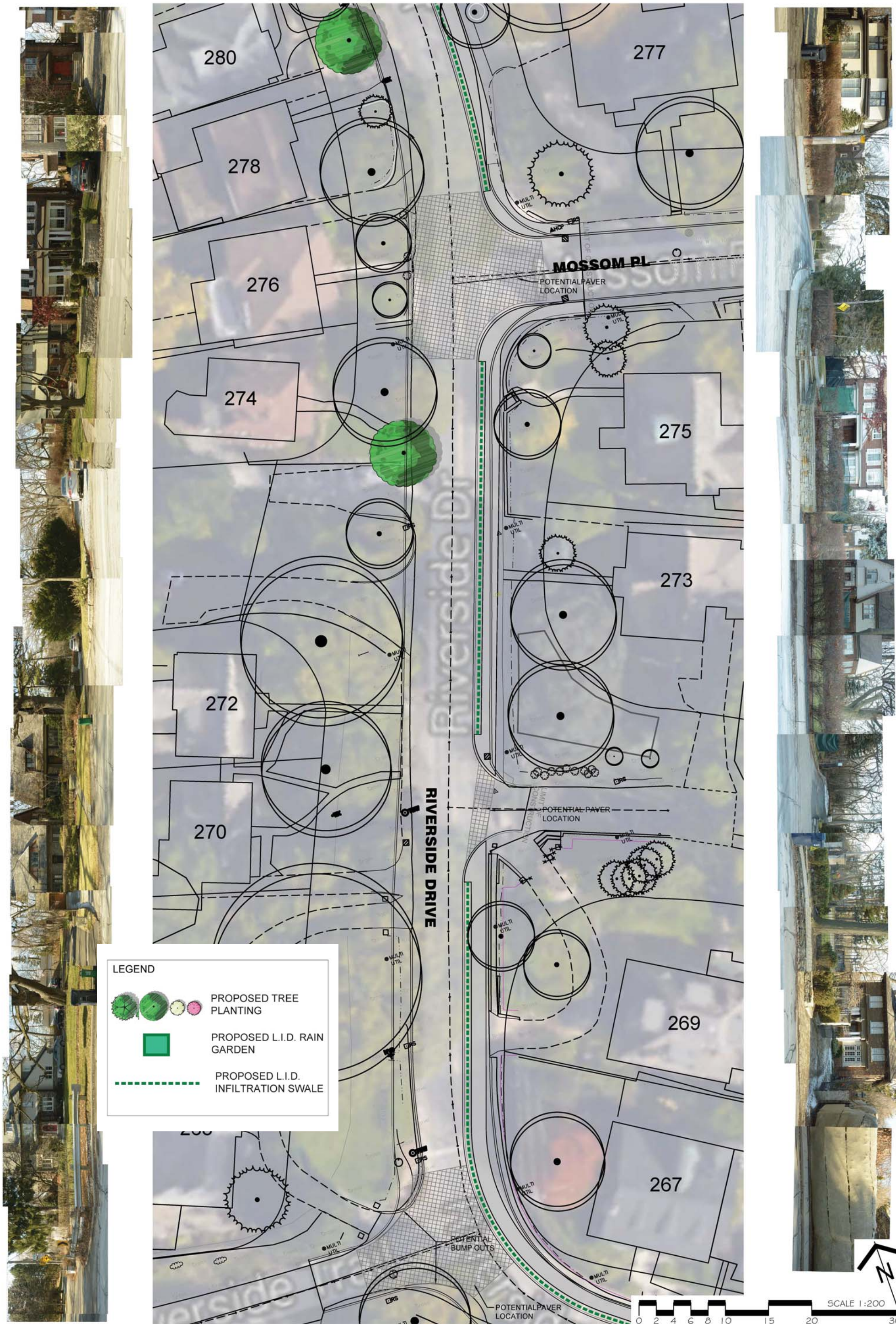


Preliminary Landscape Layout

L-SK7

Preliminary Landscape Layout

L-SK8



Preliminary Landscape Layout

L-SK9

Preliminary Landscape Layout

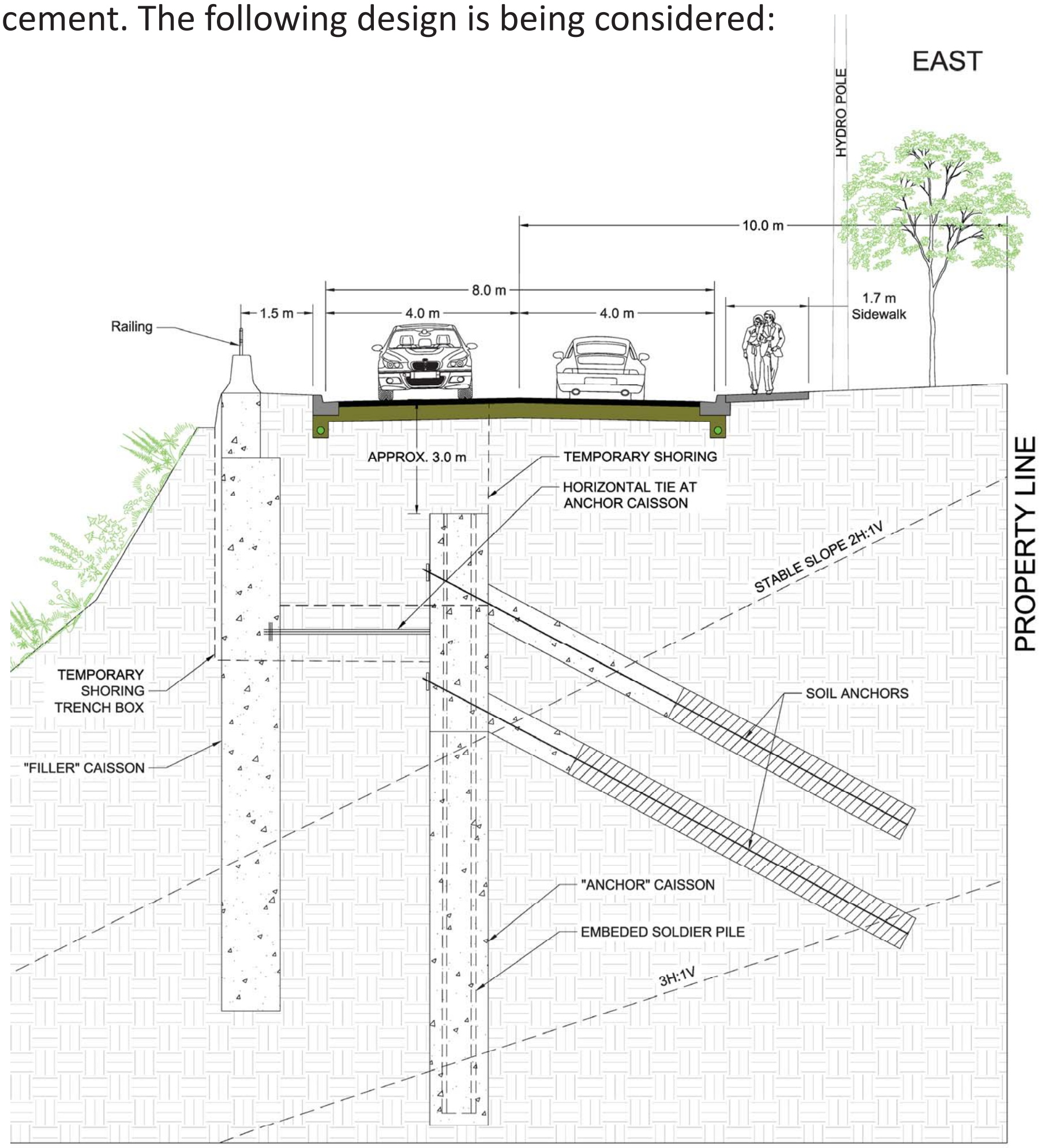
L-SK10

Preliminary Landscape Layout

L-SK11

Retaining Wall Design

The existing retaining wall is in poor condition and will require replacement. The following design is being considered:



- The construction of the wall is anticipated to be from House# 163 to House# 197.
- During the construction of the retaining wall, one lane of traffic will be open at all times.
- The watermain will be relocated due to the construction of the wall.
- There is a potential for the relocation of the existing sanitary sewer.
- The outside face of the wall will be covered with vegetation.

Noise and Vibration

Noise

How will the City address noise concerns during construction?

- The Noise Bylaw (Chapter 591, City of Toronto Municipal Code) permits operation of construction equipment **only** during Monday to Friday 7:00 a.m. to 7:00 p.m., Saturdays 9:00 a.m. to 7:00 p.m., and no construction noise on Sundays and statutory holidays.

Vibration

What to expect?

- Precondition surveys of each home along Riverside Drive will be conducted. You should expect a notification requesting access to your home to conduct a visual investigation of your basement foundation prior to the start of construction.
- Use of vibratory equipment during construction will be limited.

Access

What will be done before, during and after construction?

- Access to driveways may be limited at times during construction. Notification will be issued 24hrs in advance of any access restrictions.
- One lane of traffic will be open at all times during construction.
- Should short term road closures be required, notifications to residents will be issued 24hrs in advance.
- Roadway will be closed to through traffic during construction. Only local access will be made available.

Next Steps

Winter 2015/2016

- The Project Team will consider feedback from stakeholders received at this meeting.
- Stakeholders can continue making comments by e-mail or phone until March 9, 2016.
- Panels will be posted on the City's website after this meeting: www.toronto.ca/riversidedrive
- The Project Team will review proposed design options along with comments received from the public to finalize a preferred design.

Spring / Summer 2016

- The City will refine the design hold a 2nd Public Open House to present the preferred option, answer questions and discuss next steps.
- After the City has finalized the design of the preferred option the tender will be issued.

Fall 2016

- Commence construction of retaining wall. The construction of the retaining wall is anticipated to take 6 months.

Spring 2017

- Commence reconstruction of Riverside Drive and resurfacing of Riverside Crescent.

THANK YOU FOR TAKING THE TIME TO BE INVOLVED