

PLANNING & EXISTING CONDITIONS **REPORT**

Westhill District
City of Waterloo

Date:
December, 2018

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EXECUTIVE SUMMARY

MHBC, in conjunction with MTE and WSP, was retained on behalf of the landowners within the Westhill District, to coordinate the submission of an Official Plan Amendment application for the identification of a new collector road for the extension of The Boardwalk Avenue to Erb Street West and to identify a servicing strategy to be implemented through amendment to the Westhill District Plan and future planning applications. The property ownership is included as **Figure 1** and the Study Area is illustrated on **Figure 2** of this Report.

The objectives of the Study are discussed in detail in this Report, and are to:

- i. Characterize existing conditions and policy overview;
- ii. Identify road alignment and servicing alternatives;
- iii. Establish evaluation criteria to determine the preferred road alignment and master servicing strategy, including water, sanitary and stormwater management;

The following items provide rationale for the Official Plan Amendment and Westhill District Plan Amendment:

- The Boardwalk Avenue currently terminates at the Thorndale roundabout, and the design of the roundabout contemplates its northerly extension. The need for this extension has been identified in the Westhill District Plan, the City of Waterloo Official Plan and a recent transportation study completed by the City of Waterloo;
- The proposed collector road will extend beyond individual properties and will give direction to all land owners in the broader Study Area for future applications and implementation;
- An update to the Westhill District Plan will guide future development in the District overall, including roads and servicing; and
- The DC Background Study includes funding for the proposed collector road, demonstrating the City's financial commitment to construct the road.

The collector road extension (Boardwalk Avenue extension) is proposed to:

- i. Improve traffic flow and connections for west Waterloo;
- ii. Provide improved vehicular circulation; and accessibility to the lands in Westhill, with independent access via the collector to Erb Street;
- iii. Provide a secondary vehicle connection to southbound traffic, for emergency response vehicles and access to/from the Regional landfill;
- iv. Reduce traffic volumes at the Erb Street / Ira Needles Blvd roundabout;
- v. Provide improved vehicular access to Waterloo Commons; and

- vi. Provide improved cycling and pedestrian connections.

The Study is being undertaken in two phases. This Report represents Phase 1, which includes background information and characterizes the existing conditions, as identified in the reports prepared by MTE and WSP, and summarizes other ongoing studies of the area, at the Regional and Municipal levels.

Phase 1 will conclude with the identification of a Collector Road on the Transportation Schedule (Schedule E) and satisfy Specific Provision Area 41 in the City of Waterloo Official Plan, through an Official Plan Amendment and Amendment to the Westhill District Plan to reflect the transportation and servicing strategy.

Phase 2 will include the property specific applications (plan of subdivision and zoning by-law amendment) to implement the preferred road alignment and the recommended servicing strategy.

The Regional Official Plan designates the Area as 'Built-Up Area' and 'Urban Designated Greenfield Area'. The area subject to the Study is included in Specific Provision Area 41 (SPA 41) in the City of Waterloo Official Plan which identifies that prior to, or in conjunction with, any plan of subdivision application or site plan application, the planned road network in the Westhill District shall be adequately addressed, which may necessitate an amendment to Westhill District Implementation Plan.

The City of Waterloo Official Plan designates the majority of the lands as 'Employment', and the remainder of the lands 'Open Space'. Under the recently approved City of Waterloo Zoning By-law 2018-050, the majority of the Study Area is zoned Future Determination (FD) Zone, and the remainder is zoned Open Space 1 (OS1) Zone, Commercial 2 (C2-40) Zone, and Waste Management (WM) Zone.

This Report identifies collector road alignment alternatives to connect The Boardwalk Avenue and Thorndale Drive roundabout to Erb Street West and identifies evaluation criteria. This Report also includes a summary of the Technical Memorandum (MTE) and Stage 1 Environmental Impact Study (WSP) which are provided to assess and characterize existing conditions. The information will be used as consideration for the evaluation and determination of the final road alignment and servicing strategy. The collector road alignment alternatives are included as **Figure 10** of this Report.

In conclusion, the Official Plan Amendment and Amendment to the Westhill District Implementation Plan will establish the final alignment of the extension of The Boardwalk Avenue (collector road) and a master servicing strategy for the Westhill District.

An Official Plan Amendment and Amendment to the Westhill District Implementation Plan will delineate the proposed collector road on Schedule E – Transportation Schedule of the Official Plan and major servicing infrastructure on the schedules and within the corresponding policies of the Official Plan and the Westhill District Implementation Plan.

The final road alignment and servicing strategy will be determined through a systematic evaluation of the criteria and the application of the numerical approach described in this Report. The preferred alignment will be determined through the future application process, and the Study will also:

- i. Confirm an overall servicing strategy for the Westhill District Plan;
- ii. Confirm a preferred stormwater solution including the location of stormwater management pond(s); and
- iii. Provide overall direction to the submission of future property-specific *Planning Act* applications within the Study Area

This Report represents a summary of background information and characterizes the existing conditions and identifies road alignment and servicing alternatives to fulfill Phase 1 of the process. The completion of this phase will address Specific Provision Area 41 in the City of Waterloo Official Plan and establish the policy direction for Phase 2 of the process.

1.0 INTRODUCTION

MHBC, in conjunction with MTE and WSP, was retained on behalf of the landowners within the Westhill District, to coordinate the submission of an Official Plan Amendment application for the identification of a new collector road for the extension of The Boardwalk Avenue to Erb Street West and to identify a servicing strategy to be implemented through amendment to the Westhill District Plan and future planning applications. A property ownership schedule is included as **Figure 1**.

This Planning and Existing Conditions Report provides a contextual framework of the studies undertaken for the planning application and provides a summary of the socio-economic, natural environment and existing conditions; and reviews the framework for the road alternatives for the determination of the final alignment of the collector road.

For the purposes of this Planning Report and the supporting reports, relating to the environment, traffic and engineering, the area subject to the review for the application is referred to as the 'Study Area', as shown on **Figure 2**.

1.1 Purpose of Report and Applications

The purpose of this Report and planning application is to determine the appropriate location for a new public collector road to extend The Boardwalk Avenue from the roundabout at Thorndale Drive to Erb Street West. A master servicing strategy for the Study Area based on the preferred road alignment will be determined. This road and servicing strategy will be implemented by an Official Plan Amendment an update to the Westhill District Plan. Future development in the Study Area will be subject to further Planning Act applications, by individual land owners.

The Boardwalk Avenue currently terminates at the Thorndale roundabout, and the design of the roundabout contemplates its northerly extension. The need for this extension to Erb Street West has been identified in the Westhill District Plan and the City Official Plan, as identified by Special Provision 41 (SPA 41), and the recent City of Waterloo Integrated Multi-Modal Transportation Study (IMMTS).

The following Problem / Opportunity Statement was developed for the extension of the Boardwalk Avenue collector road assessment:

To determine the final alignment of the proposed collector road, and associated sanitary and water infrastructure, including stormwater management facilities, within the Westhill District lands. The collector road will include the extension of The Boardwalk Avenue collector road from

its current terminus at Thorndale Drive, to Erb Street West, and Master servicing strategy to support development of the Study Area.

The objectives of the Study are as follows, and discussed in this Report:

- i. Characterize existing conditions and policy overview;
- ii. Identify road alignment and servicing alternatives;
- iii. Establish evaluation criteria to determine the preferred road alignment and master servicing strategy, including water, sanitary and stormwater management;

The rationale for the Official Plan Amendment and Westhill District Plan Amendment is as follows:

- The Boardwalk Avenue currently terminates at the Thorndale roundabout, and the design of the roundabout contemplates its northerly extension. The need for this extension has been identified in the Westhill District Plan, the City of Waterloo Official Plan and a recent transportation study completed by the City of Waterloo;
- The proposed collector road will extend beyond individual properties and will give direction to all land owners in the broader Study Area for future applications and implementation;
- An update to the Westhill District Plan will guide future development in the District overall, including roads and servicing; and
- The DC Background Study includes funding for the proposed collector road, demonstrating the City's financial commitment to construct the road.

The objectives of the extension of The Boardwalk collector road are:

- i. To improve traffic flow and connections;
- ii. Provide improved vehicular circulation; and accessibility to the lands in Westhill, with independent access via the collector to Erb Street;
- iii. To provide a secondary vehicle connection to southbound traffic, for emergency response vehicles and access to/from the Regional landfill;
- iv. To reduce traffic volumes at the Erb Street / Ira Needles Blvd roundabout; and
- v. To provide improved vehicular access to Waterloo Commons.
- vi. Provide improved cycling and pedestrian connections.

The final alignment of the collector road will be determined through the processing of this application and the final Official Plan Amendment. This Study includes a description of alternatives, included in **Section 4.0** of this Report, and the development of comprehensive evaluation criteria, including in **Section 5.0**.

1.2 Background and Focus of Planning and Existing Conditions Report

The area subject to the application is located within the Westhill District, on the west side of the City of Waterloo, being one of the City's last remaining undeveloped designated greenfield areas. The Westhill District is within the Grand River Watershed, located south and west of Laurel Creek, and south of Erb Street West and west of Ira Needles Boulevard.

The focus of the 'existing conditions' report includes the lands to the north of The Boardwalk and Thorndale Drive; east of the Hydro Corridor and Regional Waste Management Centre; West of Ira Needles Boulevard; and, south of Erb Street West. The Study Area is approximately 16.06 hectares (40 acres) in size. The Study Area is illustrated on **Figure 2**.

The lands are within the City Urban Area with a variety of land use designations, including Commercial, Employment and Open Space. The lands form the majority of the Westhill District Plan.

The City of Waterloo municipal boundary to the west delineates the western limit of the Westhill District Study Area and separates the community from the rural area to the west. This boundary line aligns with Wilmot Line to the north, which terminates at Erb Street West. The Wilmot Line generally runs in a north/south direction and defines the western limit of the City of Waterloo. This represents a long-term boundary between existing Urban Area/Township Urban Areas and the Countryside.

Prior to the construction of Ira Needles Boulevard and subsequent development, the land was used for agricultural purposes. Historical aerial photos show the lands under agricultural use and the changes to the landscape associated with the construction of roads and development of the lands. The landscape evolved through the development on the lands and surrounding area, which resulted in the creation of anthropogenic features.

Existing commercial development in the Westhill District is located to the north, east and south of the Study Area. The Costco lands, and Canadian Tire development are located to the north, some smaller commercial uses are located to the east, and The Boardwalk mixed use development is located to the south.

Residential development exists to the east of the Study Area, on the opposite side of Ira Needles Blvd, in the Westvale neighbourhood and about 300 metres north of the Study Area, including the Vista Hills neighbourhood to the northwest, and Rummelhardt neighbourhood to the north. These residential subdivisions are characterized by primarily low and medium density residential development including single detached dwellings, and street fronting townhouse dwellings. There are also intervening land uses including open space, parks, natural heritage features and community facilities, such as schools.

The subdivisions have been designed as a modified grid network, with limited access points to the surrounding collector road network, Erb Street West and Ira Needles Blvd (Erbsville Road). Traffic from these subdivisions is directed to Erb Street West and Ira Needles (Erbsville Road). There is currently no direct vehicular access between the Vista Hills neighbourhood and Erb Street West.

Development applications, including a Draft Plan of Subdivision, an Official Plan Amendment and Zoning By-law Amendment were recently submitted for the West Side Employment Lands, surrounding Platinum Drive behind the Costco location. These lands are planned for a mix of employment uses, which will contribute to additional traffic generation in the area.

The existing Boardwalk development contains a collector road which terminates at the north limit of The Boardwalk Avenue, and connects to Ira Needles Blvd via Thorndale Drive. All traffic in the surrounding area is directed toward the roundabout at Ira Needles Blvd and Erb Street West. The existing collector road has been established as a common element as part of the overall condominium. The common element is also subject to easements in favour of the City and the Region to ensure public use, including transit service.

The Thorndale Drive roundabout has been designed and constructed with consideration for future extension as evidenced by the street stub extending to the north.

Significant public infrastructure, including the Region of Waterloo landfill, the Hydro Corridor, and existing development in the surrounding area has limited the development of a collector road network, to the west of Ira Needles Blvd in both north/south and east/west directions. The Boardwalk collector road is the only other collector road in this area. The Boardwalk collector provides limited access to Ira Needles Blvd, internalizing turning movements. The existing Boardwalk Avenue collector road currently terminates at the roundabout with Thorndale Drive, which connects to Ira Needles to the east and does not connect north to Erb Street West.

Bus transit service is currently provided along Ira Needles Blvd and Erb Street West, offering service throughout Kitchener-Waterloo with a transit terminal located further south within The Boardwalk. The extension of transit service through the extension of the existing road network is a possibility.

1.3 Approach to the Amendment and Future Applications

A pre-application consultation meeting was held with City, Region and GRCA staff, on August 29, 2013, to discuss the approach to planning applications to establish a new collector road for the Westhill District and confirm a Study Area. The submission for the pre-application meeting included the presentation and discussion of preliminary road network alternatives for the extension of The Boardwalk from Thorndale Drive to Erb Street West. At the pre-application meeting, the City advised

that a new collector road has been included within the City Development Charges By-law, which is discussed in more detail in **Section 2.5** of this Report.

Comments at the pre-application meeting provided direction to the process for consideration of applications. City staff advised that a Class Environmental Assessment was not required as the implementation of a new road would occur through future plan(s) of subdivision and recommended a phased approach to the application process. The first phase would include the background information and existing conditions to provide the recommended road alignment that would be addressed through an Official Plan Amendment and update to the Westhill District Plan to illustrate the road alignment. The second phase includes the property specific applications (plan of subdivision and zoning by-law amendment) to implement the road alignment.

Based on the City direction, Terms of Reference were developed to guide the project team. A phased approach was established to complete the study requirements for the implementation of a new road to connect Erb Street West with The Boardwalk collector road. The phases are generally characterized as follows:

Phase 1:

- Existing conditions characterization for ecological and hydrological features and functions of wetlands and watercourse within the Study Area
- Submission of a Planning Application to identify the road network in the Official Plan and update to the Westhill District Plan. This will include the identification and evaluation of alternatives, selection of the preferred alternative, and recommended plan and mitigation. The completion of this phase will result in the identification of a collector road on the Transportation Schedule in the City of Waterloo Official Plan.
- A review of surface drainage, services and approaches to stormwater management will provide direction for a master servicing strategy.

Phase 2:

- Planning application(s) that will be property-specific with focused evaluation to implement the approved road network. This may be done concurrently with the Official Plan Amendment and District Plan update or follow the approval and the details and design of the new road will be implemented through a plan of subdivision and associated conditions of approval.
- The second phase would include the property specific applications (plan of subdivision and zoning by-law amendment) to implement the road alignment and servicing strategy.

The Region submitted comments as part of the pre-application process that provided information to assist with the scoping of road alternatives, and the creation of the evaluation criteria, which have been reflected in this Report.

This Report and the technical memorandum (MTE), and Stage 1 EIS (WSP), represents the summary of background information and characterizes the existing conditions to fulfill Phase 1 of the process. This Report has been prepared in support of an Official Plan Amendment to add a collector road to the City Official Plan and to update the Westhill District Plan.



Figure 1
Property Ownership

West Hill District
City of Waterloo
Region of Waterloo

LEGEND

Parcel Fabric (MPAC)

The INCC Corp. Property Ownership

Area by Property Ownership		
Ownership	*Area (ha)	% of Total Area
The INCC Corp.	0.40	2.5
Waterloo Commons JV Inc.	2.54**	15.8
1130814 Ontario Inc.	5.13	31.9
Home Hardware Development Limited	7.99	49.8
Total	16.06	100

*Area based on Geowarehouse (Teranet) parcel mapping that was compiled using plans and documents recorded in the Land Registry System and is approximate.

**Area includes 0.38 ha SWM Pond currently owned by the Region of Waterloo

Air Photo Source: Bing

DATE: December 2018

FILE: Y594E

SCALE: 1:3,000

DRAWN: DGS



K:\Y594E WESTHILL DISTRICT PLAN\PT\PLANNING REPORT DECEMBER 2018\PROPERTY OWNERSHIP MAP.DWG



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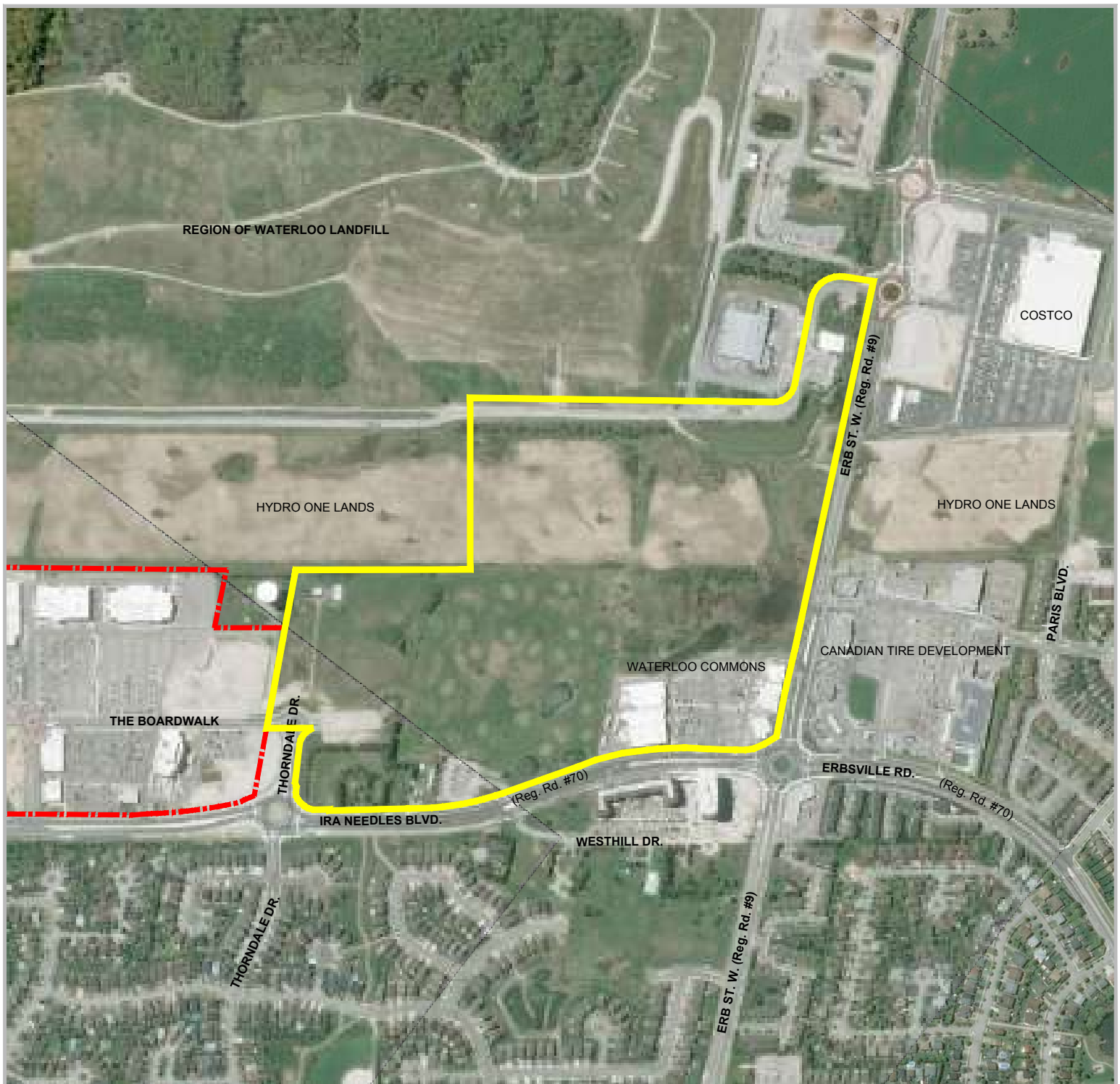


Figure 2
Study Area Map

LEGEND

-  The Boardwalk
-  Study Area

DATE: December 2018

SCALE: 1:7,500

FILE: Y594E

DRAWN: DGS



K:\Y594E WESTHILL DISTRICT PLAN\RPT\PLANNING REPORT DECEMBER 2018\STUDY AREA MAP.DWG

West Hill District
City of Waterloo
Region of Waterloo

Air Photo Source: Bing



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2.0 POLICY OVERVIEW

2.1 Region of Waterloo Official Plan and Transportation Master Plan

The ROP was processed as a Municipal Comprehensive Review and approved as the Region's implementation of the *Places to Grow – Growth Plan*. The Region of Waterloo's Official Plan (ROP) by the Ministry of Municipal Affairs and Housing, with modifications, on December 22, 2010 and approved with amendments by Oral Decision of the Ontario Municipal Board on June 18, 2015.

The ROP places increased emphasis on: intensification, higher densities in greenfield areas, promoting a balanced approach to growth, making better use of existing infrastructure, building more compact and complete communities, promoting efficient development patterns, reducing the need to expand roads, transit oriented development and the creation of a balanced transportation network comprised of roads, rail, active transportation and transit.

The Westhill District is designated as 'Built-Up Area' and 'Urban Designated Greenfield Area' and forms part of the Urban Area of the approved Regional Official Plan (ROP) as shown in **Figure 3**. The Primary Study Area is part of the 'Designated Greenfield Area'. The Urban Area designation in the ROP commits the Westhill District to urban uses.

Lands within the Urban Area have the greatest capacity to accommodate growth and are to be the primary focus for employment, housing, cultural and recreational opportunities in the Region. The Region's greenfield areas that serve primarily a residential function are to meet or exceed a minimum density of 55 residents and jobs combined per hectare. The minimum density target has an influence on the total amount of development and the infrastructure that is required to accommodate anticipated development within the Westhill District. The lands are planned to have future jobs.

The Regional Transportation Master Plan (January, 2011) reflects the policy direction of the Regional Official Plan. The RTMP promotes the role of public transit in a more balanced transportation system and is based on a number of goals including:

- Optimizing the transportation system (making the most of what exists).
- Promoting transportation choice.
- Fostering a strong economy.
- Supporting sustainable development.

The RTMP includes a complementary road network plan, which was developed to assist in prioritizing road network improvements including some expansions, widenings, intersection

improvements and transit priority improvements. The RTMP includes a road network plan and related short (0-5 years), medium (5-10 years) and long-term (10-20 years) road improvement priorities.

The RTMP confirms that as the community grows, congestion will increase throughout the Region and as a result, transit will become a more competitive travel choice if higher quality transit service is provided. The RTMP acknowledges the increased emphasis on transit may result in a period of transition where vehicle delay experienced on the road network will increase and there may be public pressure to widen/expand roadway infrastructure, for example the West Side of Waterloo.

The proposed collector road would provide both for vehicular and transit connections on the West Side of Waterloo. The design of the collector road will also provide opportunity for additional modes of travel, including pedestrian and cycling.

2.2 City of Waterloo Official Plan

The City of Waterloo Official Plan was approved by Region of Waterloo Council, with modifications, on November 21, 2012. The Official Plan represents the City's vision for growth and change within the community. The Official Plan sets out principles, objectives and policies designed to direct the form, extent, nature and rate of growth and change within the City to 2031.

The City of Waterloo Official Plan designates the portion of the Study Area closest to Ira Needles Blvd as 'Employment', and the remainder of the lands 'Open Space'. The existing commercial development at the corner of Erb St W and Ira Needles Blvd and the existing Boardwalk commercial development are designated 'Commercial'. The Official Plan land use designations within the Study Area are shown on **Figure 4**.

Specific Provision Area 41 (SPA 41) of the City of Waterloo Official Plan applies to Part of the Westhill District, as identified on Schedule A6 – Specific Provision Areas of the Official Plan, included as **Figure 5**. SPA 41 contains the following policy:

Prior to, or in conjunction with any plan of subdivision application or site plan application, the planned road network shall be adequately addressed. This may necessitate an amendment to Westhill District Implementation Plan.

The City of Waterloo Official Plan The Official Plan identifies Erb Street West and Ira Needles Blvd as Regional Arterial Roads, Thorndale Drive as a Minor Collector, and Platinum Drive as a Proposed Major Collector, on Schedule E, as shown on **Figure 6**. The City of Waterloo Official Plan generally supports a multi-modal transportation network which supports walking, cycling and transit use.

The Westhill District is proposed to be developed as a commercial and employment district. Future *Planning Act* applications will be required to facilitate future development.

2.3 Westhill District Implementation Plan

The subject lands are located within Westhill District Implementation Plan (WDIP) area. The WDIP is a land use policy document which provides greater detail for implementation of the Official Plan in the west side of Waterloo. The WDIP serves as the key planning document between the broad policies of the Official Plan and the more detailed stages of development, related various to planning applications.

The Westhill District is located in the southwest corner in the City of Waterloo, and is bounded by Erb Street West and the Clair Hills district to the north by Erb Street West, Ira Needles Blvd and the Westvale District to the east, and by the City of Kitchener and Township of Wilmot borders to the south and west, respectively.

The Westhill District straddles the border of two watersheds. The northern portion of the District is located within the Laurel Creek Watershed and the southern portion is located within the Henry Sturm watershed. The Westhill district is distinguished by unique land uses, including the Region of Waterloo Landfill site and recycling depot, and the Ontario Hydro transmission corridor, which occupy approximately three quarters of the District. At the time of the preparation of the Implementation Plan, the remaining lands in the Westhill district were comprised of a golf course (Westhill Meadows), agricultural uses and estate residential properties.

The Implementation Plan includes development policies and a development concept plan. The development concept plan included a range of land uses, including open space, mixed use activity node, arterial commercial, industrial special policy area, and parkland. The transportation policies note that the transportation system proposed in the concept plan, will be subject to minor variation through approval of development applications.

The WDIP was completed and resulted in the recommendation for the City of Waterloo to initiate a study to determine the alignment of a new collector road to facilitate The Boardwalk Avenue extension to the north.

The WDIP was amended as part of Official Plan Amendment (OPA) 74. The amendment related to the addition of the Mixed Use Commercial Centre as a land use as well as a minor relocation of collector roads. The north/south collector road, developed through The Boardwalk, is planned to extend through a portion of the Study Area in a northerly direction and then connect to Ira Needles Blvd. The amended plan is included as **Figure 7**.

The WDIP recognizes that the location of roads will be determined through the review and approval of Draft Plans of Subdivision, severances, zone changes, site plan and other development applications.

The amendment to the District Plan will illustrate the new collector road location and associated servicing strategy, along with stormwater management facilities.

2.4 City of Waterloo Zoning By-law 2018-050

The City of Waterloo recently completed its comprehensive zoning by-law review process, and Zoning By-law 2018-050 came into effect on September 10, 2018. Lands within the Study Area are zoned for a mix of commercial, open space (associated with the hydro corridor), and waste management uses (Regional Waste Management Centre).

The majority of the Primary Study Area is zoned Future Determination (FD) Zone. The remainder of the Study Area is zoned Open Space 1 (OS1) Zone, Commercial 2 (C2-40) Zone, and Waste Management (WM) Zone, as shown on **Figure 8**. The zoning schedule also illustrates the general road network.

The FD zone permits uses, buildings and/or structures that actually and legally existed on the lot on the effective date of the by-law. Staff Report IPPW2018-058.2 presented to the Committee of the Whole, with the final by-law on September 10, 2018 included a recommendation that Council pursuant to subsection 34 (10.0.0.2) of the Planning Act approve a resolution that lands zoned FD shall not be subject to subsection 34 (10.0.0.1) of the Planning Act. Applications for lands zoned FD are not subject to the 2 year moratorium for zoning by-law amendment applications, and applications for development are anticipated to be submitted for review by City staff and Council.

A zone change application is not submitted as part of this application. Future applications will be submitted by landowners as part of plans of subdivision.

2.5 Development Charges Background Study

Council approved a new Development Charges By-law that took effect January 1, 2018. To inform the development of this By-law, a Background Study was prepared by Watson & Associates Economics Ltd. in September, 2017.

The Development Charges (DC) Background Study reviewed the anticipated growth and development in terms of both population and employment, for which the City of Waterloo is required to provide services over a 10 and 15 year time horizon. Capital projects were included for infrastructure, including road improvements and expansions.

The DC Background Study included the 'Ira Needles Boulevard By-Pass' in its 2018 Capital Budget Project Sheets, included as **Appendix C**. The project includes new services, including sanitary sewers, watermain and storm sewers, a new collector road to include sidewalks, bike lanes, culvert crossings, pond restoration/ relocations and a roundabout at Erb Street West.

The project sheet identifies that the funding source for the project is intended to be 50% development charges and 50% developer funded. The inclusion of this project in the City's DC Background Study indicates a financial commitment to the collector road network development.

2.6 Ongoing Studies in West Waterloo and the Westhill District

In addition to this Report and associated studies, a number of other studies have been ongoing in recognition of traffic consideration associated with growth on the west side of Waterloo.

Costco Development Background

As part of the development applications associated with the Costco development, the need for a broader transportation impact review was identified, which was a contributing factor in the preparation of the 'Waterloo West Side Integrated Multi-Modal Transportation Study' (IMMTS).

The recent development of the Costco located on Erb Street West, has resulted in increased traffic in the area, specifically the Ira Needles Blvd and Erb Street West roundabout. Further, the area surrounding Platinum Drive is planned for employment uses (West Side Employment Lands), and is currently subject to active development applications, which will generate additional traffic in the area.

'Waterloo West Side Integrated Multi-Modal Transportation Study' (IMMTS).

WSP prepared the 'Waterloo West Side Integrated Multi-Modal Transportation Study' (IMMTS). A draft of this Study was presented to Council on June 25, 2018.

The study reviewed existing traffic conditions and intersection operations, and planned city and regional transportation improvements and the additional traffic that was expected as a result of urban growth in the Westhill District, specifically the projected employment growth.

The IMMTS notes the inclusion of a new road (The Boardwalk) from Thorndale Drive, northerly to intersect with Erb Street. The study recommends a controlled intersection (a new roundabout) at the intersection of The Boardwalk Avenue and Erb St West. Figure 3-9 of the IMMTS identifies the

extension of the Boardwalk Avenue and the proposed roundabout location and is attached as **Figure 9** of this Report.

The IMMTS also identified that together with the ION LRT and the conventional bus service, the study area will be well served by public transit, with connection to frequent service along key corridors. Figure 3-10 illustrates the planned transit services within the study area, up to 2021. The proposed extension will allow for improved transit connections to the Transit Terminal (Boardwalk Station).

The IMMTS developed a number of Active Transportation and Transportation Demand Management (TDM) measures intended to provide current and future residents and employees in and surrounding the study area with viable active transportation options beyond the private automobile. The proposed road extension would be designed with cycling and pedestrian facilities.

Regional Class EA for Erb Street West

A Class Environmental Assessment (Class EA) is being undertaken by the Region of Waterloo for Erb Street West. The Class EA makes provision for the introduction of a new roundabout, at the location on Erb Street West, generally identified by the City study.

In summary, the ongoing studies have recognized the need for road improvements to address existing and future traffic considerations. The policy framework and ongoing studies have informed the application to amend the Official Plan and Westhill District Plan.

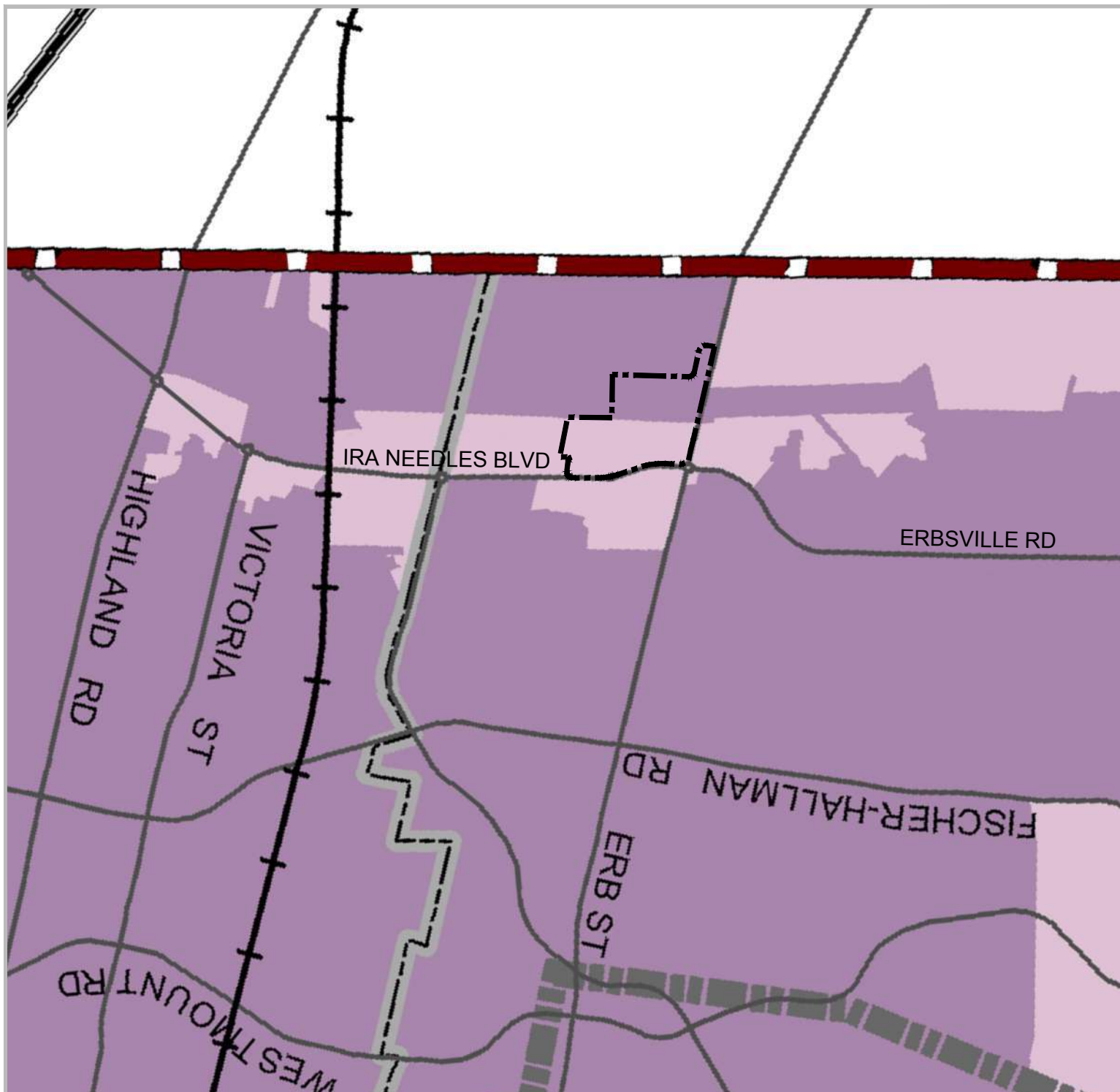


Figure 3
**Region of Waterloo
 Official Plan
 Urban Area
 Map 3a**

West Hill District
 City of Waterloo
 Region of Waterloo

LEGEND

 Subject Lands

Urban Area

-  Built-Up Area*
-  Urban Designated Greenfield Areas
-  Central Transit Corridor Environmental Assessment Study Area
-  Urban Area Boundary

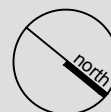
Base Map Source:
 Region of Waterloo Official Plan, Map 3a Urban Area (June 2015)

DATE: December 2018

FILE: Y594E

SCALE: 1:30,000

DRAWN: DGS



K:\Y594E WESTHILL DISTRICT PLAN\PT\PLANNING REPORT DECEMBER 2018\ROP MAP 3A URBAN AREA.DWG

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 & LANDSCAPE
 ARCHITECTURE
 200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
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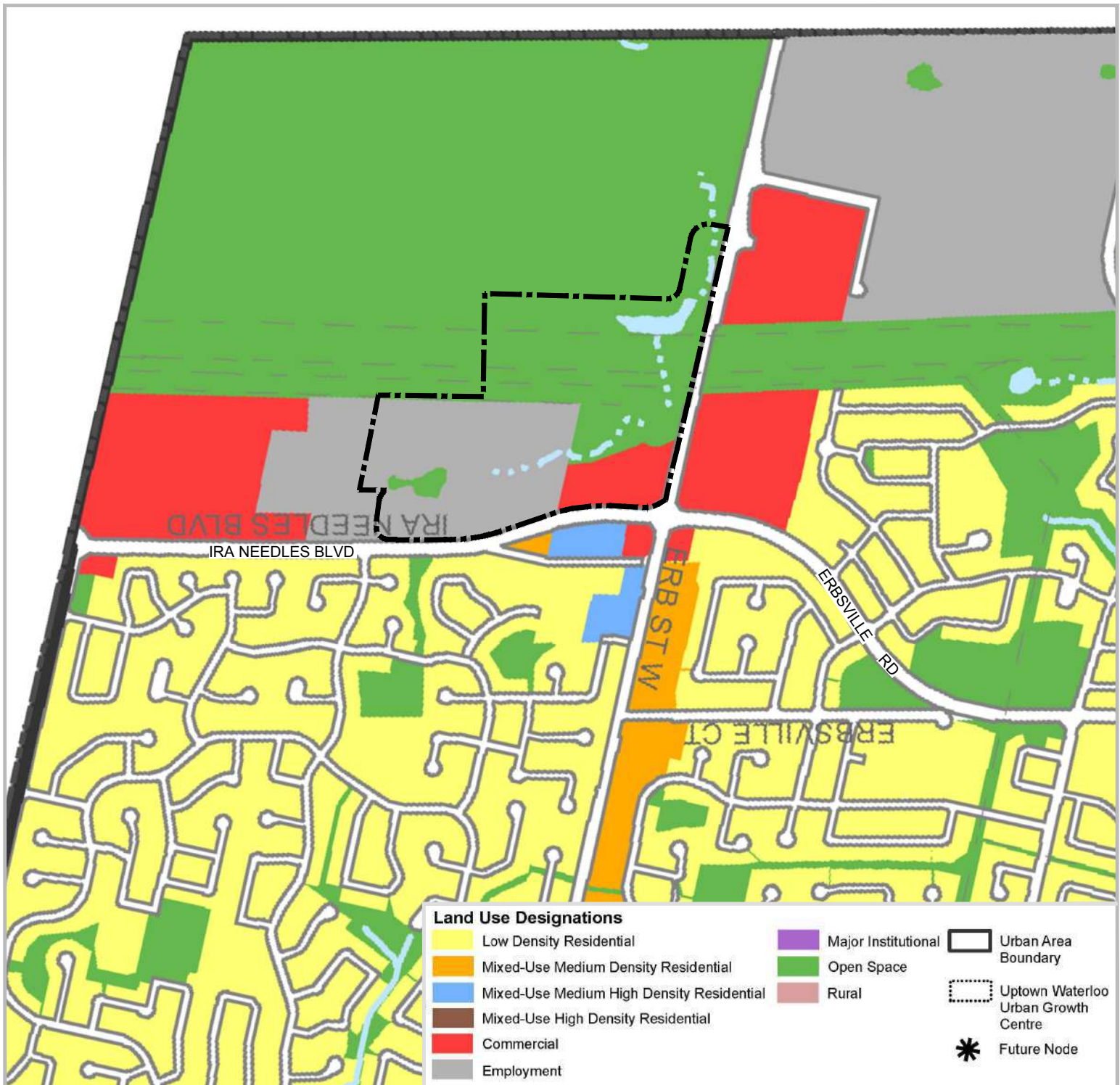


Figure 4
**City of Waterloo
 Official Plan
 Land Use Plan
 Schedule "A"**

West Hill District
 City of Waterloo
 Region of Waterloo

LEGEND

 Subject Lands

DATE: December 2018

FILE: Y594E

SCALE: 1:12,500

DRAWN: DGS



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Base Map Source:
 City of Waterloo Official Plan, Schedule "A" (Revision Date: November 2016)

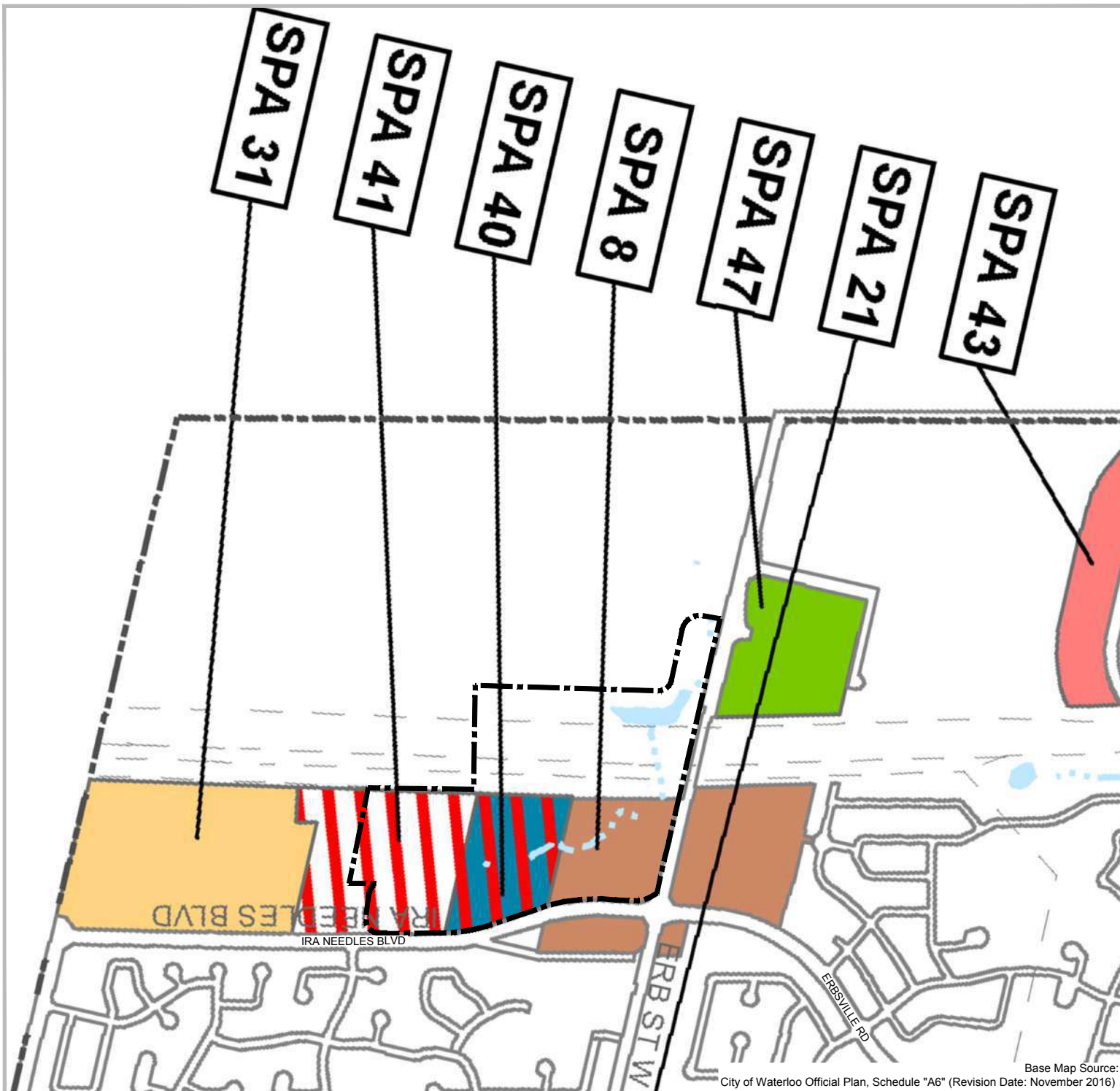


Figure 5
**City of Waterloo
 Official Plan
 Specific Provision
 Areas
 Schedule "A6"**

West Hill District
 City of Waterloo
 Region of Waterloo

LEGEND	
	Subject Lands
	Specific Provision Area
	Future Node

DATE: December 2018

FILE: Y594E

SCALE: 1:12,500

DRAWN: DGS

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 OP SPECIFIC PROVISION AREAS.DWG



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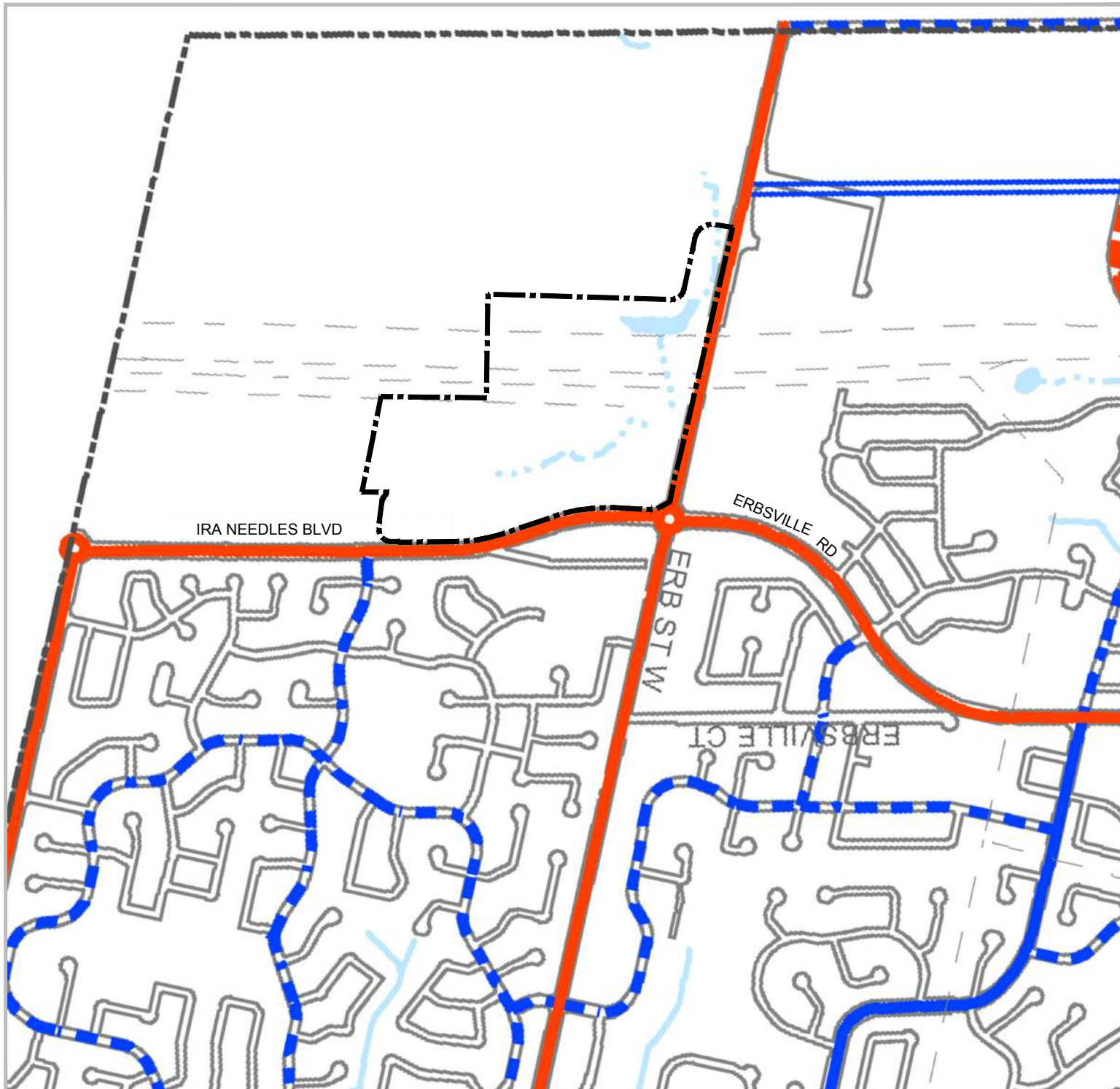


Figure 6
**City of Waterloo
 Official Plan
 Road Classification
 System
 Schedule "E"**

West Hill District
 City of Waterloo
 Region of Waterloo

LEGEND

 Subject Lands

Road Classification

Secondary Roads

 Local Roads
 Potential Future Local Roads
 Minor Collector
 Proposed Major Collector
 Major Collector

Primary Roads

 City Arterial
 Regional Arterial

Base Map Source:
 City of Waterloo Official Plan, Schedule "E" (Revision Date: November 2016)

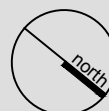
DATE: December 2018

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 OP ROAD CLASSIFICATION SYSTEM MAP.DWG



**PLANNING
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 & LANDSCAPE
 ARCHITECTURE**

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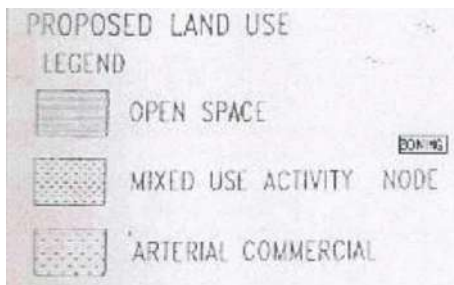
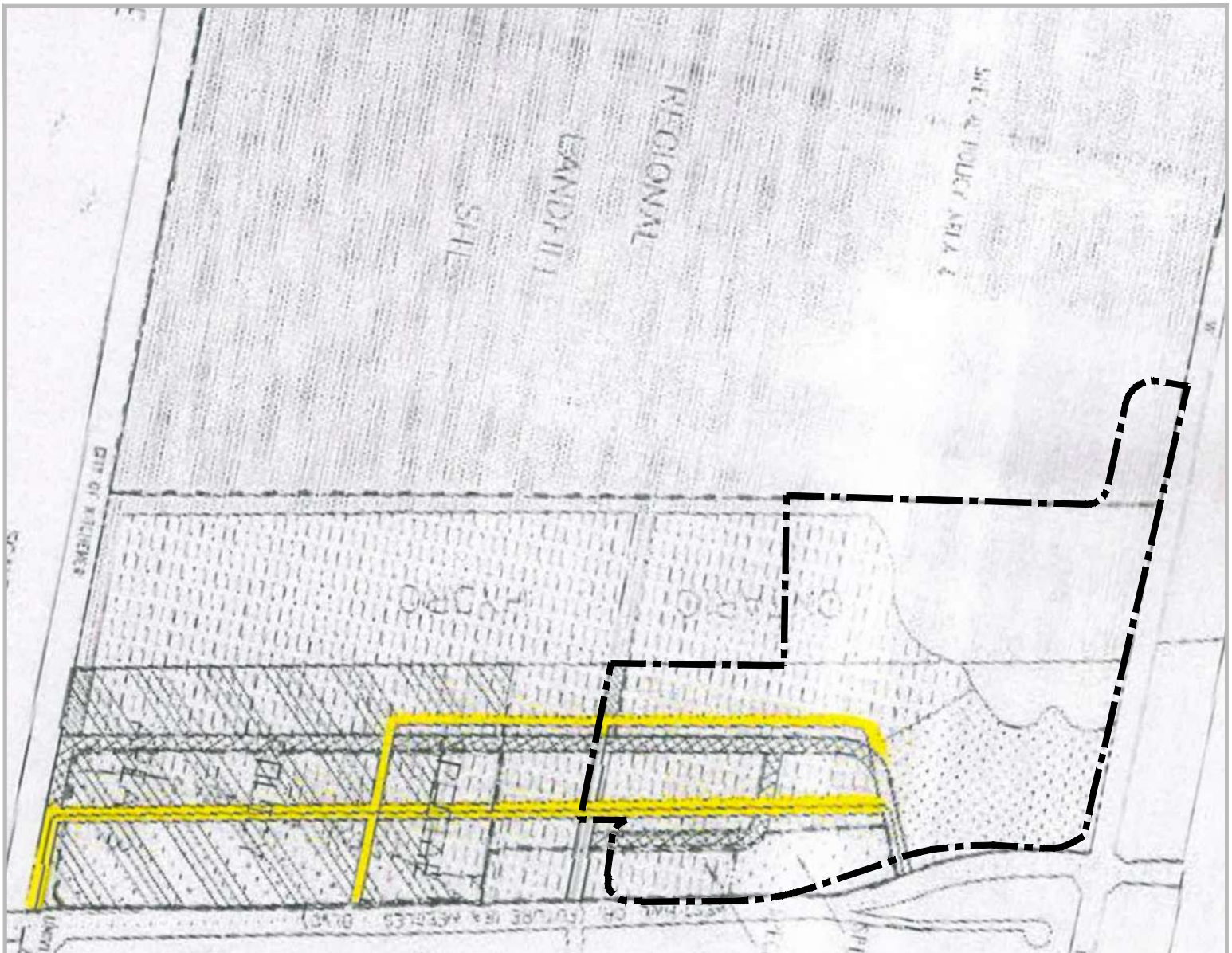


Figure 7
**West Hill District
Implementation Plan
Land Use Concept Plan
Map 1**

LEGEND
Subject Lands

DATE: December 2018

FILE: Y594E

SCALE: NTS

DRAWN: DGS



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West Hill District
City of Waterloo
Region of Waterloo

Base Map Source: City of Waterloo DS-09-34, Map 9 (June 15, 2009)



**PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE**

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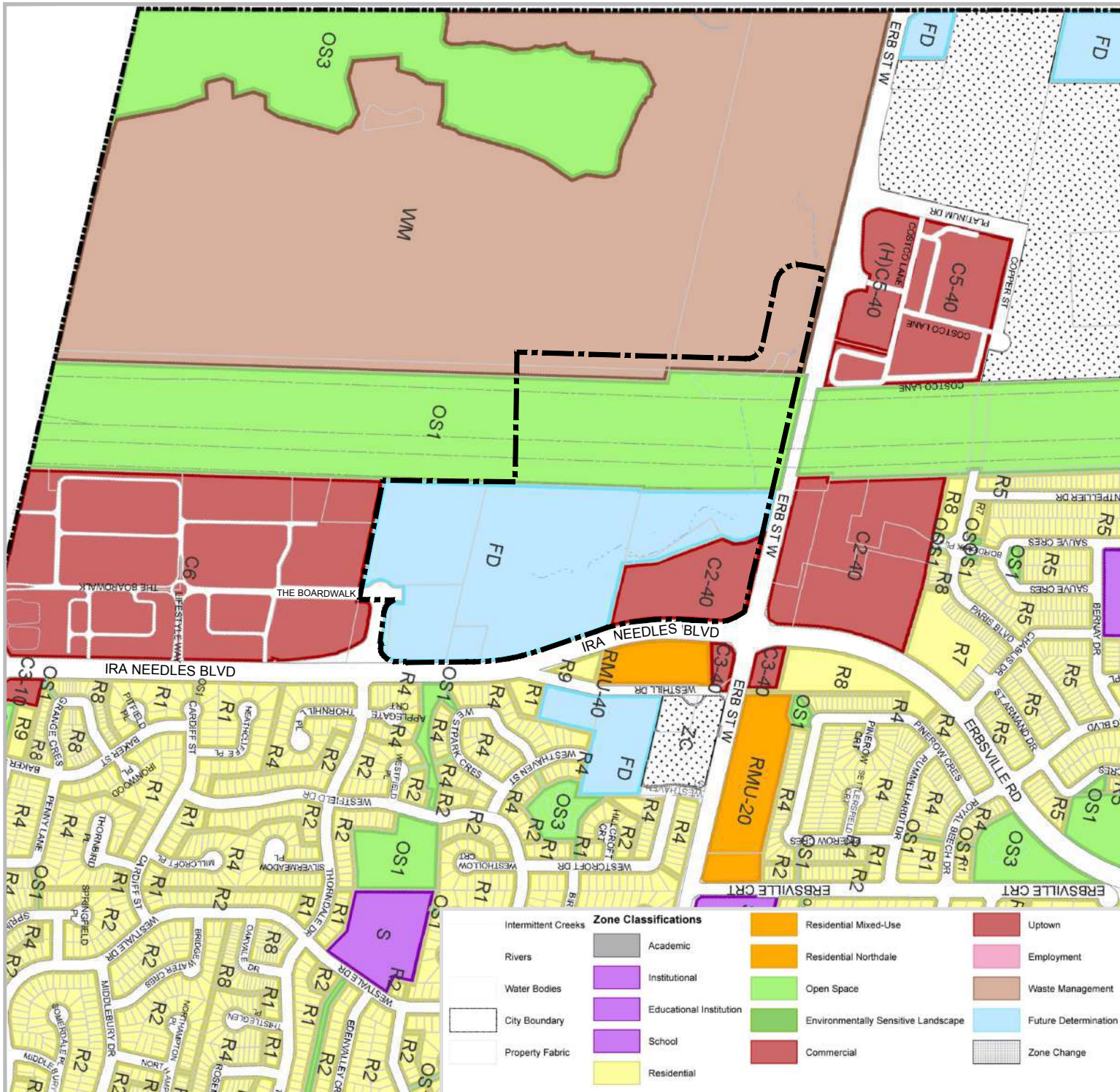


Figure 8
**City of Waterloo
 Zoning By-law
 2018-050
 Schedule "A"**

LEGEND
 Subject Lands

DATE: December 2018

FILE: Y594E

SCALE: 1:10,000

DRAWN: DGS



West Hill District
 City of Waterloo
 Region of Waterloo

Base Map Source:
 City of Waterloo Zoning By-law, Zoning Map Schedule "A" (Sept.10, 2018)

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 & LANDSCAPE
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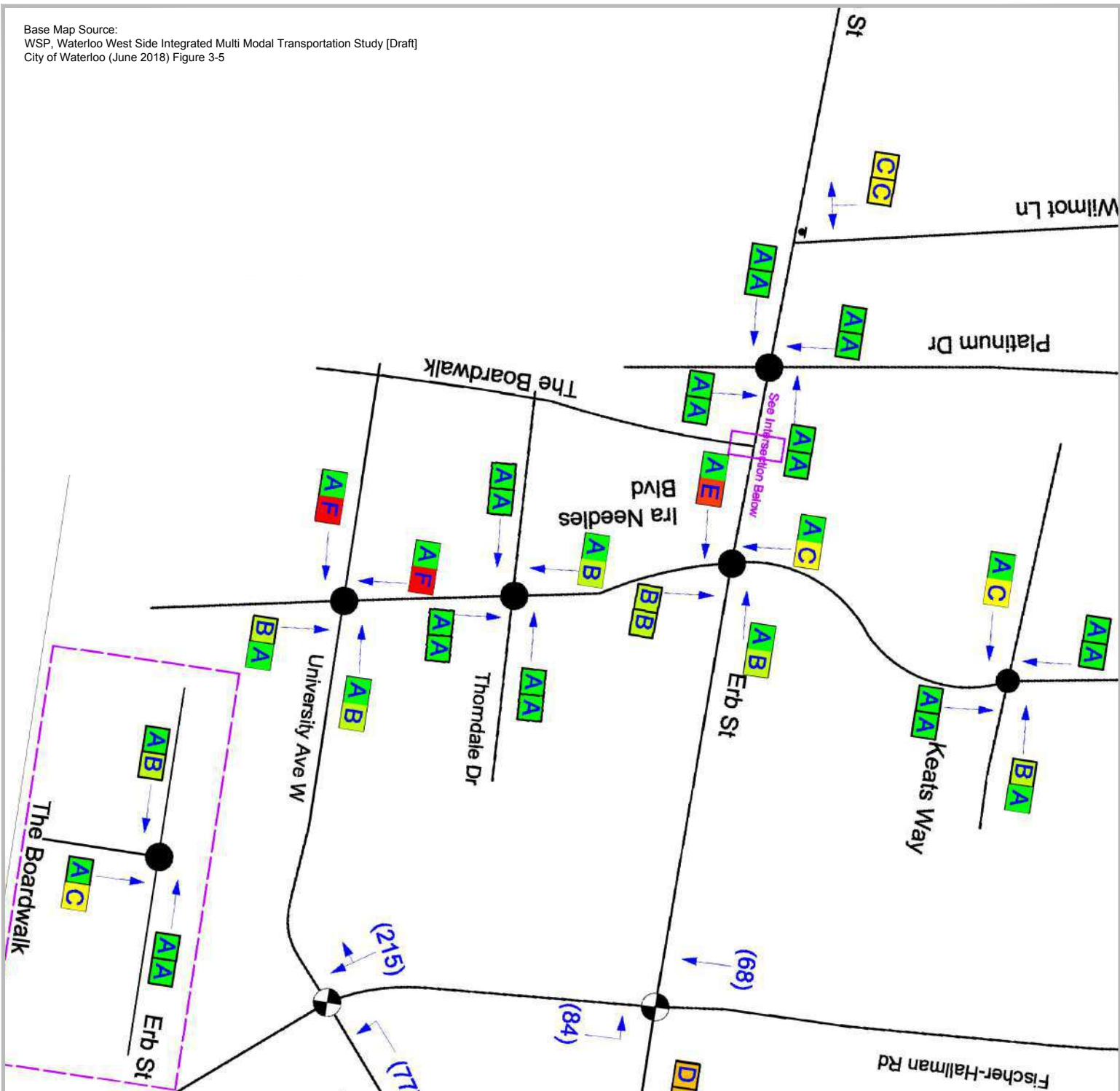


Figure 9
**WATERLOO WEST SIDE
INTEGRATED MULTI MODAL
TRANSPORTATION STUDY**
Figure 3-5
2031 Intersection Operations with
Planned Roadway Improvements
Plus Additional Recommendations

West Hill District
City of Waterloo
Region of Waterloo

LEGEND

	AM & PM PEAK LOS:
	- For the Overall Intersection for Signalized and All-Way Stop Control Intersections
	- Per Approach for Roundabouts and One-Way Stop Control Intersections
	XX (XX) AM (PM) DELAY IN SECONDS OF CRITICAL MOVEMENTS (LOS E/F)
	STOP SIGN
	TRAFFIC SIGNAL
	ROUNDAOBT

AM/PM
C AM & PM PEAK LOS:
- For the Overall Intersection for Signalized and All-Way Stop Control Intersections
- Per Approach for Roundabouts and One-Way Stop Control Intersections
XX (XX) AM (PM) DELAY IN SECONDS OF CRITICAL MOVEMENTS (LOS E/F)
STOP SIGN
TRAFFIC SIGNAL
ROUNDAOBT

DATE: December 2018

FILE: Y594E

SCALE: NTS

DRAWN: DGS



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WEST SIDE TRANSPORTATION STUDY.DWG

3.0 OVERVIEW OF EXISTING CONDITIONS

Understanding existing conditions provides a framework for considering the project alternatives, project benefits and project impacts. This section of the Report summarizes existing conditions within the Study Area including the natural environment, the social cultural environment, municipal transportation services and utilities, financial and technical considerations.

A more detailed description of existing conditions is outlined in the technical reports forming part of this Background Report and included with the submission of the application.

3.1 Social-Cultural Environment

3.1.1 Land Use

Land uses within the Primary Study Area include vacant former agricultural land, a golf course as an interim use pending development of a future Home Hardware store, stormwater facilities, a commercial plaza, the Region of Waterloo Landfill and the Hydro Corridor.

Existing commercial development in the larger Westhill District is located to the north, east and south of the Study Area. The Costco lands, and Canadian Tire development are located to the north and west, some smaller commercial uses are located to the east, and The Boardwalk mixed use development is located to the south.

Residential development exists to the east of the Primary Study Area, on the opposite side of Ira Needles Blvd, in the Westvale neighbourhood and approximately 300 metres north of the Study Area, including the Vista Hills neighbourhood to the northwest, and the Rummelhardt neighbourhood to the north. These residential subdivisions are characterized by primarily low and medium density residential development including single detached dwellings, and street fronting townhouse dwellings. There are also open space areas, parks, natural heritage features and community facilities, such as schools, included in the subdivisions.

The Region of Waterloo Emergency Services (EMS) Training and Research Centre is located at 1001 Erbs Road, Waterloo. The Centre is used by authorized groups, who have access to the Centre 24 hours a day, 7 days a week.

The proposed road will provide a connection between these various land uses. The new road will be located within commercial and employment land uses, and will generally run parallel to Ira Needles Blvd to enhance travel capacity and minimize turning movements on Ira Needles Blvd. There will be no impact on existing residential land uses.

3.1.2 Cultural Heritage and Archaeological Resources

A review of the City of Waterloo's Municipal Heritage Register, was most recently updated on June 5, 2017 and confirms that there are no heritage properties within or in proximity to the Westhill District Community.

The City of Waterloo is currently undertaking a study to develop an inventory of significant Cultural Heritage Landscapes. The Preliminary Candidate Cultural Heritage Landscape map indicates that none are located adjacent to the Westhill District Community.

The Primary Study Area has been significantly altered through the development and associated grading of the development of the golf course. Any required archaeological assessments will be submitted through the future plan of subdivision application process.

3.2 Characterization of the Landscape and Natural Environment

The follow sections provide a summary of the technical memorandums prepared by MTE, and the Stage 1 EIS prepared by WSP. These reports considered the historical background, overview of existing natural features, existing SWM ponds, and hydrogeology, as well as the water courses and surface water of the Study Area related to the landscape and natural environment.

3.2.1 Historical Background

The Study Area was a rural agricultural landscape until the early 1980s when urban development began to occur in the area.

Historical aerial photographs of the Study Area were reviewed to understand the changes in the landscape over time associated with the evolution from agricultural to other land uses and the resulting effects. A component of the review was to understand how the existing pond in proximity to Erb Street and the surrounding wetland features were formed.

The photos of the Study Area between 1930 and 1971 show no presence of any surface water feature near the location of what is now considered the Erb Street Pond, southwest of the intersection of Erb Street West and Ira Needles Boulevard. Sometime between 1971 and 1975, work began on constructing the Region's landfill site. It appears that the earthworks associated with this construction began to disturb existing drainage paths as well as increase the runoff generated on the previously farmed lands, which would have otherwise absorbed a majority of the annual precipitation. An aerial photo from 1975 demonstrates significant ponding near the Erb Street Pond location. It appears that the pond began to collect surface runoff from the Region's landfill site and the surrounding areas south of Erb Street where other work was being done. In summary, the

review suggested that major earthworks associated with the creation of the Region of Waterloo's landfill, located to the west of the pond, are primarily responsible for changes to the landscape and impacting natural stormwater runoff that occurred at that time.

Historically, the properties within the Study Area, included multiple topographic low lying depressions with no natural surface runoff outfalls. Following rainfall events, surface water would collect in these depressions and infiltrate back into the ground. In order to prevent surface water from ponding on their properties, the land owners collectively installed a 250mm diameter underground clay tile drain through the properties to drain the excess surface and sub-surface water. The drain was installed in two sections; the first in the 1930s and the second in the 1950s. The completed drain was installed from just south of what is now Westhill Meadows Golf Course and extended north, well beyond Erb Street West. Before major development was undertaken in the area, the drain would outlet into a channel on the north side of Erb Street West and be conveyed north to Clair Creek. Based on the landowner information, the installation of the tile drain significantly improved the drainage situation on their properties.

In 1982, the landfill construction was underway as well as the reconstruction of Erb Street, at which time, the formation of the Erb Street Pond is evident. These road works created a damming effect south of Erb Street. In 1990, the landfill construction is even more evident, and construction north of Erb Street is approaching from the east. Erb Street Pond is vaguely evident as a much smaller feature and no watercourses, ponds or natural vegetation are evident. No defined watercourse is evident north of Erb Street West.

In the spring of 1996, construction of the Westhill Meadows Golf Course began. The golf course property, 41 Ira Needles Boulevard, was significantly graded and reshaped during this time. It is understood, based on landowner information that the tile drainage was damaged as a result of the golf course construction. This anthropogenic influence alteration to the historic drainage pattern has contributed to ponding in the area.

The City of Waterloo required the owner of the golf course to install a drainage ditch across the course to resolve ponding concerns. The golf course's consultant suggested a 150mm diameter underground pipe that led to an onsite storage pond complete with a control valve. Unfortunately, this system was incorrectly installed at elevations that could only collect surface water. The golf course drain could not properly drain the sub-surface water that was causing problems on the neighbouring sites; which was previously being adequately drained by the underground clay tile drain. After a series of site visits and investigations, it was concluded that the previously installed drain must have been damaged or destroyed by the grading activities that took place to construct the golf course.

An investigation into the downstream wetland, what is now considered the Erb Street Pond, suggested that the overall size of the wetland had dramatically increased due to ongoing activities

upstream. However, the wetland water level was measured to be approximately 3.0m lower than the surface ponding on the properties south of the golf course.

In May of 1997, the Region/City of Waterloo staff cleaned the area near the culvert installed under Erb Street West; the outlet for the Erb Street Pond. After debris was removed, water was observed to be draining through the culvert; from the south side of Erb Street West to the north side. A new field survey revealed that the surface water elevations on the properties south of Erb Street West had dropped, but not enough to actually dry out the newly formed wetlands. It was therefore concluded that the condition of the Erb Street West culvert would have a minimal impact on drainage of these adjacent properties.

Presently, the wetlands which formed on the properties south of the golf course still exist. The location and condition of the original clay tile drain running underneath the golf course is unknown at this time. However, it is evident by the presence of the wetlands that the tile is not functioning as it was originally designed.

In summary, the historical air photo analysis indicates that there a number of changes associated with urban development and grading in the area, which altered the landscape and created the existing features.

A detailed chronology of the events is included in the Stage 1 Environmental Impact Study, prepared by WSP.

3.2.2 Overview of Natural Features

WSP (MMM Group Ltd., and Ecoplans Ltd) was engaged in 2016 to prepare an Environmental Impact Study for the Study Area. Work completed to date has included field surveys (flora/fauna inventories, wetland delineation etc.), the preparation of various reports, and their review of other reports.

This EIS was informed by a Terms of Reference based on input from City of Waterloo, Region of Waterloo and Grand River Conservation Authority (GRCA) staff. Per agency direction, the EIS will be completed in three stages, with each stage reviewed and accepted prior to moving to the next stage:

- Stage 1: Existing conditions characterization for ecological and hydrological features and functions of wetlands and watercourse within the study area
- Stage 2: Evaluation of alternatives, identification of the preferred alternative, and recommended mitigation
- Stage 3: Property-specific, focused evaluation

The current report addresses Stage 1 and includes the following components:

- Review of available background information, as relevant and available
- Field surveys. Scope of field surveys was informed by existing background information, including natural heritage designations, site characteristics (i.e., habitat suitability for various wildlife guilds) and landscape context.
- Consideration of relevant natural heritage planning and policy documents

Overview of Natural Features

The following is a summary of the natural features within the Study Area:

- No provincially designated features (e.g., Provincially Significant Wetland [PSW]; Areas of Natural or Scientific Interest [ANSI]) are found on or immediately adjacent to the study area, therefore there are no potential impacts.
- No Regional Official Plan designated features are present within the study area and no features meet criteria for inclusion within the Greenlands Network within the study area.
- No regulated watercourses are present in the study area.
- There is intermittent drainage from the two SWM facilities towards the outlet / culvert at Erb Street and from a dug pond on the golf course northerly into the wet area adjacent to the Region SWM facility.
 - From the culvert at Erb Street, stormwater runoff is conveyed underground via a piped municipal drain to a SWM pond approximately 750m to the north and ultimately into Clair Creek.
- Portions of the *Waldau East Wetland Complex* (evaluated, non-provincially significant wetland) are located on the landfill lands to the west.
- This wetland is designated as a *Core Natural Feature* in Schedule A4 of the City of Waterloo Official Plan and *Core Environmental Feature* on Map 4 of the Region of Waterloo Official Plan (2015).
- Five ponds / unevaluated wetlands are present in the study area. Additional wetlands are present on HEPC lands to the west / southwest.
- All wetlands (not including the golf course ponds) as mapped by GRCA are regulated by GRCA under O. Reg. 150/06.
- Regenerating areas in the vicinity of the two SWM ponds are designated as *Supporting Natural Features* in Schedule A4 of the City of Waterloo Official Plan.
- The regenerating area in the vicinity of the Landfill SWM pond is designated as *Open Space (Parks and Other Green Space)* in Schedule A3 of the City of Waterloo Official Plan.

Based on input from the City and GRCA, during the scoping of work, an analysis of the significance and status of the natural features and, as it relates to the City's Official Plan, whether the wetlands

are *Locally Significant Wetlands* or *Other Wetlands*, thereby identifying the applicable policy framework.

Based on analysis included in the EIS, the wetlands within the study area are concluded to be:

- *Locally Significant Wetlands*: W1 (comprised of Vegetation Units 3 / 4 / 5 / 7 / 8 / 9), a wetland of anthropogenic origin with a total estimated area of ~ 3.4 ha
- *Other Wetlands*: W2 and W4, as noted above

Other wetlands:

- W3 – approved for removal in accordance with GRCA Permit No. 755/15
- HEPC south wetland – not in proximity to any of the proposed alignments, and no expected impact

Next Steps

Following acceptance of the Stage 1 EIS, Stage 2 will be undertaken, including an evaluation of alternatives, identification of the preferred alternative, and recommended mitigation. Any further details would also be addressed on a property site specific basis at the time of future development applications.

3.2.3 Existing Stormwater Management Ponds

The southerly SWM pond near Erb Street, installed prior to 2004, is owned and operated by the Region of Waterloo, and treats runoff from Ira Needles Boulevard, Waterloo Commons and lands east of Ira Needles Boulevard.

The westerly SWM pond in the hydro corridor, installed in the early/mid 1990s, is owned and operated by the Region of Waterloo, and treats runoff from the Regional landfill site.

3.2.4 Hydrogeological Assessment

MTE completed a hydrogeological characterization and assessment of properties within the Study Area. The assessment included a review of Preliminary Geotechnical Investigations, Phase II Environmental Site Assessments, Wetland Interaction at Westhill District Plan Update Technical Memo, as well as a water well record search, and a review of the regional geography and hydrogeology and a field program.

The objective of the scoped hydrogeological investigation was to identify and evaluate the hydrogeological features located within the Study Area, specifically:

- Assess the local and regional hydrogeological characteristics;
- Determine local surface water and groundwater elevations; and
- Assess local wetland and groundwater interactions across the Subject Lands.

Based on this scoped hydrogeological investigation, the following general characteristics are summarized below:

- Stratigraphic conditions beneath the Study Area primarily consist of fine grained cohesive (silt and clayey silt till) materials;
- Topography across the Study Area was determined to range between 377.0 mAMSL and 394.0 mAMSL, decreasing in elevation along the northwesterly direction;
- Groundwater levels in the Study Area were measured to range from 377.19 mAMSL to 380.27 mAMSL in installed monitoring wells and the mini-piezometer;
- The local scale groundwater table elevation, interpreted based on collected water levels, regional groundwater elevation contours, and historical levels, was interpreted to generally follow the Study Area topography and ranged between 377.0 m and 382.5 mAMSL with the direction of groundwater flow being inferred to be northwesterly towards Clair Creek;
- An in depth groundwater-wetland interaction assessment of the smaller unevaluated wetland features (HEPC North, HEPC South, and Cressman West) was not completed based on review of collected surface water level data and the relatively small areas of the wetland features. Surface water level data at these locations suggest that the wetland features would generally behave as depression features, retaining water following precipitations events and then becoming dry as a result of evapotranspiration and infiltration losses.
- The Waterloo Commons SWM/wetland feature receives minor volumes of groundwater discharge and is primarily sustained by surface water runoff. Surface water runoff directed to the wetland feature is general conveyed from the surrounding Subject Lands, Ira Needles Boulevard, and the hydraulically up-gradient Region of Waterloo Landfill's SWM pond.

3.2.4 Water Courses and Surface Water

An analysis of the local watercourses and surface water monitoring program for the drainage area associated with the Study Area was completed by MTE.

The Surface Water Monitoring study area is located southwest of the intersection of Erb Street and Ira Needles Boulevard, encompassed by Erb Street to the north, Region of Waterloo Landfill to the west, Ira Needles Boulevard to the east and The Boardwalk commercial plaza to the south. The drainage area also contains the Westhill Meadows Golf Course and is bisected by a hydro corridor.

The surface water monitoring study observed the following trends:

- The overall catchment area collectively drains to the Waterloo Commons SWM/wetland feature.
- Five sub-catchments were identified for further detail and analysis of local wetland features and depression storage in the surface water monitoring study.
- Waterloo Commons SWM/wetland is utilized for local stormwater management control and the outlet is not functioning as designed, causing surface water elevations to be higher than intended;
- Waterloo Commons wetland (230P) water elevation levels varied from 377.16 to 377.66 (0.21 to 0.71m of ponding);
- HEPC North wetland (231P) did not observe any surface water ponding during summer months
- Cressman West wetland (232P) did not observe any surface water ponding
- SWM Retention Area (Former Cressman East wetland 233P) water elevation levels varied from 379.92 to 380.24 (0.0 to 0.32m of ponding);
- HEPC South wetland (234P) water elevation levels varied from 382.01 to 382.35 (0.0 to 0.34m of ponding);
- Region of Waterloo Landfill SWMP water elevation levels varied from 379.18 to 379.70 (0.44 to 0.96m of ponding/storage); and
- Chloride water sample results demonstrated elevated concentrations in the Waterloo Commons wetland and the Landfill SWMP, likely due to long-term exposure to local road salt runoff in the winter and spring.

3.3 Transportation Network, Municipal Services and Utilities

3.3.1 Transportation Network

Roads, transit and active transportation infrastructure to support the Westhill District are existing and are comprehensively planned through City and Regional Transportation Master Plans and Official Plans.

3.3.1.1 Existing and Planned Road Network:

The main roads within the Study Area are:

- Ira Needles Boulevard (Erbsville Road) is a north-south Regional arterial road with a four lane cross-section. Sidewalks are present along both sides of the road for the portion of the road in the City of Waterloo.

- Erb Street is an east-west city arterial road. Further west of the urban boundary, the road has a rural cross section. West of the roundabout, Erb Street is 3-4 lanes, and is constrained to 2 lanes at the Hydro Corridor. Improvements to Erb Street were identified in the Class EA.
- Laurelwood Drive, Columbia Forest Boulevard and Keats Way and several local roads from existing developed areas to Erbsville Road/Ira Needles Boulevard offer additional east-west connections.
- Platinum Drive between Columbia Street and Erb Street is proposed to be constructed from Erb Street West, via a roundabout, to the lands to the north, to service the West Side Employment Lands. The road will have the potential to connect to Columbia Street West to the north in the future.
- There is a northerly street stub extension that terminates at the roundabout of Ira Needles Blvd and Thorndale Drive.

3.3.1.2 Transit Network

Bus transit service is currently provided along Ira Needles Blvd and Erb Street West, offering service throughout Kitchener-Waterloo. There is a transit terminal located within The Boardwalk commercial development. The extension of transit service through the Study Area to Erb Street West provides an alternative route potential that would include the potential to increase service coverage and provide connections to future employment uses.

3.3.1.3 Active Transportation Network

Pedestrian connections are provided through the existing sidewalk network along Ira Needles Blvd and through The Boardwalk. A bicycle lane is provided for along Ira Needles Blvd.

3.3.2 Municipal Services and Utilities

Municipal services, including water and sanitary services are existing or planned for expansion for the Study Area. The existing services, the assessment and scoring of various road connection alternatives, the opportunities for connections to, or extensions of, the existing services will play an important role in determining the benefit, or lack thereof, of certain proposed road alignments.

The following is a summary of the existing water, sanitary and storm services.

3.3.2.1 Water Distribution

The lands within the Study Area all reside within the City of Waterloo Pressure Zone 6 (Wat Zone 6). Wat Zone 6 receives water from the Zone 6 Reservoir elevated water tank, located at the northwestern end of The Boardwalk development, north of the Landmark Cinemas and adjacent to the hydro corridor.

Twin 450mm diameter watermain exit the water tank and extend to Ira Needles Boulevard. One watermain runs south along Ira Needles Boulevard and eventually connects to the Mannheim PS system, which serves as the principle water source for Kit Zone 6. The second 450mm diameter watermain, which services the Wat Zone 6, crosses Ira Needles Boulevard near the Medical Centre at The Boardwalk and connects to a local 400mm diameter watermain running north-south on the eastern side of Ira Needles Boulevard. This watermain extends north along Ira Needles Boulevard and traverses along Westhill Drive, eventually intersecting with Erb Street West. It also runs south along Ira Needles Boulevard until it reaches University Avenue West, where it traverses easterly.

There are also other local watermain which surround the subject lands. The existing residential dwellings and commercial building at 41, 65, and 73 Ira Needles Boulevard are currently serviced by private onsite wells.

Lastly, there is a 200mm diameter PVC watermain along the newly extended Thorndale Drive, which terminates at the northern leg of the newly constructed roundabout at the intersection of Thorndale Drive and The Boardwalk.

3.3.2.2 Sanitary Servicing

There are not an abundance of sanitary servicing options for the Study Area. There are no municipal sanitary sewers running along either Ira Needles Boulevard or Erb Street West in the traditional sense.

The existing residential dwellings and commercial building at 41, 65, and 73 Ira Needles Boulevard are currently serviced by private onsite septic systems. No sanitary outlet currently exists along Ira Needles Boulevard for these properties.

The only sanitary sewer servicing any of the subject properties is a 300mm diameter sanitary sewer which runs south-north along a servicing easement through the western portion of the Canadian Tire development lands.

3.3.2.3 Stormwater Servicing

The ultimate terminus for the stormwater for the majority of the Study Area is the outlet through the culvert under Erb Street West to the servicing easement along the western portion of the Canadian Tire development lands. However, there are some areas fronting the Study Area that are not included in this servicing outlet.

It is understood that the onsite stormwater runoff generated within the majority of the lands, which make up the Study Area, is all directed towards the Erb Street Pond; whether through interactions with groundwater or surface water features existing on these properties.

The existing Erb Street Pond outlet is a 900mm diameter sewer located in the southern embankment of the Erb Street West right-of-way. It is approximately lined up with the plaza entrance adjacent to the BMO Bank of Montreal and the Shoppers Drug Mart. Before the outlet crosses Erb Street West, additional storm runoff is collected by a series of 300mm and 375mm diameter sewers installed along Erb Street West, from the Ira Needles Boulevard roundabout to the low point in the road near the pond's outlet. Additionally, 450mm and 525mm diameter CSP culverts collect runoff from a ditch running west along the northern side of Erb Street.

Finally, all this runoff is combined and conveyed through the previously discussed servicing easement through the Canadian Tire lands, which also contains the Study Area's sanitary outlet.

The dedicated 900mm storm sewer does not collect any further stormwater runoff as it travels north through the easement, through the intersection of Bordeaux Place and Paris Boulevard, through the Clair Meadows Subdivision, before outletting directly to Clair Creek - north of the Brandenburg Stormwater Management Facility.

3.3.2.4 Utilities

The proposed road connection alternatives will all have to deal with the usual conflicts associated with the construction of new roads and municipal services, which include crossings with utilities such as underground Bell wires, hydro wires, and local gas lines. These conflicts will be present with any of the proposed road alignment options as these utilities are present along the western side of Ira Needles Boulevard and the southern side of Erb Street West. Additionally, a connection point may be available to the existing 100mm diameter high pressure gas main along the north side of Erb Street West, or the 300mm diameter main along the east side of Ira Needles Boulevard.

There may however be additional concerns with some of the road alignment alternatives that are proposed to cross or encroach on the hydro corridor within the study area. There exists a 400mm gasmain, within a gas easement, running parallel to the hydro corridor along its eastern property line. This is a major Union Gas transmission main which crosses Erb Street West into the Union Gas

Station near the southwestern corner of the Canadian Tire development lands. It is understood that Union Gas does not allow any work to be performed atop this transmission main, so agreements will need to be made with them in order to entertain any road alignment option that would cross or encroach on the gas easement.

Additionally, there also exist three major high voltage hydro transmission lines and one local hydro line within the hydro corridor. The multiple transmission line towers require a minimum 15m setback from their base and may create conflicts with some of the proposed road alignment alternatives. Hydro One has already expressed concerns with having a road run longitudinally within the hydro corridor, but may be in favour of a road crossing it perpendicularly. Special considerations and negotiations with Hydro One will be required to receive approval for any work to be done on their land.

In summary, consideration will need to be made while selecting a preferred route alternative and servicing strategy to existing utilities, such as underground Bell lines, hydro lines, and gas lines, throughout the study area. This is especially true for any alternative that may cross or encroach on the gas easement along the eastern property line of the hydro corridor, which contains a 400mm diameter Union Gas transmission main.

4.0 DESCRIPTION OF COLLECTOR ROAD ALTERNATIVES AND PRELIMINARY SERVICING STRATEGY

One of the principal purposes of this Report is to identify collector road alternatives for the proposed alignment and the framework to determine the preferred road alternative and the associated servicing strategy.

4.1 Development of Collector Road Alignment Alternatives and Servicing Consideration

Collector road alignment alternatives and servicing considerations were developed, having regard to the following guiding principles:

Transportation Network and Servicing Efficiency: The role of the potential collector road alignment within the study area must also be considered as it relates to the overall broader transportation network for West Waterloo, the Westhill District and surrounding area.

Integration with the Existing Transportation Network: The proposed collector road should be a logical extension of existing road patterns. The collector road should integrate with the existing and planned road network to the north, south and east. The transportation infrastructure developed will support appropriate road connections and facilitate pedestrian, cycling and transit trips.

Minimize Impacts on Road Network: The impacts of increased traffic on existing roads and the function of the roads to efficiently disperse of traffic from local streets to the existing arterial and collector road network.

Feasibility and Constructability: The potential collector road and servicing strategy must be planned and designed in such a manner as to meet the requirements of the City and approving authorities. The potential collector road location needs to be located to minimize conflicts with existing infrastructure and uses. The road and associated infrastructure (SWM and servicing), are to be planned and designed comprehensively.

Existing Natural Environment: The alternatives were initially developed to minimize impacts on existing natural heritage features and functions to a connection to Erb Street West was generally established by the City of Waterloo Study.

Agency Requirements and Comments: The proposed alternatives have had consideration for lands in public ownership, which are used for landfill and utility purposes.

4.2 Description of Collector Road Alignment Alternatives

The collector road alternatives to be evaluated are shown on **Figure 10**. Three collector road alternatives have been identified and proposed to be considered for the collector road alignment. All of the alternatives have the same beginning point at Thorndale Drive / The Boardwalk, and end point connection to Erb Street West. A connection to Ira Needles Boulevard is also consistent with all alternatives.

A summary of each of the alternatives follows:

1) Waterloo Commons Connection (Alternative A)

This alignment requires a crossing through environmental features, and would travel immediately east of the Hydro One lands, with a terminus at the existing location of the intersection of Erb Street West adjacent to the commercial development. The intersection may be considered for redevelopment as a roundabout.

2) Hydro One Lands Connection (Alternative B)

This alignment requires a crossing into the Hydro One Lands, and the alignment of the collector would travel through the Hydro One Lands, parallel to the Hydro Corridor, with a terminus at a new intersection or roundabout at Erb Street West.

3) Region of Waterloo Landfill Lands Connection (Alternative C)

This alignment requires a crossing through the Hydro One Lands as well as into the Region of Waterloo Landfill lands. The alignment would travel around the Region Training Facility and Region Waste Management Offices to the north and east, and the terminus of the alignment would be at the existing roundabout at Erb Street West at the landfill entrance and adjacent to the West Waterloo Centre (Costco site). There are significant grading changes within the Landfill lands.

4.3 Description of Preliminary Servicing Considerations and Stormwater Management Alternatives

Based on the existing servicing conditions, preliminary alternatives for servicing, including stormwater management, have been identified for consideration through the application review process and are summarized as follows:

4.3.1 Water Servicing

Water servicing for the Subject Lands can be made along the extension of The Boardwalk to the road connection between Ira Needles Boulevard and Erb Street west. Connections can be made to the existing 200mm diameter watermain stub at the Thorndale Drive extension roundabout and at the existing 300mm watermain stub within the Waterloo Commons which ultimately connects to the 450mm diameter watermain along Erb Street West.

4.3.2 Sanitary Servicing

Sanitary servicing for the subject lands can be made along the newly proposed road alignments and connected to the existing 300mm diameter sanitary stub at the southwestern corner of the Waterloo Commons lands. This existing sewer would then convey sewage north through the Clair Meadows Subdivision.

4.3.3 Stormwater Servicing

Storm servicing for the Study Area can be made along the newly proposed road alignments and connected to the existing and/or newly proposed stormwater management facilities within the Subject Lands. Ultimately, the area's storm outlet is found at the north end of the Study Area, wherein an existing 900mm diameter storm sewer would convey storm runoff north through the Clair Meadows Subdivision to be discharged directly to Clair Creek.

4.3.4 Stormwater Management Alternatives

MTE completed an existing conditions characterization of the Study Area, which resulted in the identification of four stormwater management alternatives to be considered through the study process, are included as **Appendix D** and summarized as follows:

Alternative 1

This alternative is the 'Do Nothing' alternative where the N/S Collector roadway would bisect the existing SWM/Wetland. This alternative would have one Open Space Stormwater Management

Facility (SWMF) with two Public SWMF and the proposed roadway. In this alternative, the storm sewer would outlet to the existing Erb Street SWMF, and there would be no quality control upstream of wetland. This alternative would result in flooding over the roadway.

Alternative 2

This alternative would be serviced by seven private site SWMF plus three public SWMF, and the allowable flow rates would be established based on prorating available culvert capacity. This alternative provides for a dual sewer within the municipal right of way, which allows for a “clean” water sewer for treated water from private sites and a “dirty” water sewer for road drainage. The Public SWMF would be located downstream of roadway drainage. This alternative allows for double routings for large storm events. This alternative requires extensive infrastructure with on-site private SWMF and public SWMF.

Alternative 3

This alternative would allow new development to be serviced by six public ownership SWMF, each SWMF having a dedicated storm outlet. This alternative would allow developments to proceed independently. It would include a double sewer for Cressman SWMF, Home Hardware SWMF and road drainage. This alternative also allows for a “clean” water sewer for treated water from private sites and a “dirty” water sewer for road drainage.

Alternative 4

This alternative proposes two public SWMF, and one private SWMF. This alternative minimizes infrastructure costs and maintenance by having the minimal number of municipal SWMF.

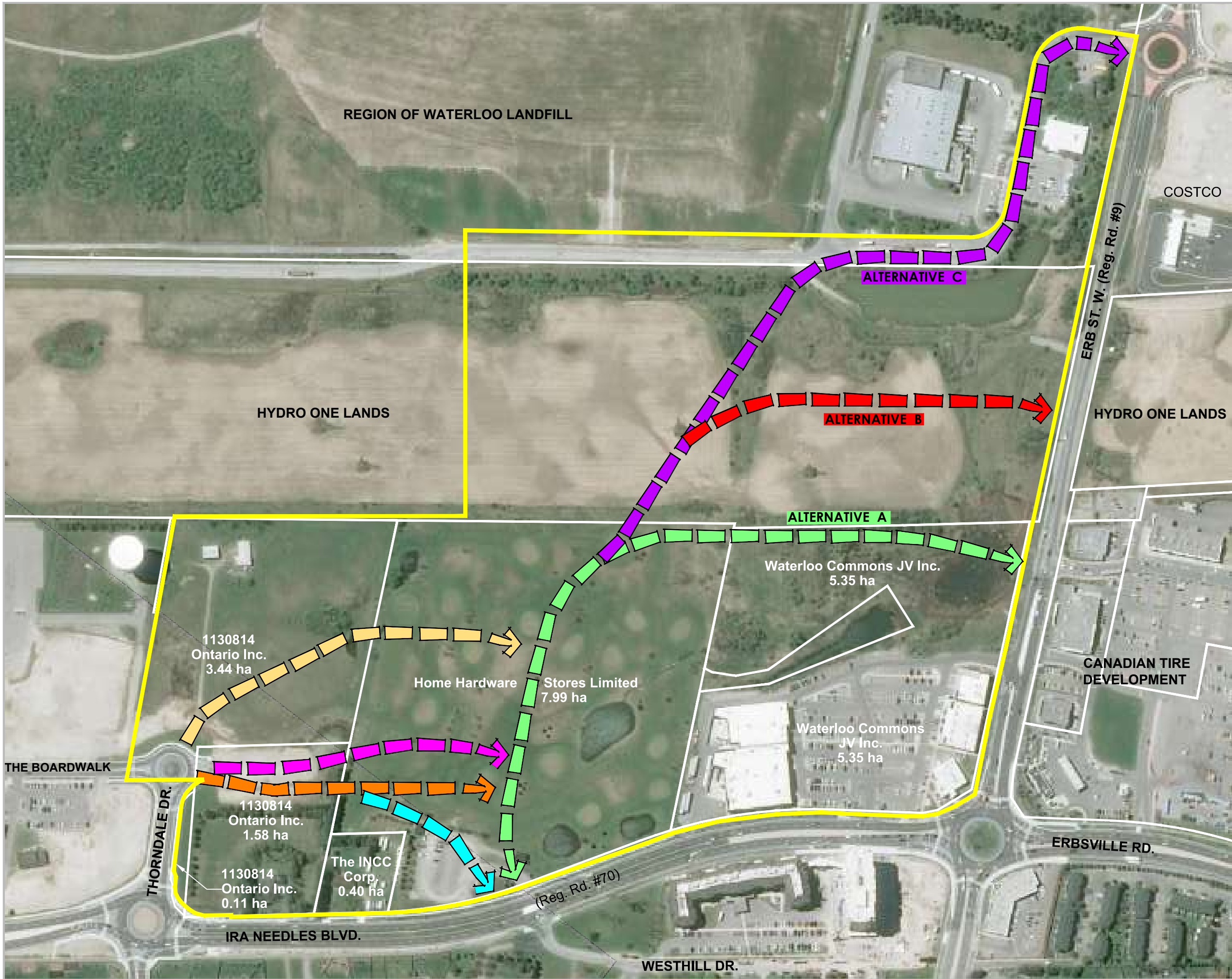


Figure 10
**Potential Collector Road
Alignment Alternatives**

West Hill District
City of Waterloo
Region of Waterloo

LEGEND

- Study Area
- Parcel Fabric (MPAC)

The INCC Corp. Property Ownership

Collector Road Alignment Alternatives

- Alternative A
- Alternative B
- Alternative C

Air Photo Source: Bing

DATE: December 2018

FILE: Y594E

SCALE: 1:3,000

DRAWN: DGS



K:\Y594E WESTHILL DISTRICT PLAN\REPORT\PLANNING REPORT DECEMBER 2018\ROAD ALIGNMENT OPTIONS.DWG

5.0 DESCRIPTION OF EVALUATION CRITERIA AND METHOD

Given the outcome of the application is the identification of a preferred alternative, a process for evaluation of the alternatives was developed. Comprehensive evaluation criteria were developed and relevant planning considerations were taken into account. A method for evaluation was established.

5.1 Evaluation Criteria

The evaluation criteria/factors were grouped into five factor categories including: natural environment; socio-economic environment; cultural environment; transportation/municipal services and utilities; and financial / technical considerations. Within each category, there are various factor groups.

Evaluation criteria/factors have been prepared and are included in the table below.

Table 1 – Evaluation Criteria

Factor Category/Factor Group/Factor	Indicator/Measure
1 Natural Environment	
1A. Terrestrial Ecosystems	
Wetlands	- Impact on feature and function of PSWs or other wetlands (area; classification/quality, relative extent in relation to entire complex)
Designated Environmentally Sensitive Policy Areas/Areas of Natural and Scientific Interest, Significant Woodlands	- Impact on feature and function of ESPAs/ANSIs and significant woodlands (area; relative extent in relation to entire designated area)
Vegetation communities	- Impact on feature and function of vegetation communities (area, type quality, composition, relative extent; and potential for mortality, stress, composition change)

• Wildlife habitat	- Impact on feature and function of and/or reduction of interior habitat (area; fragmentation) - Effects on wildlife movement corridors or corridors between critical habitat features (e.g. upland/breeding ponds) (number of crossings) - Degree of potential increases in animal-vehicle conflicts
1B. Aquatic Ecosystems	
• Water bodies and Watercourses providing fish habitat (including food/shelter)	- Number of water bodies and watercourse crossings, sensitivity of fish/fish habitat and thermal regime (warm, cool or cold water) - Extent (area) and function of riparian habitat removed - Extent and type of fish habitat (in-stream) altered/displaced at water bodies and watercourse, including importance to aquatic ecosystem (e.g. spawning, nursery areas)
• Water quality, thermal regime and baseflow	- Encroachment on headwater areas (1st or 2nd Order Streams) (area) - Degree of interference with known groundwater discharge areas that contribute to creek baseflow - Effects on surface drainage/floodplain contributions to fish habitat
1C. Groundwater Resources	
• Groundwater recharge areas	- Encroachment on significant groundwater recharge areas (Regional Recharge Area) (removal/disruption of function – area; depth)
• Groundwater quality	- Potential for impacts to vulnerable areas (area)
• Shallow groundwater movement	- Potential for interference with existing flow patterns (baseflow) relative to proximity to surface water and significant groundwater discharge areas
1D. Surface Drainage	

• Watercourses; drainage catchments	- Need for diversion/channelization of existing drainage and catchment area impacts (area)
• Flood plain function	- Impacts to Regulatory Floodplain
• Stormwater management	- Opportunities to enhance roadway stormwater management measures, including coordination with/use of adjacent development facilities
1E. Species at Risk Permits	
• Vegetation Species at Risk	- Effects on vegetation SAR or species of local/regional significance (type, number, quality)
• Wildlife Species at Risk	- Effects on terrestrial SAR or species of local/regional significance (type, area of critical habitat; breeding timing windows)
• Aquatic Species at Risk	- Effects on aquatic Species at Risk or species of local/regional significance (type, length)
• Species at Risk permits required for construction	- Permit requirement (yes, no); probability of obtaining permit(s) (high, medium, low); degree of associated risk to project implementation
Socio-Economic Environment	
2A. Land Use Policy	
• Land use/resource designations and policies	- Degree of compatibility with Provincial, Regional and City growth/development goals/objectives policies (high, medium, low)
2B. Existing and Approved Land Use	
• Existing business operations	- Business infrastructure/employees displaced (type; number) - Changes (+/-) in business exposure/viability
• Approved development proposals	- Impacts on approved development lands (area; exposure/viability)
• Planned Land Uses	- Impacts on planned land uses
2C. Communities	
• Impacts to individual properties/communities	- Encroachment on individual properties (number/area)

Community connectivity (cultural/social linkages)	- Physical changes (+/-) to established community connectors (trails/roads) - Changes to delivery of community services (school transportation)
Recreational opportunities	Changes (+/-) in community access to recreational areas
2D. Noise	
Noise sensitive areas	- Noise sensitive receptors experiencing increases (5 dB ranges) in sound levels over pre-existing conditions - Noise sensitive receptors experiencing resultant absolute noise levels over 60 bDA
2E. Impact on Emergency Services	
Community connectivity	Changes to delivery to emergency services
3. Cultural Environment	
3A. Archaeological Resources	
Known and/or potential archaeological sites	- Number/type/significance of direct/indirect impacts to registered archaeological sites - Number/type/significance of direct/indirect impacts to known archaeological resources and/or areas of high archaeological potential
3B. Built Heritage	
Built Heritage Features	Number/type/significance of direct/indirect impacts to built heritage resources
3C. Cultural Heritage Landscapes	
Cultural Heritage Landscapes	Number/type/significance of direct/indirect impacts to cultural heritage landscapes
4. Transportation/Municipal Services and Utilities	
4A. Transportation Network/Infrastructure	
Transportation network	- Relieve future demand on other arterial / collector roads within the community - Potential impacts to local roads/intersections

• Traffic operations	- Road safety and accessibility (sight distance; turning movements)
• Transportation policy initiatives • Capacity/capability to accommodate forecast traffic demand. • Provides for appropriate access to existing properties	- Capability to support municipal policy initiatives (transit, active transportation, roundabouts) - Impact on access to existing properties - Connectivity to Ira Needles Boulevard and Erb Street
• Capacity	- Capacity to accommodate forecast demand
4B. Municipal Services and Utilities	
• Municipal services	- Opportunities for connections to or logical extension of existing services - Provision of standard cross-section locations for services - Provision of continuous services
• Utilities	- Degree of exposure of utilities and/or utility conflicts with road design
5. Financial/Technical	
5A. Financial	
• Cost	- Estimated capital cost (\$) - Road length - Property requirements (number, area) and ease of acquisition - Extraordinary operations and maintenance requirements/costs (e.g., differences in the number of valves and water treatment requirements; collector road maintenance) - Species at Risk mitigation/overall benefit - Cultural heritage mitigation measures
5B. Technical Complexity	
• Roadway geometric design requirements	- Conformance to TAC and City of Waterloo/RMOW standards
• Structural/foundation/pavement design requirements	- Conformance to TAC and City of Waterloo standards - Requirements for pavement depth and/or foundation footprint, based on soil conditions

	- Structural requirements relative to capital cost and long term maintenance requirements
• Topographic; extent of cut/fill	- Potential for excessive borrow quantity or excessive off-site disposal of earth material (volume) - Requirements for excessive (steep) grades (length) - Ability to maintain positive drainage, in combination with number of suitable drainage outlets
• Constructability	- Physical constructability (adequate access to corridor) - Potential conflicts with existing infrastructure (other than utilities) - Provision of standard horizontal and vertical clearance requirements - Current staging of development for full implementation of the road network

5.2 Methodology for Evaluation of Alternatives and Selection of Preferred Alignment

The Numerical Evaluation approach is the preferred methodology. This methodology requires a “must score” approach. For each criteria/factor the least preferred alternative received a score of 1 and the most preferred alternative received a score of 10. All other alternatives will be scored between these values with ties permitted.

It is recognized that different factor categories and factor groups do not have the same number of criteria/factors and as a result certain factor categories and factor groups could be weighted. To address this issue, a normalized scoring approach should be adopted wherein the total score for each factor group is averaged in order to calculate an average category score. The average category scores should then be added together to determine the total normalized score for each alternative. The alternative with the highest total normalized score will emerge as the overall preferred alignment and the alternative with the lowest total normalized score will be determined to be the least preferred alignment.

6.0 STUDY OUTCOMES AND DELIVERABLES

In conclusion, the Official Plan Amendment and Amendment to the Westhill District Implementation Plan will establish the final alignment of the extension of The Boardwalk Avenue (collector road) and a master servicing strategy for the Westhill District.

An Official Plan Amendment and Amendment to the Westhill District Implementation Plan will delineate the proposed collector road on Schedule E – Transportation Schedule of the Official Plan and major servicing infrastructure on the schedules and within the corresponding policies of the Official Plan and the Westhill District Implementation Plan.

The final road alignment and servicing strategy will be determined through a systematic evaluation of the criteria and the application of the numerical approach described in this Report. The preferred alignment will be determined through the future application process, and the Study will also:

- iv. Confirm an overall servicing strategy for the Westhill District Plan;
- v. Confirm a preferred stormwater solution including the location of stormwater management pond(s); and
- vi. Provide overall direction to the submission of future property-specific *Planning Act* applications within the Study Area

This Report represents a summary of background information and characterizes the existing conditions and identifies road alignment and servicing alternatives to fulfill Phase 1 of the process. The completion of this phase will address Specific Provision Area 41 in the City of Waterloo Official Plan and establish the policy direction for phase 2 of the process.

Appendix A – Pre-Submission Consultation Comments

Y594E



Integrated Planning & Public Works
Planning Approvals

April 9, 2018

Mr. Paul Britton, BES, MCIP, RPP
Partner
MHBC
540 Bingham Centre Drive, Suite 200
Kitchener, ON
N2B 3X9

Mr. David Aston, MSc, MCIP, RPP
Vice President
MHBC
540 Bingham Centre Drive, Suite 200
Kitchener, ON
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Mr. Britton & Mr. Aston:

Re: Pre-application Consultation Meeting Follow Up
Proposed West Side By-Pass Road
Erb Street West, Ira Needles Boulevard, The Boardwalk
West Hill District

Thank you for attending the pre-application consultation meeting held March 14, 2018 to discuss a possible by-pass road west of Ira Needles Boulevard, between Erb Street West and The Boardwalk.

At this time, we understand the proposal is to construct a collector road north of The Boardwalk, connecting from the Thorndale Drive extension. Prior to confirming the preferred location of the collector road possible alternatives are to be evaluated through a detailed review of a study area including: existing conditions, environmental constraints, servicing networks and transportation need. Once and/or if a preferred location is determined, the road would be created and serviced through one or more Draft Plans of Subdivision(s). In addition, a Zoning By-law Amendment would be required. We understand development of the lands may occur in phases.

1.0 POLICY FRAMEWORK

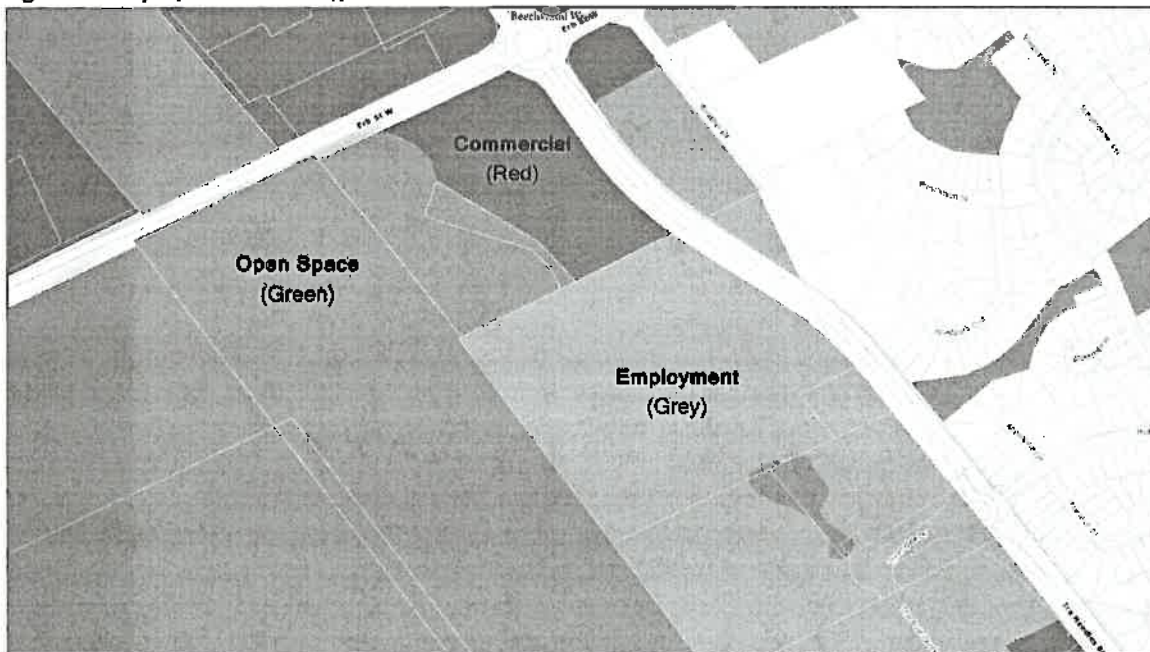
The following policy review applies to the properties identified in your submission materials as the "Study Area", herein after referred to as the 'lands'.

1.1 City of Waterloo Official Plan

The lands are designated Mixed-Use Neighbourhood Commercial, Business Employment and Open Space in the City of Waterloo's Official Plan, (refer to Figure 1).

The Mixed-Use Neighbourhood Commercial designation is intended to provide a focal point or destination to meet day to day commercial needs of adjacent neighbourhoods or business areas. Located in minor nodes, this designation contemplates a range of office, retail and service uses generally in the form of a commercial shopping centre comprised of small to mid-sized units.

Figure 1: City of Waterloo Official Plan – Land Use Schedule 'A'



The Business Employment designation contemplates prestige office as the predominant use of land, generally located on the periphery of employment areas serving as a buffer between traditional industrial uses and sensitive uses. A high standard of urban design is required within this designation.

The Open Space designation is intended to protect ecologically significant natural features and to provide a comprehensive and connected open space system that balances the needs of the community in terms of recreation/leisure, culture, transportation, infrastructure and environmental management.

The lands are identified as a Minor Node and Minor Corridor, and contemplated for Medium High Density (height of up to 40 metres) and Medium Density Employment (height of up to 27 metres).

The lands are also subject to the policies of three separate Specific Provision Areas: SPA 8 (West Side Nodes), SPA 40 (41 Ira Needles Boulevard), and SPA 41 (Part of West Hill District).

1.2 West Hill District Plan

The West Hill District Plan was approved by Council August 24, 1998, with modifications in June 22, 2009. The purpose of the West Hill District Plan is to guide land use development and environmental protection. It is the key planning document between the broad policies of the Official Plan and the more detailed stages of development and environmental protection achieved through the review and approval of various planning applications. The lands are currently shown on Map 1 and Map 2, as follows:

Map 1: Land Use Concept

- Mixed Use Activity Node
- Industrial
- Arterial Commercial
- Parkland
- Collector Road

Map 2: Environmental Plan

- Constraint Level One Area
- Constraint Level Two Area
- Recommended Future Community Trail
- Open Space Greenways

1.3 City of Waterloo Zoning By-law

The lands are zoned 'Mixed Use Commercial' (MXC) and 'Agriculture' (A) under Zoning By-law 1418. In addition, By-law 09-007 applies site specific provisions to a portion of the lands.

As you are aware, the City is currently completing a comprehensive review of its Zoning By-laws. The Second Draft of the Zoning By-law was presented to Council and the public for review and feedback in April of 2017. This draft identifies the subject lands as Mixed Use Neighbourhood Commercial (C2-40), Future Determination (FD), Open Space (OSI) and Waste Management (WM) zones. Also, Site By-law 86 applies to a portion of the lands. For further information related to the City's Comprehensive Zoning By-law Review please refer to the City's webpage: <http://www.waterloo.ca/en/business/zoningreview.asp>.

2.0 PROCESS

2.1 Class Environmental Assessment

As noted in your correspondence dated January 18, 2018, you opined that the extension of a collector road in this location would warrant a Schedule C Class Environmental Assessment. Based on our review of the Environmental Assessment Act and through discussions with the Municipal Engineers Association, IPPW staff have confirmed that a Class Environmental Assessment is not required for the creation of the proposed collector road.

2.2 Official Plan Amendment

It was also noted in your correspondence dated January 18, 2018, that the collector road extension would be a project to benefit from an integrated approach between the Municipal Class EA process and the Planning Act, and recommend that the Class EA be coordinated with an Official Plan Amendment. The end result of which would be the identification of a preferred alignment of the collector road on Schedule "E" of the Official Plan as well as the Land Use Concept of the West Hill District Plan.

IPPV staff have confirmed that an Official Plan Amendment is not required for the creation of the proposed collector road.

Notwithstanding the above, if a change in land use designation is proposed through the development of the lands, an amendment to the Official Plan will be required to re-designate the lands, or to apply any site specific policies through a Specific Provision Area (SPA).

In addition, an amendment to the West Hill District Plan is required. This amendment can be implemented through any of the herein referenced development applications submitted to the Planning Approvals Division.

2.3 Draft Plan of Subdivision

One or more Draft Plan of Subdivision(s) will be required for the creation of the proposed road and creation of other development land parcels, as may be required. Any Draft Plan of Subdivision will be subject to the requirements of a complete application, to be determined through a future pre-application consultation process, and subject to the statutory requirements of the Planning Act and the City's Official Plan.

2.4 Zoning By-law Amendment

To permit the development of the subject lands, approval of an amendment to Zoning By-law 1418 will be required to establish a zoning framework that aligns with the Business Employment designation of the Official Plan. If the City's new Comprehensive Zoning By-law comes into effect in advance of such an application being submitted, a Zoning By-law Amendment will still be required, as per the Planning Act. Any Zoning By-law Amendment application will be subject to the requirements of a complete application, to be determined through a future pre-application consultation process, and subject to the statutory requirements of the Planning Act and the City's Official Plan.

3.0 BACKGROUND EVALUATION

As discussed at our meeting, and subject to the confirmed process as noted above, it is our opinion that a background review of the possible alternatives for a collector road should be evaluated prior to proceeding with the detail design, subdivision applications and Zoning By-law amendments. The background review should consider the following:

3.1 Study Area

- Determination of the Study Area to be confirmed prior to commencing with the background review, to the satisfaction of City of Waterloo Planning Approval's staff.
- Documentation of each property, including existing conditions, property size and ownership. Please note that Owner Authorization form(s) will be required with the submission of any planning act applications.

3.2 Transportation

- Evaluation of need for the proposed collector road.
- Evaluation of warrant traffic improvements required for each alternative proposed.
- Evaluation of how possible alternatives will be impacted by other transportation construction work in the surrounding area, including Regional upgrades (i.e., Erb Street).
- To be prepared in connection with the City of Waterloo's Integrated Multi-modal Transportation Study (IMMTS).

3.3 Environmental Evaluation

As discussed at our meeting, it is recommended by City and GRCA staff that the environmental work be completed in stages. Particularly through a Stage EIS, to be prepared as follows:

Stage 1:

- Characterization of the ecological and hydrological attributes and functions of the wetlands and watercourses within the study area.
- Determine existing conditions, the significance and status of the natural features and, as it relates to the City's Official Plan, whether the wetlands are Locally Significant Wetlands or Other Wetlands, thereby identifying the applicable policy framework.
- In addition to the 1996 Subwatershed Plan, the Wetland Evaluation that was completed in February 2011 for a portion of the study area and the scoped EIS that was completed for the Cressman lands in December 2014 are available as background information.
- The Stage 1 Report is to be submitted for City and GRCA review and acceptance before proceeding to the next stage.

Stage 2:

- An evaluation of alternatives and the identification of the preferred alternative for the study area, based on the findings and conclusions of Stage 1 above and the applicable Official Plan, District Plan and GRCA policies.
- This evaluation would consider a range of criteria to address environmental, technical and land use planning considerations.
- Recommendations and mitigation measures to be identified in accordance with the preferred alternative.
- The Stage 2 Report is to be submitted for City and GRCA review and acceptance before proceeding to the next stage.

Stage 3:

- Property-specific, implementation focused evaluation.

- These evaluations would build on the previous two stages and be completed for each property at a time when development applications may be advanced.
- The Stage 3 reports would outline specific recommendations and mitigation measures to correspond to the property-specific development proposals.

Other Notes:

- A Terms of Reference (TOR) document shall be prepared prior to the completion of Stage 1, to the satisfaction of the City and GRCA.
- Stages 1 and 2 would be common to all properties within the study area and submitted as part of the background work for all future development applications along with the individualized Stage 3 Reports
- Pre-development monitoring in accordance with the City's Development Monitoring Protocol is required for all draft plans of subdivision. For additional information in this regard please contact Robyn McMullen at robyn.mcmullen@waterloo.ca. Such monitoring could be undertaken alongside the EIS work in preparation for future draft plan of subdivision applications.
- The City's Scoped Environmental Impact Statement review fee of \$944.50 is required, made payable to the City of Waterloo.

3.4 Servicing Connections and Stormwater Management

- Evaluation of servicing infrastructure, connections and required capacity for each alternative proposed.
- Evaluation of comprehensive stormwater management solutions for each alternative proposed.

3.5 Formal Submission Requirements – To Be Determined

Once and/or if a preferred location of a Collector Road is determined, any future plans of subdivision and/or Zoning By-law Amendment applications, and Official Plan Amendment as may be required will be subject to pre-application consultation meeting(s). The necessary formal submission requirements will be determined through that process, at that time.

For additional Regional comments and requirements please refer to the attached Regional Pre-Submission Comments dated March 27, 2018. If you require further clarification with respect to Regional requirements, please contact Adam Betteridge at abetteridge@regionofwaterloo.ca.

For additional GRCA comments and requirements please refer to the attached email containing GRCA comments dated April 3, 2018. If you require further clarification with respect to GRCA requirements, please contact Kaitlyn Rosebrugh at krosebrugh@grandriver.ca.

Please note the above noted requirements are based on the information provided by the applicant during the pre-application consultation process and based on staff's understanding of the development proposal at this time. Should new details and/or information become available through the development process, requirements may be subject to change.

I trust the foregoing is satisfactory, however should you have any questions please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, reading "Natalie Hardacre". The signature is fluid and cursive, with the first name "Natalie" and last name "Hardacre" clearly distinguishable.

Natalie Hardacre BES, MCIP, RPP
Development Planner

Planning Approvals

Integrated Planning & Public Works

City of Waterloo

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cc. Adam Betteridge, Region of Waterloo
Kaitlyn Rosebrugh, GRCA
Chris Pidgeon, GSP Group
Scott Patterson, Labreche Patterson & Associates

Appendix B – Draft Terms of Reference

West Waterloo North / South Collector Road
(The Boardwalk By-pass)

Terms of Reference (August 2018)

INTRODUCTION

1) Study Purpose

The purpose of the study and related planning applications is to determine the appropriate location for a new public road to connect The Boardwalk at Thorndale Drive to Erb Street West taking into account ongoing studies of the City of Waterloo and Region of Waterloo that have collectively considered a potential new road connection for the west side of Waterloo. The study will also determine an overall servicing strategy.

A pre-application meeting was held with City, Region and GRCA staff. At the pre-application meeting the Study Area was discussed and confirmed. City staff advised that a Class Environmental Assessment was not required as implementation of a new road would occur through future plan(s) of subdivision. The City advised that the new road has been identified in the City Development Charges By-law.

Comments at the pre-application meeting provided direction to the process for consideration of applications and recommended a phased approach. The first phase would include the background information and existing conditions to provide the recommended road alignment that would be addressed through an Official Plan Amendment and update to the Westhill District Plan to illustrate the road alignment. The second phase includes the property specific applications (plan of subdivision and zoning by-law amendment) to implement the road alignment.

The submission for the pre-application meeting included preliminary road network alternatives for the extension of The Boardwalk from Thorndale Drive to Erb Street West. The Region submitted comments as part of the pre-application process that provided information to assist with the scoping of road alternatives.

The City of Waterloo has recently completed a study that identifies the need for a north/south road connection between Erb Street West and The Boardwalk/Thorndale Drive. A Class Environmental Assessment was undertaken by the Region for Erb Street West and it was confirmed that the Class EA makes provision for the introduction of a new roundabout. The location of the roundabout on Erb Street West was presented to the Regional Planning and Works Committee and supported by the Committee. As a result of these studies, the focus of the studies associated with the Official Plan Amendment and update to the District Plan will be on the road alignment alternatives to extend a new road from Thorndale Drive/The Boardwalk to Erb Street West at the location identified at the Regional Planning and Works Committee which aligns with the existing signalized intersection at the commercial plaza on the north side of Erb Street West and is to the west of the Hydro Corridor and east of the existing Waterloo Commons commercial plaza.

2) Description of Study Area

The Study Area includes the lands to the north of The Boardwalk and Thorndale Drive; east of the Hydro Corridor and Regional Waste Management Centre; West of Ira Needles Boulevard; and, south of Erb Street West. The Study Area is illustrated on Figure 1 and also identifies the location of the potential roundabout on Erb Street West.

All lands within the Study Area are within the City Urban Area with a variety of land use designations, including Commercial, Employment and Open Space. The Study Area forms part of the Westhill District Plan. The Westhill District Plan identifies a road network for development of the area. The Westhill District Plan was updated through the approvals associated with The Boardwalk development. The Westhill District Plan identifies an extension of The Boardwalk to a connection with Ira Needles Boulevard.

Land uses within the Study Area include: existing residential uses, a golf course as an interim use pending development of a future Home Hardware store, stormwater management facilities and a commercial plaza. Prior to the construction of Ira Needles Boulevard and subsequent development, the land was used for agricultural purposes. Historical aerial photos show the lands under agricultural use and the changes to the landscape associated with the construction of roads and development of the lands. The landscape evolved through the development process and anthropogenic features were created as a result of the development.

Comprehensive natural heritage field surveys have been undertaken as part of previous studies. Work was completed in two broad survey areas. Extensive flora, fauna and aquatic field surveys were undertaken on 13 separate dates in 2016 and 2017. Details of the features within the Study Area from this information are further described below:

- No provincially designated features (e.g., Provincially Significant Wetland [PSW]; Areas of Natural or Scientific Interest [ANSI]) are found on or immediately adjacent to the Study Area.
- No regulated watercourses are present in the study area.
- There is intermittent drainage from the two SWM facilities towards the outlet / culvert at Erb Street West and from a dug pond on the golf course northerly into the wet area adjacent to the Region SWM facility.
- From the culvert at Erb Street West, stormwater runoff is conveyed underground via a piped municipal drain to a SWM pond approximately 750m to the north and ultimately into Clair Creek.
- Four ponds / unevaluated wetlands are present in the Study Area. Three additional wetlands are present on HEPC lands to the west / southwest. All wetlands (not including the golf course ponds) as mapped by GRCA are regulated by GRCA under O. Reg. 150/06

SCOPE OF WORK AND STUDY APPROACH

A phased approach is established to complete the study requirements for the implementation of a new road to connect Erb Street West with The Boardwalk. In general, the phases are as follows:

Phase 1

- Existing conditions characterization for ecological and hydrological features and functions of wetlands and watercourse within the Study Area
- Submission of a Planning Application to identify the road network in the Official Plan and update to the Westhill District Plan. This will include the identification and evaluation of alternatives, selection of the preferred alternative, and recommended plan and mitigation. The completion of this phase will result in the identification of a collector road on the Transportation Schedule in the City of Waterloo Official Plan.

Phase 2

- Planning application(s) that will be property-specific with focused evaluation to implement the approved road network. This may be done concurrently with the Official Plan Amendment and District Plan update or follow the approval and the details and design of the new road will be implemented through a plan of subdivision and associated conditions of approval.

Details associated with the tasks to be completed in each phase are provided below:

Phase 1 - Background Study and Existing Conditions Review and Planning Application Process (Official Plan Amendment and District Plan Update):

- 1) Existing Conditions Review – Environmental, Economic, Social
 - Complete topographic survey (i.e. Wetland boundaries, tree inventory, monitoring wells/piezometers, pressure transducers, complete any gaps)
 - Update overall Existing Conditions Base Plan, including location of existing municipal services
 - Inventory property ownership/develop legal boundary plan
 - Aerial Photo Analysis – Inventory and Chronology
 - Scoped Hydrogeological Investigation
 - i. Characterize Geological and Hydrogeological Setting
 - ii. Geological Cross-sections
 - iii. Source Water Protection Screening
 - iv. Assess Wetland / Groundwater Interaction
 - Surface Water Characterization - Summarize Existing drainage characteristics and prepare Hydrologic/Hydraulic Models
 - Transportation - will rely on study and analysis undertaken by the City and Region
 - Stage 1 EIS will include the following, to be documented in a Stage 1 EIS Report submitted for City and GRCA review and acceptance, before proceeding to Stage 2 (details are provided in Appendix B:
 - i. Consolidation and review of all available background information (ecological and hydrogeological) and 2018 field survey results
 - ii. Characterization of the ecological and hydrological attributes and functions of the wetlands and watercourses within the study area, using standard protocols and guidelines (e.g., Ecological Land Classification, breeding bird surveys, spring amphibian breeding surveys, SAR bat habitat assessment surveys etc.).
 - iii. Determine of the significance and status of the natural features and, as it relates to the City's Official Plan, whether the wetlands are Locally

Significant Wetlands or Other Wetlands, thereby identifying the applicable policy framework.

- 2) Establishment of Evaluation Criteria for Road Alternatives and Infrastructure Requirements
 - Evaluation criteria will be established to apply to the alternatives and determination of the preferred alternative. .
- 3) Identification / Assessment of Road and Infrastructure Alternatives
 - An evaluation of alternatives based on the applicable environmental, economic and social criteria.
 - Alternatives will be based on 3 sections of the road, including:
 - i) Connection of the new road with Erb Street West and intersection design
 - ii) Continuation of The Boardwalk based on the general location and alignment currently identified in the Westhill District Plan
 - iii) Extension of The Boardwalk beyond the Westhill District Plan alignment to Erb Street West
- 4) Submission of Official Plan Amendment and District Plan Update with Road and Infrastructure and Servicing Alternatives
- 5) City and Agency Review of Applications
- 6) Selection of Preferred Alternative
 - Selection of the preferred alternative based on all evaluation criteria and provision of recommendations and mitigation measures.
- 7) Informal Public Meeting for Public Input on the Application
- 8) Formal Council Meeting and Consideration of Staff Recommendation

Phase 2 – Planning Application Approval Process and Detailed Design for Specific Lands:

- 9) Completion of Property Specific Reports and Submission of Planning Applications (Plan of Subdivision and Zone Change)
 - Transportation Impact Study, as required
 - Functional Servicing Report
 - Stage 2 EIS studies will be completed in support of specific development applications, with results, conclusions and recommendations submitted for City and GRCA review and acceptance. These reports will include:
 - Any additional information, as available
 - Confirmation / refinement of natural heritage constraints identified through the Stage 1 study
 - Demonstration of compliance with applicable policy and guidelines at the municipal/regional, provincial and federal levels.
 - An impact assessment for the specific site plan in question, including recommended measures to mitigate impacts
 - Conclusions and recommendations

- o Vegetation and flora. Impact on feature and function of vegetation communities and flora, considering ecological significance (type, size, composition, species of conservation concern) and sensitivity/susceptibility (e.g., mortality, stress, composition change)

9) Application Review Process for Planning Applications

10) Planning Application – Draft Plan of Subdivision Approval with Conditions of Approval

11) Detailed Design and Registration of Draft Plan of Subdivision

STUDY DELIVERABLES

Phase 1 – Submission with Official Plan Amendment and District Plan Update:

- Planning Justification Report
- Existing Conditions Report - Servicing Overview Report, including Preliminary Stormwater Management
- Scoped Environmental Impact Study

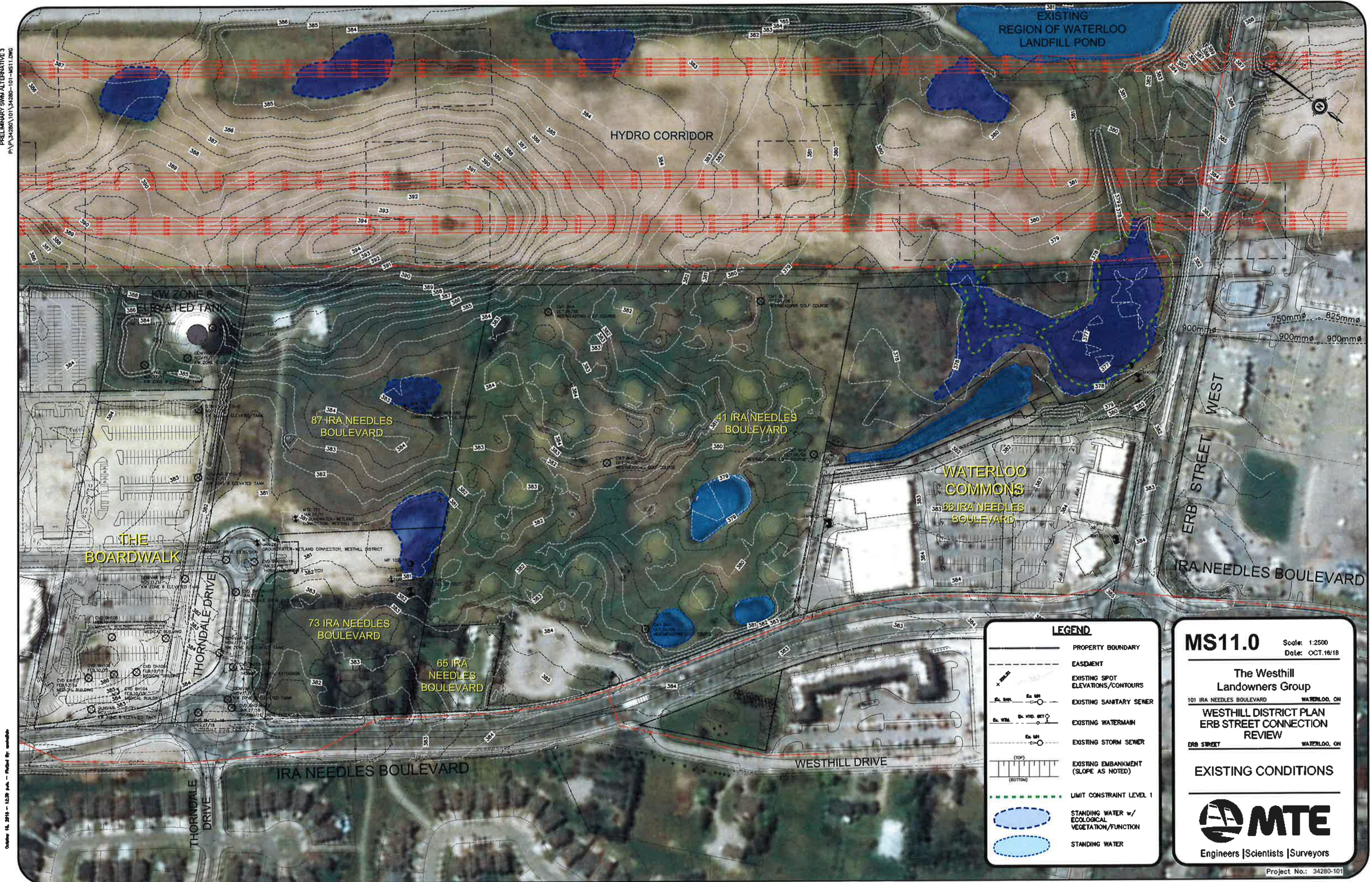
Phase 2 – Submission with Plan of Subdivision and Zone Change Application to Final Approval with Detailed Design

- 1) Planning Justification Report
- 2) Functional Servicing Report, including Preliminary Stormwater Management
- 3) Functional Road and Roundabout Design
- 4) Updated Transportation Impact Study, as required
- 5) Updated Environmental Impact Study, as required
- 6) Hydrogeological Report

Other reports may be identified at the time of the pre-application submission for the plan(s) of subdivision.

**Appendix C –
DC Background Report Study – Ira
Needles Blvd By-Pass Project Page**

Appendix D – Stormwater Management Alternatives



LEGEND

	PROPERTY BOUNDARY
	EASEMENT
	EXISTING SPOT ELEVATIONS/CONTOURS
	EXISTING SANITARY SEWER
	EXISTING WATERMAIN
	EXISTING STORM SEWER
	EXISTING EMBANKMENT (SLOPE AS NOTED)
	LIMIT CONSTRAINT LEVEL 1
	STANDING WATER w/ ECOLOGICAL VEGETATION/FUNCTION
	STANDING WATER

MS11.0

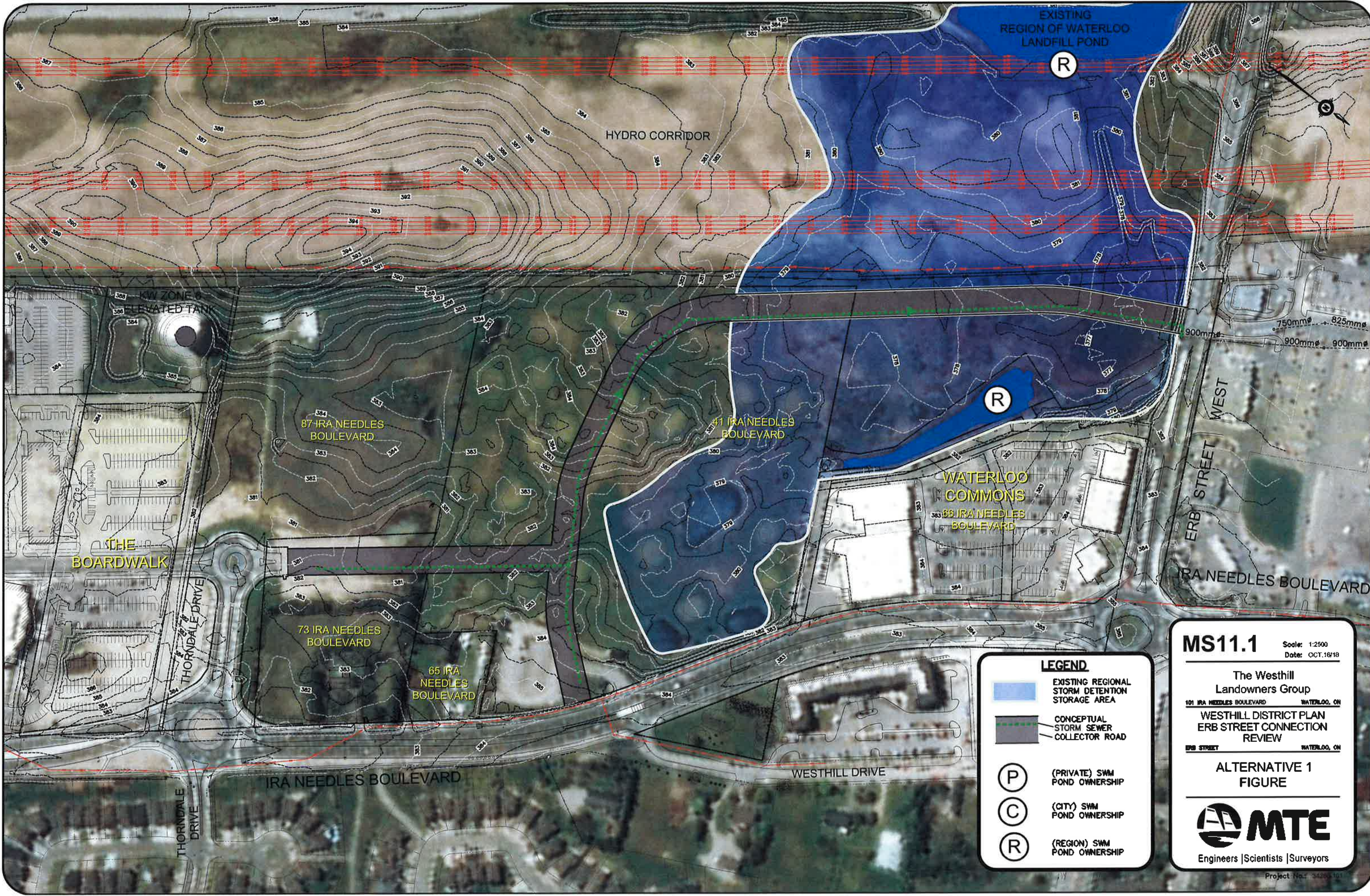
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Date: OCT. 16/18

The Westhill
Landowners Group
101 IRA NEEDLES BOULEVARD WATERLOO, ON
WESTHILL DISTRICT PLAN
ERB STREET CONNECTION
REVIEW
ERB STREET WATERLOO, ON

EXISTING CONDITIONS

MTE
Engineers | Scientists | Surveyors

Project No.: 34280-101



LEGEND

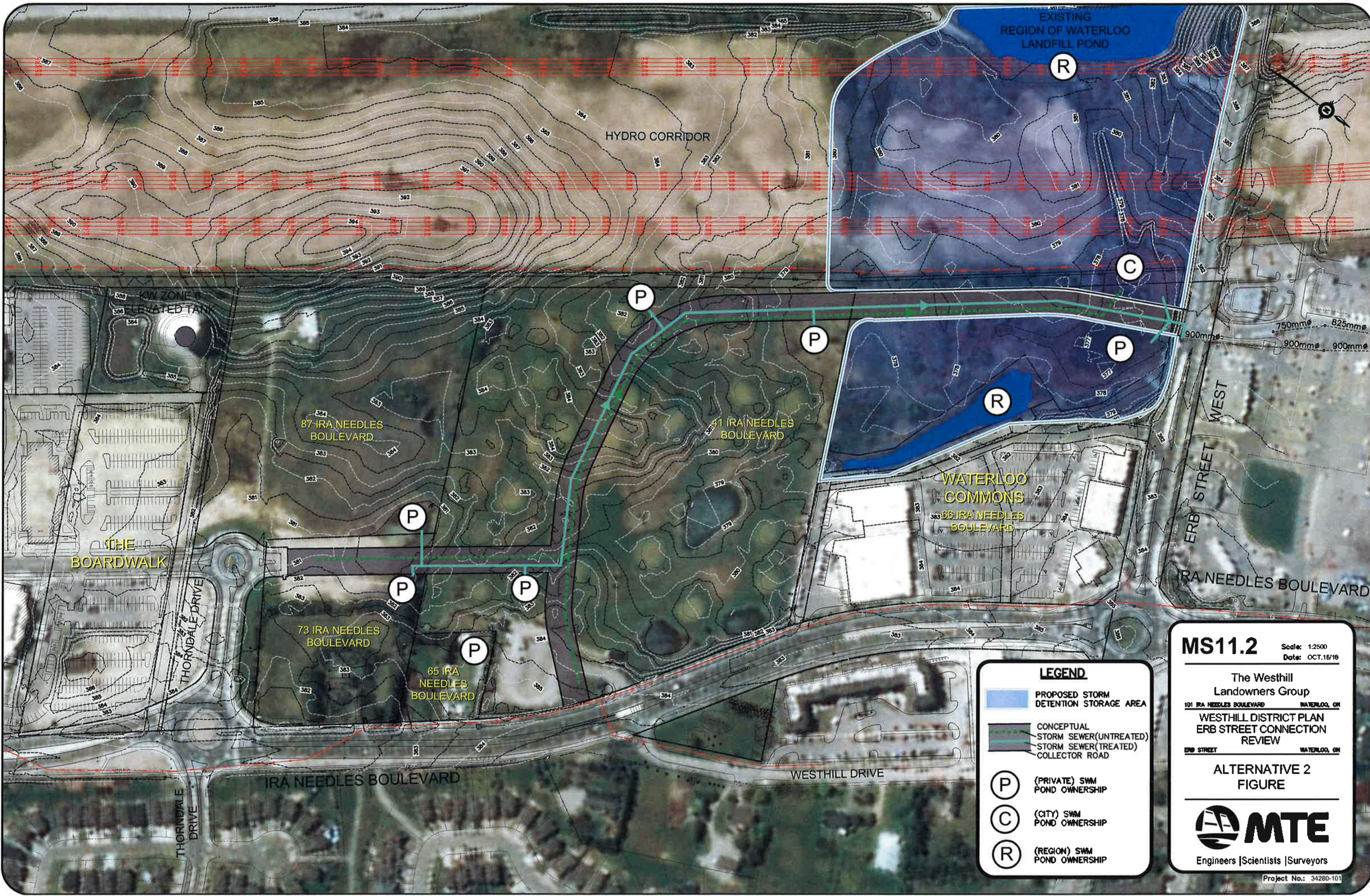
- EXISTING REGIONAL STORM DETENTION STORAGE AREA
- CONCEPTUAL STORM SEWER COLLECTOR ROAD
- (P) (PRIVATE) SWM POND OWNERSHIP
- (C) (CITY) SWM POND OWNERSHIP
- (R) (REGION) SWM POND OWNERSHIP

MS11.1 Scale: 1:2500
Date: OCT.16/18

The Westhill
Landowners Group
101 IRA NEEDLES BOULEVARD WATERLOO, ON
WESTHILL DISTRICT PLAN
ERB STREET CONNECTION
REVIEW
ERB STREET WATERLOO, ON

**ALTERNATIVE 1
FIGURE**

MTE
Engineers | Scientists | Surveyors
Project No. 34280-101

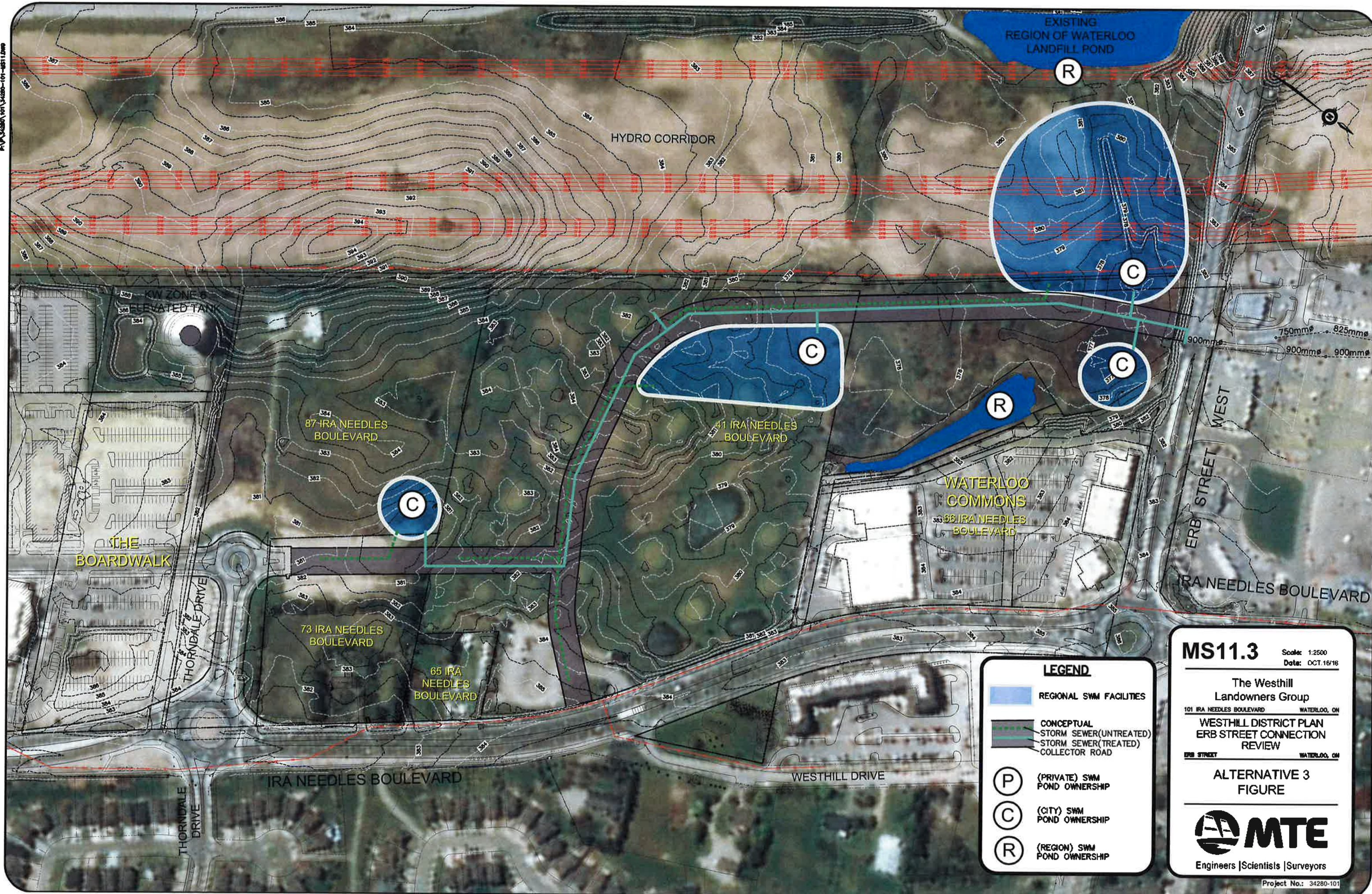


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Date: OCT.16/18

The Westhill
Landowners Group
101 IRA NEEDLES BOULEVARD WATERLOO, ON
WESTHILL DISTRICT PLAN
ERB STREET CONNECTION
REVIEW
ERB STREET WATERLOO, ON

ALTERNATIVE 2
FIGURE

MTE
Engineers | Scientists | Surveyors



LEGEND

- REGIONAL SWM FACILITIES
- CONCEPTUAL STORM SEWER (UNTREATED)
- STORM SEWER (TREATED)
- COLLECTOR ROAD
- (P) (PRIVATE) SWM POND OWNERSHIP
- (C) (CITY) SWM POND OWNERSHIP
- (R) (REGION) SWM POND OWNERSHIP

MS11.3 Scale: 1:2500 Date: OCT.16/16

The Westhill Landowners Group
101 IRA NEEDLES BOULEVARD WATERLOO, ON

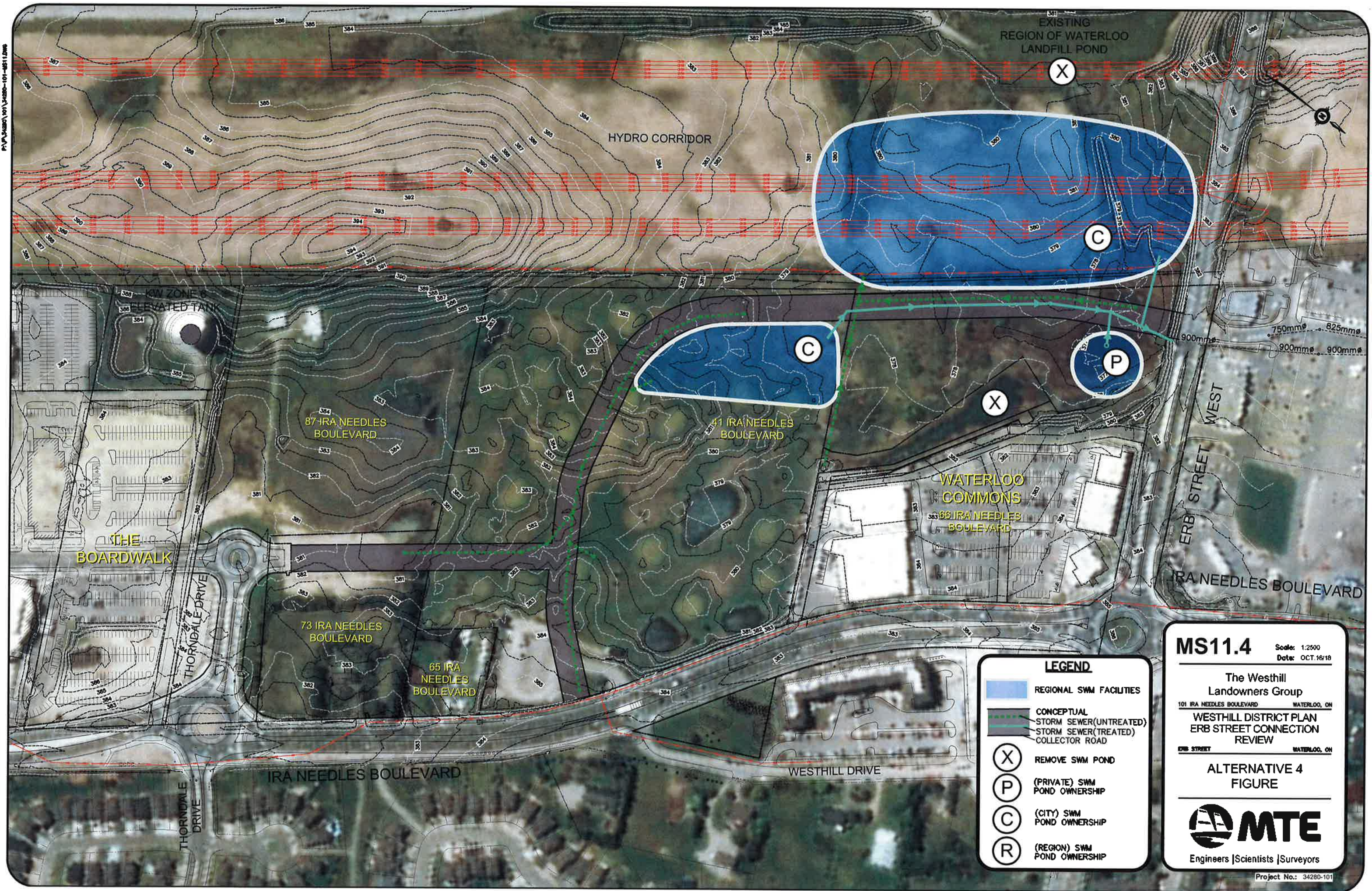
WESTHILL DISTRICT PLAN
ERB STREET CONNECTION REVIEW

ERB STREET WATERLOO, ON

ALTERNATIVE 3
FIGURE

MTE
Engineers | Scientists | Surveyors

Project No.: 34280-101



LEGEND

- REGIONAL SWM FACILITIES
- CONCEPTUAL STORM SEWER (UNTREATED)
- STORM SEWER (TREATED) COLLECTOR ROAD
- (X) REMOVE SWM POND
- (P) (PRIVATE) SWM POND OWNERSHIP
- (C) (CITY) SWM POND OWNERSHIP
- (R) (REGION) SWM POND OWNERSHIP

MS11.4 Scale: 1:2500 Date: OCT 16/18

The Westhill Landowners Group
101 IRA NEEDLES BOULEVARD WATERLOO, ON

WESTHILL DISTRICT PLAN
ERB STREET CONNECTION REVIEW

ERB STREET WATERLOO, ON

ALTERNATIVE 4
FIGURE

MTE
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Project No.: 34280-101