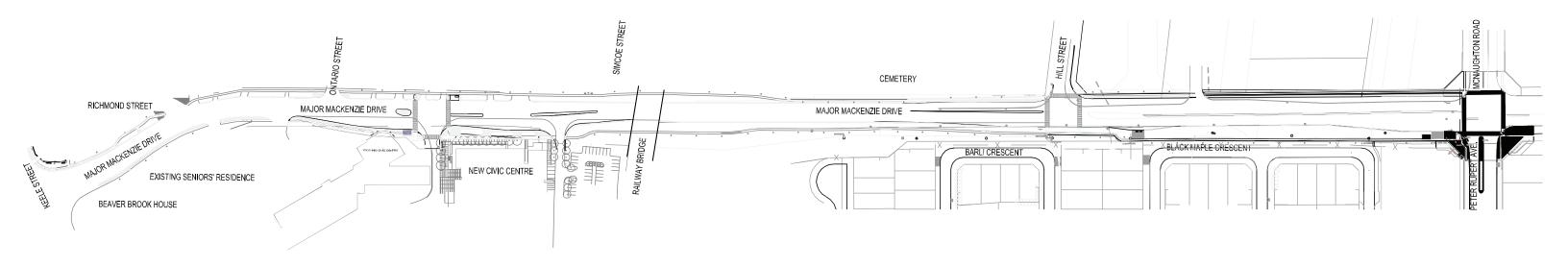
THE CORPORATION OF THE CITY OF VAUGHAN MAJOR MACKENZIE STREETSCAPE STUDY



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April 2010

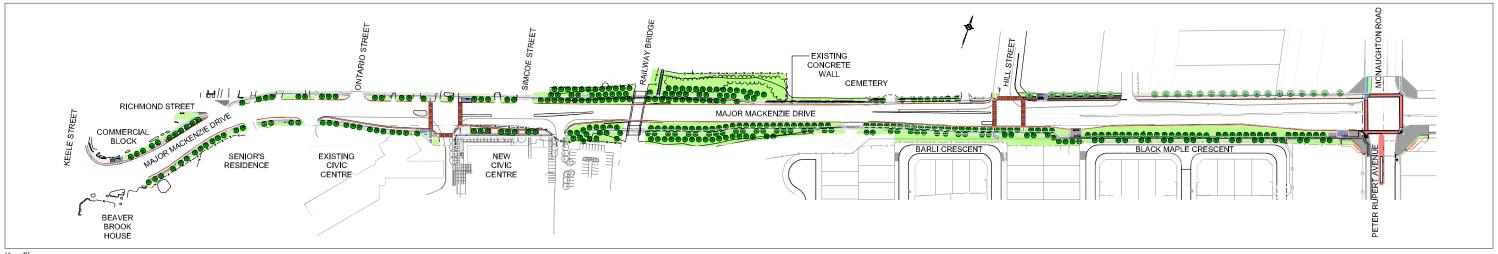


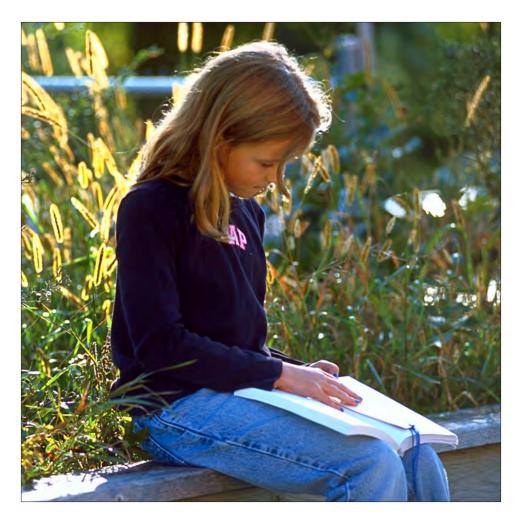


1 Overview

Stantec Consulting Ltd. was retained by the City of Vaughan to prepare a schematic Streetscape Design Study for the public realm along the north and south side of Major MacKenzie Drive, from Keele Street to Peter Rupert Avenue / McNaughton Road.

The schematic design responds to the contextual nature of the site, is coordinated with existing overhead and underground utilities, conceptually addresses grading issues, and identifies the existing and proposed roadway alignment (available during the time of this study). A series of background documents were reviewed, and where possible the objectives of these studies were integrated with the design. The streetscape will comprise of a high quality pedestrian boulevard with pedestrian scale lighting, and strong boulevard plantings. The schematic plan is a guideline for detailed design. The plan recommends a preferred walkway alignment, with general dimensions, options, conceptual grades, and materials. An assessment of the existing vegetation was not included as part of the schematic design. Existing trees should be assessed during the detailed design phase.



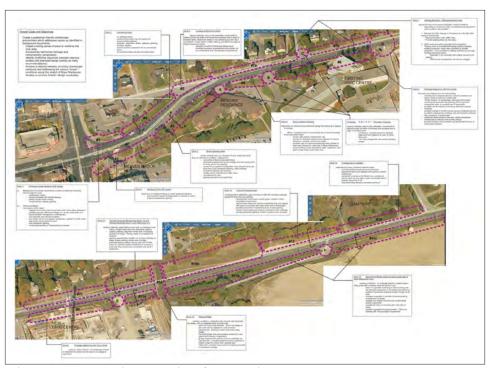


2 Design Principles

The design approach focused on creating and enhancing a strong sense of place and community image while integrating the study area's contemporary and heritage elements. An objective of the design was to create a streetscape that will provide a common thread, knitting together the varied elements and styles of the built fabric within the study area. Several design alternatives were prepared and discussed with the City and relevant stakeholders. Our team reviewed the existing background documents, examined the site, documented opportunities and constraints, reviewed successful precedents, and prepared site sensitive design solutions. The following design principles have been applied to the schematic design and should be carried through into detailed design and implementation:

- Character: Understanding the street's present and envisioned character is essential it encompasses the understanding of building form and spaces, settlement layout, cultural history, movement routes and patterns of activity. Character and identity of the proposed streetscape can be reinforced with various design tools; structured and strong planting design, pavement materials, colour and patterns, specialty treatment at key areas, site furniture, etc.
- Streetscape Users: Understanding the variety of users and obtaining harmony between user groups; pedestrians, vehicles, cyclists, and the physically disabled. The pace of perception that the street is experienced is to be considered. Design attention is to be given to changes in grade, safety, crossing points, rest areas, surface treatment, providing for human comfort and delight, and placement of street furniture and shade trees.
- Linkages: All streets are part of a network, and the design shall focus on providing for ease of movement for the various users, through a safe and aesthetically pleasing environment. The study area provides linkages to residential areas, the New Civic Centre and to the GO station.
- Social Spaces: Beyond providing for the flow of traffic, streets serve a wide range of functions; it's where people work, live, shop, wait for transit, rest and socialize. The design shall capitalize on opportunities to promote the street as a lively social public space.
- Coordination of Elements: The design shall be sensitive to the context and varied styles, and provide for visual coordination. Various design scenarios were tested, working together with staff and stakeholders. A range of potential options were studied and led to a preferred scenario. The dimensions of a successful street have to be considered at a human scale. The structure of the street is important and in street design, details count. Existing elements such as utilities were factors in determining walkway alignment, and size / spacing of proposed trees. Coordination of materials and colours shall be sensitive to the existing context.
- Quality: The streetscape shall be of quality design and sound materials and harmonize form with function.
- Environmental Sustainability: The design shall be environmentally sustainable. It shall strive to be energy efficient, maximize infiltration, evapotranspiration, improve air quality, regulate temperature, provide u/v protection, use of local materials, recycled and salvaged material, etc.
- Standards: The design shall aim to utilize materials and equipment that have been adopted by the City and Region as standards where possible.
- Maintenance: The design shall ensure that maintenance is minimized, through placement and selection of materials.

When properly designed and implemented, a street is a place that is attractive and that works from many points of view: pedestrian, safety, way finding and activity, smooth traffic flow, increased private reinvestment, improved economic vitality, and overall livability.



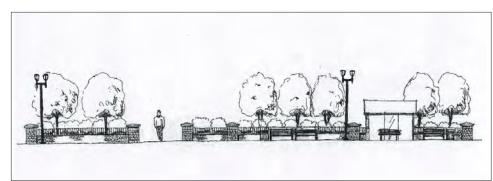
Preliminary opportunities and constraints plan (refer to Appendix)

3 Schematic Design Study Approach & Recommendations

Our study process included the following steps:

- Review and summary of the following background documents
- Preparation of a topographic survey (from Keele Street to Hill Street)
- Contact with York Region obtained documents that identify future road alignments
- Contact with utility companies obtained documents identifying existing utility information (from Keele Street to Hill Street)
- Site reviews and analysis
- Development of an Opportunities & Constraints Summary Plan and Assessment of the real needs (see appendix)
- Development of Concepts with options (plans and elevations) / Evaluation of feasible alternatives
- Presentation to City and the MSCAC identifying site furniture, paving and lighting options
- Meetings with City of Vaughan, York Region staff and a presentation to the MSCAC
- Preparation of a Preliminary Opinion of Probable Costs for the streetscape improvements
- Circulation of Draft Report to City and Region, and revisions to report based on comments received
- Preparation of Final schematic plans

The drawings within this report are supported by the following recommendations:



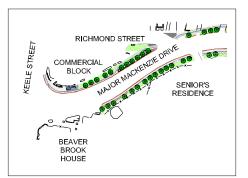
Elevation - Proposed Northeast corner of Keele Street & Major Mackenzie Drive



Existing entrance to Beaver Brook house



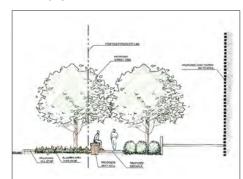
Existing Southeast corner of Keele Street & Major



Key Plan - West Gateway



Floral display



Planters and masonary seat walls

The West Gateway (North East corner of Keele Street and Major MacKenzie Drive):

Along with the south east corner of this intersection, the north east corner helps form the west gateway entrance (eastbound) into the streetscape zone leading to the New City Hall. The design of this north east corner aims to blend with the heritage qualities of the existing streetscape treatment along Keele Street and by the Beaver Brook house. Recommendations include Masonry walls (within the Commercial Block property), double-headed pedestrian light standards and a unit paved boulevard. Access to the Commercial block is provided at two locations. The materials for the proposed wall should match those of the existing wall at the south east corner. Pavers should be sympathetic to the existing heritage style through use of colour, and can be the same product as the pavers used by the Beaver Brook House for this corner only. The proposed double headed street lights should match the existing lights by the Beaver Brook House and should be used along the north side of Major MacKenzie Drive from Keele Street to Richmond Street. Proposed lighting for the remainder of the study area should be of a style that respects both the contemporary style of the new Civic Centre and the existing heritage style lights. Refer to the section below on lighting.

Improvements to this gateway intersection will need to be coordinated with future plans for the development of the commercial block. This corner of the main intersection within this streetscape zone is a prime location for the placement of a public art element. Public art components should be considered in several locations including the north east corner of Keele Street and Major MacKenzie Drive, the Railway Bridge, and adjacent to the entrance to the New Civic Centre.

Benches are to be metal and black in colour with waste/recycling receptacles that compliment the style of the benches. Specifications for benches and waste receptacles are to be consistent with Parks Development specifications used for City of Vaughan Parks.

Further east of this intersection (along the north side of Major MacKenzie Drive), planters with masonry seat walls along the north edge of the planters are proposed, surrounded by a paved boulevard (refer to L1). The materials selected for the seat walls should match or reflect the masonry seatwall proposed outside of the New City Hall building. The south, east and west sides of the planters are to have concrete edges, and the planters are to be infilled with trees and low shrubs or perennials providing seasonal interest and colour. If possible and if approved by the City and Region, these planters should be irrigated. Plant material is to be selected for visual interest and be salt tolerant.

It is recommended that the vehicular paved area, where Richmond Street meets Major MacKenzie Drive, be reduced in width, to provide a more comfortable pedestrian crossing area. This recommendation should be reviewed and approved by the City and Region's Transportation departments prior to detailed design. The entire roadway alignment for the study area is to be confirmed by both the Region and City prior to detailed design. Anticipated dates for any road works are required to determine the phasing for the streetscape works.

Planters & Masonry Seat Walls:

Planters with Masonry Seatwalls and concrete edges are recommended in several areas along Major MacKenzie Drive; just west of Richmond Street and in front of the New City Hall. These planters are located in the most 'urban' sections of the streetscape, surrounded by unit paved areas. There may be future additional opportunities for these planters and paved areas, as more detailed information is developed and provided for the Civic Centre Lands along the south side of Major MacKenzie Drive between the Beaver Brook house and City Hall.

The intent of these planters is to provide visual interest (seasonal colour/floral display), shade seating, and have common elements (such as the masonry component of the wall and surrounding pavers) that unify the streetscape with the new Civic Centre area. As noted above, plant material should be selected for visual display and salt tolerance. If possible, the plant beds should be irrigated.

Seating opportunities should be explored to allow for rest locations along the study area. The schematic plan identifies a retaining / seat wall along the north side of Major MacKenzie Drive, south-west of Simcoe Street. This location provides a good view of the New City Hall.



North facade of new City Hall



Pavers; rhythm & pattern



West facade detail of new City Hall

Paving:

Several types of paving are proposed within the streetscape zone. All pavement surfaces shall be barrier free and durable to withstand operational practices. The primary walking surface will be a concrete sidewalk. At intersection approaches, scoring lines in the concrete pavement will aid the visually impaired. Depressed curbs should also be provided at each crossing location. Where space allows, a double soldier course of unit pavers on one or both sides of the concrete sidewalk is proposed. The material of these pavers should blend or match with the pavers proposed at the new Civic Centre. Colours should harmonize between the existing colour palette used by the existing heritage areas (i.e. at the Beaver Brook House), and the colour of the proposed pavers at the new Civic Centre. Pavers are also proposed for the splash strip adjacent to the curb, within paved medians, and adjacent to some roadway intersections. The pattern and material of these pavers should blend or match the pavers proposed at the new Civic Centre. Patterns can also reflect those of the façade of the New City Hall (see images below). The paved splash strip will run the entire length of the study area along both sides of Major MacKenzie Drive and will help to visually unify the entire streetscape. An alternative pavement material for the splash strip could be coloured concrete with a textured pattern. The splash strip width should be as consistent as possible for each side of the street. Pavers are to be specified during the detailed design stage, once the pavers at the New Civic Centre can be assessed. Paving materials and installation details are to be reviewed and approved by the City and Region.

The pedestrian crosswalk by the City Hall should be articulated by an enhanced pavement treatment. Paving options are to be explored and then reviewed and approved with the City and Region. This should be a strong distinctive entryway emphasizing the importance of this intersection.

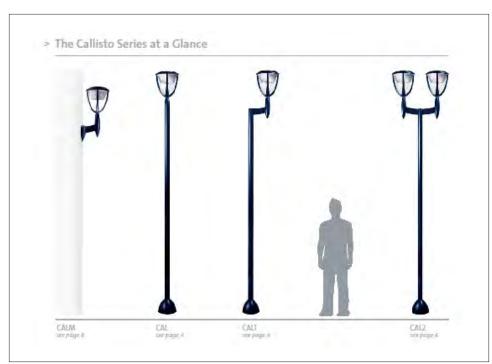
The extent and layout of the proposed paving areas respond to the variance in character between the north and south side of Major MacKenzie Drive; with heritage homes of a smaller scale on the north and contemporary large scale civic buildings on the south. The south side of Major MacKenzie Drive, from Keele Street to the New City Hall, should have a wide paved area from the curb line to the concrete sidewalk, whereas the north side should have a sodded area with boulevard trees between the road and sidewalk. In order to create this sodded and treed boulevard area along the north side of the street, additional property acquisition is required and proposed on the schematic plan. It is also recommended that the existing trees be assessed to avoid removals of large healthy trees.

Street Trees & Planting:

Existing utilities, overhead wires and York Region's planting guidelines were key factors in determining the location, size and spacing of street tree planting proposed for this streetscape. The objective is to create a strong, densely planted boulevard and to enhance the experience of the Civic Centre precinct. Due to overhead wires, small form trees, based on York Region's list and those allowed by Hydro, are recommended for the majority of the streetscape. The spacing of 6 metres on centre is also recommended. Between Keele Street and the City Hall, a single row of trees can be accommodated. The wide boulevard area just east of the railway bridge can accommodate numerous rows of trees, and will reinforce the sense of entrance to the Civic Centre area, when approached from the east (heading west). Along the north side of Major Mackenzie Drive, from Hill Street to McNaughton Road, large form trees can be planted. It appears that there would be no conflict with overhead wires in this area. The large form trees also relate to the larger parcels of Commercial land located to the north of this area.

Denser planting of street trees should occur at key locations, intersections and significant entrances. Proposed trees within the York Region R.O.W., species and planting details will need to be reviewed by the Region. For trees located on the City's property, species and planting details will need to be reviewed by the City's Parks & Forestry Operations department.

The use of colourful plant material (i.e. flowering trees, perennials, etc.) should be maximized along the entire length of this streetscape zone in order to create an atmosphere of celebration. Opportunities for mass colourful plantings exist along the slopes adjacent to the Railway Bridge. Proposed Pedestrian Light Standards should be able to accommodate hanging flower baskets.



Light standard



Lit colour

Pedestrian Lighting:

The existing pedestrian environment within the subject area of Major MacKenzie Drive is inadequately lit. The area immediately east of the railway bridge is very poorly lit and does not provide a sense of safety for pedestrians at night. Pedestrian lighting along both sides of the street for the entire subject area is recommended. Various options relating to the style of the light standards were presented to City staff and to the Maple Streetscape Committee. The preferred approach was to select a light standard that is contemporary, yet has some reference to the form of the existing heritage style lights. Below is a sample from a Lighting Manufacturer's brochure which captures the essence of the objective.

The schematic plan recommends the following pedestrian lights: Double headed light fixtures from Keele Street to Richmond Street along the north side of Major MacKenzie Drive, to match the existing heritage-style lights located at the south east corner of Keele Street and Major MacKenzie Drive. The use of double headed luminaries should be considered at the eastern edge of this streetscape zone (at Peter Rupert Avenue / McNaughton Road). At this eastern location, the luminaries do not need to match the existing heritage-style standards, but should be in the same line of luminaries used for the remainder of this streetscape zone. Wall mounted luminaries should be considered at the existing concrete retaining wall east of the railway bridge and beneath the railway bridge. The remaining and majority of the lighting should be single head light standards. The light poles are to accommodate placement of flower baskets and temporary banners.

Colour of the poles to be black. A design feature that was considered, and should be further reviewed, was to have light standards with either lit colour rings or lit colour columns. This element of colour can provide a unique unifying and signature element for the entire length of the streetscape zone at night.

The Railway Bridge:

Currently a concrete sidewalk and guard rail exists along the north side of Major MacKenzie drive beneath and approaching the railway bridge. Both the sidewalk and railing are in poor condition and the schematic plan recommends removal and replacement of both. Currently the south side of the street does not have a walkway east of the Civic Centre. The proposed plan recommends that a sidewalk and guard rail be located midway up the slope beneath the bridge, similar to the north side of the street. Approvals from all relevant agencies and GO transit would be required. Another option exists to provide a walkway at street level beneath the bridge on the south side of the street (Refer to Section D). The new metal railing should harmonize with the style of the other streetscape elements and also be black in colour. Pedestrian lighting should be provided beneath the bridge. Although, not part of this study, it is recommended that the bridge's aesthetics be improved. The bridge acts as a gateway into the City of Vaughan's Civic Centre district. Consideration should be given to surface treatment improvements and potential artwork. A structural study of both the Railway Bridge and the Concrete Retaining wall east of the bridge should be considered prior to upgrading the appearance of these structures.



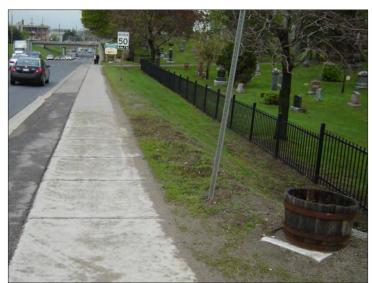
The railway bridge (looking west)



Concrete retaining wall east of railway bridge



Concrete retaining wall east of railway bridge



Cemetary area northwest of Major Mackenzie Drive & Hill Street

The Concrete Retaining Wall:

Similar to the existing bridge structure, the large concrete retaining wall located along the north side of Major MacKenzie Drive, east of the railway bridge, should be improved. This study did not review the wall's structural integrity, so any work or modifications to the wall's surface would require the appropriate review and approvals. It is recommended that this wall receive surface treatment improvements to increase the aesthetic value along this section of the streetscape. The planting of vines at the top of the wall should be considered. The narrow pedestrian zone between the wall and the street creates an uncomfortable pedestrian environment. There is no space for street trees in this zone. Pedestrian lighting should be mounted to the wall if possible. Improvements to paving, lighting and to the wall's surface can provide some relief to the pedestrian zone in this area.

The Cemetery Area:

East of the existing concrete retaining wall, along the north side of Major MacKenzie Drive, street tree planting will be on the north side of the sidewalk due to spatial constraints. Although outside of the scope of the study, it is recommended that the existing wrought iron fence along the property line of the cemetery, be repaired or replaced. As discussed with York Region staff, the intersection at Hill Street will be revised to accommodate turning lanes and it may also be signalized. A signalized intersection will provide a safe pedestrian crossing point across Major MacKenzie Drive. The pedestrian crosswalk should be articulated by an enhanced pavement treatment. Paving options are to be explored and then reviewed and approved with the City and Region.

Issues affecting Phasing of Streetscape Implementation:

The enclosed plans identify proposed future road alignments known at the time of this study, as well as proposed property acquisitions based on information provided by City of Vaughan and Region of York staff. Prior to developing a detailed streetscape design and phasing strategy, all existing and proposed works impacting the streetscape that can be reasonably foreseen are to be confirmed. The Region's schedule for proposed road works is required to determine the phasing for the streetscape works. The plans identify changes to lanes, intersections and curb alignment for Major MacKenzie Drive in several locations based on drawings provided by the Region during the course of this study. Unresolved conflicts between proposed Regional Road widening plans and the City's concerns are to be resolved prior to detailed design (i.e. Ward 1 Councillor comments at the Streetscape Committee meeting on January 27th, 2010 opposed the Region's future road widening design of Major MacKenzie Drive, specifically the turn lanes at the entry driveway for the New Civic Centre. The concern related to pedestrian safety issues).

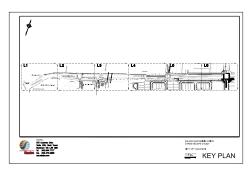
Existing Transit stop locations will be impacted by the Region's proposed road improvements. Coordination with York Region / York Region Transit is required

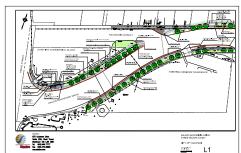
The streetscape improvements adjacent to the Existing Civic Centre (subject to be removed), and the existing Seniors' Building, are to be phased in according to changes that are planned for these areas.

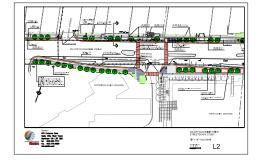
The schematic plan identifies some options within the subject streetscape. Along the north side of Major MacKenzie Drive (between Richmond Street and the Railway Bridge) the design proposes streetscape improvements currently within privately owned property, under the assumption that these lands will be acquired. A second option is presented for the streetscape along this stretch, should these lands not be acquired (Refer to Section B). Prior to detailed design, the City and Region should confirm if and when these properties will be acquired. Two options are also presented for the area beneath the Railway Bridge along the south side of Major MacKenzie Drive (Refer to Section D). Option One is the preferred treatment, subject to approvals by the Region and GO Transit, plus an assessment of soils and slope stability.

Existing utilities are identified on the plans based on information provided during the course of this study by the utility companies and a field survey prepared by Stantec. Proposed utilities and utility relocations are to be reassessed during the detailed design stage.

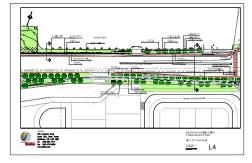
An inventory and evaluation of existing trees was not part of this report. It is recommended that all significant trees are reviewed, and where possible preserved.

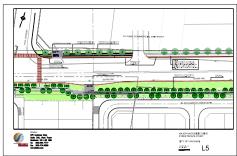


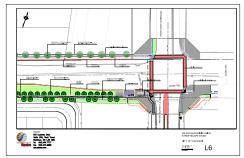


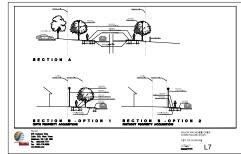


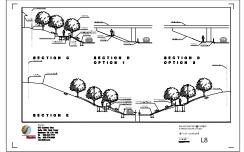


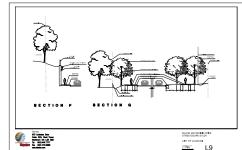












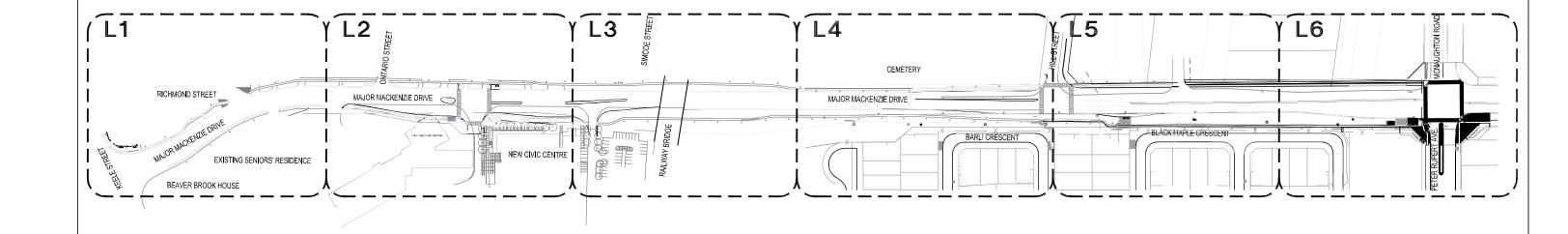
Below is a list of the drawings that are included in this submission:

- L1: Streetscape Plan (from Keele Street to east of Richmond Street)
- L2: Streetscape Plan (by Civic Centre)
- L3: Streetscape Plan (by Railway Bridge)
- L4: Streetscape Plan (by Cemetery)
- L5: Streetscape Plan (by Railway Bridge)
- L6: Streetscape Plan (east of Hill Street)
- L7: Streetscape Plan (west of McNaugton Road)
 L7: Schematic Sections
- L8: Schematic Sections
- L9: Schematic Sections

Appendix:

Preliminary Opportunities & Constraints Plan







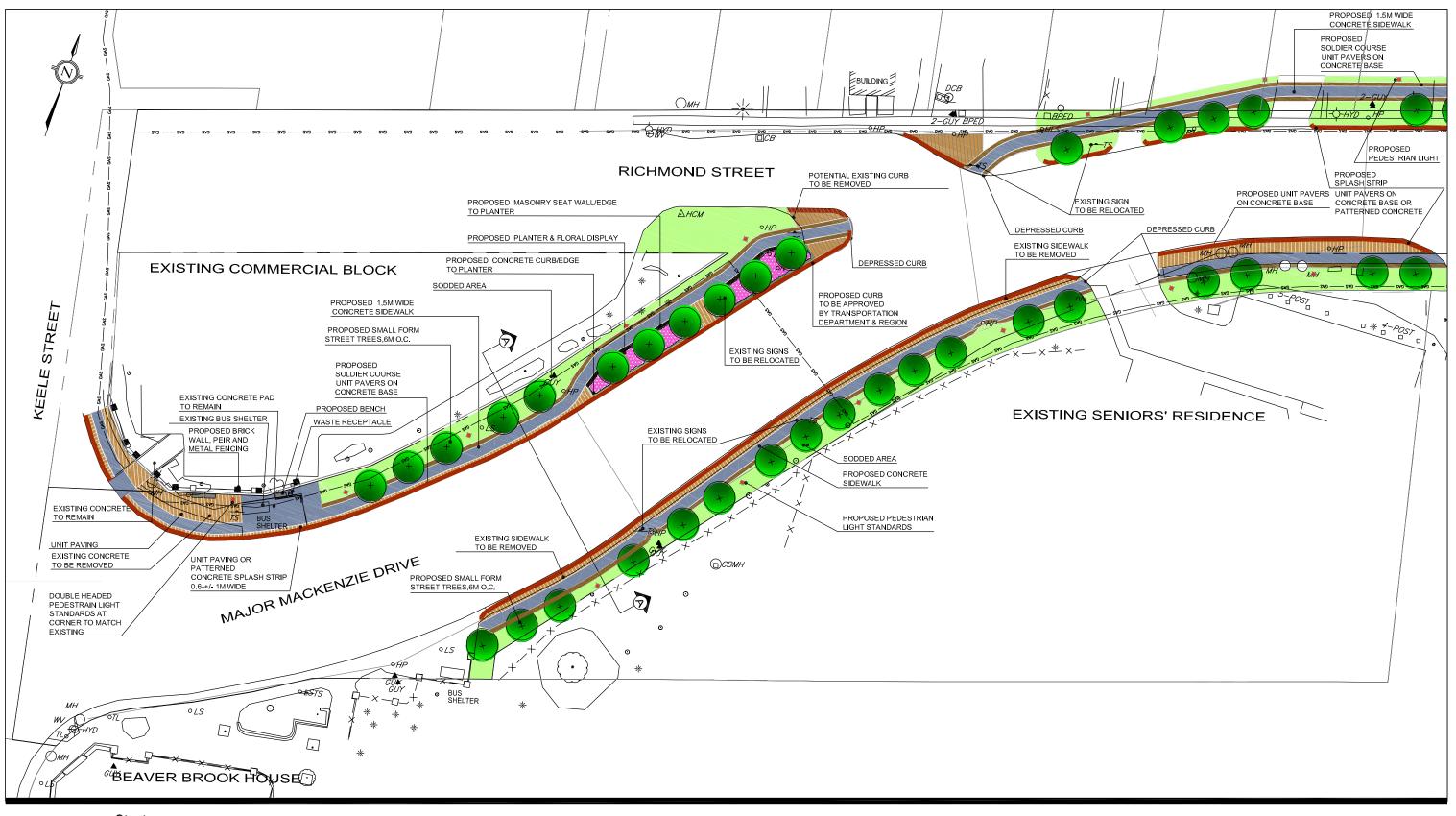
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MAJOR MACKENZIE DRIVE STREETSCAPE STUDY

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KEY PLAN

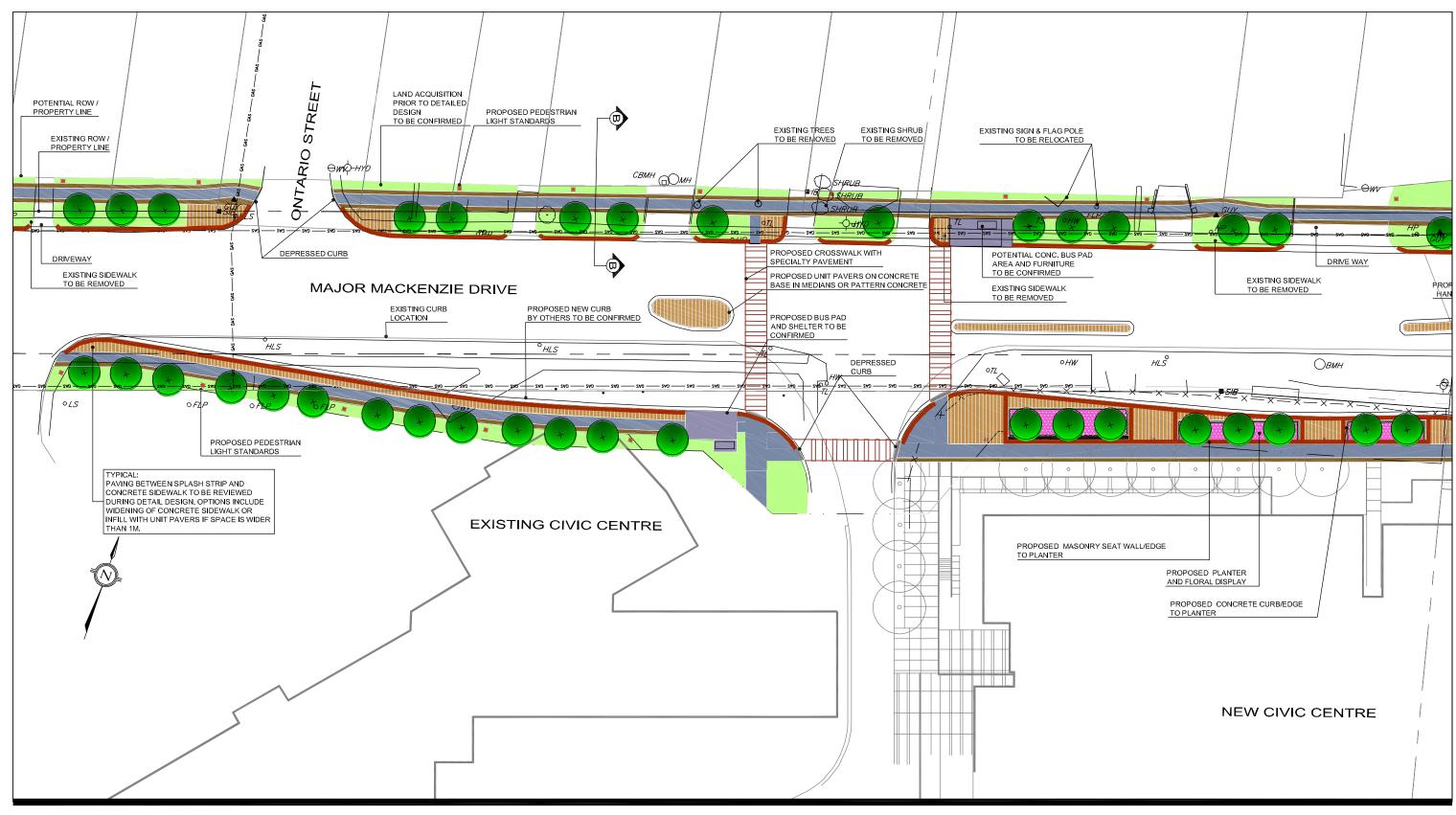




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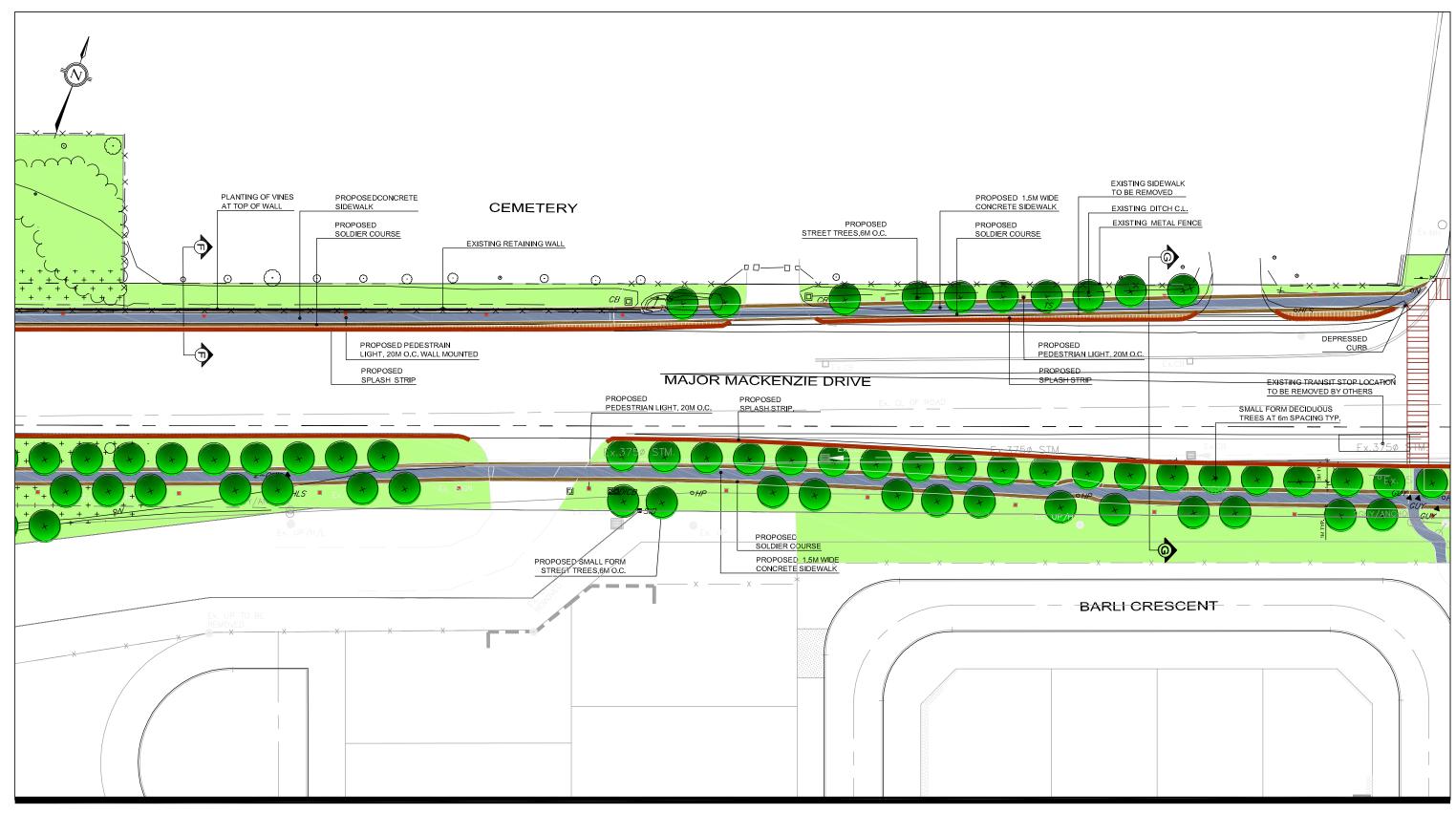


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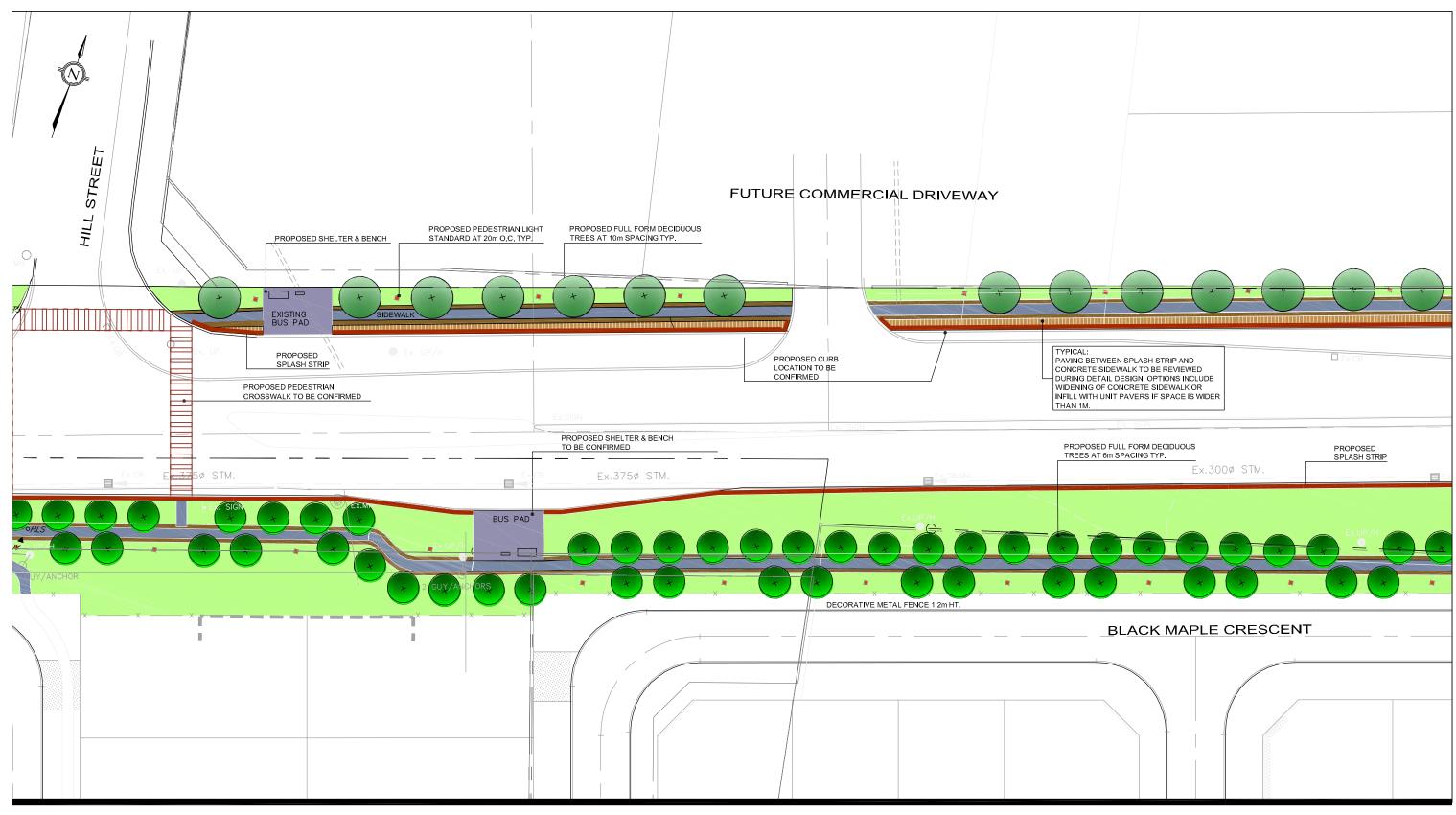




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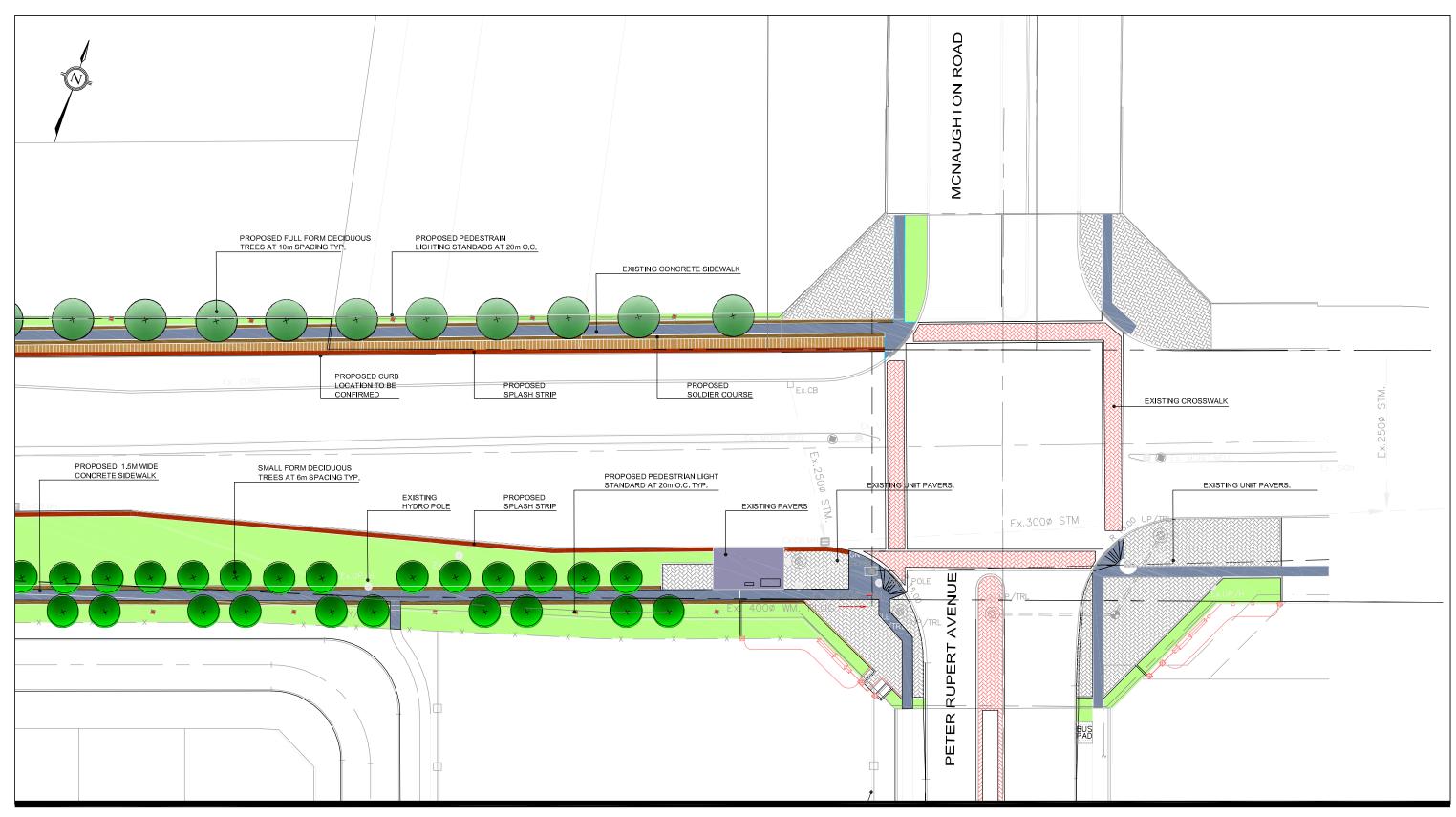


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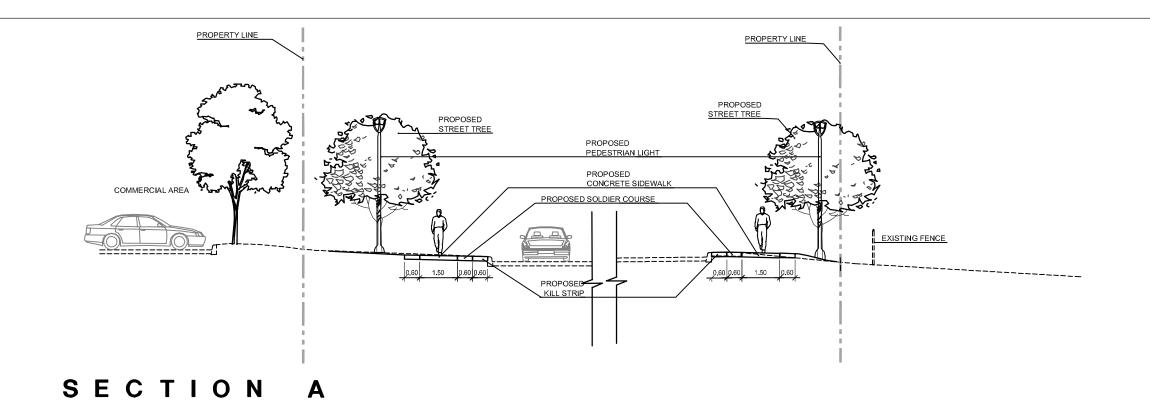


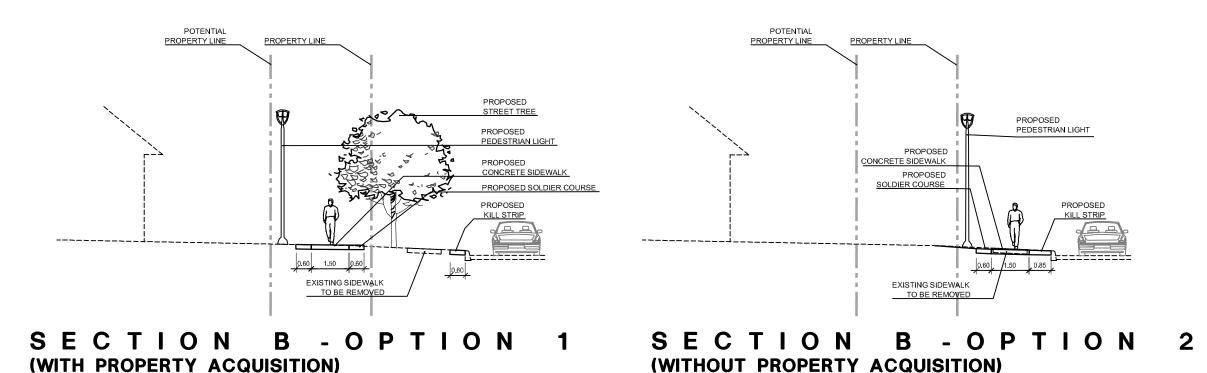
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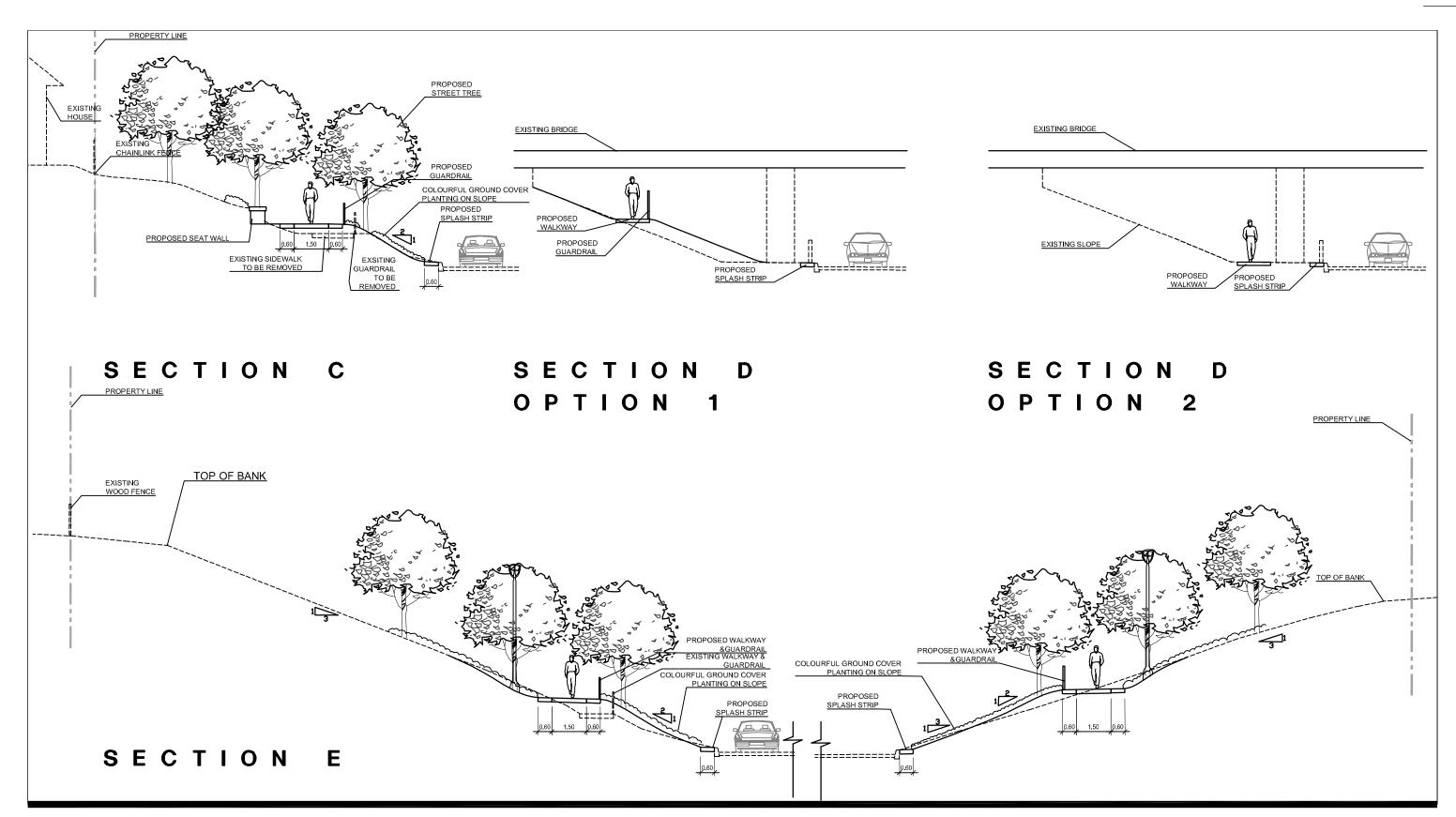




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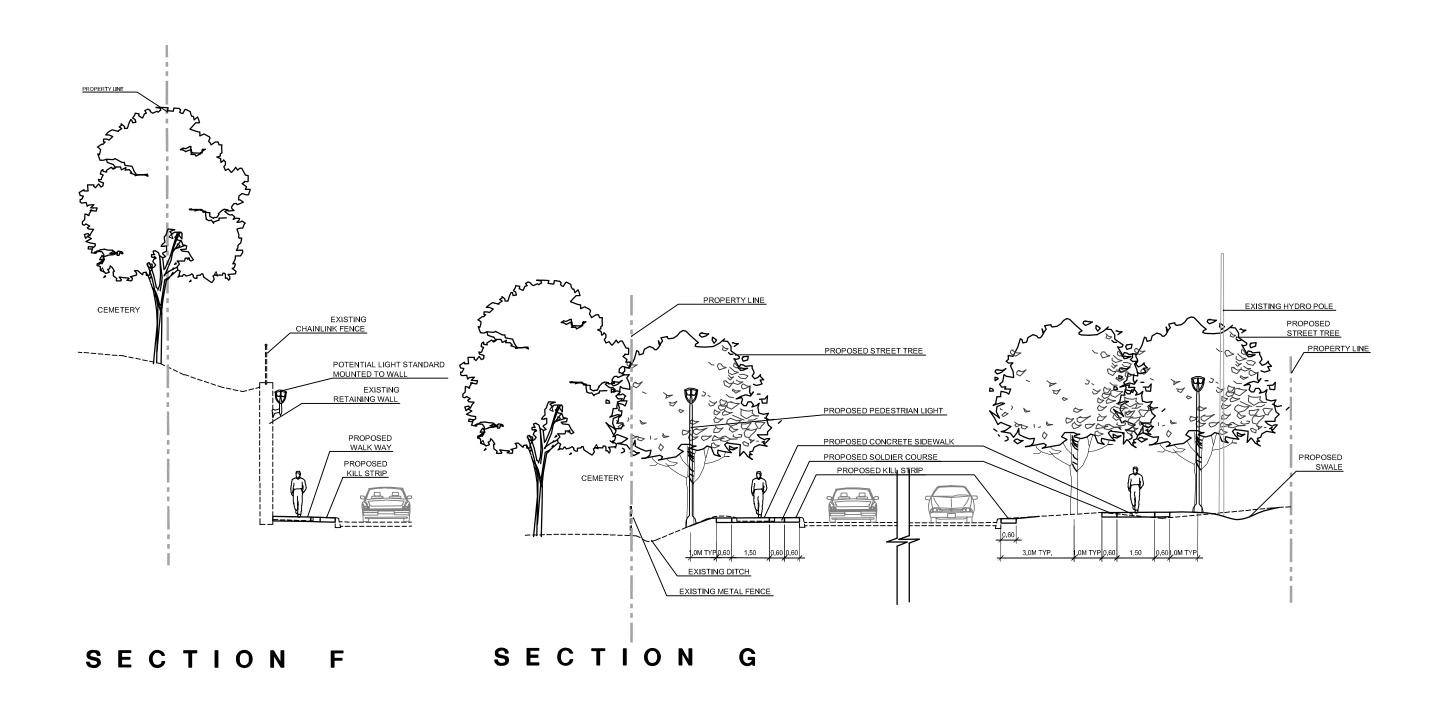




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APPENDIX

