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TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON DECEMBER 1, 2015
FROM:	JOHN BRAAM, P. ENG. MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	APPOINTMENT OF CONSULTING ENGINEERS FOR DESIGN AND CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES

RECOMMENDATION

(a) That, on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to the appointment of Consulting Engineers for the 2015 Stormwater Management Facility (SWMF) Design and Construction program in accordance with the 2016 Growth Management Implementation Strategy (GMIS):

- (i) Stantec Consulting Ltd. **BE APPOINTED** Consulting Engineers to complete the Functional Design, Detailed Design, Inspection and General Construction Administration of the North Lambeth P9 SWMF (ESSWM-DCNLP9), in the total amount of \$427,165 (plus a further \$136,042 for contingency, provisional items and allowances), excluding HST;
- (ii) Development Engineering (London) Limited **BE APPOINTED** Consulting Engineers to complete the Functional Design, Detailed Design, Inspection and General Construction Administration of the Parker SWMF (ESSWM-PKR), in the total amount of \$530,660 (plus a further \$160,256 for contingency, provisional items and allowances), excluding HST;
- (iii) IBI Group Inc **BE APPOINTED** Consulting Engineers to complete the Functional Design, Detailed Design, Inspection and General Construction Administration of the Pincombe Drain SWMF 3 (ESSWM-PD3), in the total amount of \$365,060 (plus a further \$102,706 for contingency, provisional items and allowances), excluding HST;
- (iv) MTE Consultants Inc. **BE APPOINTED** Consulting Engineers to complete the Detailed Design, Inspection and General Construction Administration of the Stoney Creek SWMF No. 2 (ESSWM-SC2), in the total amount of \$209,608 (plus a further \$85,249 for contingency, provisional items and allowances), excluding HST;

it being noted that the consulting fees for the projects identified in (a) above are in accordance with the estimates on file, which are based upon the Fee Guideline for Professional Engineering Services, 2015, recommended by the Ontario Society of Professional Engineers; and in accordance with Section 15.2 (e) of the Procurement of Goods and Services Policy;

- (b) the financing for these works **BE APPROVED** in accordance with the "Sources of Financing Report" attached hereto as Appendix "A";
- (c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with these works;

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- (d) the approvals given herein **BE CONDITIONAL** upon the Corporation entering into a formal contracts with these consultants for the works; and
- (e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contracts or other documents, if required, to give effect to these recommendations.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

CWC – November 3, 2015. “Appointment of Consulting Engineers for Design and Construction of Stormwater Management Facilities.”

CWC – October 6, 2015. “Dingman Creek Subwatershed: Stormwater Servicing Strategy, Schedule C Municipal Class Environmental Assessment.”

SPPC – May 11, 2015. “Growth Management Implementation Strategy (GMIS): 2016 Annual Review and Update.”

SPPC – June 23, 2014. “Approval of 2014 Development Charges By-law and DC Background Study.”

2015-2019 CORPORATE STRATEGIC PLAN ALIGNMENT

The Stormwater Management Facilities Design and Construction program aligns with the Corporate Strategic Plan goal of providing new stormwater servicing to facilitate future growth across London (BUILDING A SUSTAINABLE CITY: 5. B. Responsible growth).

BACKGROUND

Purpose
Recommendation (a) appoints four qualified engineering consultants to conduct the design and supervise construction of stormwater management infrastructure. These facilities are identified in the 2014 Development Charges Study Update and 2016 Growth Management Implementation Strategy to be constructed in 2016 or 2017.

The consulting work outlined above will allow for the construction of an estimated \$14.4M of capital stormwater infrastructure and will facilitate approximately 296 hectares of mixed residential and commercial development.

The appointment of these Consultants allows the scheduling requirements of the 2016 Growth Management Implementation Strategy (GMIS) to be met, and follows a PricewaterhouseCooper’s 2014 audit recommendation to undertake one comprehensive Expression of Interest (EOI) for stormwater servicing projects. Due to the overall number of projects, the consultant appointments were brought forward over two committee meetings. The first set of assignments was brought forward at the November 3, 2015 Civic Works Committee.

Context
In 2014, PricewaterhouseCooper (PwC) undertook an audit of the stormwater service area and made several recommendations to improve administrative efficiency. One of these recommendations was to group projects of a similar nature into one large Expression of Interest (EOI) for approval by the Municipal Council. In response to this recommendation, the Stormwater Engineering Division has undertaken a two phase Request for Qualifications and Request for Proposal process for eight (8) stormwater servicing projects of a similar nature.

Agenda Item #	Page #

In the past, it was the practice to issue separate assignments for the two and sometimes three project phases of a stormwater pond design. In order to both improve efficiency and ensure alignment with the tight time lines of the Stormwater Management Facility “Just-in-Time” Design and Construction commitment, the various design phases have been combined into a single project assignment. Each assignment starts with the preliminary design and finishes with pond construction.

This new process has resulted in an overall reduction of eight separate procurement processes and 10 reports to this Committee. The improved process has resulted in both process efficiencies and operational savings.

The general Scope of Work which is included in this SWMF Design and Construction Program will be functional design, detailed design, tender preparation, construction administration, as well as supporting studies such as geotechnical, hydrogeological, fluvial geomorphological, archeological assessments, Subject Land Status Reports (SLSR) and Environmental Impact Studies (EIS) as required. Consultants who are awarded design and construction assignments will be subject to annual reviews to obtain a performance rating specific to delivering SWMF projects for consideration in future assignments.

In-house Stormwater Projects:

PwC also recommended that the City complete in-house design projects for stormwater servicing works. Since this recommendation the Stormwater Engineering Division (SWED) has undertaken several in-house design initiatives.

An in-house project was completed by SWED that included the design and construction of a stormwater sewer connection to allow for multifamily redevelopment at 1631, 1635 & 1639 Richmond Street. The site plan at 1635 Richmond Street will include development of 38 townhouses and 343 low-rise apartment units. The original budget for the storm servicing works was set at \$1.5M and included the construction of a large storm sewer along Richmond Street with a new outlet at the Thames River. City Staff re-evaluated the original design concept, and through an analysis that included site investigation and hydraulic computer modelling, developed an alternative option. The alternate option included identifying and then utilizing capacity in the existing stormwater sewer system. The new stormwater servicing works were constructed in August of this year. The overall construction cost of the project was \$200,000 for an overall cost saving of \$1.3M. A study of this nature would typically cost \$50,000 if conducted by a private consultant.

Another in-house project completed by SWED was the hydraulic computer modelling of a new stormwater sewer system in support of the reconstruction of Burlington Crescent currently being undertaken by the Construction Administration (CA) Division. A study of this nature would typically cost \$20,000 if conducted by a private consultant.

Another in-house project currently underway by SWED is a comprehensive inventory of the City’s waterways including channels, creeks, rivers and municipal drains. The completed inventory will play a major role in prioritizing future improvements and scheduling maintenance work. A study of this nature would typically cost \$250,000 if conducted by a private consultant.

The City is capable of completing in-house designs and construction projects and will seek opportunities to undertake projects in accordance with the PwC recommendations. London area Consulting Engineers provide a valuable service to the City and it is expected that, particularly for growth related projects, they will be relied on heavily to

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complete the large number of stormwater servicing projects scheduled over the next 5 years.

DISCUSSION

There are eight 2015 project assignments which were separated into three categories based on varying complexity, with Category 3 being the highest (Table 1). Four of these projects were awarded in *November 2015* (*italics*) with the four December 2015 projects in **bold**.

Table 1 – 2015 SWMF Projects and Associated Category

Category	2015 Project	Category Description
1	<ul style="list-style-type: none"> • Stoney Creek 2 • <i>Applegate Retrofit</i> 	<ul style="list-style-type: none"> • Small scale SWMFs • Private SWMFs, potentially Industrial lands • Site Plan SWM design • Retrofits to existing facilities • Hydrologic/Hydraulic - single event modelling
2	<ul style="list-style-type: none"> • Parker • North Lambeth P9 • Pincombe Drain 3 • <i>Dingman Creek B4</i> 	All of Category 1, plus: <ul style="list-style-type: none"> • Design and construction of Municipal SWMFs and/or Subdivision SWMFs • Hydrologic/Hydraulic/Erosion – dynamic and continuous simulation • Management of multi-disciplinary teams with several subconsultants • Public consultation
3	<ul style="list-style-type: none"> • <i>Tributary C SWMFs</i> • <i>Mud Creek East Branch SWM Servicing</i> 	All of Category 2, plus: <ul style="list-style-type: none"> • Regional SWMF strategies involving multiple ponds • Stream Remediation/Naturalization • Trenchless technologies with large diameter pipes • Extensive local knowledge • Demonstrated ability to deliver large projects

The Municipal Class Environmental Assessment (EA) or Master Plan requirements have been fulfilled for all of these facilities. The functional design and Environmental Impact Studies (EIS) have also been completed for some of these facilities in order to proceed directly to construction. The general Scope of Work for each facility is shown in **Table 2**.

Table 2 – General Scope of Work for Assignments

Project	Functional Design	SLSR/ EIS	Detailed Design and Tender	Construction Administration	GMIS Construction Year
Parker	✓	✓	✓	✓	2017
North Lambeth P9	✓	complete	✓	✓	2016
Pincombe Drain 3	✓	✓	✓	✓	2017
Stoney Creek 2	✓	✓	✓	✓	2016

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All facilities scheduled in the GMIS are subject to the Stormwater Management Facility “Just in Time” Design and Construction Process that was established in the 2014 Development Charges Study Update. In accordance with this process, the construction date of the SWMFs may change depending on the progress of development applications.

Consultant Selection Process:

A two stage Request for Expression of Interest/Request for Qualifications & Request for Proposal process was followed in accordance with Section 15.2(e) of the Procurement of Goods and Services Policy. The City received 14 expressions of interest.

Twelve consultants were determined to be qualified, and placed into three categories based on their previous experience with design and construction specifically related to stormwater management. Each became eligible for projects within their category and all lower categories. Category 3 consultants were separated by the additional criteria of having demonstrated the ability to deliver large projects to the City. Consultants who qualified in this RFQ process will also be considered for other projects over the next two years.

A Quality Based Selection process was used to award the consultant assignments. The twelve consultants submitted general proposals to complete the projects within their Category. These proposals were assessed on the qualifications of staff, cost competitiveness, previous experience and familiarity with the study area. Based on the RFP evaluation, consultants were matched with a project within their Category or lower.

The combined November and December 2015 consulting assignments allow for the construction of an estimated \$36M in stormwater servicing infrastructure to facilitate a total development area of approximately 560 hectares, encompassing a mixture of single family, multifamily, and commercial lands.

2015 Project Descriptions and Consultant Awards:

The following is a brief description of the projects and the recommended consultant. An index map is provided in Appendix “B” with individual location maps found in Appendices B1 through B4.

1. North Lambeth P9 – Stantec Consulting Ltd.

The North Lambeth SWMF P9 is a GMIS project located within the Dingman Creek Subwatershed (Appendix “B1”). In April 2015, the Schedule B Municipal Class EA for the North Lambeth P9 Stormwater Management Facility and Tributary Channel Improvement / Modification (P9 SWMF EA) was finalized. The tributary to which this pond outlets is not considered a “significant tributary” in the Dingman Creek EA study. As a result, the recommendations of the P9 SWMF EA are independent and complementary to the Dingman Creek EA; therefore, the North Lambeth P9 SWMF may proceed to construction as scheduled in 2016.

The construction of this wet pond will facilitate approximately 115 hectares of residential development within the Southwest Area Secondary Plan. The Environmental Assessment recommended a wet pond facility providing water quality, quantity, and erosion control and stream enhancements to provide for conveyance, along with natural heritage mitigation, passive recreation and habitat creation. This facility is scheduled for construction in 2016 in accordance with the GMIS with a budget of \$5.15M.

Stantec Consulting is recommended to proceed with the detailed design and construction of the North Lambeth P9 based on their ability to undertake the work and their background knowledge having completed the EA.

Agenda Item #	Page #

2. Parker SWMF – Development Engineering (London) Limited

The Parker SWMF is a GMIS project located within the Summerside Community Plan and the South Thames Subwatershed (Appendix “B2”). The construction of this facility will allow for approximately 115 hectares of residential development in southeast London. The need and justification for this project was identified through the Summerside District 2004 Stormwater and Stormwater Management Master Plan (Development Engineering, 2004). The Master Plan recommended that the Parker SWM Facility wet pond be constructed and located northeast of Jackson Road and Evans Boulevard. This facility is scheduled for construction in 2017 in accordance with the GMIS with a budget of \$4.55M. It should be noted that in 2004, the adjacent Natural Heritage System was not considered in the design of the stormwater infrastructure. As a result, the consultant will be revisiting the outlet system of the Parker SWMF and the design of the Jackson SWMF to meet current environmental standards.

Development Engineering is recommended to proceed with the detailed design and construction of the Parker SWMF based on their ability to undertake the work and their extensive background knowledge in the development of the existing Summerside Community District infrastructure and the construction of the first Summerside SWM Facility #1.

3. Pincombe Drain 3 – IBI Group Inc.

The Pincombe Drain SWMF 3 is a GMIS project located within the Dingman Creek Subwatershed (Appendix “B3”). This wet pond will service approximately 38 hectares of development in southwest London. The need and justification for this project was identified through the Pincombe Drain Municipal Class Environmental Assessment (Stantec Consulting, 2013) and confirmed by the Southwest Area Secondary Plan. The 2016 GMIS presently schedules the construction of this facility for 2017 with a budget of \$2.57M.

Council resolved the following (May 12, 2015) as an outcome of the 2016 GMIS process:

- b) the GMIS update BE APPROVED, as appended as Appendix ‘B’ to the staff report dated May 11, 2015, noting the following:
 - ii. in accordance with the Council approved Design and Construction of Stormwater Management Facilities Process, project design work for the Parker SWM facility and Pincombe Drain SWM 3 will commence in 2015;

Since this time, an Environmental Assessment for the Dingman Creek subwatershed has commenced (Dingman Creek EA). As required by the Council resolution above, the design of the facility can commence in 2015; however, the Pincombe Drain 3 facility is located within a significant tributary for which the design will rely on outputs from the Dingman Creek EA. Therefore, the design cannot be finalized and the facility cannot be constructed prior to the completion of the Dingman EA, scheduled for the end of 2017.

IBI Group Inc. is recommended to proceed with the detailed design and construction of the Pincombe Drain 3 facility based on their qualifications.

7. Stoney Creek SWMF 2 – MTE Consultants Inc.

The Stoney Creek SWMF 2 is a GMIS project located within the Stoney Creek Subwatershed (Appendix “B4”). The construction of this dry pond will facilitate approximately 28 hectares of residential development in northeast London. The need

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and justification for this project was identified through the Schedule 'B' Municipal Class Environmental Assessment (EA) Study for the Stoney Creek Undeveloped Lands (Delcan, 2008). The EA recommended alternative W2 which identifies the construction of a dry pond facility outside the wooded area located in the northwest quadrant of Adelaide Street North and Sunningdale Road West intersection. Quality control will be provided by the existing Stoney Creek 1N SWMF. A portion of the site will also provide base flow to the west branch of the Northdale Tributary. This facility is scheduled for construction in 2016 in accordance with the GMIS with a budget of \$2.1M.

MTE is recommended to proceed with the detailed design and construction of the Stoney Creek SWMF 2 facility based on their qualifications and suitability for this project.

Provisional Items and Allowances:

In the development of the work plans for each project assignment, a risk based scenario analysis was completed with the goal of minimizing the probability of consulting fee cost overruns. To ensure the best value for money several commonly incurred provisional items were included in the consultant appointments. These items include detailed archaeological investigations that could be triggered if artifacts are found onsite, extensive engagement with First Nations, additional survey work, and hours of construction supervision, if required. Any unutilized budget related to the project contingency, provisional items and allowances will be released at the conclusion of the project. The inclusion of these amounts from the onset of the project also aligns with PricewaterhouseCooper's 2014 audit recommendations.

Public Consultation:

Prior to construction of SWMFs, a public Environmental Impact Study (EIS) process will be completed for the Pincombe Drain SWMF 3, Parker SWMF, and Stoney Creek SWMF 2. The North Lambeth SWMF P9 is located in greenfield to service new development. A public EA and EIS process was previously undertaken for this facility in 2014.

CONCLUSIONS

Recommendation (a) appoints four qualified engineering consultants to conduct the design and supervise construction of stormwater management infrastructure. These facilities are identified in the 2014 Development Charges Study Update and 2016 Growth Management Implementation Strategy to be constructed in 2016 or 2017. A two stage process was followed to make recommendations under section 15.2(e) of the Procurement of Goods and Services Policy.

The consulting work outlined above will allow for the construction of an estimated \$14.4M of capital stormwater infrastructure and will facilitate approximately 296 hectares of mixed residential and commercial development.

The combined November and December 2015 consulting assignments allow for the construction of an estimated \$36M in stormwater servicing infrastructure to facilitate a total development area of approximately 560 hectares, encompassing a mixture of single family, multifamily, and commercial lands.

Acknowledgements

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This document has been prepared within the Stormwater Engineering Division by Shawna Chambers, P.Eng. in collaboration with David Gough, P.Eng, Chris McIntosh, P.Eng., and Paul Titus, C.E.T.

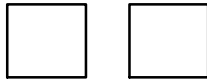
SUBMITTED BY:	REVIEWED AND CONCURRED BY:
SCOTT MATHERS, MPA, P.ENG. DIVISION MANAGER, STORMWATER	JOHN LUCAS, P.ENG. DIRECTOR, WATER AND WASTEWATER
RECOMMENDED BY:	
JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES & CITY ENGINEER	

November 23, 2015

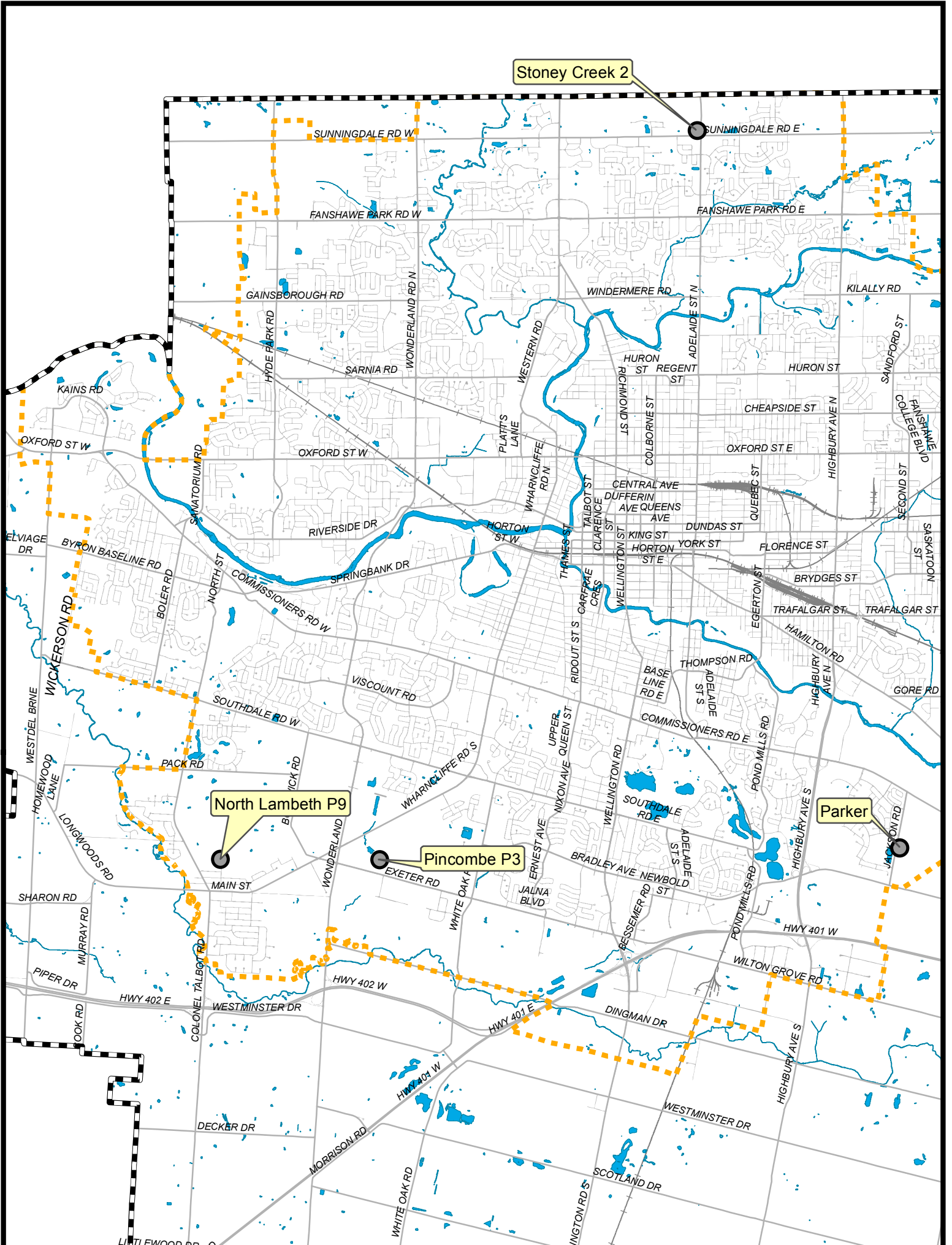
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Cc: John Freeman, Manager, Purchasing and Supply
 Pat Shack, Budget Analyst
 Peter Christiaans, Director, Development Finance
 All Consultants

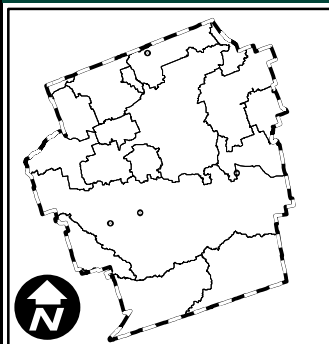
Attach: Appendix "A" – Sources of Financing
 Appendix "B" – Map Index
 Appendix "B1" – North Lambeth P9 Location Map
 Appendix "B2" – Parker Location Map
 Appendix "B3" – Pincombe P3 Location Map
 Appendix "B4" – Stoney Creek 2 Location Map



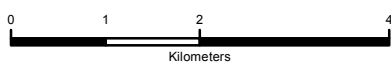
APPENDIX 'B'








SWM FACILITY INDEX MAP



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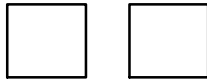
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-  Urban Growth Boundary
-  Road
-  Railroad
-  City Limits

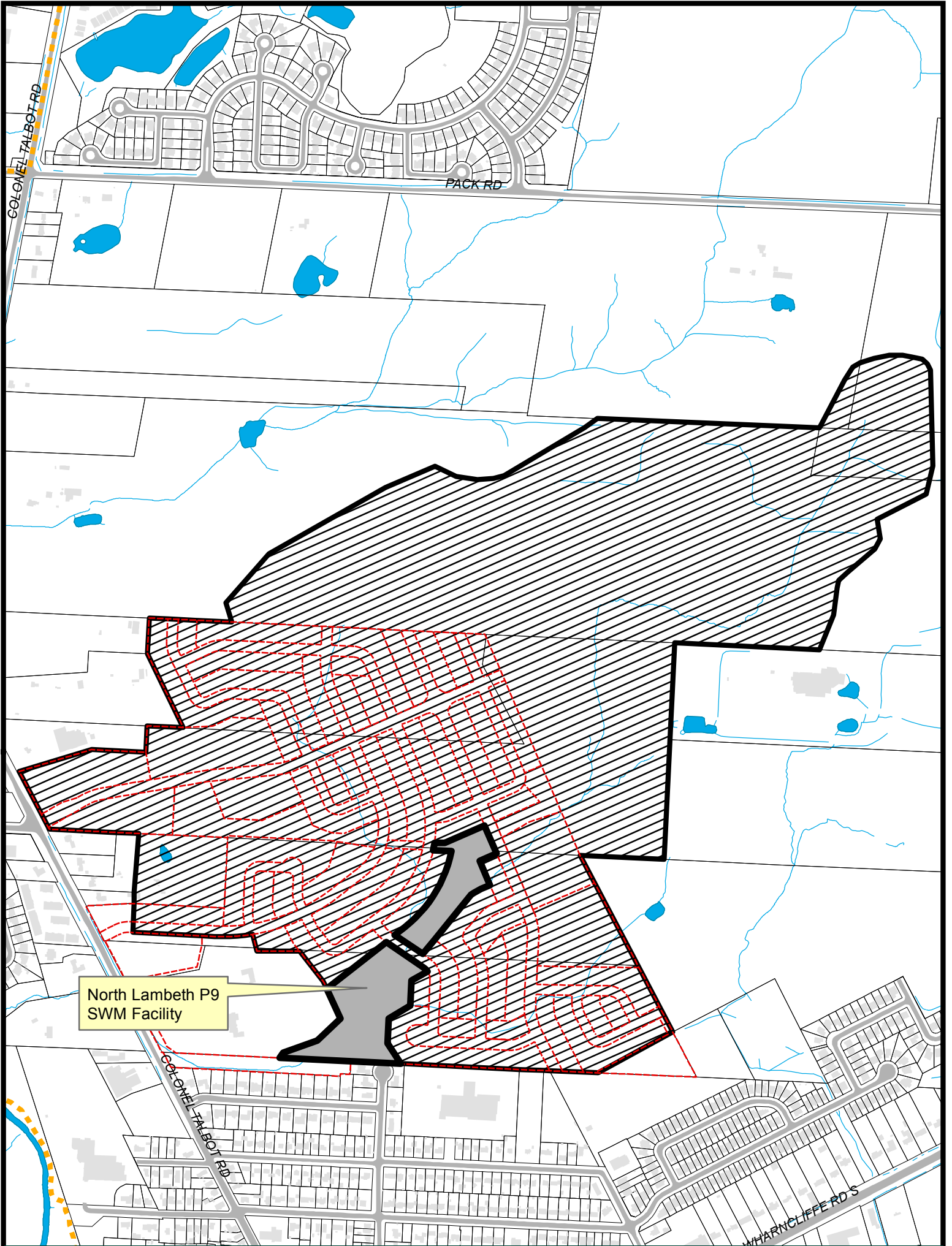
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October 8, 2015 PT



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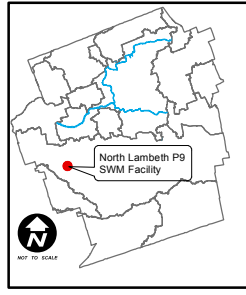


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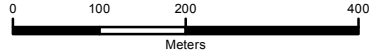


North Lambeth P9 SWM Facility

NORTH LAMBETH P9 SWM FACILITY



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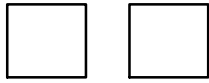
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- Proposed North Lambeth P9 SWM Facility
- North Lambeth P9 SWM Facility Drainage Catchment Area
- Land Parcel
- Proposed Subdivision Lotting
- Water Body
- Urban Growth Boundary
- Road
- Railroad
- City Limits

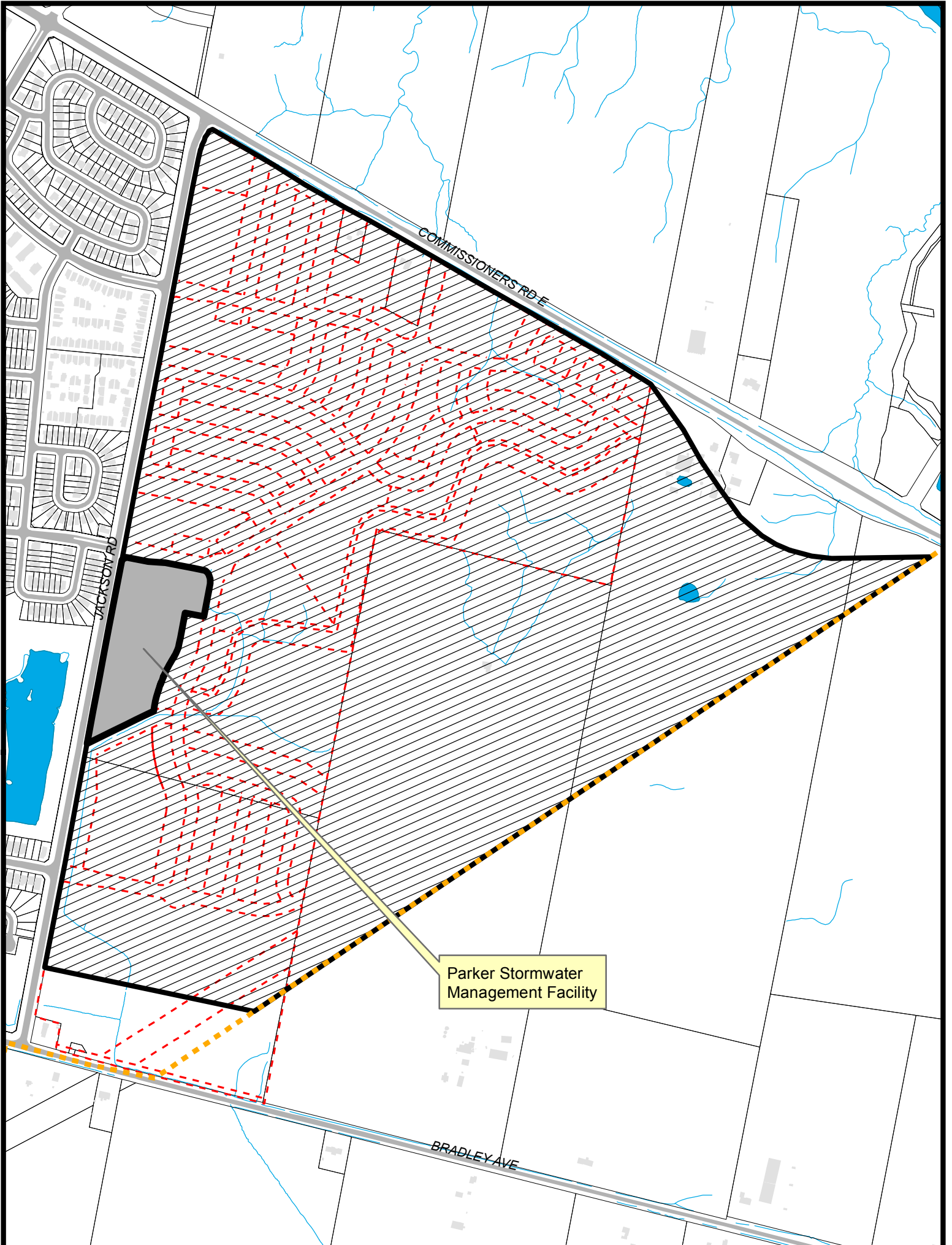
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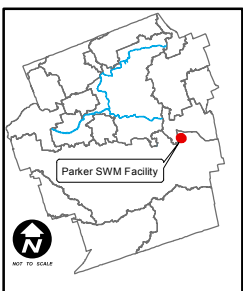


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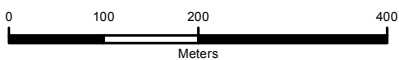


Parker Stormwater Management Facility

PARKER SWM FACILITY



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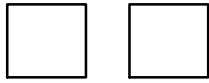
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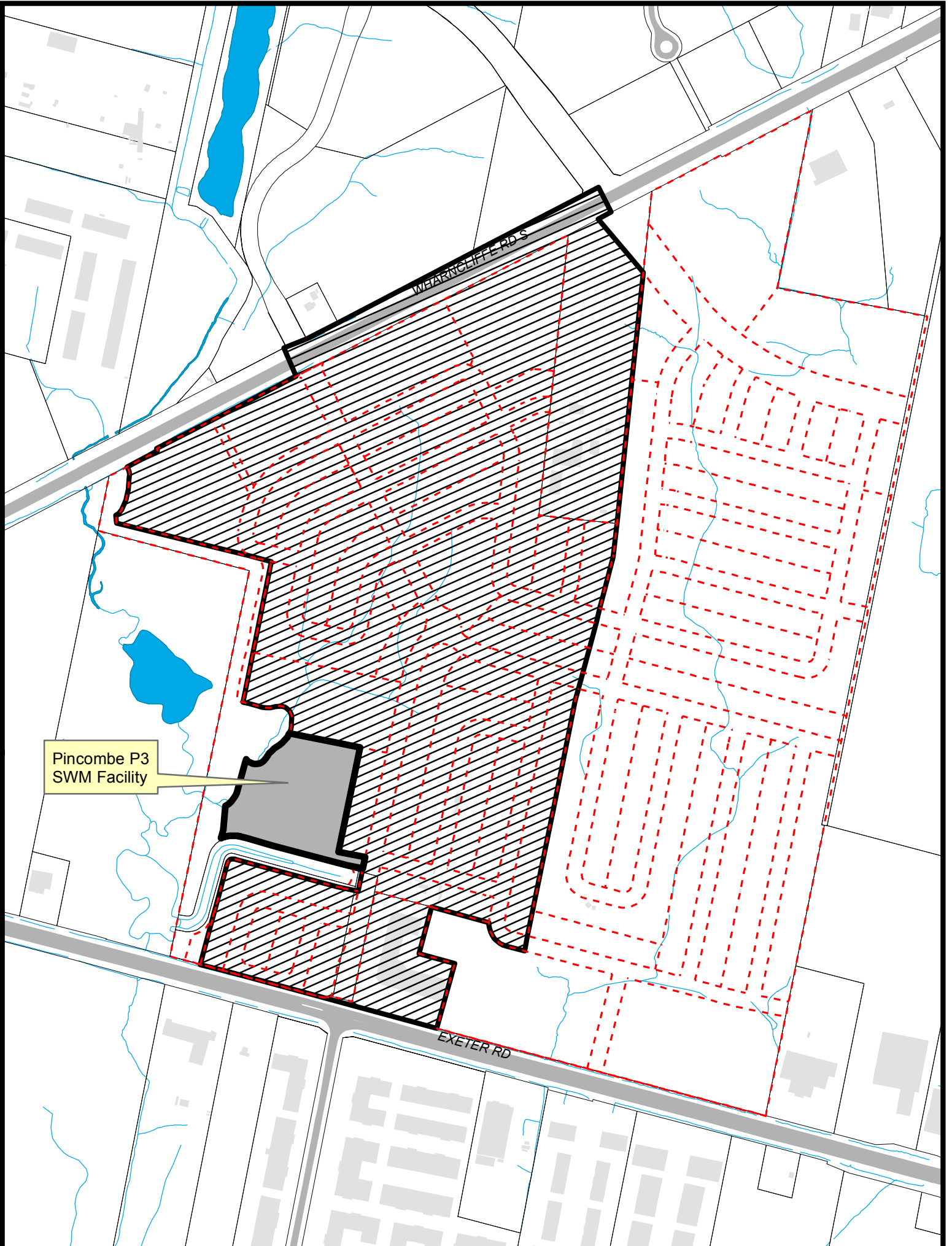
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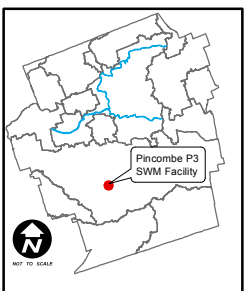
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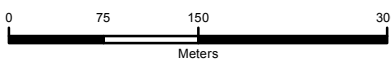
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


PINCOMBE P3 SWM FACILITY








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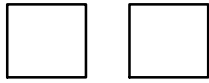
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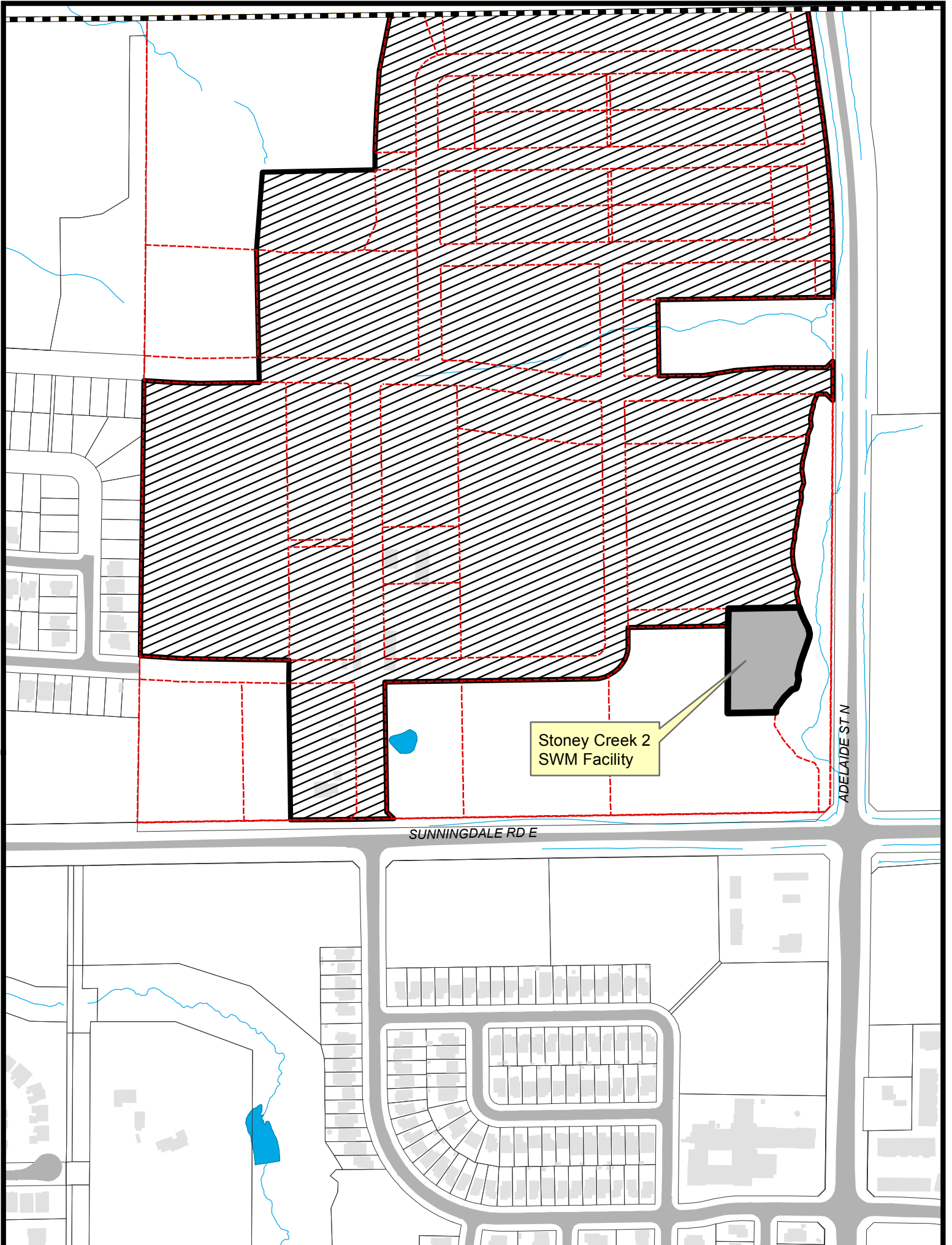
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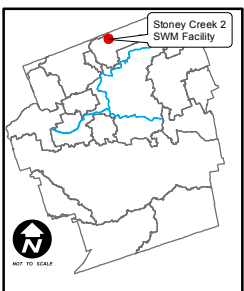


APPENDIX 'B4'

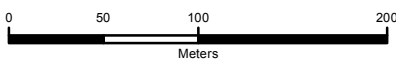


Stoney Creek 2 SWM Facility










STONEY CREEK 2 SWM FACILITY



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Legend:

-  Proposed Stoney Creek 2 SWM Facility
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