



Excellence Reliance Innovation

953 Maplevue Drive E – Block 193 Site Plan

Maplevue South (Innisfil) Ltd.

Functional Servicing Report

June 2024

The Jones Consulting Group Ltd.
229 Maplevue Drive East, Barrie ON L4N 0W5

REI-17055 (70)



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Disclaimer

This Report was prepared by **The Jones Consulting Group Ltd.** for **Mapleview South (Innisfil) LTD.** The material in the Report reflects **The Jones Consulting Group Ltd.**'s best judgment in light of the information available at the time of the Report preparation. Any use which a third party makes of this Report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. **The Jones Consulting Group Ltd.** accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this Report. This report has been prepared, in part based on the Subwatershed Impact Study (SIS) prepared by R.J. Burnside & Associates Ltd., dated September 2016.



Functional Servicing Report

Mapleview South (Innisfil) Ltd. – Block 192 Site Plan

953 Mapleview Drive East, City of Barrie

1. Introduction

1.1. Appointment

The Jones Consulting Group Ltd. (TJCG) was retained by Mapleview South (Innisfil) LTD. (Client) to provide engineering services for a proposed residential subdivision development located in the Hewitt's Secondary Plan Area (HSPA) southeast of Mapleview Drive and Prince William Way in the City of Barrie (City). The subdivision is to be known as the Mapleview South Subdivision. This Report pertains to the Block 193 Site Plan located in the northeast corner of the overall subdivision, east of Dallaire Street.

This *Functional Servicing Report* (FSR) has been prepared in support of the *953 Mapleview Drive – Block-193 Site Plan* prepared by S&C Architects Inc., dated June 6th, 2024, and demonstrates how the lands will be serviced by the surrounding municipal infrastructure.

In particular, this report examines the property's servicing in relation to:

- Stormwater Servicing
- Water Servicing
- Sanitary Servicing
- Roads and Grading
- Utility Servicing

1.2. Property Description

Block 193 is generally rectangular in shape and is comprised of approximately 0.63 hectares (ha) of land. The subject property is legally described as Part of Lot 19, Concession 11, Geographic Township of Innisfil, in the City of Barrie, County of Simcoe. A copy of the *953 Mapleview Drive – Block-193 Site Plan* prepared by S&C Architects Inc. and the proposed *Draft Plan of Subdivision* prepared by The Jones Consulting Group for the overall subdivision lands have been attached in **Appendix C**.



The site is situated southeast of the intersection of Maplevue Drive East and Prince William Way. It is bound to the north by Maplevue Drive East, to the east by a Future Residential Subdivision (Sandy Creek Subdivision), and to the south and west by a Future Residential Subdivision (Maplevue South Subdivision). The location of the subject property is shown in **Figure 1**.

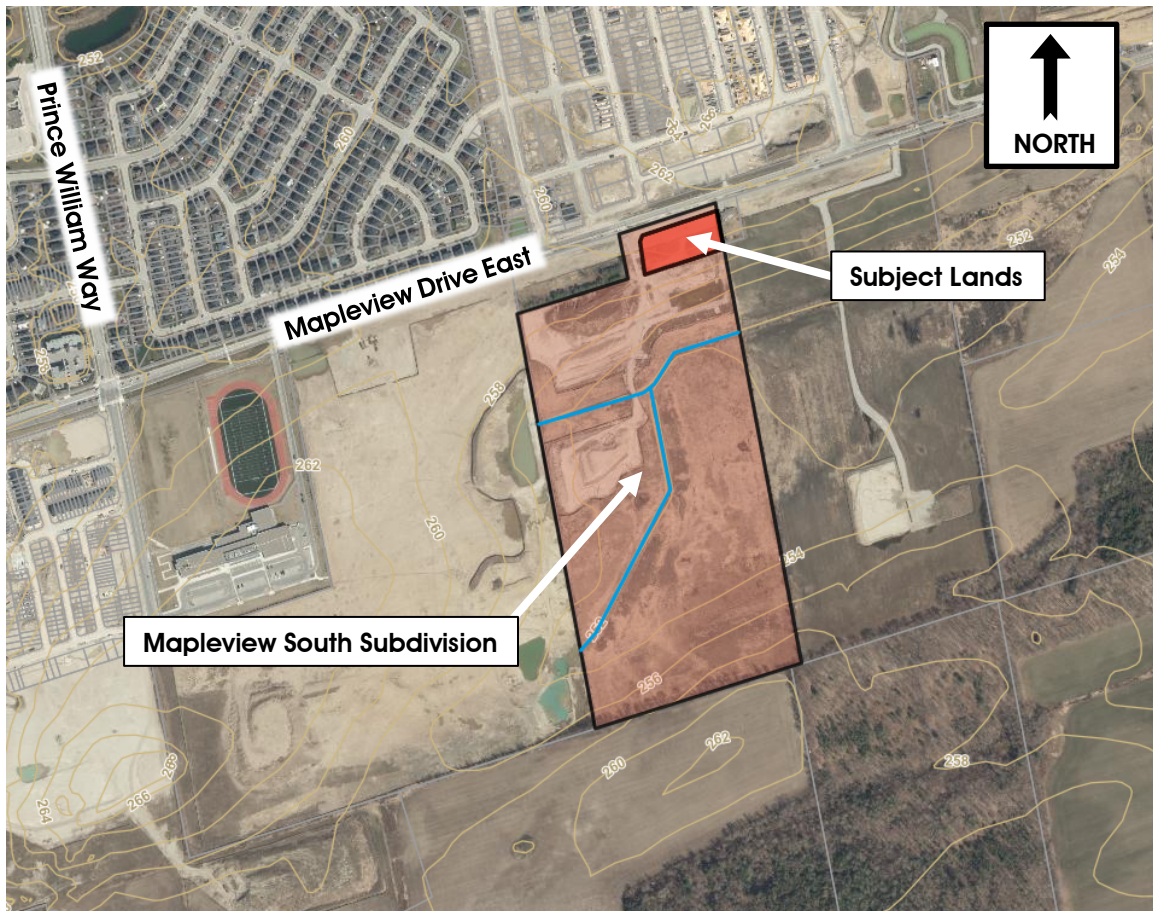


Figure 1 - Site Location

The existing site topography ranges in elevation from a maximum elevation of 261 meters at the northeast corner of the site adjacent to the Maplevue Drive East to a minimum elevation of 259 meters near the southern boundary of the block. Sandy Cove Creek generally drains from southwest to northeast, with the subject lands draining from the north and south towards the creek. Existing slopes range from 1% to 7%.

The developable limits of the Maplevue South Subdivision lands were established in connection with the *Hewitt's Secondary Plan* and the associated *Secondary Infrastructure Master Plans*, *The Hewitt's Secondary Plan Area Subwatershed Impact Study (SIS)* prepared by R.J. Burnside and



Associates Ltd. (September 2016), as well as the Natural Heritage System Core and Buffer Limits and Regional Floodplain Limits established through the SIS process and subsequent consultation with the Lake Simcoe Region Conservation Authority. The SIS has been utilized as a framework for developing a servicing strategy that is outlined in further detail in this report. As such, many of the assumptions noted in this FSR are based on the findings and recommendations of the SIS.

1.3. Existing and Proposed Land Use

The *Barrie-Innisfil Boundary Adjustment Act*, 2009, extended the southern boundary of Barrie to include 2,335 hectares (approximately) of land previously in the Town of Innisfil, which came into effect January 1, 2010. In response to the Boundary Adjustment, the City of Barrie completed in 2013 the Master Planning Process for the *Hewitt's Secondary Plan (East Annexation Lands)* and the associated Infrastructure Master Plans. These Master and Secondary Planning Documents along with the City's Growth Management Strategy have formed a framework for intensification and development activities taking place in the annexation lands. This framework is intended to ensure the development's successful implementation while meeting the City of Barrie's vision for growth.

The lands were historically used for agricultural practices comprised of mainly pasture and seasonal crops. There was a single detached dwelling unit and agricultural storage structures fronting onto Mapleview Drive East which were demolished in 2019. The branch of Sandy Cove Creek/Redfern Channel traverses the Mapleview South Subdivision from southwest to northeast, severing the overall subdivision lands into three parts. Drainage of the subject lands in its previous condition was directed southerly to these watercourses.

The site is designated as residential per the City of Barrie Official Plan 2051, Council adopted Version February 15, 2022. A Zoning By-Law Amendment was executed under By-Law Number 2022-054 and the site is currently zoned as Neighbourhood Mixed Use (NMU). The Zoning By-Law has been included in **Appendix C**.

The Block 193 Site Plan proposes the development of a 100-unit, 5 storey apartment building with a commercial area dedication, above and below ground surface parking, an outdoor amenity area, and internal roadway/fire route.



1.4. Overview of Municipal Infrastructure

1.4.1. Stormwater Servicing

Currently, there are no existing storm sewers or existing stormwater management facilities on the subject lands or within the areas immediately adjacent to the subject lands, and as such, a new storm sewer system and stormwater management facilities are required to be provided to support development of the subject lands. The proposed development will convey runoff to the adjacent Maplevue South Subdivision lands and Sandy Creek Estates lands, which will contain a receiving storm sewer system, and end-of-pipe SWMF, respectively. The receiving stormwater infrastructure within these lands will be constructed prior to construction of the Block 193 Site Plan.

The proposed storm sewer system and stormwater management facilities will be designed and constructed in accordance with the latest standards issued by the City of Barrie, Lake Simcoe Region Conservation Authority, Ministry of Environment, Conservation and Parks, and recommendations provided in the *Hewitt's Secondary Plan Area SIS*. Traditional end-of-pipe SWM facilities are proposed off-site while Low Impact Development (LID) controls are proposed throughout the site where feasible to meet Runoff Volume Control Targets (RVCT), Water Balance and provide additional quality control through infiltration of stormwater runoff.

A Detailed Stormwater Management Report has been completed by TJCG and submitted under separate cover. The Detailed Stormwater Management Report confirms that the new storm sewer system, LID's and end-of-pipe stormwater management facilities (by others) will be able to fully service the Maplevue South Block 193 Site Plan. The proposed stormwater servicing plan is described in **Section 2** of this report.

1.4.2. Water Servicing

According to the City of Barrie's tender drawings of *Maplevue Drive East Road Widening* prepared by RJ Burnside (Drawing PP-5 Sta. 8+640 to Sta. 8+800 included in **Appendix C**), there is an existing 300mm diameter watermain located within the north boulevard of Maplevue Drive East.

In addition to the existing 300mm diameter watermain, the City of Barrie is proposing to construct a 600mm diameter Transmission Watermain within Maplevue Drive East as part of their Infrastructure Improvements outlined in the City of Barrie's *Water Storage and Distribution Master Plan* (October 2013). The proposed Transmission Watermain is intended to supply adequate water supply and fire flows to development lands in the Maplevue South Subdivision and adjacent Areas.



Block 193 will connect to the proposed 300mm watermain within Dallaire Street of the Maplevue South Subdivision. The proposed water servicing system is described in **Section 3** of this report.

The City's *Water Map – July 2017* shows that the lands are located in *Zone 2 South*. A copy of the City's infrastructure map has been attached in **Appendix C**.

1.4.3. Sanitary Servicing

There is an existing 450mm diameter trunk sanitary sewer located in the south boulevard of Maplevue Drive East. The existing trunk sanitary sewer was constructed as part of the Maplevue Drive East Road Widening construction works. Refer to as-built drawing prepared by RJ Burnside & Associates Ltd. (Sheet No. PP-5 Plan and Profile STA. 8+640 to STA. 8+800) attached in **Appendix C**. The trunk sanitary sewer drains westerly by gravity which crosses the Dallaire Street and Maplevue Drive East intersection at existing sanitary maintenance hole SAH33887. The existing sanitary sewer will allow Block 193 to be adequately serviced for wastewater.

A 200mm diameter sanitary sewer is currently proposed within Dallaire street which will convey flows from the Maplevue South Subdivision lands in a northerly direction to the Maplevue Drive East trunk sanitary sewer. Block 193 is proposed to connect to the 200mm diameter sewer at Dallaire street via a 200mm diameter sewer at the western limit of the block.

The proposed internal sanitary collection system is described in **Section 4** of this report.

The reduced figures by R.J. Burnside & Associates Ltd., '*Hewitt's Secondary Plan Area SIS report*' for the *proposed sanitary sewer plan* have been provided for reference in **Appendix C**.

1.4.4. Road Network

The subject property is bound by Maplevue Drive East to the north. The proposed internal road network of the Maplevue South Subdivision makes provisions for the ultimate connection to future Dallaire Street. Block 193 is proposed to have a single entrance/egress location to future Dallaire Street at the site's western limit.



1.5. Supporting Documents

The following documents have been referenced in the preparation of this report:

- Maplevue South Subdivision Detailed Stormwater Management Report, The Jones Consulting Group Ltd., June 2023;
- Maplevue South Subdivision (953 Maplevue Dr. E.), Functional Servicing Report, The Jones Consulting Group Ltd., June 2023;
- 953 Maplevue Drive E – Block 193 Site Plan, Detailed Stormwater Management Report, The Jones Consulting Group Ltd., June 2024;
- Hewitt's Secondary Plan Area Subwatershed Impact Study, Lover's, Hewitt's and Sandy Cove Creeks, R.J. Burnside & Associates Ltd., September 2016;
- Maplevue South (Innisfil) Ltd. 953 Maplevue Drive, Barrie, Ontario, Proposed Draft Plan of Subdivision, Jones Consulting Group, Dec. 22, 2022;
- 953 Maplevue Drive – Block-193 Site Plan, S&C Architects Inc., June 6, 2024;
- City of Barrie, Sanitary Infrastructure Standard, S600, April 2023;
- City of Barrie, Drinking Water Infrastructure Design Standard, W500A, April 2024;
- City of Barrie, Water Storage and Distribution Master Plan, October 2013;
- City of Barrie, Multi-Modal Active Transportation Master Plan, January 2014;
- City of Barrie, Stormwater Infrastructure Design Standard, D700, June 2023;
- City of Barrie, Lot Grading and Drainage Infrastructure Design Standard, D703, April 2023;
- City of Barrie, Hewitt's Secondary Plan Transportation Improvements Municipal Class Environmental Assessment, Phases 3 & 4, adopted by council June 19, 2017;
- City of Barrie, Secondary Plan, Background Studies & Infrastructure Master Plan, Intensification and Annexed Lands, AMEC, October 2013;
- Ministry of the Environment, Design Guidelines for Drinking-Water Systems, 2008;
- Geotechnical Investigation Report – Maplevue South Development Block A (193), Barrie, Ontario, Cambium Inc., June 2024;
- Geotechnical Investigation Report, Maplevue South Development, Cambium Inc., December 2018;



- Hydrogeological Assessment, Maplevue South (Innisfil) Ltd., R.J. Burnside & Associates Limited; May 2023;
- Hydrogeological Brief – Block 193 953 Maplevue Drive, R.J. Burnside & Associates Limited, June 2024;
- 953 Maplevue Drive East (Block 193) Traffic Brief / Parking Study / Construction Traffic Management Plan, JD Engineering Inc., June 2024;
- Traffic Brief for Maplevue South (Innisfil) Ltd., JD Northcote Engineering Inc., May 2021;
- Functional Servicing & Stormwater Management Report, 969, 979 & 989 Maplevue Drive East Phase 1, Tatham Engineering Ltd, February 2022;
- Water Supply Analysis Report 953 Maplevue Drive East Maplevue South Proposed Residential Subdivision, Schaeffers Consulting Engineers Project 2023-5303, June 2023;



2. Stormwater Servicing

A comprehensive stormwater management plan has been established as part of the detailed design of Block 193 to address stormwater quality & quantity control, erosion & sediment control, and water balance criteria outlined in the City of Barrie Stormwater Infrastructure Design Standard, D700 (June 2023), the LSRCA *Technical Guidelines for Stormwater Management Submissions* (April 2022) and the MOE *Stormwater Management Planning and Design Manual* (2003). Key features of the proposed stormwater management plan include subsurface storm sewers for minor flow (5-year event) conveyance, an overland flow path for major flow (Regional event) conveyance, a Low Impact Development (LID) infiltration gallery, Oil Grit Separator (OGS) Unit, and offsite end-of-pipe (wet pond) facilities located on the adjacent Sandy Creek Estates Subdivision lands, and Bulut lands. A corresponding storm sewer design sheet illustrating safe conveyance of the 5-year storm event while meeting minimum and maximum pipe velocity requirements has been provided in **Appendix B** of this Report.

Runoff quantity control measures are addressed via the two (2) off site end-of-pipe SWMF's located on the adjacent Sandy Creek Estates Subdivision lands, and Bulut lands. Design coordination has occurred between The Jones Consulting Group (Mapleview South lands), Tatham Engineering (Sandy Creek Estates lands – SWMF12), and Schaeffers Consulting Engineers (Bulut lands – SWMF11) to ensure the future SWMF's have been designed to accept and control stormwater runoff from the subject lands, while meeting the design criteria targets of the City, LSRCA and the MOE. There is no anticipated increase in peak flow or runoff volume to the respective SWMF's beyond their intended design.

Runoff quality control targets are achieved through the implementation of a prescribed treatment train. To mitigate loading and minimize reliance on the end-of-pipe facilities, the stormwater management plan integrates an Oil Grit Separator (OGS) Unit and a Low Impact Development (LID) infiltration gallery as preliminary treatment components preceding the designated end-of-pipe facilities. As previously mentioned, there is no anticipated increase in peak flow or runoff volume to the respective offsite SWMF's beyond their intended design and as such, no impact is expected to the facilities' ability to achieve the water quality criteria they are designed for.

The comprehensive hydrologic analysis and stormwater management plan have been further delineated in the *953 Mapleview Drive E – Block 193 Site Plan, Detailed Stormwater Management Report*, prepared by The Jones Consulting Group Ltd. (June 2024). This document has been provided under separate cover as part of the development's detailed design submission.



3. Water Servicing

3.1. Supply, Distribution Zone, External Watermain

The subject property is located within *Pressure Zone 2 South* of the City of Barrie Water Distribution Network. *Pressure Zone 2 South* generally operates between elevations of 237m and 273m with variations in static pressure from 344 kPa (50psi) to 690 kPa (100psi). Elevations for the subject property vary from 250m to 261m; well within the *Zone 2 South* operating pressure range.

An existing 300mm diameter watermain within the Maplevue Drive East Right-of-Way traverses the frontage of the proposed development. A 300mm diameter watermain is proposed to be constructed within future Dallaire Street of the Maplevue South Subdivision lands which traverses the western limit of the subject lands.

The development is proposed to be serviced by connections to Dallaire Street at the site's entrance/egress location. A 100mm diameter domestic service and 150mm diameter fire service will provide the required water supply to the development with a single hydrant located within the site's interior.

3.2. Domestic Water Supply Design Flows

The development's projected design population and water supply flow rates are estimated based on City of Barrie Drinking Water Infrastructure Design Standard, W500A (April 2024), and MECP *Design Guidelines for Drinking Water Systems* (2008). The following design criteria have been used for calculating the person per unit (PPU) for residential flows.

<u>Unit Type</u>	<u>Design Population</u>
Medium Density Residential	2.57 persons/unit

The following design criteria has been used for calculating an equivalent population for commercial water service demands. It should be noted that the entire site area has been used in this estimate in an effort to provide a conservative approach.

Commercial Average Day Demand (ADD): 28,000L/ha/day

Residential Average Day Demand (ADD): 225 litres/capita/day

Design Population: $(28,000 \text{ L/ha/day} \times 0.63 \text{ ha}) / 225 \text{ litres/capita/day} = 79 \text{ people}$



Based on the above design criteria and the proposed *Site Plan* statistics, the total population for the Block 193 of the Maplevue South Subdivision has been calculated below.

<u>Unit Type</u>	<u>Design Population</u>
100 Medium Density Residential units x 2.57 PPU	257 people
Commercial Area Equivalent Population	79 people
Total projected population	336 people

Operating pressures within the water supply and distribution system are required to remain between 50 psi and 90 psi. A summary of the proposed demand scenarios for the development is provided below.

Design Criteria:

- *Average Day Demand (ADD) = 225 L/d/capita (City of Barrie Sanitary Design Guideline)*
- *Peak Hour Demand Factor (PHD) = 5.18 (MECP Drinking Water Guideline, 2008)*
- *Max. Day Demand Factor (MDD) = 3.46 (MECP Drinking Water Guideline, 2008)*
- *Min. Hour Demand Factor (MHD) = 0.22 (MECP Drinking Water Guideline, 2008)*
- *Fire Flow (FF) = 283 L/s (Fire Underwriters Survey, 1999)*

Peak Hour Demand:

$$Q = \text{Pop.} \times \text{ADD} \times \text{PHD}$$

$$Q = (336 \text{ persons} \times 225 \text{ L/d/capita} \times 5.18) / 86,400$$

$$Q = 4.53 \text{ L/s}$$

Minimum Hour Demand:

$$Q = \text{Pop.} \times \text{ADD} \times \text{MHD}$$

$$Q = (336 \text{ persons} \times 225 \text{ L/d/capita} \times 0.22) / 86,400$$

$$Q = 0.19 \text{ L/s}$$

Max. Day Demand:

$$Q = \text{Pop.} \times \text{ADD} \times \text{MDD} + \text{FF}$$

$$Q = (336 \text{ persons} \times 225 \text{ L/d/capita} \times 3.46) / 86,400 + 283 \text{ L/s}$$

$$Q = 286.03 \text{ L/s}$$



3.3. Fire Water Supply Design Flows

The fire flows for the site are determined by calculations from Part 2 of the "Water Supply for Public Fire Protection" (*Fire Underwriter Survey, 2020*). An estimate of the required fire flow is given by the following formula:

$$RFF = 220C\sqrt{A}$$

Where:

- RFF=Required fire flow (L/min.)
- C=Coefficient related to the type of construction
- A=Building total floor area (m²)

The fire flows calculated from the above formula are adjusted based on three building factors including occupancy contents, sprinklers and exposure. The original fire flow derived from the above formula is then increased or decreased based on these factors.

Based on the Fire Underwriters Survey calculations, the suggested required fire flow for the proposed developed is determined to be **283 L/s**, which is in accordance with the minimum criteria for commercial and residential fire flows (283 L/s and 100 L/s respectively) per the City of Barrie Drinking Water Infrastructure Design Standard, W500A (April 2024). Detailed Fire Underwriter Survey calculations are provided in **Appendix B** of this Report.

3.4. Water System Analysis

The SIS identifies that through the construction of the proposed external watermain capital projects by City of Barrie, there will be sufficient supply at the required flow and pressures to adequately service the proposed development.

A detailed Water Supply Analysis (WSA) report was completed by Schaeffers Consulting Engineers for the overall Maplevue South Subdivision, which will be updated to account for the water demand of Block 193 to confirm the required watermain pipe sizing and pressures for the system. Currently there are no anticipated conflicts associated with the required demand outlined in **Section 3.2**.



4. Sanitary Servicing

4.1. External Sanitary Servicing Framework

As previously mentioned in **Section 1.4.3.** of this report there is an existing 450mm diameter trunk sanitary sewer fronting the proposed development. In accordance with the *Mapleview Drive East Road Widening* completed by R.J. Burnside & Associates Limited, sanitary allocation for the subject lands will be available through the Hewitt's Creek Trunk Sewer extension.

The subject lands will convey flows to the existing Hewitt's Creek trunk sanitary sewer extension via the proposed 200mm diameter sanitary sewer within Dallaire Street with a connection at the proposed sanitary maintenance hole SAN 19A.

There are no external sanitary catchment areas draining to the subject lands. All internal sanitary drainage will be captured and conveyed by a local sanitary sewer to the proposed outlet described above.

Refer to Drawings SAN-1 & SAN-2 of the *Mapleview South (Innisfil) Ltd. 953 Mapleview Drive East drawings* (June 2023) in **Appendix A** for more details.

4.2. Allocated and Projected Sanitary Flows

The City of Barrie Sanitary Infrastructure Standard, S600 (April 2023) provides theoretical design criteria for future developments and their projected sanitary loading demands. Specifically, the guidelines provide design criteria for development based on the proposed land use.

Peak Domestic Sewage Flow Equation:

$$Q_{tot} = Q_p + Q_i = \left[\frac{PQM}{86.4} \right] + [I \times A]$$

Where: Q_{tot} = Total peak sewage flow (L/s)

Q_p = Peak domestic sewage flow (L/s)

Q_i = Extraneous sewage flow (L/s)

P = Design population in thousands (336 people = 0.336)

Q = Average daily flow (225 L/person/day)

A = Area of Development (Ha), 0.63 Ha



I = Units of extraneous flow (0.10 L/s/ha - Refer to The City of Barrie Sanitary Infrastructure Standard, S600 (April 2023))

M = Harmon Peaking Factor or Babbitt Peaking Factor (Use Larger)

$$M = \text{Harmon Peaking Factor}; M = 1 + \frac{14}{(P)^{0.5+4}} \quad (M \geq 2.0)$$

$$\text{Therefore:} \quad M = 1 + \frac{14}{(0.336)^{0.5+4}}$$

$$M = 4.06$$

OR

$$M = \text{Babbitt Peaking Factor}; M = \frac{5}{(P)^{0.2}} \quad (M \geq 2.0)$$

$$\text{Therefore:} \quad M = \frac{5}{(0.336)^{0.2}}$$

$$M = 6.22 \text{ (Use)}$$

$$Q_{tot} = \frac{0.336 \times 225 \times 6.22}{86.4} + 0.10 \times 0.63$$

$$Q_{tot} = 5.5 \text{ L/s} \leftarrow \text{total peak sewage flow}$$

4.3. Proposed Sanitary Servicing Scenario

The proposed works involve the construction of an internal gravity sanitary collector sewer system that will collect wastewater flows and convey them to the Dallaire Street sewer as described in **Section 4.1**.

The internal sanitary sewers will be constructed in accordance with the City's current engineering standards and the MECP guidelines. The sewers will consist of PVC DR35 pipe with a diameter of 200mm. The design has ensured that the minimum and maximum velocities are maintained under full flow conditions as well as the flushing velocities outlined in the City of Barrie standards.

Refer to **Drawing SAN-1** in **Appendix A** which illustrates the proposed drainage scenario for the subject lands and delineates the sanitary sewer subcatchment areas.

To illustrate the proposed drainage scenario in relation to allowable pipe capacities within the overall Maplevue South Subdivision, refer to the Maplevue South Subdivision Design Sheet in **Appendix B**, which has been revised to illustrate the proposed design flows generated by Block 193. Drawings SAN-1 & SAN-2 of the *Maplevue South (Innisfil) Ltd. 953 Maplevue Drive East*



drawings (June 2023) illustrate the overall Maplevue South Subdivision sanitary catchment areas and are provided in **Appendix C**.

5. Transportation

5.1. External Road Network

The City of Barrie *Hewitt's Secondary Plan Schedule '9D-2' Street Widening Plan* identifies two collector roads severing the Maplevue South Subdivision lands. From west to east, there is a minor collector road identified on the Maplevue South Draft Plan as McAush Street, and from southwest to east (south of the realigned channel), a major collector road noted as Terry Fox Drive. The Draft Plan layout and road designations for the Maplevue South Subdivision were developed in accordance with Hewitt's Secondary Plan.

The Maplevue South Lands are also bound to the west, south and east by future residential development lands owned by others that will ultimately connect to the two collector roads mentioned above.

Maplevue Drive East, which is currently a two-lane arterial road, in an east/west orientation is located along the northern boundary of Block 193.

5.2. Proposed Site Entrance & Internal Roadway

The subject lands will consist of a single internal roadway and entrance/egress point providing a connection to the Maplevue South Subdivision Lands via Dallaire Street. Dallaire Street is proposed to have an 18.0m Right-of-Way (ROW) cross-section designed in accordance with the City of Barrie's current ROW standards. The proposed site entrance and internal roadway have been designed to serve as a designated fire route for the development, ensuring secure passage for emergency vehicles to reach the structure.

Refer to the *953 Maplevue Drive – Block 193 Site Plan*, prepared by S&C Architects Inc. dated June 6th, 2024, attached in **Appendix C** for the proposed entrance alignment, ROW widths and internal roadway geometry. A Traffic Impact Study (Brief) in support of the Maplevue South Subdivision has been prepared by JD Northcote Engineering Inc., dated May 10th, 2021.

5.3. Traffic Study

A *Traffic Brief* for the proposed development was completed by JD Northcote Engineering Inc. (June 2024) to estimate the amount of traffic generated by the proposed development, identify



operational deficiencies and significant impacts to nearby roadways, review traffic flow patterns and intersection geometry, etc. Ultimately the analysis concluded that proposed development will not cause any operational issues and will not add significant delay or congestion to the local roadway network. The *Traffic Brief* completed by JD Northcote Engineering Inc., June 14th, 2024, is provided under separate cover.

6. Site Grading

The proposed grading will conform to the City of Barrie Lot Grading and Drainage Infrastructure Design Standard, D703 (April 2023). Road and Lot grading will generally be directed towards Dallaire Street which drains to an off-site end-of-pipe SWM facility identified as SWMF12 within the Sandy Creek Estates lands. A small portion of area along the northern boundary of the development will drain to the Maplevue Drive East storm sewer network in minor rain events (< 5-year storm), which directs runoff to an off-site SWM facility identified as SWMF11 within the Bulut development lands.

The lot grading plan **Drawing GP-1** has been provided in **Appendix A** for reference.

7. Utilities

It is expected that secondary utilities, including Bell, hydro, gas, and cable TV will be available via Dallaire Street within the Maplevue South Subdivision prior to the Block 193 Site Plan construction.

The utility providers for the *Hewitt's Secondary Plan Area* are Enbridge Gas, Innpower, Bell Canada and Rogers Cable.

Utility Servicing coordination for the entire Hewitt's Secondary Plan Area has been undertaken by the Hewitt's Land Owner's Group (HLOG). The developments' electrical and utility design is in accordance with municipal and utility provider standards. The Composite Utility Plan **Drawing CUP-1** is provided in **Appendix A** for reference.



8. Conclusions

This Functional Servicing Report identifies the recommended servicing design for the proposed Block 193 of the Maplevue South Subdivision. This Report, read in conjunction with the *Detailed Stormwater Management Report, Geotechnical Investigation, Hydrogeological Investigation, Water Network Analysis and Traffic Impact Study* outlines the proposed infrastructure required to service the lands in terms of stormwater, water servicing, wastewater, roads, grading, and conventional utilities.

This Report has been prepared based, in part, on the recommendations provided in *the Hewitt's Secondary Plan Area Subwatershed Impact Study* prepared by R.J. Burnside & Associates Ltd. (September 2016), as well as preliminary consultation with adjacent landowners. In particular, this Report has recommended the proposed development can be adequately serviced based on the following:

- The provision of storm infrastructure as outlined in **Section 2** and in the DSWMR (under separate cover);
- The provision of watermains as outlined in **Section 3**;
- The provision of gravity sanitary sewers as outlined in **Section 4**;
- The provision of Transportation Infrastructure as outlined in **Section 5** of this Report, and in the *953 Maplevue Drive East (Block 193) Traffic Brief / Parking Study / Construction Traffic Management Plan* prepared by JD Engineering Inc. (June 2024) submitted under separate cover;
- The provision of Site Grading as outlined in **Section 6**; and,
- The provision of Utility Infrastructure as outlined in **Section 7**.

It is recommended that this report be accepted as fulfilling the functional servicing requirements in support of Site Plan Approval.

All of which is respectfully submitted,
THE JONES CONSULTING GROUP LTD.

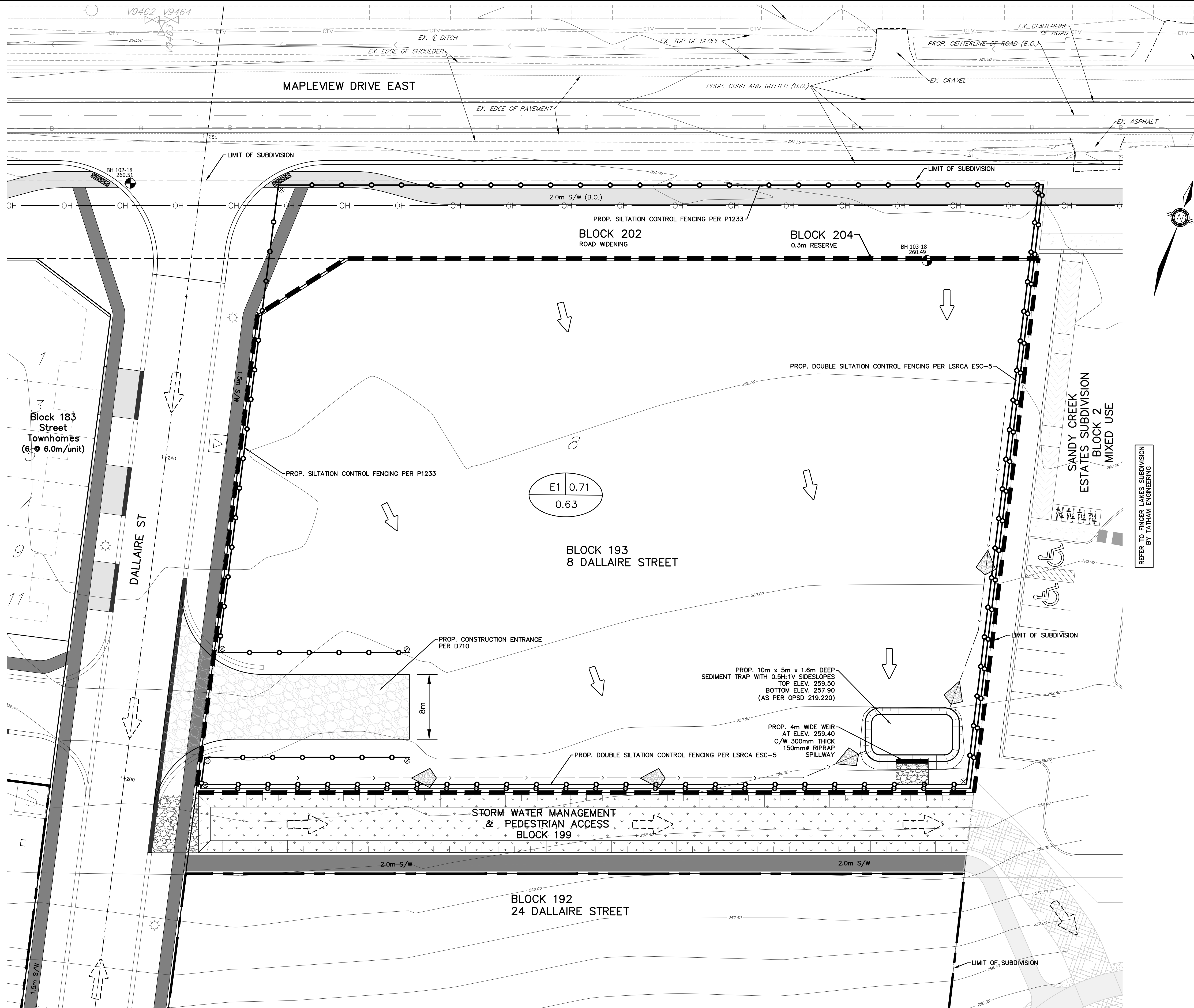


Appendix A

Engineering Drawings

- The Jones Consulting Group Ltd. – *Mapleview South (Innisfil) Ltd. 953 Mapleview Drive East, Block 193 Drawings*, Stamped June 21, 2024:

ESC-1	Erosion and Sediment Control Plan
ESC-2	Erosion and Sediment Control Plan – Notes and Details
GS-1	General Servicing Plan
GP-1	Grading Plan
STM-1	Storm Sewer Subcatchment Plan
SAN-1	Sanitary Sewer Subcatchment Plan
DS-1	Storm and Sanitary Design Sheets
WM-1	Water Swabbing Plan
CUP-1	Composite Utility Plan
PM-1	Pavement Marking, Signage and Parking Plan



KEY PLAN
NTS

LEGEND

- EXISTING CONTOUR AND ELEVATION
 - PROPOSED CUT-OFF SWALE
 - PROPOSED SEDIMENT CONTROL FENCE PER P1233
 - PROPOSED CONSTRUCTION ENTRANCE PER D710
 - PROPOSED ROCK CHECK DAM PER D786
 - PROPOSED CEDAR POST
 - STORM CATCHMENT AREA BOUNDARY
 - DIRECTION OF EXTERNAL STORM DRAINAGE
 - DIRECTION OF STORM DRAINAGE
 - EROSION CATCHMENT AREA No. $E1 \begin{matrix} 0.10 \\ 4.46 \end{matrix}$ COEFFICIENT AREA IN HECTARE
 - PROPOSED GROUND ELEVATION
 - PROPOSED DRAINAGE FLOW DIRECTION AND GRADIENT
- REFER TO DWG. No. ESC-2 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

G:\Eng-3D\VEH-17055\Production DWG\REI-17055-Block 193 ESC-1.dwg Layout:ESC-1 Plotted Jun 19, 2024 @ 1:20pm by kschulz The Jones Consulting Group Ltd.

REFERENCES:			
1.	CITY OF BARRIE LATEST MANUALS AND GUIDELINES		
2.	OPSD AND OPSIS		
3.	CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED		
4.	SANDY CREEK CREEK REALIGNMENT BY TATHAM ENGINEERING LIMITED		
5.	BULLY LANDS SUBDIVISION DEVELOPMENT BY SCHAEFFERS CONSULTING ENGINEERING		
6.	DRAFT PLAN OF MAPLEVIEW SOUTH SUBDIVISION BY JONES CONSULTING GROUP LTD.		
7.	MAPLEVIEW DRIVE EAST WIDENING BY R.J. BURNSIDE & ASSOCIATES LIMITED		
8.	OLS PLAN BY RODI MAX SURVEYING LTD.		
9.	AWAN GROUP RESIDENTIAL DEVELOPMENT BY PEARSON ENGINEERING LTD.		
10.	HEWITTS CENTRAL SUBDIVISION (BRADLEY HOMES) BY JONES CONSULTING GROUP LTD.		
11.	GEOTECHNICAL INVESTIGATION REPORT BY CAMBLUM INC.		
12.	HYDROLOGICAL ASSESSMENT BY R.J. BURNSIDE & ASSOCIATES LIMITED		
13.	HEWITTS SECONDARY PLAN AREA SS BY R.J. BURNSIDE & ASSOCIATES LIMITED		
14.	LSRCA LATEST MANUALS AND GUIDELINES		

BENCHMARK:			
BENCHMARK NO. 03120080055 LOCATED APPROXIMATELY 1.9km EAST OF YONGE STREET, APPROXIMATELY 6m NORTH OF CENTERLINE OF MAPLEVIEW DRIVE EAST AND 35m WEST OF CITY BOUNDARY LINE. N4912122.851 E611241.154			
BENCHMARK NO. 03120110020 LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 700m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4912264.547 E611717.298 ELEV 225.549			
BENCHMARK NO. 03120080008 LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #17) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610187.698 ELEV 221.834			
BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910578.122 E607601.092 ELEV 248.998			
1.	FIRST SUBMISSION	JUNE 2024	DR
NO.	REVISIONS	DATE	INITIAL



MAPLEVIEW SOUTH (INNISFIL) LTD
953 MAPLEVIEW DRIVE EAST
CITY OF BARRIE

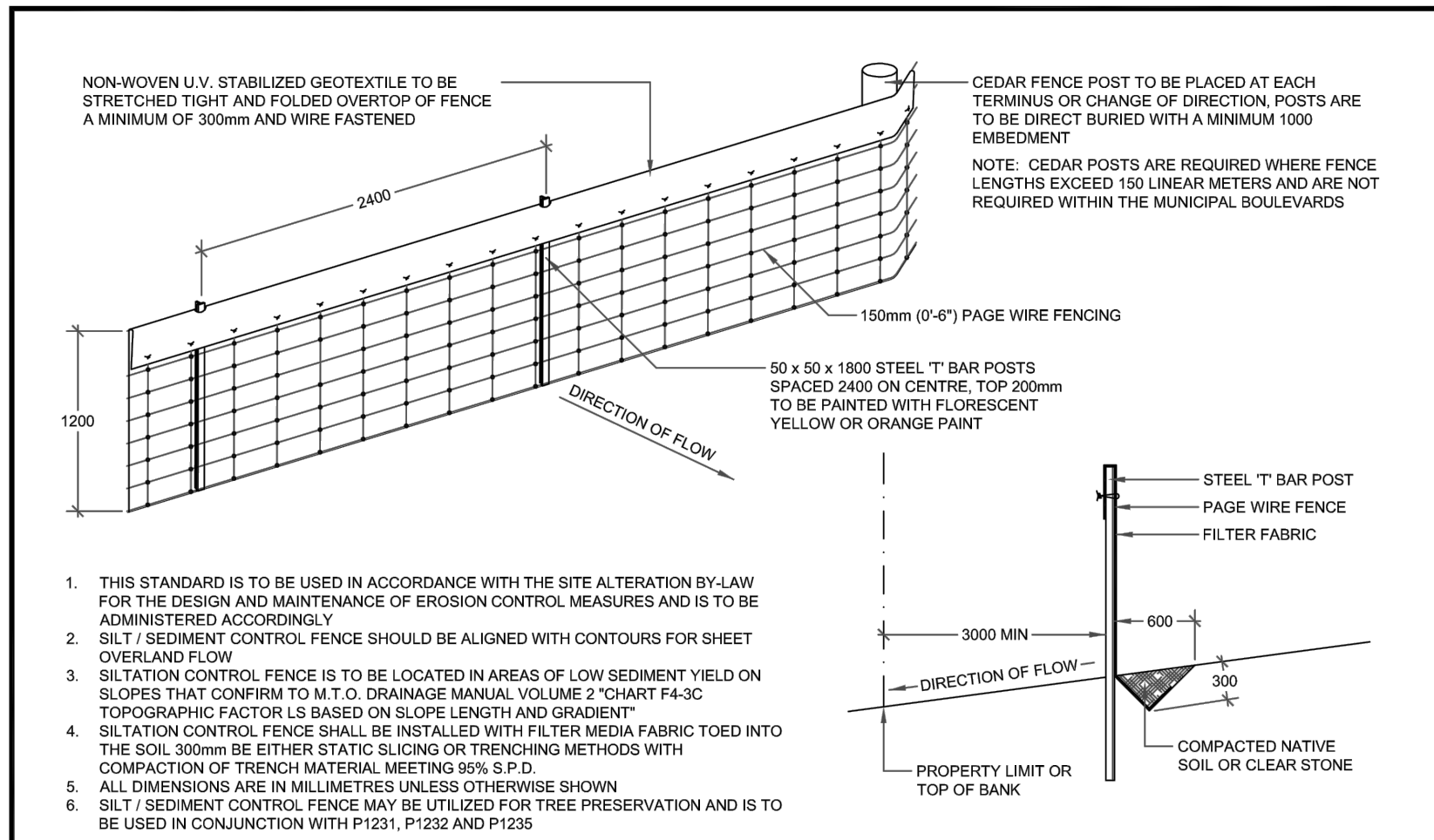
BLOCK 193
EROSION AND SEDIMENT
CONTROL PLAN



229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1050

DESIGN MF/KS	SCALE: 1:250	DATE APRIL 2024
DRAWN KS	PROJECT	DWG. NO
CHECKED DR	REI-17055	ESC-1

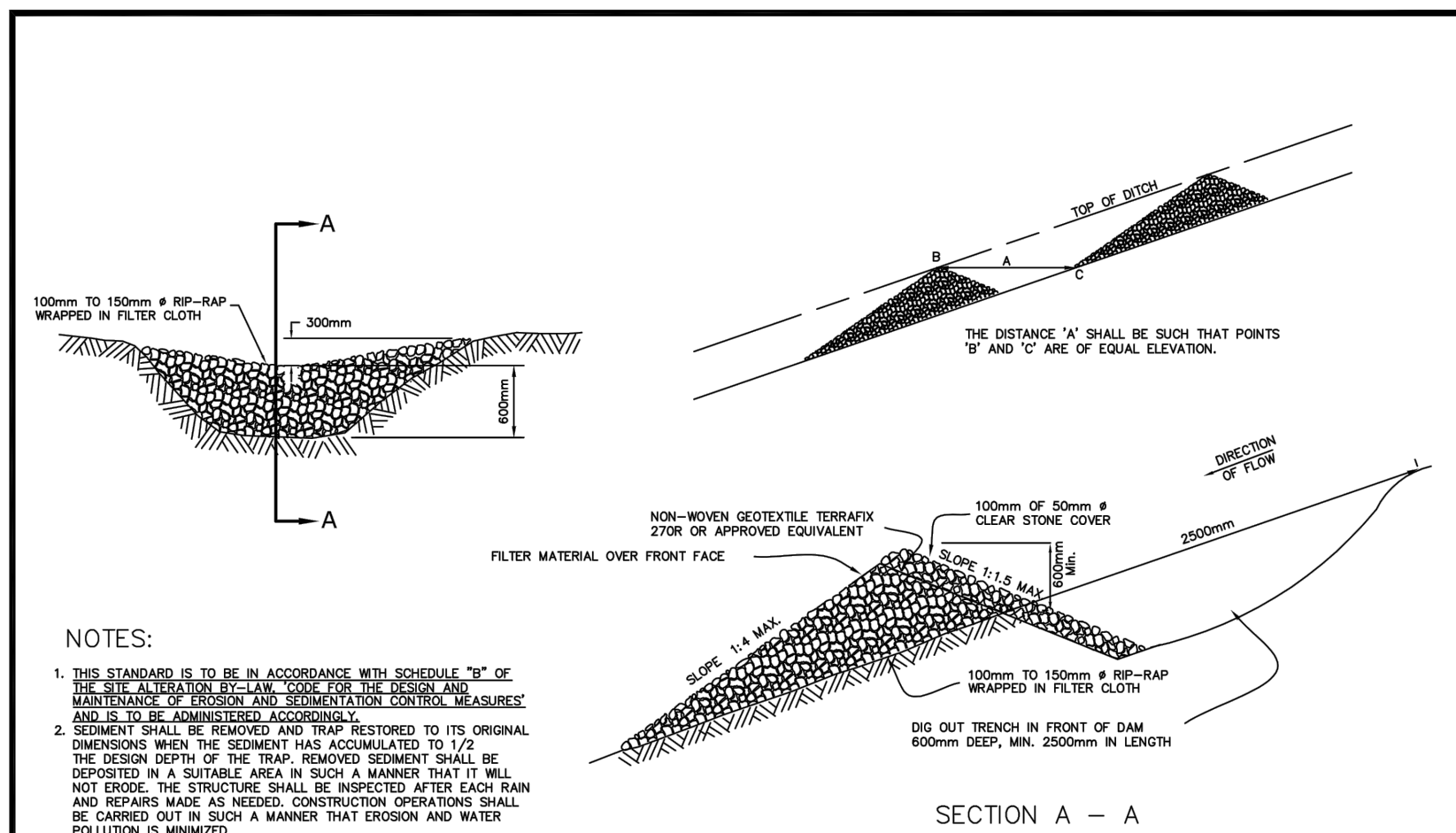
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Barrie

**FENCE
SILTATION CONTROL**

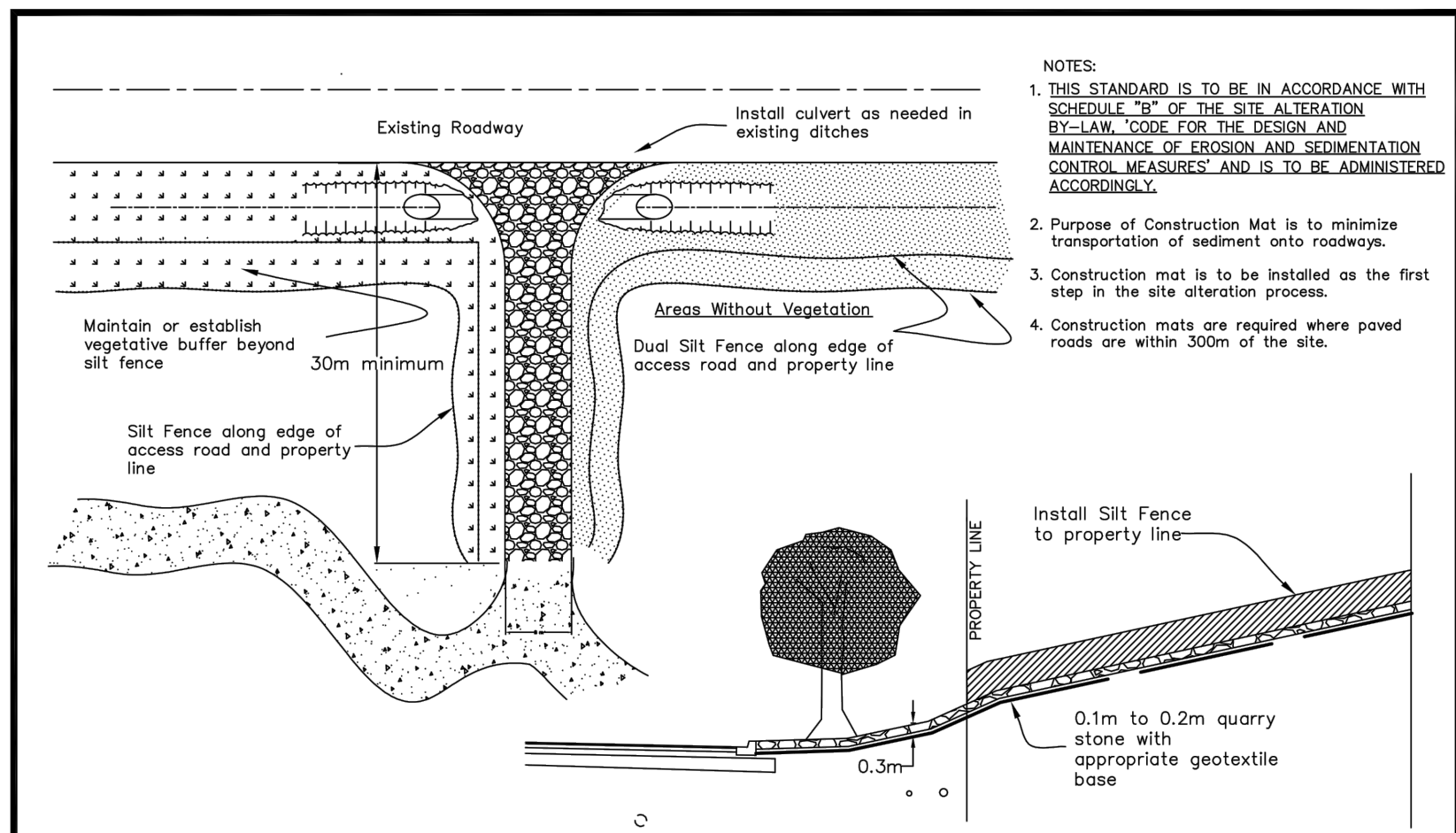
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SCALE: N.T.S.
P1233



Barrie

Granular Erosion Control Device

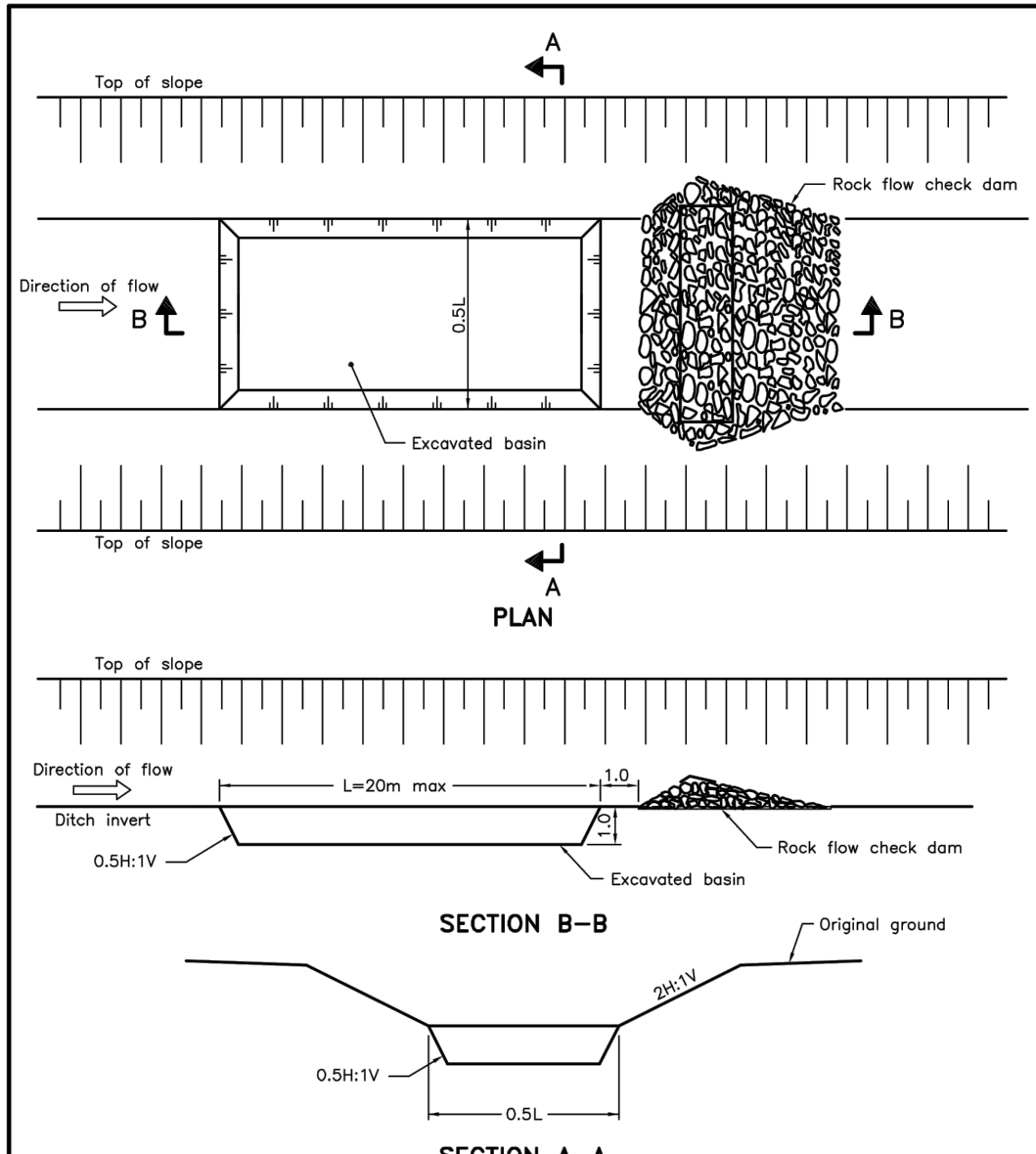
REV No. **3** DATE: APR 2023
SCALE: N.T.S.
D786



Barrie

Construction Entrance

REV No. **2** DATE: APR 2023
SCALE: N.T.S.
D710



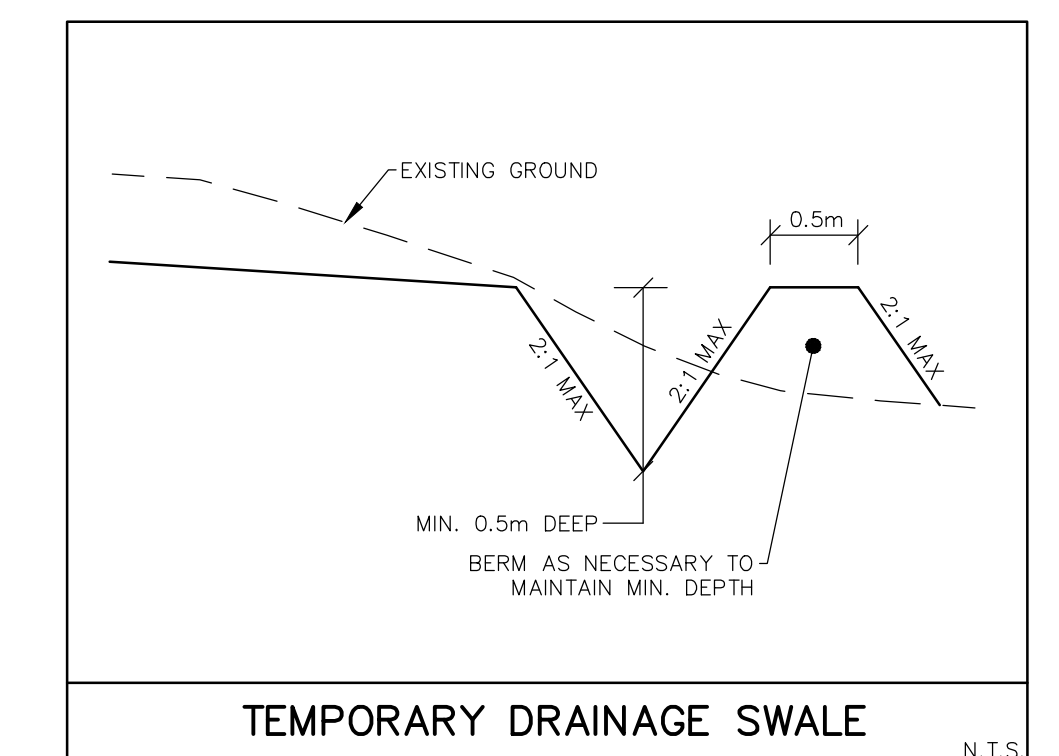
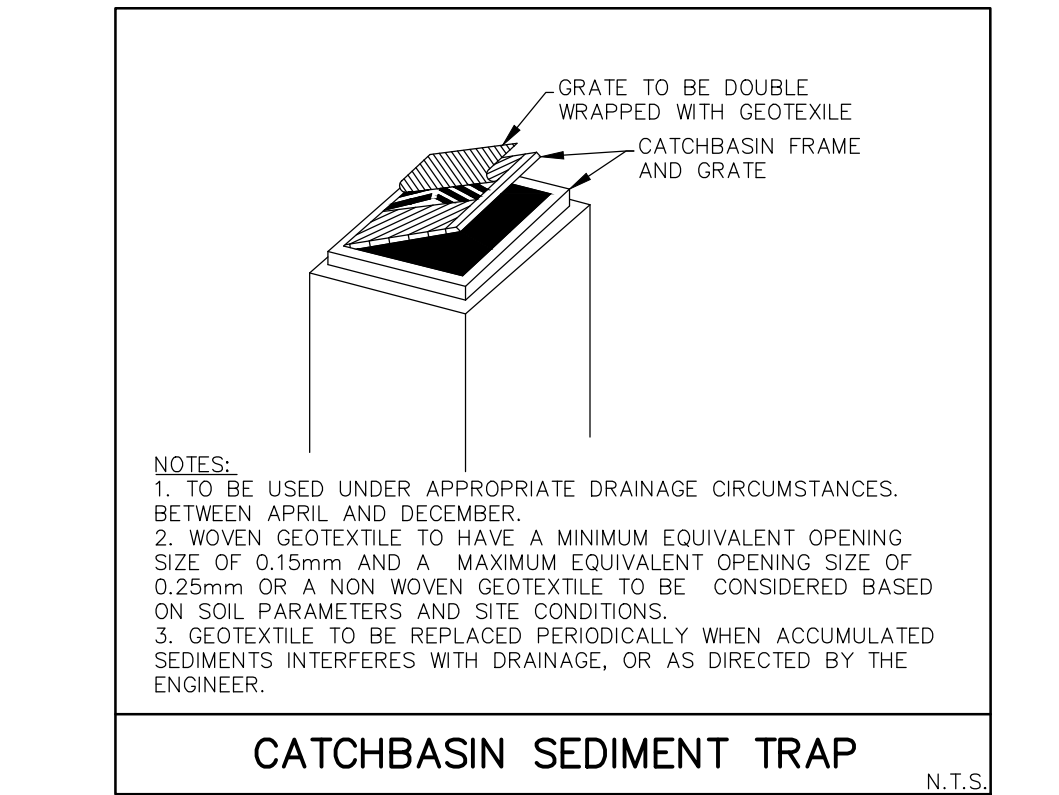
ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2015 Rev 2

SEDIMENT TRAP IN DITCH

OPSD 219.220

NOTE:
PROPOSED SEDIMENT TRAP HAS BEEN SIZED FOR 125M³/HA OF CONTRIBUTING AREA IN ACCORDANCE WITH THE GREATER GOLDEN HORSESHOE AREA CONSERVATION AUTHORITIES EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN CONSTRUCTION



TEMPORARY DRAINAGE SWALE

N.T.S.

EROSION CONTROL NOTES

1. THE ACCOMPANYING PLANS SET OUT THE MEASURES THAT WILL BE TAKEN BY THE DEVELOPER AND ITS CONTRACTORS TO CONTROL DOWNSTREAM SEDIMENT TO THE LOWEST LEVEL PRACTICALLY ACHIEVABLE. THE CONDITIONS AND TECHNIQUES SET OUT ARE TO BE FOLLOWED UNLESS APPROVED OTHERWISE BY THE CONTRACT ADMINISTRATOR, CONSERVATION AUTHORITY AND/OR MUNICIPALITY.
2. ALL TEMPORARY SILT CONTROL AND EROSION PROTECTION DEVICES (I.E. SILT FENCING, DRAINAGE SWALES, ROCK CHECK DAMS, SEDIMENT BASIN, GRAVEL ACCESS PAD, ETC.) SHALL BE CONSTRUCTED PRIOR TO COMMENCEMENT OF SITE WORKS AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE AND THE GRASS HAS ESTABLISHED GROWTH, SUBJECT TO APPROVAL BY THE CITY ENGINEERING DEPARTMENT.
3. ALL SEDIMENTATION CONTROL MEASURES ARE TO BE INSPECTED REGULARLY (MINIMUM WEEKLY), AS WELL AS AFTER EVERY SIGNIFICANT RAINFALL EVENT AND ANY DAMAGED SILT CONTROL AND EROSION PROTECTION DEVICES SHALL BE PROMPTLY REPAIRED OR REPLACED BY THE CONTRACTOR.
4. THE CONTRACTOR MUST USE MATERIALS, CONSTRUCTION PRACTICES, AND MITIGATION TECHNIQUES IN ORDER TO PREVENT THE UNAUTHORIZED HARMFUL ALTERATION, DISRUPTION OR DESTRUCTION (HADD) OF VEGETATION OR THE IMPAIRMENT OF RECEIVER WATER QUALITY.
5. THE CONTRACTOR SHALL BE PREPARED FOR UNEXPECTED CONDITIONS AND ACCORDINGLY HAVE STOCKPILED MATERIALS ON SITE FOR NECESSARY REPAIRS AS A RESULT OF FAILED OR INADEQUATE CONTROL MEASURES.
6. AREAS WITHOUT STABLE GROUND COVER SHALL BE PROTECTED WITH SILTATION CONTROL FENCING, STRAW MULCH, ETC. AND MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BECOME ESTABLISHED IN THE SUBSEQUENT GROWING SEASON.
7. ALL EXPOSED SOIL MUST BE GRADED TO A STABLE SLOPE AND TREATED AS QUICKLY AS POSSIBLE TO PREVENT EROSION AND SEDIMENT FROM LEAVING THE SITE. ALL AREA STRIPPED OF VEGETATIVE COVER FOR LONGER THAN 15 DAYS SHALL BE HYDROSEED AT THE DIRECTION OF THE ENGINEER. HYDROSEED WITH FIBRETAC AT 100KG/HA AND MIXTURE OF 48% ANNUAL RYE GRASS, 48% FALL RYE, 4% RED CLOVER WILL NEED TO BE APPLIED TO ANY EXPOSED AREAS FOLLOWING TOPSOIL STRIPPING.
8. ALL SITE DRAINAGE TO BE DIRECTED TO THE TEMPORARY SEDIMENT BASINS AND OTHER CHECK DAMS VIA SHEET DRAINAGE, BERMS OR SWALES (AS NECESSARY) TO FACILITATE THE COMPLETION OF GRADING WORKS. THE CONTRACTOR SHALL CONSTRUCT ANY ADDITIONAL SWALES OR BERMS THAT MAY BE NECESSARY TO DIRECT RUN-OFF IN A CONTROLLED MANNER TO A SUITABLE TREATMENT PRACTICE.
9. ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE FROM THE PROPOSED CONSTRUCTION ACCESS VIA THE GRAVEL ACCESS PAD.
10. ANY DETERIORATING WASTE SHALL BE DISCHARGED TO A VEGETATED AREA AT LEAST 30m FROM ANY WATERCOURSE AND FILTERED PRIOR TO RELEASE. FILTERING METHODS MUST BE APPROVED BY THE SITE INSPECTOR.
11. TECHNIQUES FOR EROSION AND SEDIMENT CONTROLS ARE TO ADHERE TO ACCEPTED ENGINEERING PRACTICE AND MUNICIPAL, CONSERVATION AUTHORITY AND ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL OBTAIN A CURRENT COPY AND BECOME FAMILIAR WITH OPSS 805; CONSTRUCTION SPECIFICATION FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES, AS WELL AS APPLICABLE MUNICIPAL STANDARDS AND/OR APPROVAL AGENCY STANDARDS.
12. THE CONTRACTOR MAY CONSIDER ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES, SUCH MEASURES MUST BE PRESENTED IN WRITING FOR APPROVAL BY THE CONTRACT ADMINISTRATOR AND MUST BE APPROVED IN WRITING BY THE APPLICABLE APPROVAL AGENCIES.

CONSTRUCTION SEQUENCE

THE FOLLOWING CONSTRUCTION SEQUENCE IS PROVIDED FOR CONTRACTOR GUIDANCE:

1. CONSTRUCT ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES INCLUDING SILT FENCE, TREE PRESERVATION FENCE, MUD MATS, CHECK DAMS, SWALES/BERMS AND TEMPORARY SEDIMENT BASIN, ETC.
2. HYDROSEED ALL EROSION CONTROL WORKS, I.E. TEMPORARY DRAINAGE SWALES/BERMS.
3. STRIPPING AND REMOVAL OF TOPSOIL. TOPSOIL TO BE REMOVED FROM SITE OR STOCKPILED AT THE DESIGNATED LOCATION AS DIRECTED BY THE ENGINEER.
4. PROCEED WITH EARTH EXCAVATION AND PRE-GRADING.
5. PROCEED WITH SEEDING OF RESTORATION AREAS AS DIRECTED BY ENGINEER.
6. PROCEED WITH SITE WORKS I.E. SITE SERVICING AND SURFACE WORKS INSTALLATIONS.
7. RESTORATION OF DISTURBED AREAS.
8. REMOVAL OF SEDIMENT AND EROSION CONTROLS.

****NOTE**** SILTATION AND EROSION CONTROL MEASURES ARE TO BE MONITORED AND MAINTAINED THROUGHOUT CONSTRUCTION AND NECESSARY REPAIRS TO BE COMPLETED PROMPTLY, AS REQUIRED.

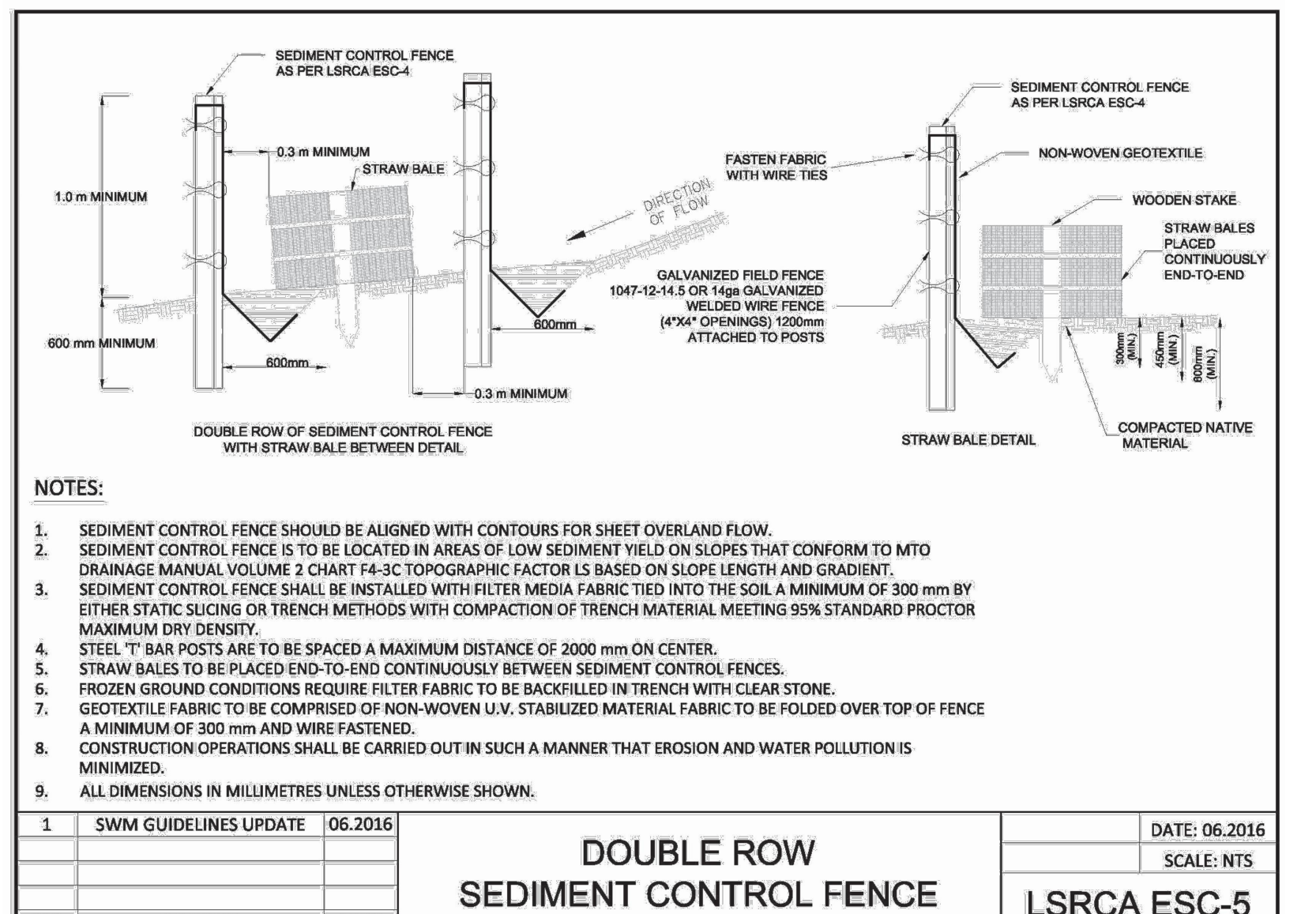
CONTINGENCY PLAN

IF UNFORESEEN EVENTS CAUSE THE STRATEGIES SET OUT IN THIS PLAN TO BE INSUFFICIENT OR INAPPROPRIATE TO MEET THE OBJECTIVE, THE CONTRACTOR IS EXPECTED TO RESPOND IN A TIMELY MANNER WITH ALL REASONABLE MEASURES CONSISTENT WITH SAFETY, TO PREVENT, COUNTERACT OR REMEDY DOWNSTREAM SEDIMENTATION AND EROSION.

IF A SPILL OCCURS IT SHALL BE REPORTED TO THE MINISTRY OF ENVIRONMENT CONSERVATION AND PARKS AND THE MINISTRY OF NATURAL RESOURCES. THE ON CALL CITY OF BARRIE ENVIRONMENTAL OFFICER SHOULD ALSO BE NOTIFIED VIA CELL PHONE (705) 725-3374.

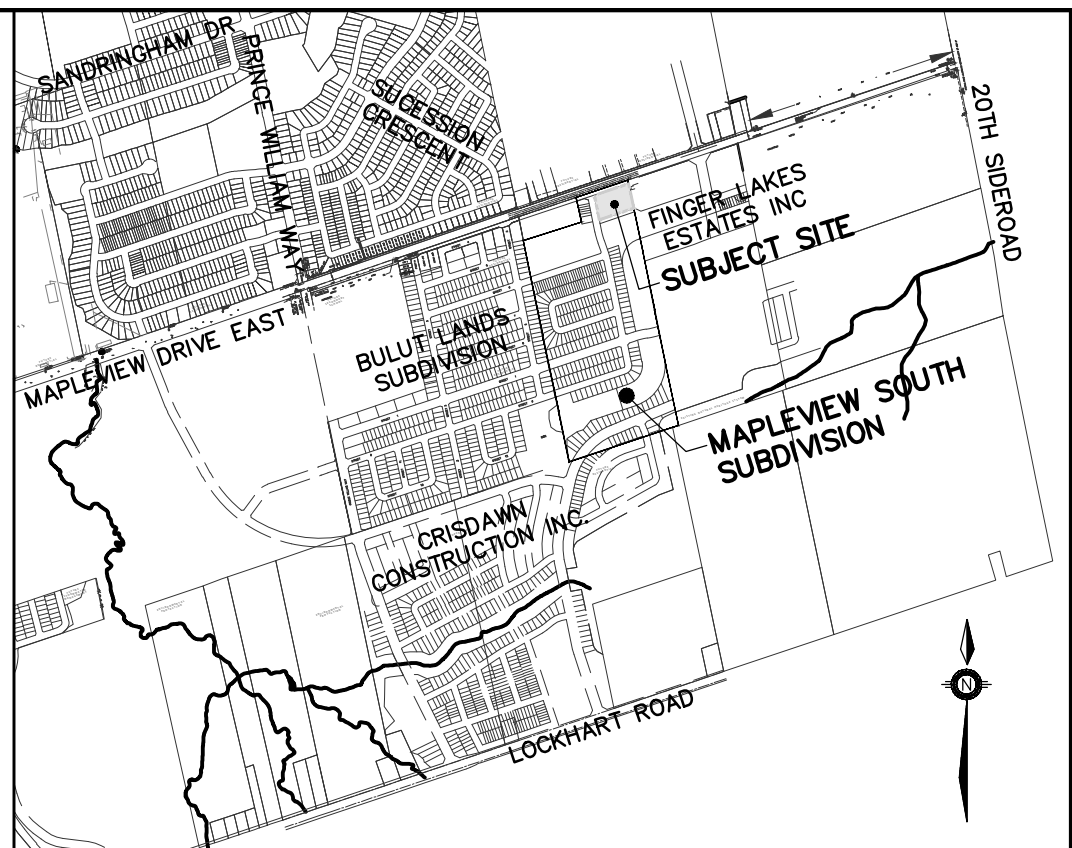
IF APPROVAL AGENCIES DETERMINE THAT LONG TERM DAMAGE TO THE NATURAL ENVIRONMENT HAS OCCURRED DUE TO FAILURE OF THIS PLAN TO CONTROL SEDIMENT, A RESTORATION PLAN WILL BE DEVELOPED BY THE CONTRACTOR IN CONSULTATION WITH AND APPROVAL FROM THE APPROPRIATE AGENCIES FOR IMPLEMENTATION BY THE CONTRACTOR.

NOTE:
I HAVE REVIEWED THE PLANS FOR THE CONSTRUCTION OF THE MAPLEVIEW SOUTH DEVELOPMENT LOCATED EAST OF PRINCE WILLIAM WAY AND SOUTH OF MAPLEVIEW DRIVE EAST AND HAVE PREPARED THIS PLAN TO INDICATE THE COMPATIBILITY OF THE PROPOSAL TO EXISTING ADJACENT PROPERTIES AND MUNICIPAL SERVICES. IT IS MY BELIEF THAT ADHERENCE TO THE PROPOSED GRADES AS SHOWN WILL PRODUCE ADEQUATE SURFACE DRAINAGE AND PROPER FACILITY OF MUNICIPAL SERVICES WITHOUT ANY DETRIMENTAL EFFECT TO THE EXISTING DRAINAGE PATTERNS OR ADJACENT PROPERTIES.



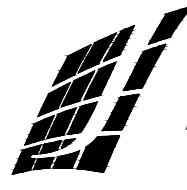
**DOUBLE ROW
SEDIMENT CONTROL FENCE**

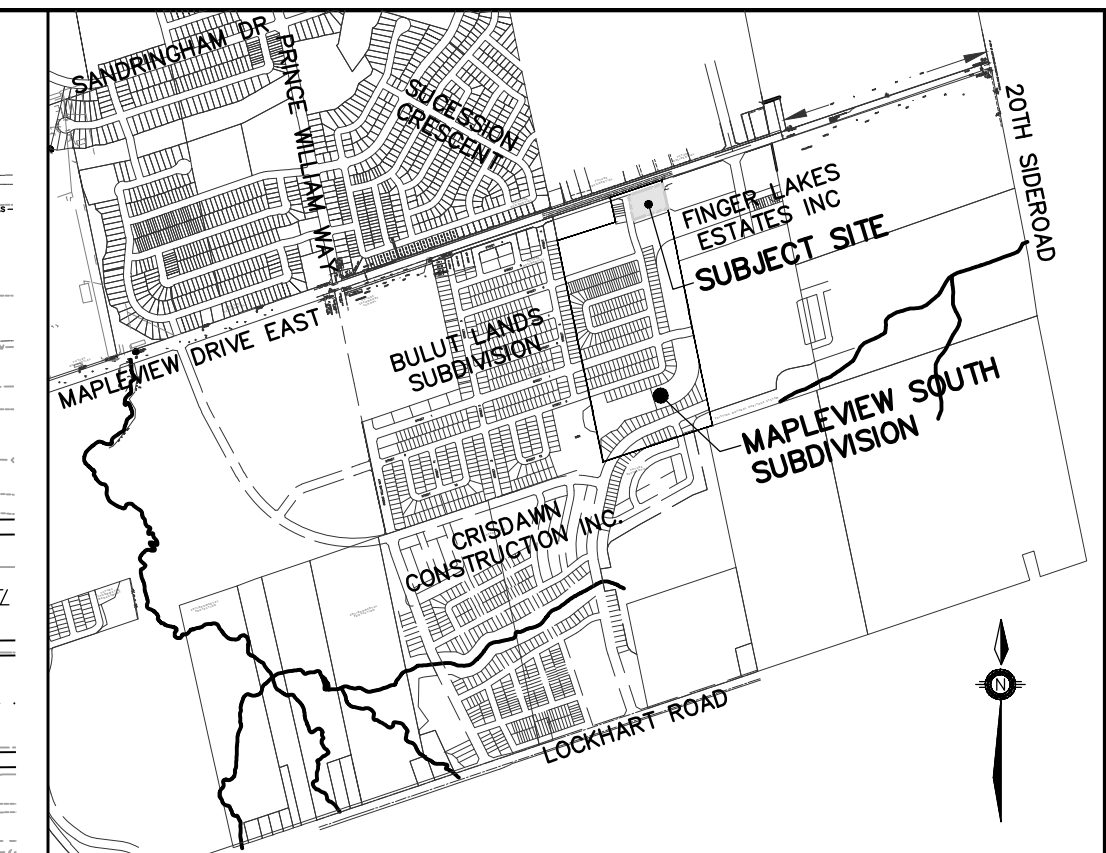
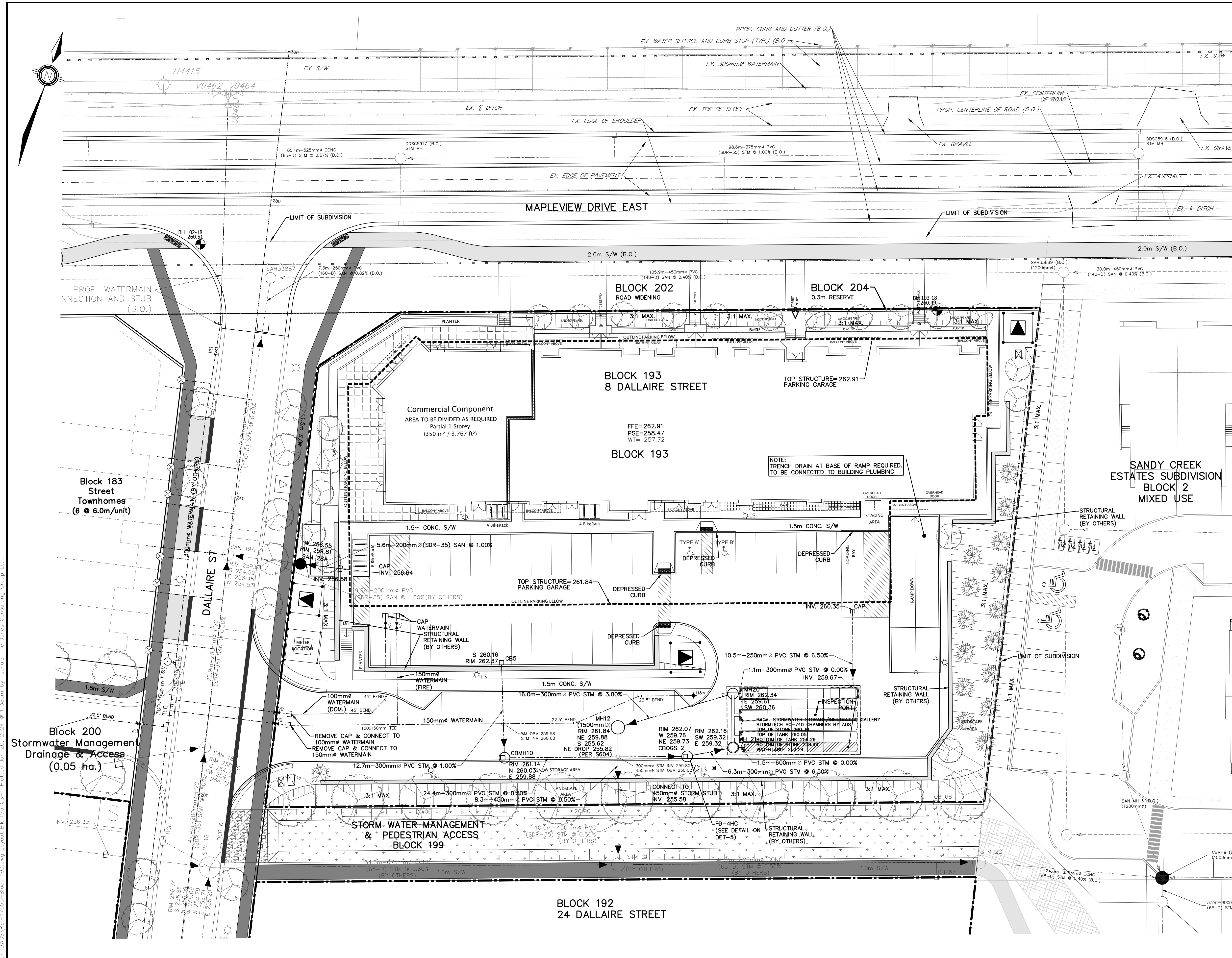
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LSRCA ESC-5



KEY PLAN NTS

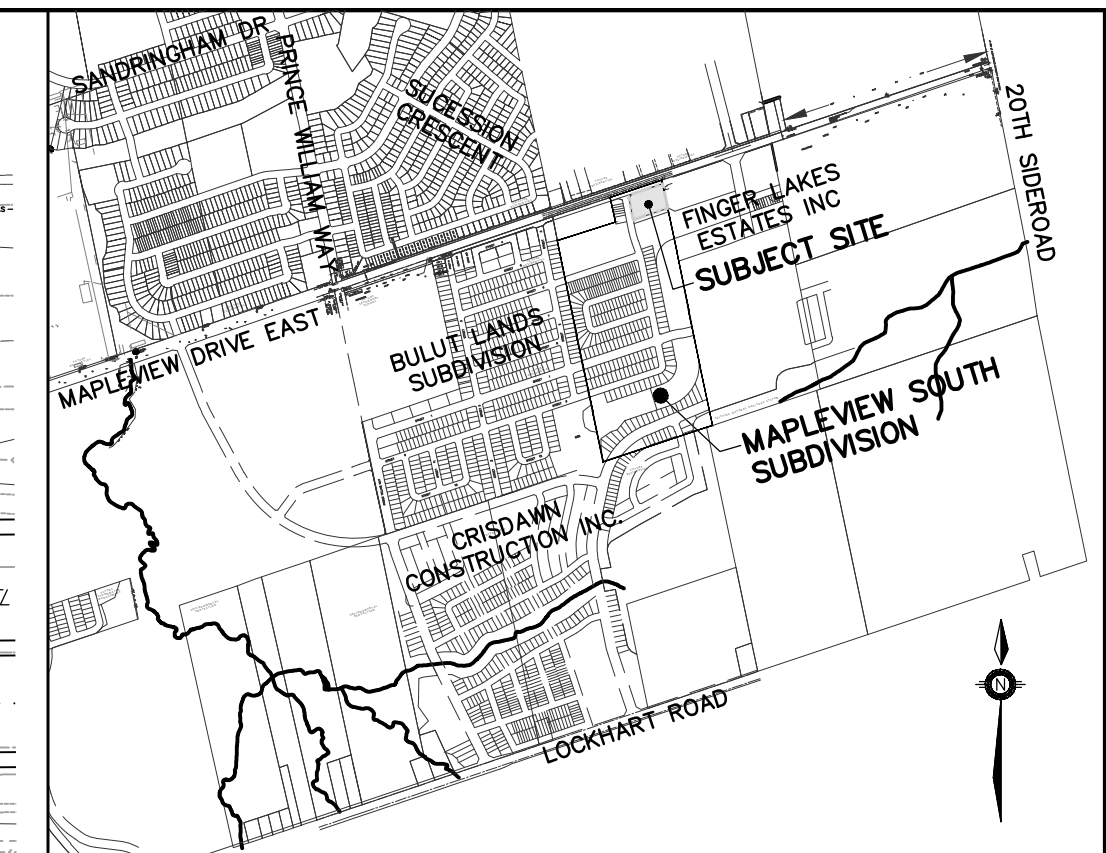
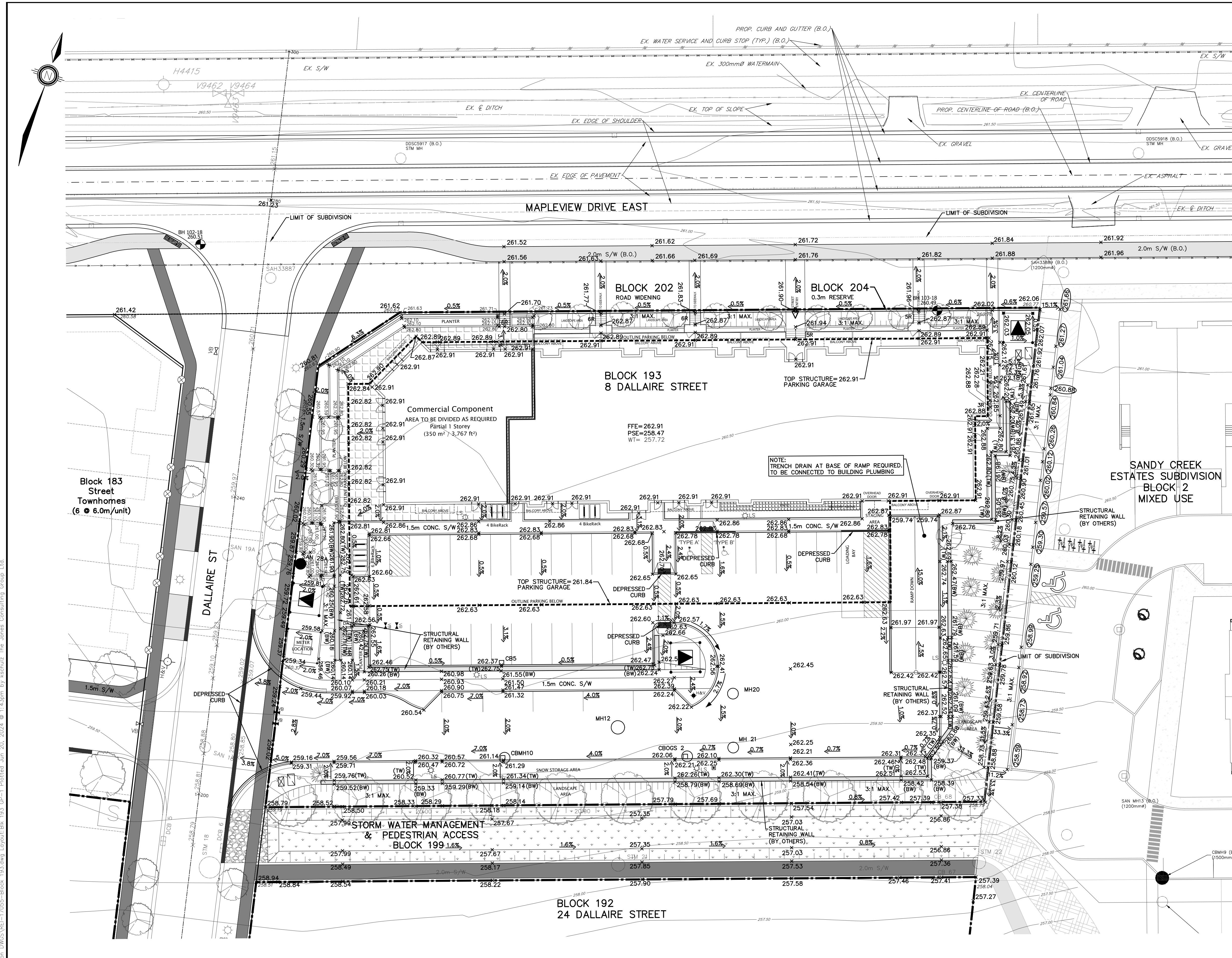
SITE DATA	
OVERALL SITE AREA TO BE DISTURBED	0.63 Ha
EXISTING LAND USE	(VACANT) AGRICULTURAL FIELD
PREDOMINANT SOIL TYPE	BONDHEAD SANDY LOAM
SEDIMENT TRAP SIZING	
BOTTOM ELEVATION	257.90
TOP ELEVATION	259.50
OVERFLOW WEIR ELEVATION	259.40
DIMENSIONS (LxWxD)	10m x 5m x 1.6m
STORAGE VOLUME	100m ³
CATCHMENT AREA	0.63 Ha
REQUIRED STORAGE VOLUME BASED ON 125m ³ OF DRAINAGE AREA TO POND	78.75m ³

 JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS		229 Mapleview Dr. E. Unit 1 Barrie, ON L4N 0W6 P. 705.734.2538 F. 705.734.1050	
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DRAWN	KS	PROJECT	DWG. NO
CHECKED	DR	REI-17055	ESC-2



LEGEND	
EXISTING VEGETATION	
SANITARY MANHOLE	
STORM MANHOLE	
CATCHBASIN MANHOLE	
CATCHBASIN	
DOUBLE CATCHBASIN	
SLOPE (3:1 MAX.)	
HYDRANT AND VALVE	
VALVE	
CURB STOP	
SIDEWALK TACTILE PLATES	
EX. BOREHOLE LOCATION ID# & GROUND ELEVATION	
TRANSFORMER AND GROUND GRID	
SWITCHGEAR AND GROUND GRID	
LIGHT STANDARD	
LIGHT STANDARD PEDESTAL	
BELL PEDESTAL	
BELL GRADE LEVEL BOX	
CABLE VAULT	

REFERENCES: 1. CITY OF BARRIE LATEST MANUALS AND GUIDELINES 2. CRISP AND CRISP 3. CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED 4. SANDY CREEK CREEK REALIGNMENT BY TATHAM ENGINEERING LIMITED 5. BULLY LANDS SUBDIVISION DEVELOPMENT BY SCHAEFFERS CONSULTING ENGINEERING 6. DRAFT PLAN OF MAPLEVIEW SOUTH SUBDIVISION BY JONES CONSULTING GROUP LTD. 7. MAPLEVIEW DRIVE EAST WIDENING BY R.J. BURNSIDE & ASSOCIATES LIMITED 8. SLS PLAN BY RUDY MAX SURVEYING LTD. 9. ARAW GROUP RESIDENTIAL DEVELOPMENT BY PEARSON ENGINEERING LTD. 10. HEWITTS CENTRAL SUBDIVISION (BRADLEY HOMES) BY JONES CONSULTING GROUP LTD. 11. GEOTECHNICAL INVESTIGATION REPORT BY CAMBLUM INC. 12. HYDROGEOLOGICAL ASSESSMENT BY R.J. BURNSIDE & ASSOCIATES LIMITED 13. HEWITTS SECONDARY PLAN AREA S8 BY R.J. BURNSIDE & ASSOCIATES LIMITED 14. LSRCIA LATEST MANUALS AND GUIDELINES	BENCHMARK: BENCHMARK NO. 03120080055 LOCATED APPROXIMATELY 1.9km EAST OF YONGE STREET, APPROXIMATELY 6m NORTH OF CENTERLINE OF MAPLEVIEW DRIVE EAST AND 35m WEST OF CITY BOUNDARY LINE. N4912122.851 E611241.154 ELEV 225.039 BENCHMARK NO. 03120110020 LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 70m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4912284.547 E611717.298 ELEV 225.549 BENCHMARK NO. 03120080008 LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #1) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610167.698 ELEV 211.834 BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910578.122 E607601.052 ELEV 248.998	PROFESSIONAL ENGINEER M. G. F. J. S. 100149153 06-21-2024 PROVINCE OF ONTARIO	MAPLEVIEW SOUTH (INNISFIL) LTD 953 MAPLEVIEW DRIVE EAST CITY OF BARRIE BLOCK 193 SERVICING PLAN	JONES CONSULTING GROUP LTD. PLANNERS • ENGINEERS 229 Mapleview Dr. E, Unit 1 Barrie, ON L4N 0W6 P. 706.734.2538 F. 705.734.1056
	2.	FIRST SUBMISSION	JUNE 2024	DR
	1.	ISSUED FOR PRE-CONSULTATION	JULY 2023	DR
	NO.	REVISIONS	DATE	INITIAL



KEY PLAN	
NTS	
LEGEND	
EXISTING CONTOUR	
EXISTING VEGETATION	
SANITARY MANHOLE	
STORM MANHOLE	
CATCHBASIN MANHOLE	
CATCHBASIN	
DOUBLE CATCHBASIN	
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HYDRANT AND VALVE	
VALVE	
CURB STOP	
SIDEWALK TACTILE PLATES	
EX. BOREHOLE LOCATION ID# & GROUND ELEVATION	
TRANSFORMER AND GROUND GRID	
SWITCHGEAR AND GROUND GRID	
LIGHT STANDARD	
LIGHT STANDARD PEDESTAL	
BELL PEDESTAL	
BELL GRADE LEVEL BOX	
CABLE VAULT	
PROPOSED GROUND ELEVATION	
EXISTING GROUND ELEVATION	
PROPOSED GROUND ELEVATION (BY OTHERS)	
DIRECTION OF FLOW & GRADIENT	
FIRST FLOOR ELEVATION	
UNDERGROUND PARKING SLAB ELEVATION	
HIGH GROUNDWATER TABLE	
TOP OF RETAINING WALL	
BOTTOM OF RETAINING WALL	

REFERENCES:

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- CRISTO AND CRISTO
- CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED
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- LSRCA LATEST MANUALS AND GUIDELINES

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BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910678.122 E607601.052 ELEV 248.998

2.	FIRST SUBMISSION	JUNE 2024	DR
1.	ISSUED FOR PRE-CONSULTATION	JULY 2023	DR
NO.	REVISIONS	DATE	INITIAL

MAPLEVIEW SOUTH (INNISFIL) LTD
953 MAPLEVIEW DRIVE EAST
CITY OF BARRIE

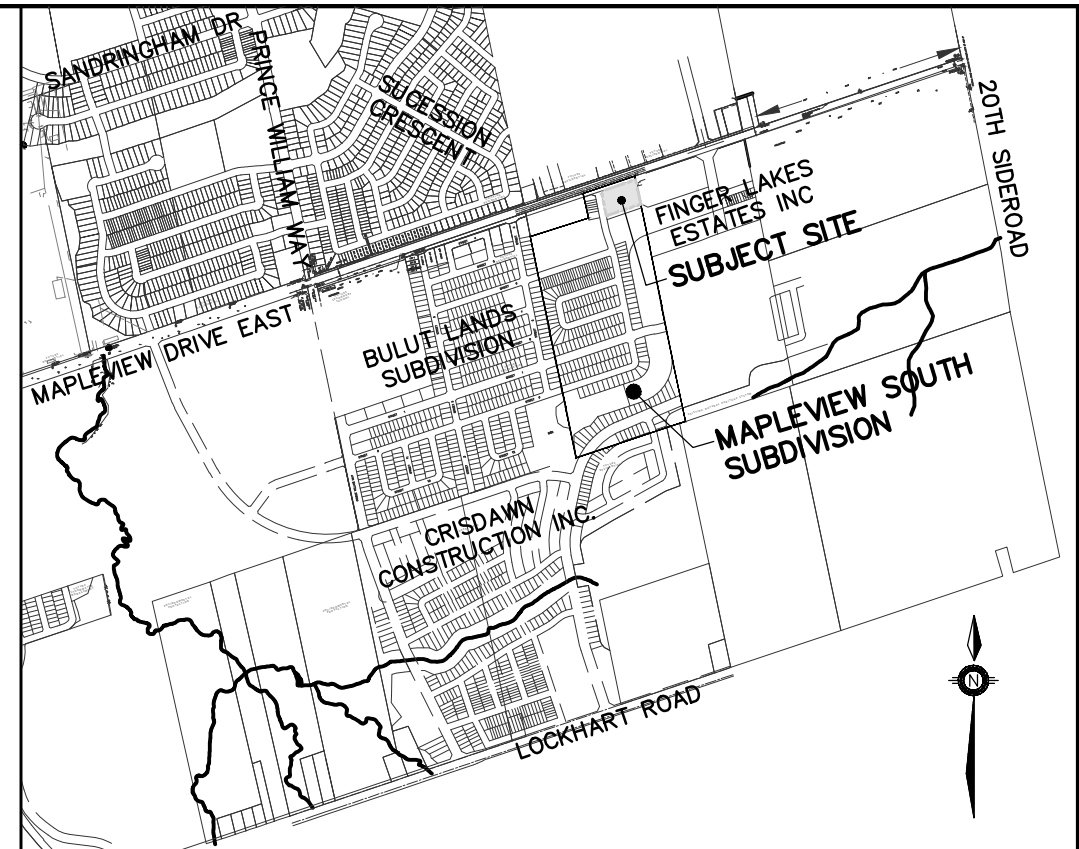
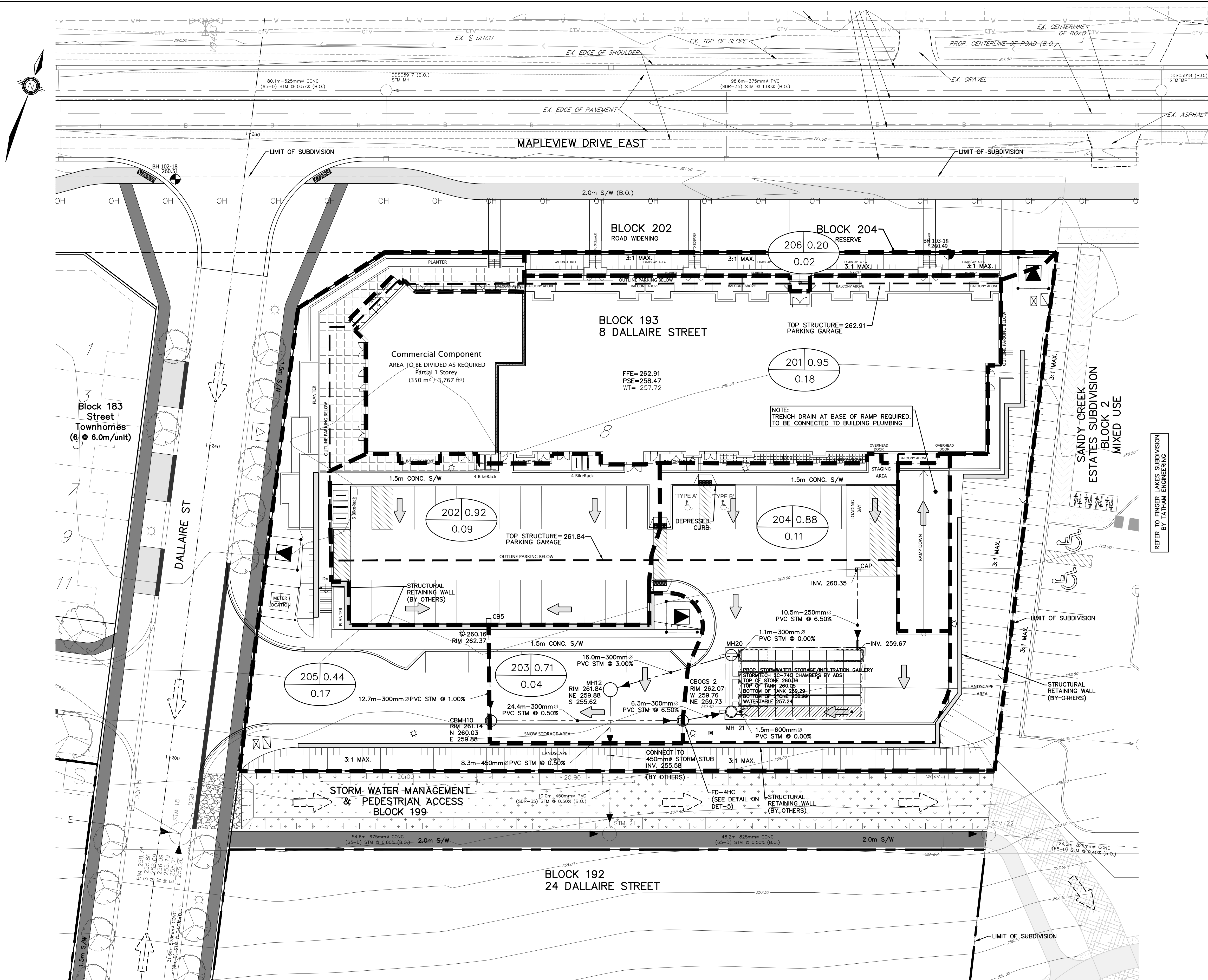
BLOCK 193

GRADING PLAN

JONES
CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

DESIGN JH	SCALE: 1:250	DATE MAY 2023
DRAWN JH	PROJECT	DWG. NO
CHECKED RC/DR	REI-17055	GP-1



- KEY PLAN
NTS
- LEGEND**
- LIMIT OF SUBDIVISION
--- PHASE LIMIT
STM 01 (B.O.) STORM MAINTENANCE HOLE (B.O.)
CB (B.O.) SINGLE CATCHBASIN (B.O.)
DCB (B.O.) DOUBLE CATCHBASIN (B.O.)
--- STORM SEWER & DIRECTION OF FLOW (B.O.)
STM 25 PROP. STORM MAINTENANCE HOLE
CB PROP. CATCH BASIN
DCB PROP. DOUBLE CATCH BASIN
--- PROP. STORM SEWER & DIRECTION OF FLOW
--- STORM SEWER, EXFILTRATION TRENCH & DIRECTION OF FLOW
--- STORM SUB-CATCHMENT AREA
--- CATCHMENT AREA ID NUMBER
--- RUN-OFF COEFFICIENT
--- AREA (ha.)
--- DIRECTION OF POST DEVELOPMENT 100 YEAR STORM EVENT OVERLAND FLOW
--- EX. CONTOUR AND ELEVATION
--- DIRECTION OF EXISTING EXTERNAL OVERLAND FLOW
--- MUNICIPAL ADDRESS
--- LOT NUMBER
- *B.O. - BY OTHERS

REFER TO DESIGN SHEET ON DRAWING DS-1

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

DESIGN VBS
DRAWN VBS
CHECKED RC/DR

SCALE: 1:1000
PROJECT
REI-17055

DATE: APRIL 2024
DWG. NO
STM-1

3. VEG-30 VEG-17055-1.dwg Layout: STM-1 Plotted Jun 20, 2024 @ 2:23pm by kechulz The Jones Consulting Group Ltd.

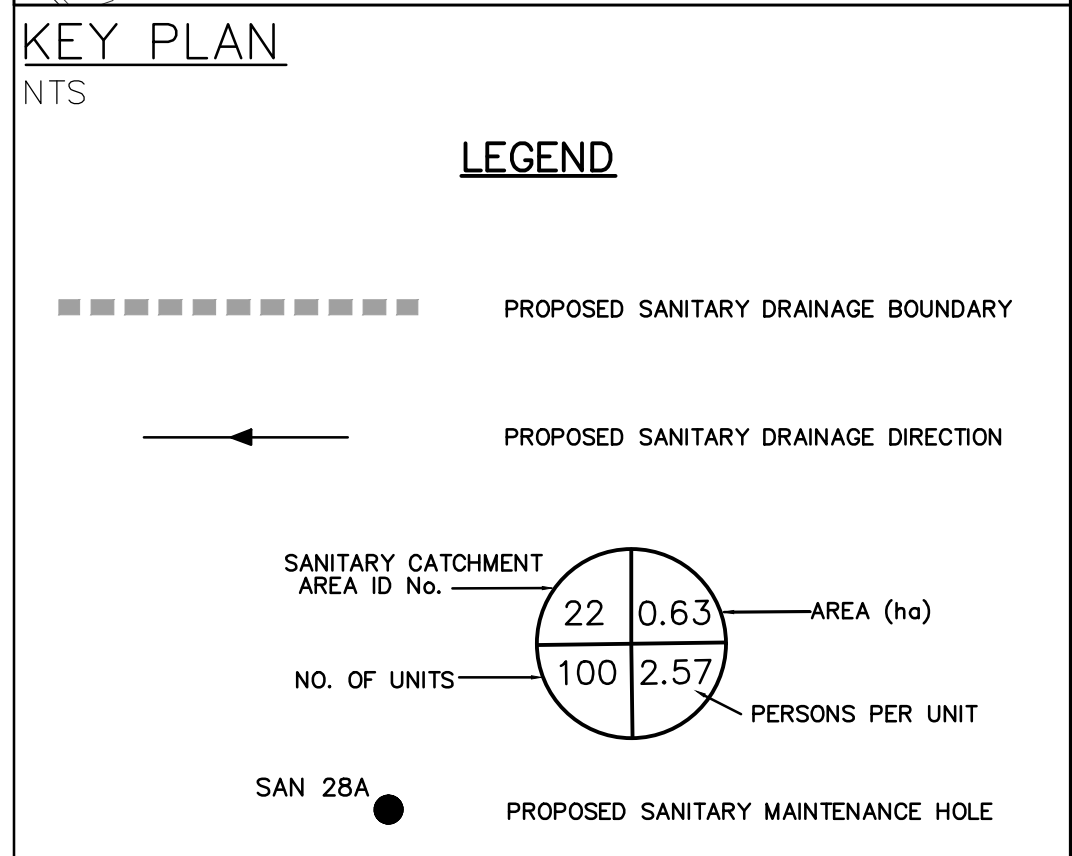
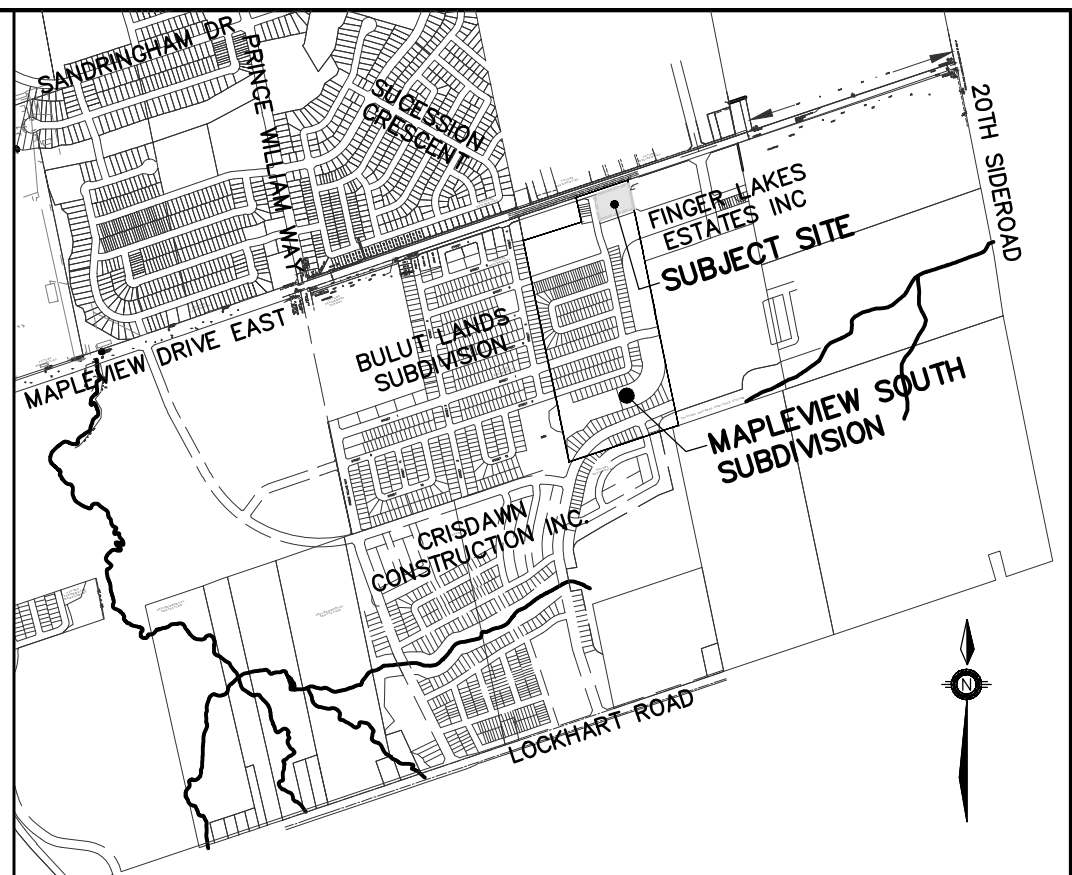
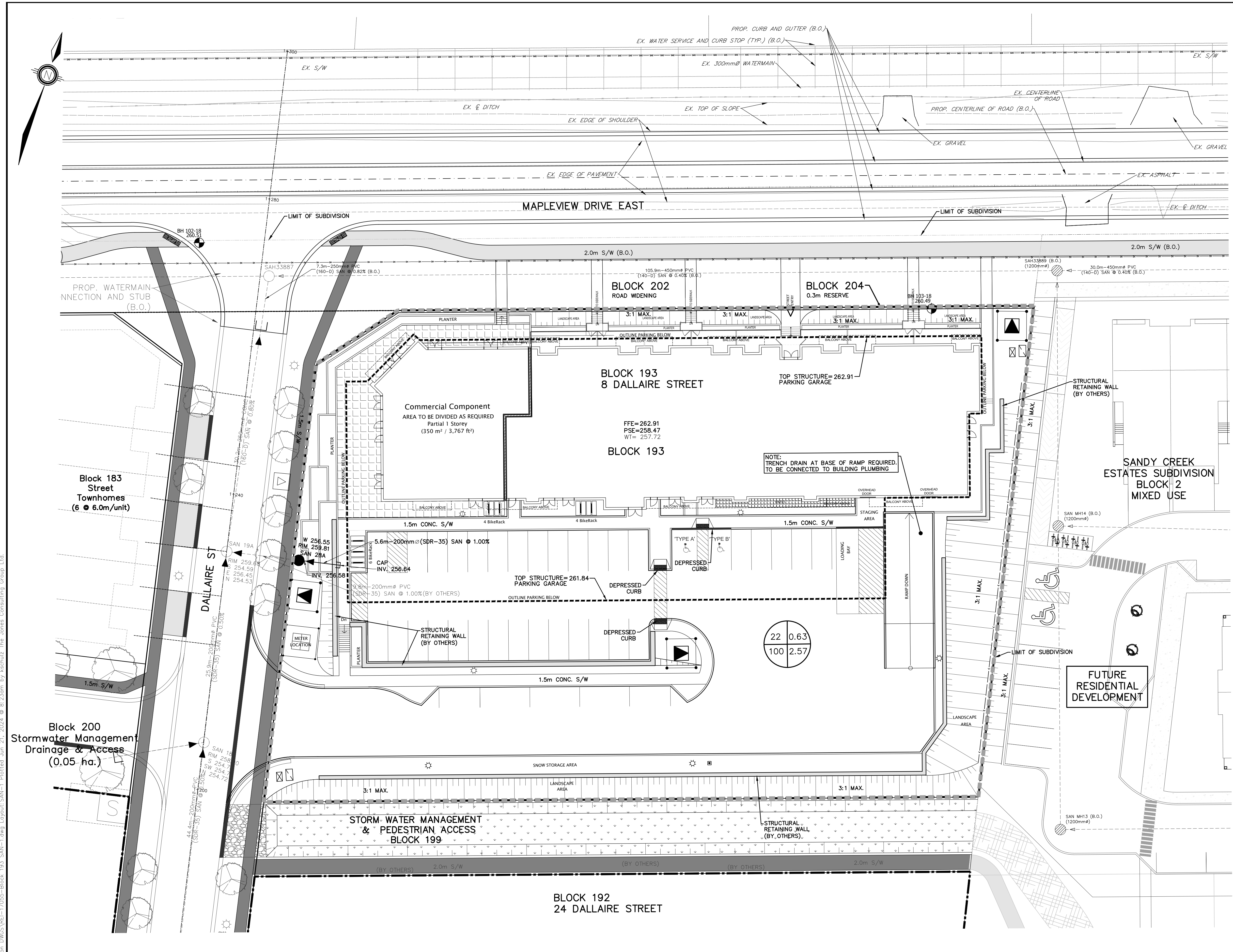
- REFERENCES:**
1. CITY OF BARRIE LATEST MANUALS AND GUIDELINES
 2. CRISP AND CRISP
 3. CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED
 4. SANDY COVE CREEK REALIGNMENT BY TATHAM ENGINEERING LIMITED
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BENCHMARK:			
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NO.	REVISIONS	DATE	INITIAL
2.	FIRST SUBMISSION	JUNE 2024	MF
1.	ISSUED FOR PRE-CONSULTATION	JULY 2023	DR



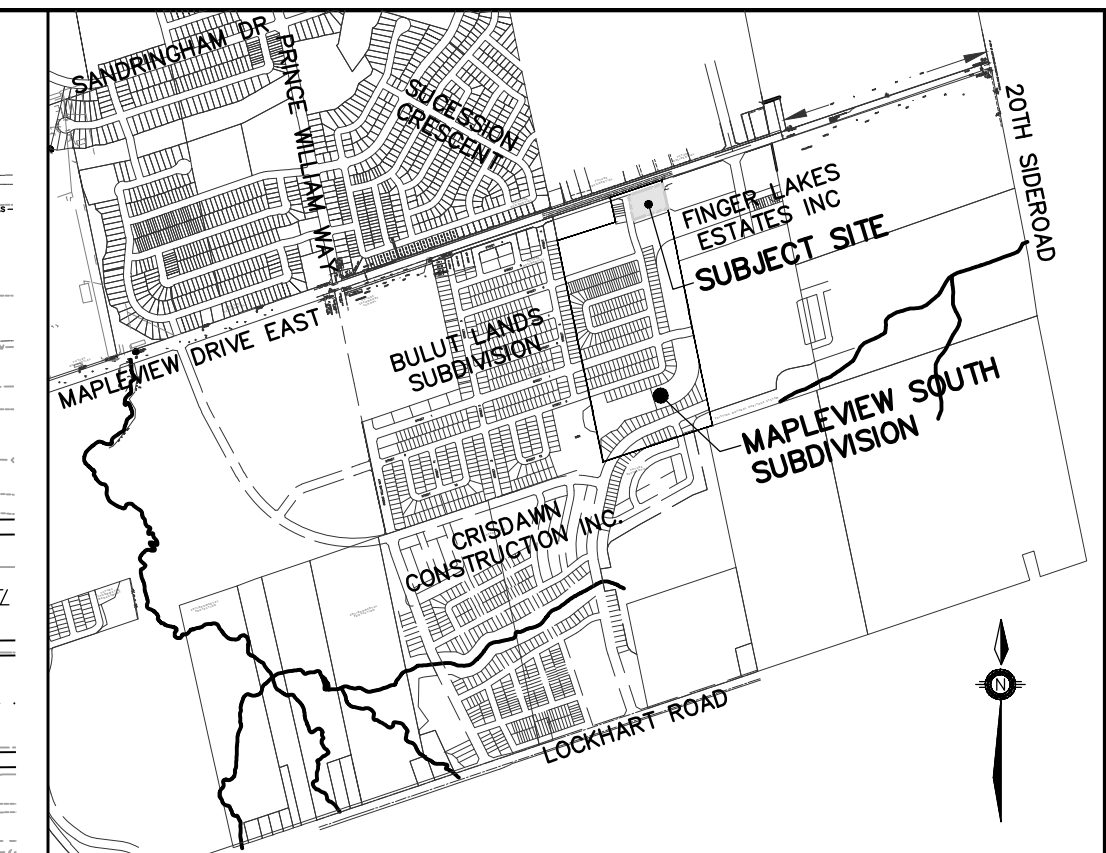
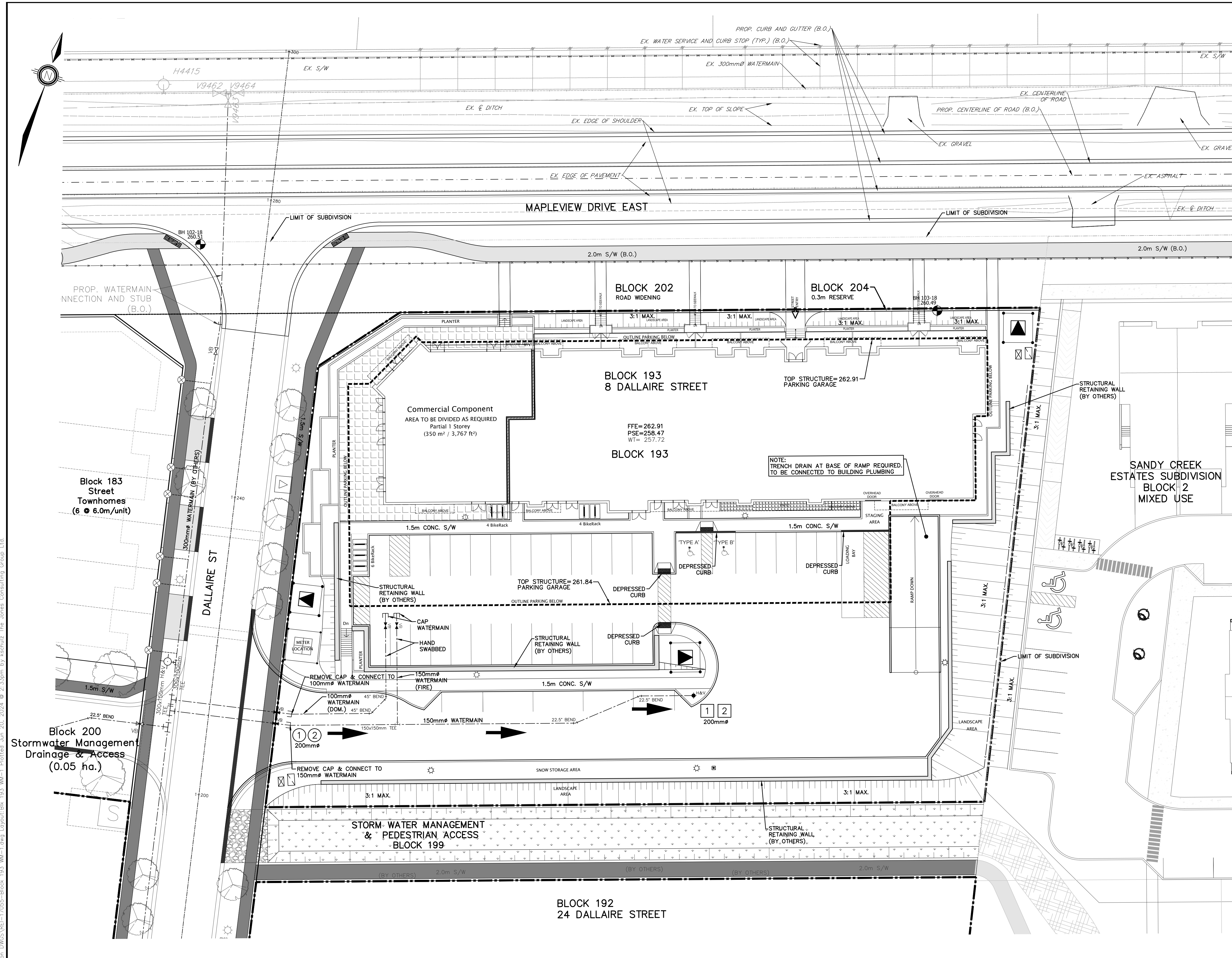
MAPLEVIEW SOUTH (INNISFIL) LTD
953 MAPLEVIEW DRIVE EAST
CITY OF BARRIE

**BLOCK 193
STORM SEWER
SUBCATCHMENT PLAN**



REFERENCES: 1. CITY OF BARRIE LATEST MANUALS AND GUIDELINES 2. OPEI AND OPEI 3. CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED 4. SANDY CREEK CREEK REALIGNMENT BY TATHAM ENGINEERING LIMITED 5. BULLY LANDS SUBDIVISION DEVELOPMENT BY SCHAEFFERS CONSULTING ENGINEERING 6. DRAFT PLAN OF MAPLEVIEW SOUTH SUBDIVISION BY JONES CONSULTING GROUP LTD. 7. MAPLEVIEW DRIVE EAST WIDENING BY R.J. BURNSIDE & ASSOCIATES LIMITED 8. OLS PLAN BY RUDY MAN SURVEYING LTD. 9. ARAW GROUP RESIDENTIAL DEVELOPMENT BY PEARSON ENGINEERING LTD. 10. HEWITTS CENTRAL SUBDIVISION (BRADLEY HOMES) BY JONES CONSULTING GROUP LTD. 11. GEOTECHNICAL INVESTIGATION REPORT BY CAMBLUM INC. 12. HYDROLOGICAL ASSESSMENT BY R.J. BURNSIDE & ASSOCIATES LIMITED 13. HEWITTS SECONDARY PLAN AREA 55 BY R.J. BURNSIDE & ASSOCIATES LIMITED 14. LSRC LATEST MANUALS AND GUIDELINES	BENCHMARK: BENCHMARK NO. 03120080055 LOCATED APPROXIMATELY 1.9km EAST OF YONGE STREET, APPROXIMATELY 6m NORTH OF CENTERLINE OF MAPLEVIEW DRIVE EAST AND 35m WEST OF CITY BOUNDARY LINE. N4912122.851 E611241.154 ELEV 223.039 BENCHMARK NO. 03120110020 LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 700m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4912284.547 E611717.298 ELEV 225.549 BENCHMARK NO. 03120080008 LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #17) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610167.698 ELEV 211.833 BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910578.122 E607601.092 ELEV 248.998																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
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G:\Eng-3D\REI-17055\Production DWG\REI-17055-Block 193 SAN-1.dwg Layout:SAN-1 Plotted Jun 21, 2024 @ 8:25am by kschulz The Jones Consulting Group Ltd.



KEY PLAN
NTS

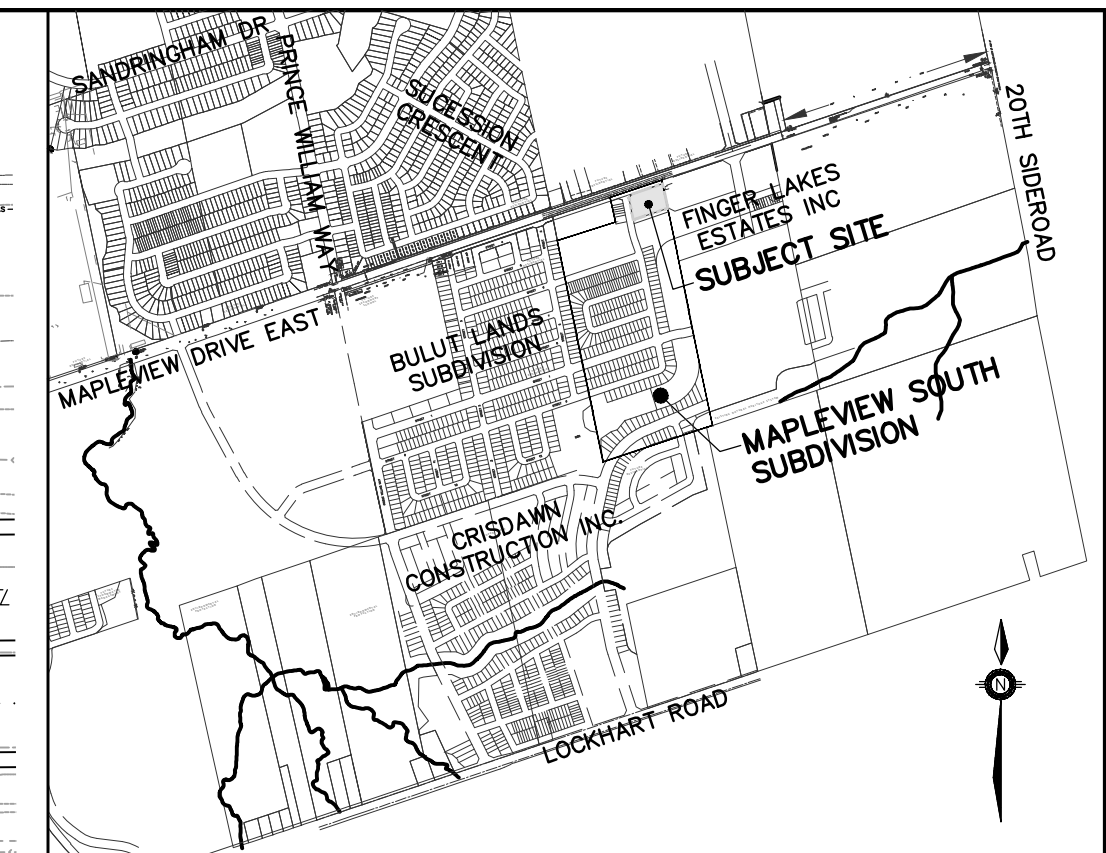
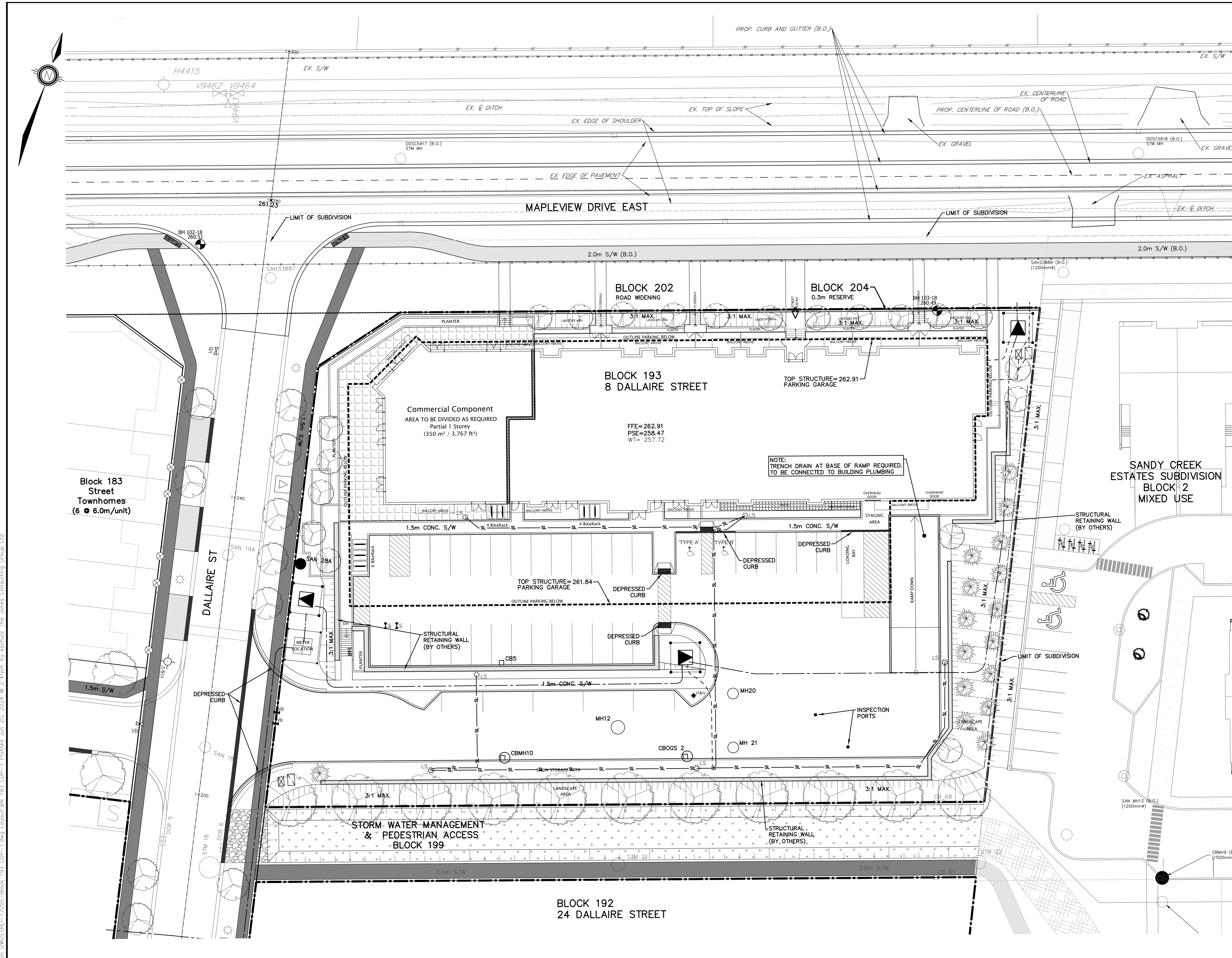
LEGEND

- PROPOSED HYDRANT
- PROPOSED VALVE BOX
- PROPOSED CURB STOP
- SWAB NUMBER, INSERTION LOCATION & SIZE
- SWAB NUMBER, REMOVAL LOCATION & SIZE
- SWAB TRAVEL DIRECTION

WATERMAIN TESTING AND DISINFECTION NOTES

- THE FOLLOWING SEQUENCE WILL BE UTILIZED IN THE COMMISSIONING OF THE WATER SYSTEM: SWAB AND CHARGE THE WATERMAIN, PRESSURE TEST, CHLORINATE, FLUSHING AND SAMPLING.
- ALL PROCEDURES ARE TO BE COMPLETED THROUGH A BYPASS CONNECTION TO THE EXISTING WATERMAIN, c/w BACKFLOW PREVENTION VALVE.
- THE VALVES ARE TO BE OPERATED BY CITY REPRESENTATIVES ONLY.
- THE FINAL CONNECTION TO THE EXISTING SYSTEM WILL NOT BE PERMITTED UNTIL ALL COMPONENTS OF THE TESTING AND DISINFECTION PROCEDURE HAVE BEEN COMPLETED TO THE SATISFACTION OF THE CITY.
- HYDROSTATIC TESTING SHALL BE PERFORMED ON THE COMPLETED DISTRIBUTION SYSTEM IN SECTIONS NOT EXCEEDING 500 METRES IN LENGTH IN ACCORDANCE WITH AWWA C600. FOR POLYETHYLENE PIPE THE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 701. TESTING OF SECTIONS THAT CONSIST OF VARYING PIPE MATERIALS WILL NOT BE PERMITTED. ALL SECONDARY MAIN VALVES MUST BE OPEN DURING TESTING WITH THE EXCEPTION OF THOSE BEING USED TO DIVIDE THE SYSTEM INTO SECTIONS FOR THE PURPOSE OF TESTING.
- THE SYSTEM SHALL BE DISINFECTED USING THE "CONTINUOUS FEED" METHOD IN ACCORDANCE WITH AWWA C651. FOLLOWING THE REQUIRED 24 HOUR CONTACT TIME, THE SYSTEM IS TO BE FLUSHED. THE CHLORINATED WATER MUST BE NEUTRALIZED USING AN APPROPRIATE CHEMICAL SUCH AS SODIUM THIOSULPHATE. THE DISCHARGED WATER WILL DRAIN TO THE ON-SITE STORM SEWER.
- SAMPLES FOR BACTERIOLOGICAL TESTING SHALL BE COLLECTED BY THE CITY A MINIMUM OF 24 HOURS AFTER FLUSHING IS COMPLETED IN ACCORDANCE WITH AWWA C651. SAMPLES SHALL BE COLLECTED FROM EVERY 350 METRES OF NEW WATERMAIN PLUS ONE SAMPLE FROM THE END OF EACH OF THE LINES AND AT LEAST ONE SAMPLE FROM EACH BRANCH (OPSS 441.07.25). FOLLOWING THE RECEIPT OF TWO CONSECUTIVE SETS OF ACCEPTABLE TEST RESULTS THE CITY WILL PROVIDE WRITTEN NOTIFICATION THAT A FINAL CONNECTION CAN BE MADE TO THE EXISTING DISTRIBUTION SYSTEM.
- A CONTINUITY TEST OF THE TRACER WIRE SHALL BE COMPLETED WITH POINT TO POINT READINGS RECORDED AND APPROVED BY THE CITY.
- THE FINAL CONNECTION SHALL NOT BE MADE UNTIL ALL OF THE ABOVE TESTING REQUIREMENTS HAVE BEEN SATISFACTORILY COMPLETED AND THE CITY HAS PROVIDED WRITTEN NOTIFICATION TO PROCEED. THE LENGTH OF PIPE REQUIRED TO CONNECT THE NEW WATER SYSTEM TO THE EXISTING DISTRIBUTION SYSTEM SHALL NOT EXCEED 5.5 METRES AND SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651.

REFERENCES: 1. CITY OF BARRIE LATEST MANUALS AND GUIDELINES 2. OPSS AND OPSS 3. CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED 4. SANDY CREEK CREEK REALIGNMENT BY TATHAM ENGINEERING LIMITED 5. BULLY LANDS SUBDIVISION DEVELOPMENT BY SCHAEFFERS CONSULTING ENGINEERING 6. DRAFT PLAN OF MAPLEVIEW SOUTH SUBDIVISION BY JONES CONSULTING GROUP LTD. 7. MAPLEVIEW DRIVE EAST WIDENING BY R.J. BURNSIDE & ASSOCIATES LIMITED 8. SLS PLAN BY RUDY MAX SURVEYING LTD. 9. ARAW GROUP RESIDENTIAL DEVELOPMENT BY PEARSON ENGINEERING LTD. 10. HEWITTS CENTRAL SUBDIVISION (BRADLEY HOMES) BY JONES CONSULTING GROUP LTD. 11. GEOTECHNICAL INVESTIGATION REPORT BY CAMBLUM INC. 12. HYDROLOGICAL ASSESSMENT BY R.J. BURNSIDE & ASSOCIATES LIMITED 13. HEWITTS SECONDARY PLAN AREA SS BY R.J. BURNSIDE & ASSOCIATES LIMITED 14. LSRC LATEST MANUALS AND GUIDELINES		BENCHMARK: BENCHMARK NO. 03120080055 LOCATED APPROXIMATELY 1.9km EAST OF YONGE STREET, APPROXIMATELY 6m NORTH OF CENTERLINE OF MAPLEVIEW DRIVE EAST AND 35m WEST OF CITY BOUNDARY LINE. N4912122.851 E611241.154 BENCHMARK NO. 03120110020 LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 700m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4812284.547 E611717.298 BENCHMARK NO. 03120080008 LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #1) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610187.698 BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910578.122 E607601.052 248.998		PROFESSIONAL ENGINEER M. G. FLIS 100149193 06-21-2024 PROVINCE OF ONTARIO		MAPLEVIEW SOUTH (INNISFIL) LTD 953 MAPLEVIEW DRIVE EAST CITY OF BARRIE BLOCK 193 WATERMAIN SWABBING PLAN		JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS 229 Mapleview Dr. E. Unit 1 Barrie, ON L4N 0W6 P. 705.734.2538 F. 705.734.1056	
DESIGN MF/KS		SCALE: 1:250		DATE APRIL 2024		DESIGN MF/KS			
DRAWN KS		PROJECT REI-17055		DWG. NO. WM-1		DRAWN KS			
CHECKED DR						CHECKED DR			



KEY PLAN	
NTS	
LEGEND	
	EX. SANITARY MAINTENANCE HOLE
	EX. STORM MAINTENANCE HOLE
	EX. CATCHBASIN
	EX. DOUBLE CATCHBASIN
	EX. VALVE & BOX
	EX. HYDRANT & VALVE
	EX. BELL PEDESTAL
	EX. HYDRO POLE
	EX. SIGN
	EX. BELL LINE
	EX. GAS LINE
	EX. TV LINE
	HYDRANT AND VALVE
	VALVE AND BOX
	BELL VAULT
	CABLE VAULT
	SANITARY MAINTENANCE HOLE
	STORM MAINTENANCE HOLE
	CATCH BASIN
	DEPRESSED CURB
	TRANSFORMER
	LIGHT STANDARD
	LIGHT STANDARD PEDESTAL
	UTILITY DUCT
	PROPOSED DECIDUOUS TREE
	PROPOSED CONIFEROUS TREE
	UNDERGROUND STREET LIGHT CABLE(S)
	UNDERGROUND SECONDARY SERVICE CONDUCTOR
	UNDERGROUND PRIMARY FEEDER
	UNDERGROUND COMMUNICATION DUCT

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2.	FIRST SUBMISSION	JUNE 2024	DR
1.	ISSUED FOR PRE-CONSULTATION	JULY 2023	DR
NO.	REVISIONS	DATE	INITIAL

MAPLEVIEW SOUTH (INNISFIL) LTD
953 MAPLEVIEW DRIVE EAST
CITY OF BARRIE

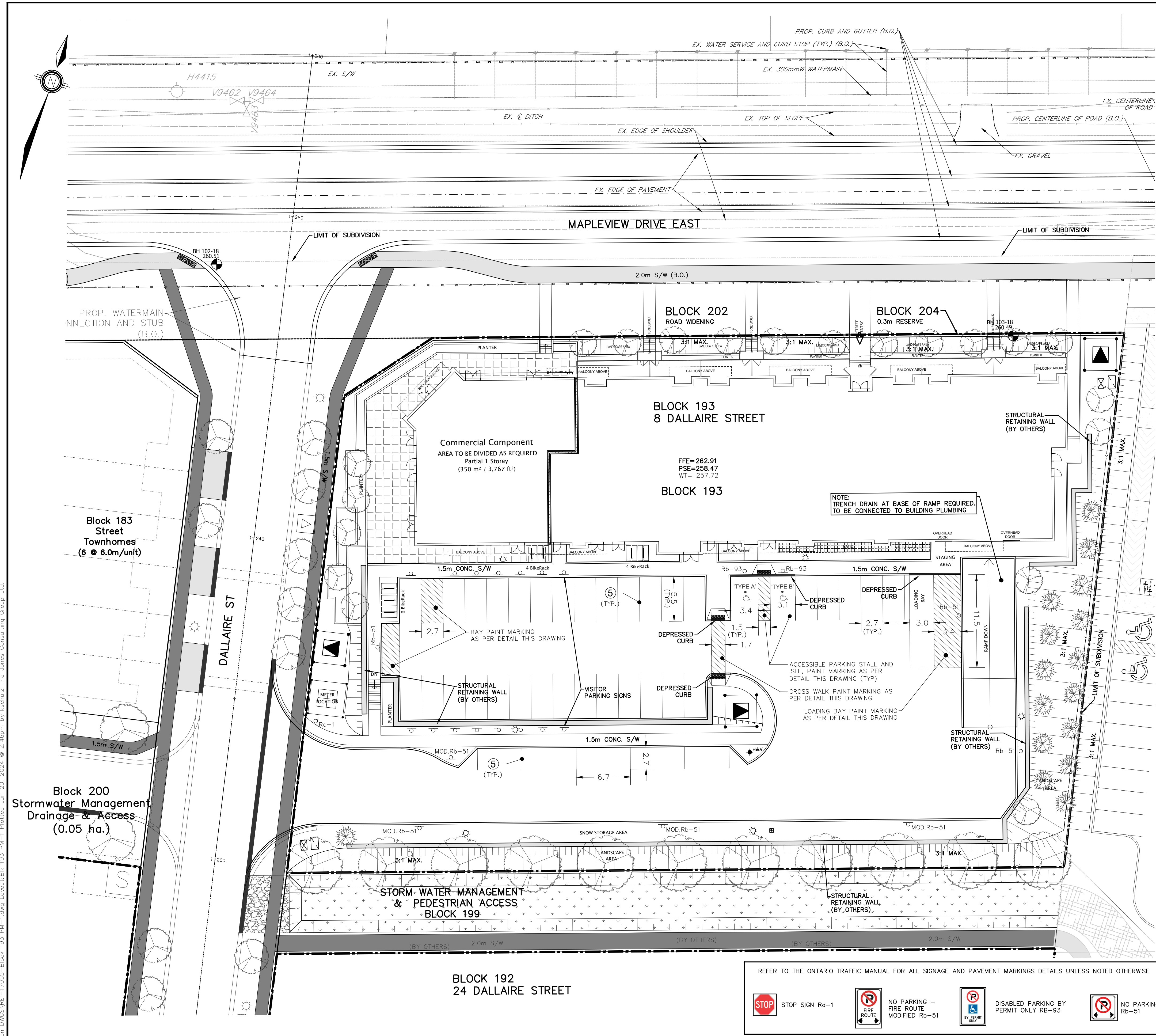
BLOCK 193

COMPOSITE UTILITY PLAN

229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W6
P. 705.734.2538
F. 705.734.1056

DESIGN JH	SCALE: 1:250	DATE MAY 2023
DRAWN JH	PROJECT	DWG. NO
CHECKED RC/DR	REI-17055	CUP-1

G:\Eng-3D\VEI-17055\Production DWG\REI-17055-Block 193 PM-1.dwg Layout:Blk 193 PM-1 Plotted Jun 20, 2024 @ 2:46pm by Jessica The Jones Consulting Group Ltd.



REFERENCES:

1.	CITY OF BARRIE LATEST MANUALS AND GUIDELINES
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BENCHMARK:

BENCHMARK NO. 03120080055	LOCATED APPROXIMATELY 1.9km EAST OF YONGE STREET, APPROXIMATELY 6m NORTH OF CENTERLINE OF MAPLEVIEW DRIVE EAST AND 35m WEST OF CITY BOUNDARY LINE. N4912122.851 E611241.154
BENCHMARK NO. 03120110020	LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 700m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4912284.547 E611717.298
BENCHMARK NO. 03120080008	LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #11) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610167.698
BENCHMARK NO. 03120080054	LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST, APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910578.122 E607601.062 ELEV 248.996

1.	FIRST SUBMISSION	JUNE 2024	MF
NO.	REVISIONS	DATE	INITIAL



REFER TO THE ONTARIO TRAFFIC MANUAL FOR ALL SIGNAGE AND PAVEMENT MARKINGS DETAILS UNLESS NOTED OTHERWISE

STOP SIGN Rb-1	NO PARKING - FIRE ROUTE MODIFIED Rb-51	DISABLED PARKING BY PERMIT ONLY Rb-93	NO PARKING Rb-51
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MAPLEVIEW SOUTH (INNISFIL) LTD
953 MAPLEVIEW DRIVE EAST
CITY OF BARRIE

BLOCK 193
PAVEMENT MARKING
AND SIGNAGE PLAN

DESIGN	MF/KS	SCALE: 1:250	DATE	APRIL 2024
DRAWN	KS	PROJECT	DWG. NO	
CHECKED	DR	REI-17055	PM-1	

JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS

229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1050

KEY PLAN
NTS

LEGEND

CURB DROP	PROPOSED HYDRANT
CATCH BASIN	PROPOSED VALVE
DOUBLE CATCH BASIN	PROPOSED LIGHT STANDARD
STORM MAINTENANCE HOLE	PROPOSED LIGHT STANDARD PEDESTAL
CATCH BASIN MAINTENANCE HOLE	PROPOSED BELL GRADE LEVEL BOX
DOUBLE CATCH BASIN MAINTENANCE HOLE	PROPOSED ROGERS GRADE LEVEL BOX
SANITARY MAINTENANCE HOLE	PROPOSED HYDRO TRANSFORMER
MAXIMUM GRADING SLOPE UNLESS OTHERWISE NOTED	PROPOSED DECIDUOUS TREE
4 Rb-93 PROPOSED SIGN & DESIGNATION	PROPOSED CONIFEROUS TREE

PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW, 10cm
2	SOLID DOUBLE YELLOW, 10cm
3	363 BROKEN YELLOW, 10cm
4	SOLID YELLOW, 20cm
5	SOLID WHITE, 10cm
6	333 BROKEN WHITE, 10cm
7	363 BROKEN WHITE, 10cm
8	393 BROKEN WHITE, 10cm
9	SOLID WHITE, 20cm
10	111 BROKEN WHITE, 10cm
11	333 BROKEN WHITE, 20cm
12	333 BROKEN WHITE, 30cm
13	SOLID WHITE, 30 cm
14	SOLID WHITE, 45 cm
15	SOLID WHITE, 60cm
20	SYMBOLS
21	LIMITS OF MARKING

NOTES:

- 333, 363, 393, DENOTES PAVEMENT MARKING SPACING (ie, 3m LINE, 3m GAP, 3m LINE)
- USE [1] TO DENOTE PAVEMENT MARKING
- USE [T] TO DENOTE PAVEMENT MARKING, TEMPORARY
- USE [A] TO DENOTE PAVEMENT MARKING, TEMPORARY-REMOVABLE
- USE [D] TO DENOTE PAVEMENT MARKING, DURABLE

NOTE:

- ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL CONFORM TO THE ONTARIO TRAFFIC MANUAL.
- PAVEMENT MARKINGS FOR PARKING STALLS SHALL BE PAINTED WHITE AND CONFORM TO OPSS 1712.
- PAINT COLOR SPECIFIED ON DRAWING, PAINT TO BE QUICK DRYING WATER BASED LATEX PAINT (WITHOUT GLASS BEADS)



Appendix B

Supporting Calculations

- Storm Sewer Design Sheet;
- Maplevue South Subdivision Sanitary Sewer Design Sheet (revised);
- Fire Underwriters Survey Calculations.

BLK 193 STORM SEWER DESIGN - MINOR SYSTEM																	
		Design flow in (m³/s)		Q= C·I·A / 360		Pipe capacity (m³/s)		Q		Client: Anthony Reino							
		Site specific runoff coefficient		C		Manning roughness value		n=0.013		Project: Mapleview South (Innisfil) LTD - BLK 193							
		Rainfall intensity (mm/hr)		I = A/(T.C. + B) ^ C		Cross sectional area of pipe (m²)		A		Address: 953 Mapleview Drive East							
		function of the local intensity-duration data		A= 843.019		Hydraulic Radius (m)		R _h		File: REI-17055							
		function of the local intensity-duration data		B= 4.582		Sewer pipe slope (m/m)		S		Design: KR							
		function of the local intensity-duration data		C= 0.763		Velocity of flow (m/s)		V		Check: MF							
		Max. time of concentration (min)		T.C.= 10						Date: June 19 2024							
		Drainage area (ha)		A						Design sheet: DS-1							
AREAS	Street	MANHOLE		LENGTH (m)	INCREMENT			TOTAL CA	FLOW TIME (min)		I (mm/h)	TOTAL Q (cms)	S (%)	D (mm)	Q FULL (cms)	V FULL (m/s)	% FULL
		FROM	TO		C	A	CA		TO	IN							
201	BLK 193	BLDG	LID	10.5	0.95	0.18	0.17	0.17	10.00	0.06	109	0.052	6.50	250	0.152	3.1	34.6
202	BLK 193	CB5	CBMH10	12.7	0.92	0.09	0.08	0.08	10.00	0.15	109	0.024	1.00	300	0.097	1.4	24.7
203	BLK 193	CBMH10	CBOGS2	24.4	0.71	0.04	0.03	0.11	10.15	0.42	108	0.032	0.50	300	0.068	1.0	47.3
204	BLK 193	CBOGS2	LID	6.3	0.88	0.11	0.10	0.21	10.58	0.03	106	0.061	6.50	300	0.247	3.5	24.6
	BLK 193	LID	MH12	16.0				0.21	10.61	0.11	106	0.061	3.00	300	0.167	2.4	36.2
	BLK 193	MH12	STUB	8.3				0.21	10.72	0.11	105	0.060	0.50	450	0.202	1.3	29.9

STORM SEWER DESIGN - MINOR SYSTEM																		
		Design flow in (m³/s)		Q = C I A / 360		Pipe capacity (m³/s)		Q = 0.013		Client: Anthony Reino Mapleview South (Inlets) Ltd 253 Mapleview Drive East REI-7055 Design: VBS Check: RC Date: April 4, 2023 Design sheet: DS-1								
		Site specific runoff coefficient		C = A / (T.C. + B) °C		Manning roughness value		n = 0.013		Project: Mapleview South (Inlets) Ltd								
		Roof runoff intensity (mm/hr)		I = A / (T.C. + B) °C		Cross sectional area of pipe (m²)		A		Project: Mapleview South (Inlets) Ltd								
		function of the local intensity-duration data		A = 843.019		Hydraulic radius (m)		R _p		Project: Mapleview South (Inlets) Ltd								
		function of the local intensity-duration data		B = 4.582		Sewer pipe slope (m/m)		S		Project: Mapleview South (Inlets) Ltd								
function of the local intensity-duration data		C = 0.763		Velocity of flow (m/s)		V		Project: Mapleview South (Inlets) Ltd										
Max. time of concentration (min)		T.C. = 10								Project: Mapleview South (Inlets) Ltd								
Drainage area (ha)		A								Project: Mapleview South (Inlets) Ltd								
AREAS	Sheet	MANHOLE	LENGTH	INCREMENT	TOTAL	FLOW TIME (min)	I (mm/h)	Q (l/s)	S (%)	D (mm)	Q FULL (l/s)	V FULL (m/s)	% FULL					
201	COLOSIMO CRES	STM 01	STM 02	99.6	0.72	0.74	0.53	0.53	10.00	1.31	109	0.161	0.50	450	0.202	1.3	79.9	
202	DALLAIRE ST	STM 02	STM 03	74.6	0.73	0.21	0.15	0.69	11.31	0.98	102	0.194	0.50	450	0.202	1.3	96.4	
203	COLOSIMO CRES	STM 04	STM 05	51.7	0.72	0.26	0.19	0.19	10.00	0.89	109	0.057	0.50	300	0.068	1.0	83.6	
204	COLOSIMO CRES	STM 05	STM 03	100.0	0.71	1.01	0.72	0.91	10.89	1.19	104	0.263	0.50	525	0.304	1.4	86.5	
205	DALLAIRE ST	STM 03	STM 06	77.6	0.73	0.25	0.18	1.78	12.29	0.78	98	0.482	0.50	675	0.594	1.7	91.1	
206	DALLAIRE ST	DCB 07	STM 06	14.6	0.77	0.26	0.20	0.20	10.00	0.13	109	0.061	2.00	300	0.137	1.9	44.3	
207	McAUSH ST	STM 06	STM MH 08	84.9				1.98	13.07	0.85	94	0.518	0.50	675	0.594	1.7	97.1	
208	McAUSH ST	STM 08	STM MH 09	84.1	0.72	0.57	0.41	2.39	13.92	0.79	91	0.604	0.50	750	0.787	1.8	76.7	
209	McAUSH ST	STM 09	DOSC6445 (B.O.)	42.7	0.71	0.72	0.51	2.90	14.71	0.32	88	0.711	0.80	750	0.996	2.3	71.4	
EXT.3	McAUSH ST	DOSC6445 (B.O.)	DOSC6446 (B.O.)	36.6	0.71	0.35	0.25	3.20	15.02	0.30	87	0.774	0.50	900	1.280	2.0	60.4	
Proposed pipe by Shoeffers ↓	SCH.2	McAUSH ST	DOSC6445 (B.O.)	DOSC6446 (B.O.)	36.5	0.62	0.08	0.05	3.67	14.86	0.30	88	0.893	0.50	900	1.280	2.0	69.7
209	DALLAIRE ST	STM 10	STM 11	80.5	0.72	0.45	0.32	0.32	10.00	1.20	109	0.097	0.50	375	0.124	1.1	78.5	
210	DALLAIRE ST	STM 11	DOSC6447 (B.O.)	39.7	0.72	0.58	0.42	0.74	11.20	0.37	103	0.212	1.00	450	0.285	1.8	74.2	
EXT.4	DALLAIRE ST	DOSC6447 (B.O.)	BOX CULV	36.6	0.70	0.20	0.14	0.92	11.56	0.43	101	0.257	0.50	525	0.304	1.4	84.7	
Proposed pipe by Shoeffers ↓	SCH.3	DALLAIRE ST	DOSC6447 (B.O.)	BOX CULV	36.0	0.62	0.06	0.04	0.71	11.42	0.43	102	0.224	0.50	525	0.304	1.4	73.6
102	Townhomes	RLC8 1	STM 12	36.5	0.67	0.18	0.12	0.12	10.00	0.71	109	0.037	0.50	250	0.042	0.9	87.5	
103	Townhomes	RLC8 2	STM 13	50.5				0.12	10.71	0.87	105	0.035	0.50	300	0.068	1.0	51.9	
104	LOTUS RD	STM 13	STM 14	36.5	0.67	0.14	0.09	0.09	10.00	0.71	109	0.028	0.50	250	0.042	0.9	67.6	
105	Townhomes	RLC8 3	STM 14	44.5	0.72	0.24	0.17	0.39	11.58	0.66	101	0.108	0.50	375	0.124	1.1	87.3	
106	LOTUS RD	STM 14	STM 15	36.5	0.67	0.10	0.06	0.06	10.00	0.71	109	0.020	0.50	250	0.042	0.9	45.8	
107	DALLAIRE ST	STM 15	STM 17	66.4	0.72	0.27	0.20	0.65	12.24	0.87	98	0.176	0.50	450	0.202	1.7	76.7	
107	DALLAIRE ST	STM 17	STM 18	58.0	0.72	0.30	0.22	0.87	13.11	0.69	94	0.226	0.50	525	0.304	1.4	74.4	
EXT.5	DALLAIRE ST	STM 17	STM 18	31.5				0.87	13.80	0.37	91	0.220	0.50	525	0.304	1.4	72.2	
101	MD Block 191	STM 18	STM 19	13.6	0.75	1.83	1.37	1.37	10.00	0.13	109	0.416	0.60	600	0.476	1.7	67.4	
Exterior catchment boundary by Pearson Engineering ↓																		
EXT.6 STM BLK 200																		
Exterior catchment boundary by RJ Burnside Engineering ↓																		
EXT.7 MAPLEVIEW DR E																		
109 STM BLOCK 199																		
MD BLK 193																		
111 MD BLK 192																		
112 STM BLK 199																		
Proposed pipe by Tatham's ↓	External	STM 22	STM 17 (B.O.)	24.6				3.75	15.03	0.22	87	0.905	0.50	825	1.015	1.9	89.2	
123	Townhomes	RLC8 4	CBMH 20	34.6	0.67	0.09	0.06	0.06	10.00	0.67	109	0.019	0.50	250	0.042	0.9	44.5	
EXT.1	LOTUS RD	CBMH 20	DOSC6430 (B.O.)	2.9	0.71	0.19	0.13	0.20	10.67	0.05	105	0.057	0.50	300	0.068	1.0	83.6	
124	LOTUS RD	DOSC6430 (B.O.)	DOSC6431 (B.O.)	36.1				0.23	10.72	0.54	105	0.068	0.50	375	0.124	1.1	54.9	
Proposed pipe by Shoeffers ↓	SCH.1	LOTUS RD	DOSC6430 (B.O.)	DOSC6431 (B.O.)	36.0	0.62	0.06	0.04	0.25	10.73	0.53	105	0.072	0.50	375	0.124	1.1	58.2
Tatham's	EXT.6	McAUSH ST	STM 30	42.2	0.65	0.19	0.13	0.13	10.00	0.73	109	0.038	0.50	300	0.068	1.0	55.9	
301	TERRY FOX DR	STM 23	STM 24	57.9	0.77	0.15	0.12	0.12	10.00	1.00	109	0.035	0.50	300	0.068	1.0	51.8	
302	TERRY FOX DR	STM 24	STM 25	99.2	0.75	0.86	0.64	0.76	11.00	1.03	104	0.219	0.80	450	0.255	1.6	85.8	
303	GIOVANNI CRES	DCB 26	STM 25	17.7	0.70	0.20	0.14	0.14	10.00	0.15	109	0.043	2.00	300	0.137	1.9	44.3	
304	TERRY FOX DR	STM 25	STM 27	92.7	0.75	0.24	0.18	1.08	12.03	1.01	99	0.296	0.50	600	0.434	1.5	68.3	
Proposed pipe by Tatham's ↓	EXT.5	TERRY FOX DR	STM 27	42.5	0.75	0.21	0.16	1.24	13.03	0.46	94	0.325	0.50	600	0.434	1.5	74.9	

Notes: Shoeffers subdivision design can be accessed under Project No. 2018-4692 | City of Barrie Files: D12-428 / D14-1625

SANITARY SEWER DESIGN - LOCAL SEWER													DESIGN SHEET 1 of 1																																																																																																																																																																																																																																																																																																																																																																	
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CONTRACT / PROJECT MAPLEVIEW SOUTH (INNISFIL) LTD.													LTD.																																																																																																																																																																																																																																																																																																																																																																	
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(Harmon or Babbitt peaking factor where; M ≥ 2), the greater of the two is used in the spreadsheet. Please refer to Section 3.3.1.1 of the Barrie Sanitary Design Guidelines for additional guidance on which peaking factor to use.																																																																																																																																																																																																																																																																																																																																																																														
(Peak population flow where; q = 225 L/day/person; P = population in thousands)													225 litres/person/day																																																																																																																																																																																																																																																																																																																																																																	
(Peak extraneous flow; I= 0.1L/s/ha over development area)																																																																																																																																																																																																																																																																																																																																																																														
(Total peak flow as the sum of peak population flow and peak extraneous flow)																																																																																																																																																																																																																																																																																																																																																																														
See Note 1.																																																																																																																																																																																																																																																																																																																																																																														
AREA - STREET	MAINTENANCE HOLE		DWELL UNITS	DWELL (ACC) UNITS	DENSITY P.P.U.	POP. (P)	POP. (ACC)	M PEAKING FACTOR BABBITT	M PEAKING FACTOR HARMON	Max PEAKING FACTOR	Q _p (l/s)	AREA (ha)	AREA (ACC) (ha)	Q _a (l/s)	Q _{tot} (l/s)	L (m)	D (mm)	S (%)	Full (l/s)	d/D ^{0.5} (l/s)	d/D ^{0.5} >0.5 or >0.7	Velocity (m/s)	Partial ^{0.5} (m/s)	Velocity ^{0.5} >0.6 (m/s)																																																																																																																																																																																																																																																																																																																																																						
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1A - Colosimo Cres			8		3.25	26																																																																																																																																																																																																																																																																																																																																																																								
1B - Colosimo Cres	SAN 01A	SAN 02A	8	16	2.57	21	47	9.234	4.321	9.234	1.120	0.49	0.49	0.049	1.169	52.2	200	2.00	46.384	0.109	Ok	1.476	0.618	Ok																																																																																																																																																																																																																																																																																																																																																						
2A - Colosimo Cres	SAN 02A	SAN 03A	10		3.25	33																																																																																																																																																																																																																																																																																																																																																																								
2B - Colosimo Cres	SAN 03A	SAN 04A	16	42	2.57	41	120	7.638	4.221	7.638	2.391	0.76	1.25	0.125	2.516	198.7	200	1.10	34.399	0.183	Ok	0.956	0.628	Ok																																																																																																																																																																																																																																																																																																																																																						
3 - Dallaire St	SAN 03A	SAN 04A	6	48	3.25	20	140	7.412	4.201	7.412	2.696	0.32	1.57	0.157	2.853	74.6	200	1.00	32.738	0.199	Ok	1.044	0.629	Ok																																																																																																																																																																																																																																																																																																																																																						
4 - Colosimo Cres	SAN 05A	SAN 06A	8	8	3.25	26	26	10.375	4.364	10.375	0.702	0.39	0.39	0.039	0.741	58.5	200	2.00	46.384	0.088	Ok	1.476	0.534	Check																																																																																																																																																																																																																																																																																																																																																						
5 - Colosimo Cres	SAN 07A	SAN 08A	3	11	3.25	10	38	9.735	4.342	9.735	0.908	0.19	0.58	0.058	0.964	14.7	200	0.60	34.399	0.069	Ok	1.476	0.577	Check																																																																																																																																																																																																																																																																																																																																																						
6 - Colosimo Cres	SAN 07A	SAN 08A	18	29	3.25	59	94	8.019	4.251	8.019	1.968	0.64	1.22	0.122	2.090	70.7	200	1.20	36.509	0.163	Ok	1.144	0.610	Ok																																																																																																																																																																																																																																																																																																																																																						
7 - Colosimo Cres	SAN 08A	SAN 04A	13	42	3.25	42	137	7.446	4.204	7.446	2.647	0.53	1.75	0.175	2.822	78.4	200	1.00	32.738	0.196	Ok	1.044	0.627	Ok																																																																																																																																																																																																																																																																																																																																																						
8 - Dallaire St	SAN 04A	SAN 09A	5	95	3.25	16	292	6.394	4.083	6.394	4.869	0.33	3.65	0.365	5.234	77.6	200	0.60	29.406	0.307	Ok	0.809	0.623	Ok																																																																																																																																																																																																																																																																																																																																																						
9 - Dallaire St	SAN 10A	SAN 11A	2	2	3.25	7	7	13.689	4.431	13.689	0.232	0.13	0.13	0.013	0.245	18.8	200	2.00	46.384	0.052	Ok	1.476	0.379	Check																																																																																																																																																																																																																																																																																																																																																						
10 - Dallaire St	SAN 11A	SAN 09A	5	7	3.25	16	23	10.655	4.373	10.655	0.631	0.29	0.42	0.042	0.673	18.1	200	2.00	46.384	0.084	Ok	1.476	0.518	Check																																																																																																																																																																																																																																																																																																																																																						
11 - McAush St	SAN 08A	SAN 12A	16	118	3.25	52	367	6.109	4.040	6.109	5.842	0.77	4.84	0.484	6.326	105.8	200	0.50	23.192	0.356	Ok	0.738	0.615	Ok																																																																																																																																																																																																																																																																																																																																																						
12 - McAush St	SAN 12A	SAH 34063 (B.O.)	18	136	3.25	59	428	5.931	4.009	5.931	6.575	0.83	5.67	0.567	7.142	102.8	200	0.50	23.192	0.390	Ok	0.738	0.635	Ok																																																																																																																																																																																																																																																																																																																																																						
EXT - McAush St	SAH 34063 (B.O.)	SAH 34066 (B.O.)					428	5.931	4.009	5.931	6.575		5.67	0.567	7.142	40.4	200	0.50	23.192	0.380	Ok	0.738	0.635	Ok																																																																																																																																																																																																																																																																																																																																																						
13 - Dallaire St	SAN 10A	SAN 13A	17	17	3.25	55	55	8.923	4.306	8.923	1.284	0.79	0.79	0.079	1.363	101.2	200	1.70	42.764	0.122	Ok	1.361	0.606	Ok																																																																																																																																																																																																																																																																																																																																																						
14 - Dallaire St	SAN 13A	SAH 34067 (B.O.)	12	29	3.25	39	94	8.019	4.251	8.019	1.968	0.59	1.38	0.138	2.106	95.8	200	1.20	36.509	0.164	Ok	1.144	0.610	Ok																																																																																																																																																																																																																																																																																																																																																						
EXT - Dallaire St	SAH 34067 (B.O.)	SAH 34068 (B.O.)		29			94	8.019	4.251	8.019	1.968		1.38	0.138	2.106	40.1	250	1.20	65.143	0.123	Ok	1.327	0.594	Check																																																																																																																																																																																																																																																																																																																																																						
15 - MD BLK 191	STUB	SAN 14A	300	300	2.57	771	771	5.267	3.870	5.267	10.575	1.83	1.83	0.183	5.058	11.0	200	0.50	23.192	0.478	Ok	0.738	0.721	Ok																																																																																																																																																																																																																																																																																																																																																						
16 - Lotus Rd	SAN 14A	SAN 15A	14	314	2.57	36	807	3.219	3.858	3.219	10.968	0.42	2.25	0.225	11.193	85.4	200	0.60	29.406	0.464	Ok	0.809	0.779	Ok																																																																																																																																																																																																																																																																																																																																																						
17 - Lotus Rd	SAN 15A	SAN 16A	10	324	2.57	26	833	5.186	3.850	5.186	11.247	0.33	2.58	0.258	11.605	77.4	200	0.60	25.406	0.471	Ok	0.809	0.783	Ok																																																																																																																																																																																																																																																																																																																																																						
18 - Dallaire St	SAN 03A	SAN 16A	7	7	3.25	23	23	10.655	4.373	10.655	0.631	0.33	0.33	0.033	0.664	77.5	200	2.00	46.384	0.083	Ok	1.476	0.518	Check																																																																																																																																																																																																																																																																																																																																																						
19 - Dallaire St	SAN 16A	SAN 17A	2	333	2.57	7	862	5.186	3.841	5.186	11.562	0.16	3.07	0.307	11.869	58.7	200	0.50	23.192	0.508	Check	0.738	0.738	Ok																																																																																																																																																																																																																																																																																																																																																						
20 - MD BLK 192	STUB	SAN 17A	180120	180120	2.57	267309	267309	4.667	3.624	4.667	10.324	0.951	0.988	0.74	0.974	10.495	163.110	200	0.90	11.115	0.295	265	0.980	0.687	129	Ok																																																																																																																																																																																																																																																																																																																																																				
21 - Dallaire St	SAN 17A	SAN 16A	2	435456	2.57	9	6	1424117	4.867	4.840	3.767	7.753	4.854	4.840	2.258	14.833	0.22	0.43	0.403	14.281	70.3	0.50	23.192	0.510	277	Check	0.738	0.776	183	Ok																																																																																																																																																																																																																																																																																																																																																
Landuse													Q m ² /ha		Q m ³ /day																																																																																																																																																																																																																																																																																																																																																															
22 - MD BLK 193*	Commercial	SAN 16A			28	267	79*	8.307	4.270	4.996	307	0.695	1.709	0.695	0.909	79																																																																																																																																																																																																																																																																																																																																																														
23 - MD BLK 193*	STUB	SAN 16A	80100	80100	2.57	206257	206257	296	236	4.667	6.219	1.444	0.451	0.961	0.219	0.875	0.441	0.62	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.602	0.63	0.

	Project:	953 Mapleview Drive E - Block 193	Date:	June 2024	
	File No.:	REI-17055 (50)	Designed:	CG	
	Subject:	Building A - Fire Flow Calculations	Checked:	MF	
	Revisions:				

Fire flow demands for the FUS method is based on information and guidance provided in Part 2 of the "Water Supply for Public Protection" (Fire Underwriters Survey, 1999)

An estimate of the fire flow required is given by the following formula:

$$F = 220C\sqrt{A}$$

where:

F = the required fire flow in litres per minute (Rounded to nearest 1000 L/min)
C = coefficient related to the type of construction
= 1.5 for wood frame construction (structure essentially all combustible).
= 1.0 for ordinary construction (brick or other masonry walls, combustible floor and interior)
= 0.8 for non-combustible construction (unprotected metal structural components, masonry or metal walls)
= 0.6 for fire-resistive construction (fully protected frame, floors, roof)
Note: For types of construction that do not fall within the categories given, coefficients shall not be greater than 1.5 nor less than 0.6 and may be determined by interpolation between consecutive construction types as listed above
A = Total floor area in square meters (including all storeys, but excluding basements at least 50% below grade) in the building being considered.

Adjustments to the calculated fire flow can be made based on occupancy, sprinkler protection and exposure to other structures. The table below summarizes the adjustments made to the basic fire flow demand.

Building	GFA (m ²)	C	(1) Fire Flow "F"		(2) Occupancy Contents		(3) Sprinkler		(4) Exposure		Final Adjustment Fire Flow	
			(L/min)	(L/s)	(%)	Adjusted Fire Flow (L/min)	%	Adjustment (L/min)	%	Adjustment (L/min)	(L/min)	(L/s)
A East	8184	1.5	30,000	500	-15	25,500	-50	-12,750	16.43	4,188	17,000	283

Note: Based on Architect drawings prepared by S & C Architects Inc., dated June 6, 2024.

(2) Occupancy Contents

Non-Combustible	-25%
Limited Combustible	-15%
Combustible	No Charge
Free Burning	15%
Rapid Burning	25%

(3) Sprinkler

30% credit for adequately designed system per NFPA 13. Additional 10% if water supply standard for both the system and fire department hose lines required. Additional credit of up to 10% given for a fully supervised system.

(4) Exposure

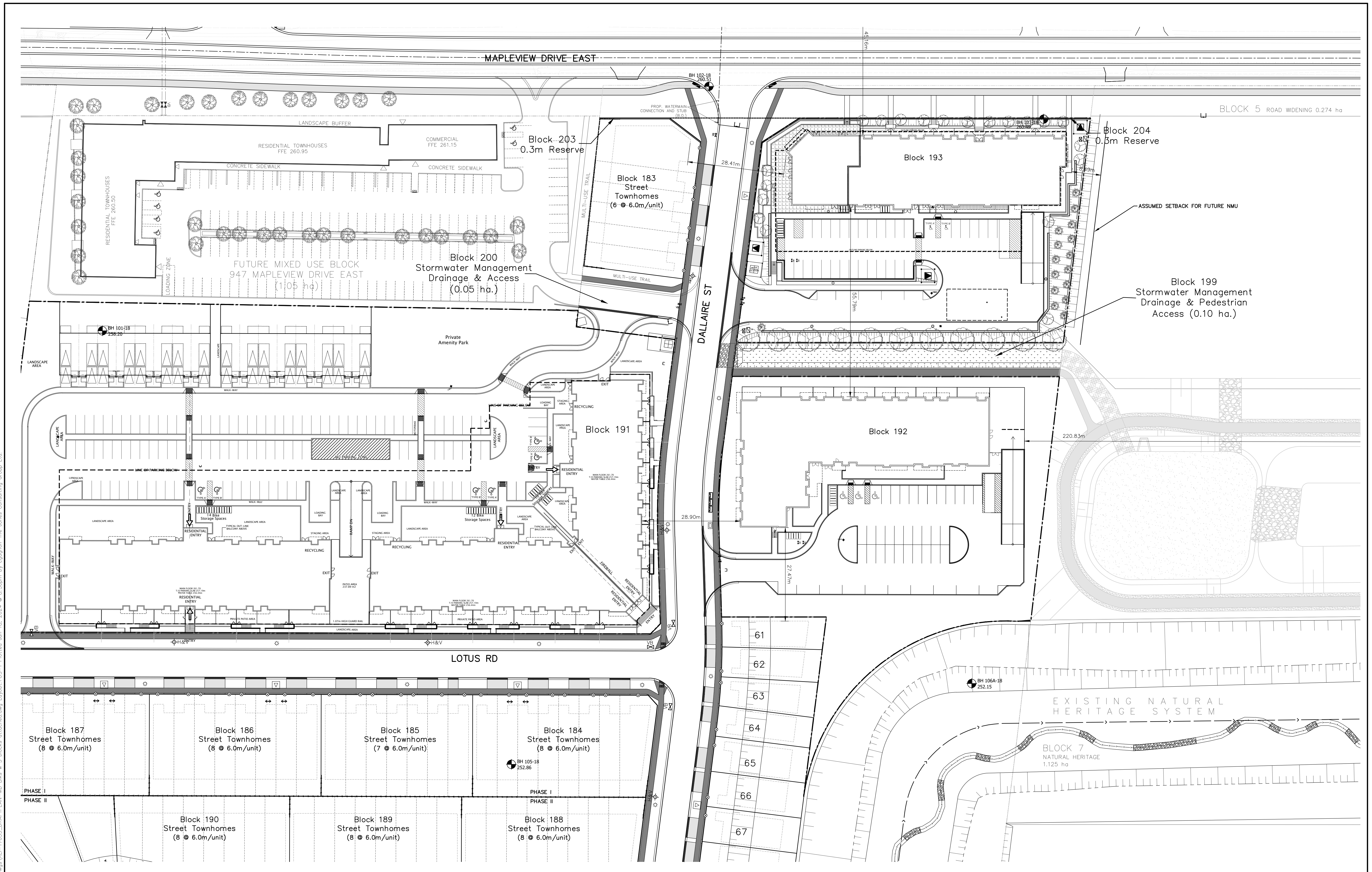
0 to 3m	25%	
3.1 to 10m	20%	Calculate for all sides.
10.1 to 20m	15%	Max charge shall not exceed
20.1 to 30m	10%	75%.
30.1 to 45m	5%	
Max charge percentage is outlined above. Max should only be used if exposed building meets all of the following conditions:		
a)	Same or poorer type of construction than fire building	
b)	Same or greater height than the fire building	
c)	Contains unprotected exposed openings	
d)	Unsprinklered	
(each true condition accounts for 1/4 of the max charge percentage)		

Calculations :

- (1) Basic Required Fire Flow (F) = 500 L/s
(2) Building Occupancy Contents = -15 % Reduction
(3) Sprinkler System Credit = -50 % Reduction
(4) Exposure to building = 16.43 % Increase [See Calculation Below]

	Dist. (m)	Max Charge %	Adjusted Charge %	Notes:
North	>45	0	0.00	Exposure greater than 45m; No Charge Assigned
South	>45	0	0.00	Exposure greater than 45m; No Charge Assigned
East	8.49	16.1	12.08	Conditions a), b), c) are True; Assign 3/4 of Max Charge
West	28.41	5.8	4.35	Conditions a), c), d) are True; Assign 3/4 of Max Charge
Total:		16.43		

Final Adjusted Fire Flow = Adjustment Flow from (2) + Sprinkler Adjustment (3) + Exposure Adjustment (4)
= 17000 L/min or 283 L/s



BENCHMARK:				
	NO	REVISIONS	DATE	INITIAL



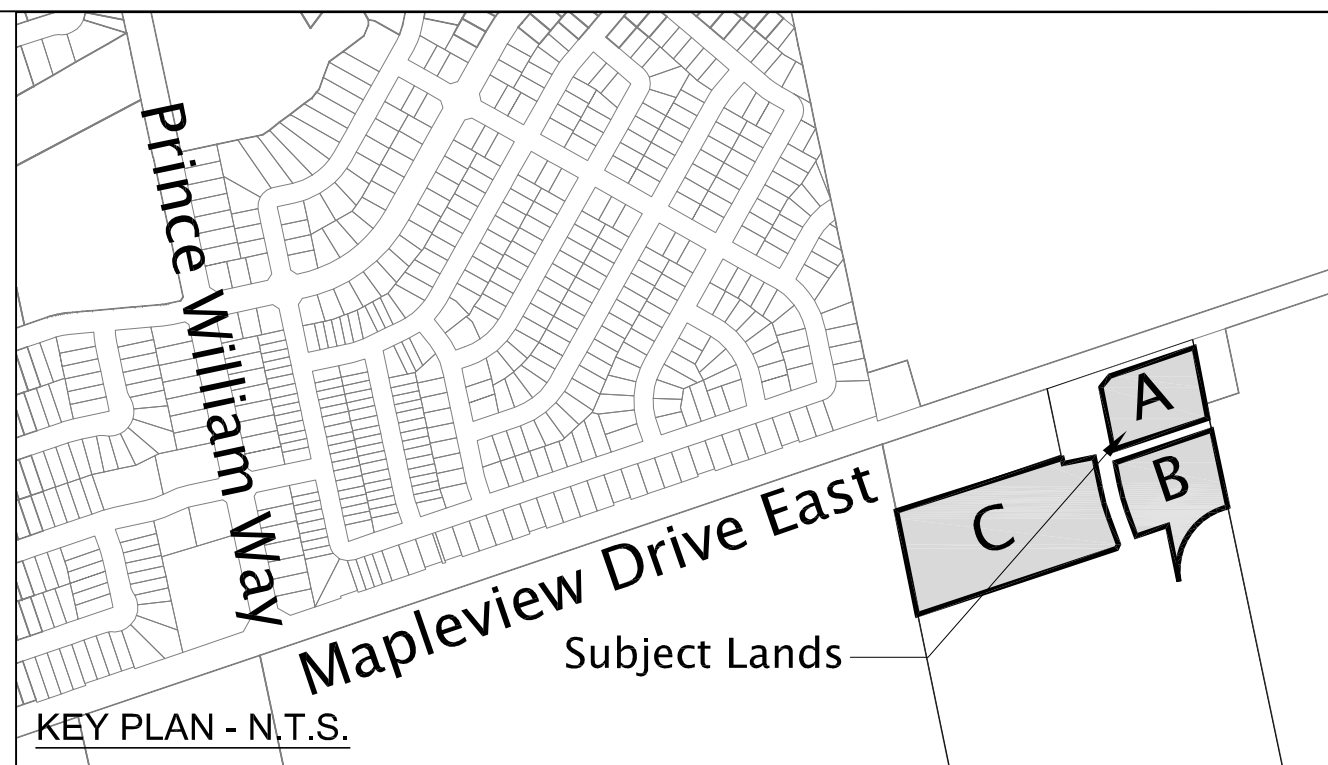
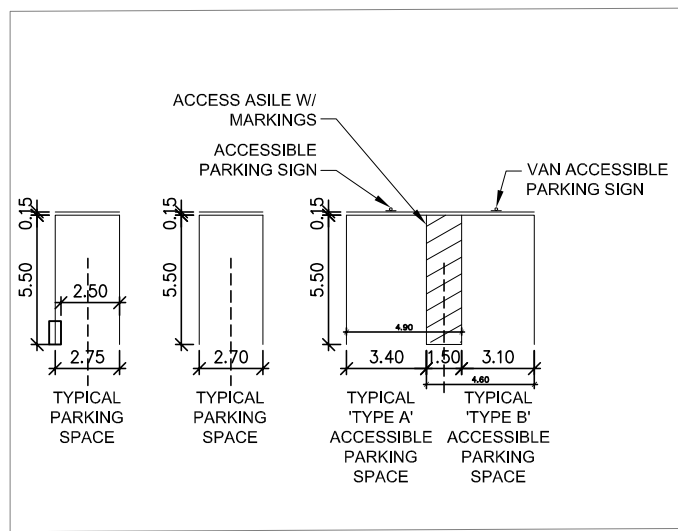
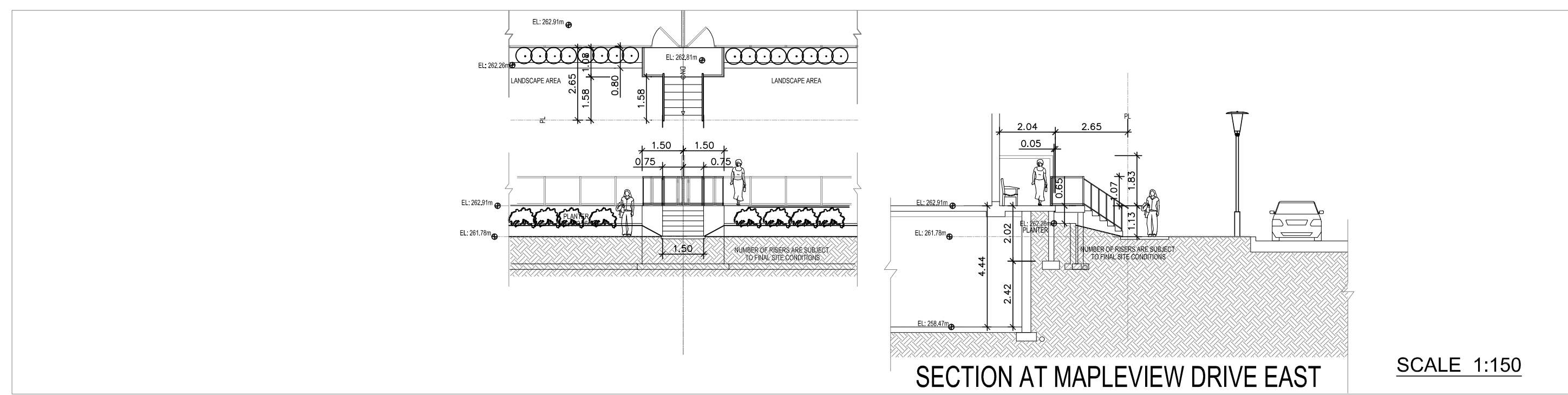
DESIGN	SCALE: 1:500	DATE JUN 2024
DRAWN CG	PROJECT REI-17055	DWG. N ^o FUS-1
CHECKED MF		



Appendix C

Supporting Documents

- 953 Maplevue Drive – Block 193 Site Plan, Prepared by S&C Architects, June 6, 2024;
- Maplevue South (Innisfil) Ltd. Proposed Draft Plan of Subdivision, Prepared by TJCG, December 13 2019;
- Soil Map of Simcoe County Excerpt – Report 29 South Sheet;
- By-Law Number 2022-054;
- Drawing No. PP5, Maplevue Drive East Road Widening, Plan & Profile STA. 8+640 to STA. 8+800, prepared by RJB, May 2021;
- The City of Barrie Official Plan Map 2, Land Use Designations, February 2022;
- The City of Barrie Hewitts Secondary Plan Street Widening Plan, Schedule 9D-2;
- The City of Barrie Water Map, July 2017;
- Figure No. 2-2, City of Barrie Water Distribution Overview Map, prepared by WSP, Sep 2018;
- Figure No. 12, Hewitts Secondary Plan Area Subwatershed Impact Study – Proposed Water Distribution Plan, Prepared by RJB, January 2016;
- The City of Barrie Sanitary Map, July 2017;
- Figure No. 15, Hewitts Secondary Plan Area Subwatershed Impact Study – Proposed Sanitary Sewer Plan, Prepared by RJB, September 2016;
- Drawing No. SAN-1, Maplevue South (Innisfil) Ltd. 953 Maplevue Drive East, prepared by TJCG, June 2023;
- Drawing No. SAN-2, Maplevue South (Innisfil) Ltd. 953 Maplevue Drive East, prepared by TJCG, June 2023;



Block 'A' Details

Unit Count:
BLOCK 'A' Apartment Building (5 Storey) 100 units

A BUILDING FOOT
(3.2.2.43A GROUP C)
ALLOWABLE 1,800 m²
PROPOSED 1,649 m²

Total	REQUIRED	PROPOSED
Site Plan Area	-	0.63 ha (6,267.66m ²)
Lot Frontage	24.0 m	85.4 m
Front Yard	3.0 m	5.33 m
Interior Side Yard	5.0 m	5.31 m
Exterior Side Yard	2.0 m	7.50 m
Rear Yard	5.0 m	38.98 m
Lot Coverage	max 50 % (0.931 ha.)	26 % (0.18 ha.)
Accessory Structures	max 10 % (0.06 ha.)	0 % (0.00 ha.)
Landscape Open Space	min. 25 % (0.16 ha.)	39 % (0.25 ha.)
Paved Area	max 35 %	35 % (0.22 ha.)
Density Index	min 120 max 300	158.73
Floor Space Index	min 0.5 max 2.5	1.31
Commercial Area	50% of the ground floor	21.45%
	816 m ²	350 m ²

Commercial Floor to Floor Height Required 4.5m Provided 4.5m

5m setback at street frontage	Required min 50%	Provided 74%
Percentage of building at the 5m setback to all street frontage	Required max 50%	Provided 26%

Building		8184 m ²
· GFA		5
· Height in Stories		100
· Units		

Parking Calculations	Required	Provided
Required Parking (100(units) x 1.0)	100 spaces	107 spaces
Required Parking Commercial (1 per 24m ²)(350/24=15)	15 spaces	15 spaces
Total Required	115 spaces	122 spaces

*Parking Breakdown	
Typical Surface Spaces	22 spaces
Typical Surface Spaces Commercial	15 spaces
Surface Barrier Free Spaces	2 spaces
Underground Barrier Free Spaces	2 spaces
Typical Underground Spaces	81 spaces
Total Provided	122 spaces

Barrie Zoning Bylaw 4.6.4 Barrier Free Parking
Barrier Free spaces calculated using Accessibility Parking for Barrie Ont.
Required over 100 spaces 1 space plus 3% of the required parking spaces
3% of 122 = 3.66 (4) plus 1 = 5 (5 required, provided 5)
(Type A - 3.4 x 1.5 - 2 spaces)
(Type B - 3.1 x 1.5 - 3 spaces)

Bicycle Rack Storage (0.2 x 100)	20 Required	16 Secure Storage Provided 14 Surface Bike Racks Provided
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Total	30 Bikes
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Required Outdoor Amenity Area (12m ² /unit-12x100)	1200 m ²
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Proposed Outdoor Amenity	
Patio area at ground floor Apartments, Plus Patio area over parking structure	161.08 m ²
Balcony area at typical floors	551.96 m ²
Roof Deck	544.00 m ²
Total Outdoor Amenity	1257.04 m ²

Proposed Indoor Amenity	
lounges/meeting rooms and 1st and 5th Floor washroom	197.50 m ²
Total Indoor Amenity	197.50 m ²

Fire Route

Unit type and area per floor AFFORDABLE UNIT *

Unit	Area	Unit Type	Main floor	2nd floor	3rd floor	4th floor	5th floor
A	55m	1 bed 1 bath	2	2	2	2	10
B*	34m	Studio	2	4	4	4	18
C	55m	1 bed/1 bath/den	2	4	4	4	18
D	49m	1 bed/1 bath	1	1	1	1	4
E	57m	1 bed/1 bath/den	3	2	2	2	11
F	81m	2 bed/2 bath	2	4	4	4	18
F+	83m	2 bed/2 bath	1	1	1	1	5
G	109m	3 bed/2.5 bath	1	1	1	1	3
G+	111m	3 bed 2.5 bath					1
H	70m	2 bed 2 bath	1	1	1	1	3
H+	72m	2 bed/2 bath					1
I	103m	2 bed/2 bath/den	1	1	1	1	4
J	57m	1 bed/1 bath	1	1	1	1	3
K	52m	1 bed/1 bath					1
			12	22	22	22	100

Total Units	100
Affordable Units *	18

22	EAST RETAINING WALL REVISED	JAN 06, 2024
21	DALLAIRE ST. PLANTER REVISED	JAN 05, 2024
20	DALLAIRE ST. PLANTER REVISED	MAY 27, 2024
19	DALLAIRE ST. PLANTER REVISED	APRIL 22, 2024
18	ISSUED FOR PRE-CONSULTATION MEETING	APRIL 15, 2024
17	ISSUED FOR PRE-CONSULTATION MEETING	APRIL 10, 2024
16	ISSUED FOR PRE-CONSULTATION MEETING	APRIL 11, 2024
15	ISSUED FOR PRE-CONSULTATION MEETING	APRIL 05, 2024
14	ISSUED FOR PRE-CONSULTATION MEETING	MARCH 08, 2024
13	ISSUED FOR PRE-CONSULTATION MEETING	FEB. 26, 2024
12	ISSUED FOR PRE-CONSULTATION MEETING	FEB. 21, 2024
11	ISSUED FOR PRE-CONSULTATION MEETING	FEB. 07, 2024
10	ISSUED FOR PRE-CONSULTATION MEETING	NOV. 30, 2023
9	ISSUED FOR PRE-CONSULTATION MEETING	NOV. 27, 2023
8	ISSUED FOR PRE-CONSULTATION MEETING	NOV. 23, 2023
7	ISSUED FOR PRE-CONSULTATION MEETING	NOV. 23, 2023
6	ISSUED FOR PRE-CONSULTATION MEETING	OCT. 24, 2023
5	ISSUED FOR PRE-CONSULTATION MEETING	OCT. 04, 2023
4	ISSUED FOR PRE-CONSULTATION MEETING	JULY 18, 2023
3	ISSUED FOR CLIENT AND CONSULTANT REVIEW	MAY 23, 2023
2	ISSUED FOR CLIENT AND CONSULTANT REVIEW	APRIL 20, 2023
1	ISSUED FOR CLIENT AND CONSULTANT REVIEW	MARCH 26, 2023 - SA

MAPLEVIEW SOUTH (INNISFIL) LTD.

953 MAPLEVIEW DRIVE-BLOCK-193 SITE PLAN

March 30, 2023

PROJECT # 2023-05

1:200

City of Barrie

S&C ARCHITECTS INC.

7 (416) 848-1091 F: (416) 863-6101
INFO@SCARCHITECTS.CA
60 RANDALL DRIVE, SUITE 10
AURORA, ONTARIO L1S 6L5

NOTE:
SEE LANDSCAPE ARCHITECTS
DWGS FOR ALL PLANTER DESIGN
HEIGHTS AND SIZE PLUS ALL
DRAINAGE REQUIREMENTS

SEE LANDSCAPE DWGS
1.24m HEIGHT TO BE
MADE UP BY
LANDSCAPE PLANTER

SEE LANDSCAPE DWGS
2.05m HEIGHT TO BE
MADE UP BY
LANDSCAPE PLANTER

SEE LANDSCAPE DWGS
FOR ALL PLANTER DIMENSIONS
AND HEIGHTS

NOTE:
ALL METER SPECS AND REQUIRED
CLEARANCES/SETBACKS ARE
SUBJECT TO ELEC ENG DWGS

NOTE:
ALL SIDEWALK RAMPS AND CURB CUTS AND TACTILE
SURFACES WILL COMPLY TO ALL APPLICABLE CODES
AND GUIDELINES.

NOTE:
TYPICAL LAMP STANDARD
SEE ELECTRICAL ENG DWG

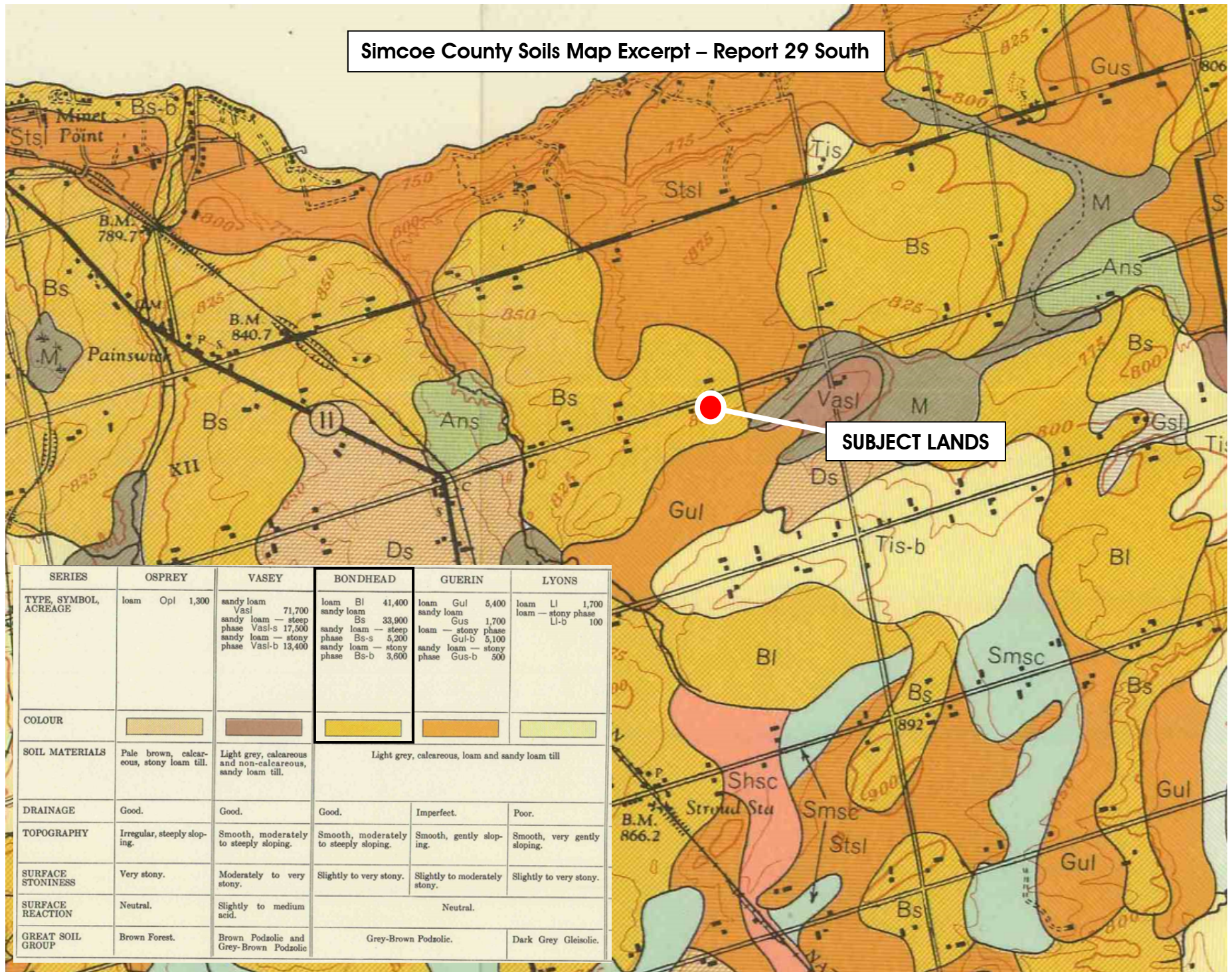
NOTE:
TYPICAL LAMP STANDARD
SEE ELECTRICAL ENG DWG

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SEE ELECTRICAL ENG DWG

NOTE:
TYPICAL LAMP STANDARD
SEE ELECTRICAL ENG DWG

NOTE:
TYPICAL LAMP STANDARD
SEE ELECTRICAL ENG DWG

Simcoe County Soils Map Excerpt – Report 29 South





Bill No. 054

BY-LAW NUMBER 2022-054

A By-law of The Corporation of the City of Barrie to amend Town of Innisfil By-law 054-04, a land use control by-law to regulate the use of land, and the erection, use, bulk, height, location and spacing of buildings and structures, formerly in the Town of Innisfil, now in the City of Barrie.

WHEREAS the Council of The Corporation of the City of Barrie deems it expedient to amend Town of Innisfil By-law 054-04 to rezone lands being Part of Lot 19, Concession 11, formerly Town of Innisfil, known municipally as 953 Maplevue Drive East, shown on Schedule "A" to this By-law from Agricultural General (AG) to Neighbourhood Residential (R5), Neighbourhood Multiple Residential (RM3), Neighbourhood Multiple Residential with Special Provisions (RM3)(SP-616), Neighbourhood Mixed Use (NMU), and Environmental Protection (EP) in City of Barrie By-law 2009-141.

AND WHEREAS the Council of The Corporation of the City of Barrie adopted Motion 22-G-021.

NOW THEREFORE the Council of The Corporation of the City of Barrie enacts the following:

1. **THAT** the zoning map is amended to change from Agricultural General (AG) in Town of Innisfil By-law 054-04 to Neighbourhood Residential (R5), Neighbourhood Multiple Residential (RM3), Neighbourhood Multiple Residential with Special Provisions (RM3)(SP-616), Neighbourhood Mixed Use (NMU), and Environmental Protection (EP) in City of Barrie By-law 2009-141, in accordance with Schedule "A" attached to this By-law.
2. **THAT** notwithstanding the provisions in Section 14.5.2 of Zoning By-law 2009-141, the Neighbourhood Multiple Residential with Special Provisions (RM3)(SP-616) zone shall permit stormwater drainage, vehicular and pedestrian access, and servicing for the adjacent lands at 947 Maplevue Drive East.
3. **THAT** the remaining provisions of By-law 2009-141, as amended from time to time, applicable to the above described lands shown in Schedule "A" to this by-law shall apply to the said lands except as varied by this By-law.
4. **THAT** this By-law shall come into force and effect immediately upon the final passing thereof.

READ a first and second time this 6th day of June, 2022.

READ a third time and finally passed this 6th day of June, 2022.

THE CORPORATION OF THE CITY OF BARRIE

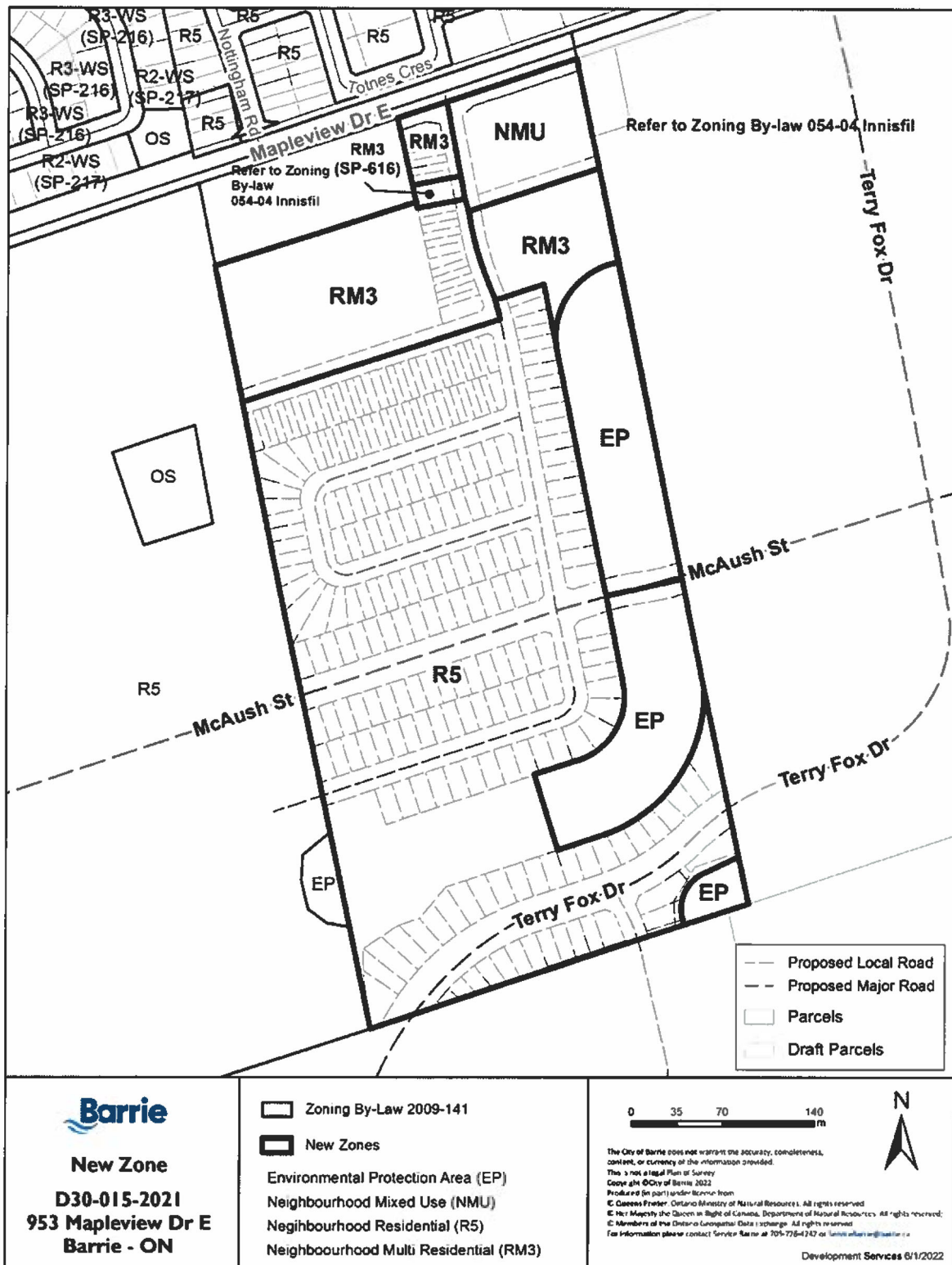


MAYOR – J.R. LEHMAN



DEPUTY CITY CLERK – MEGAN WILLIAMS

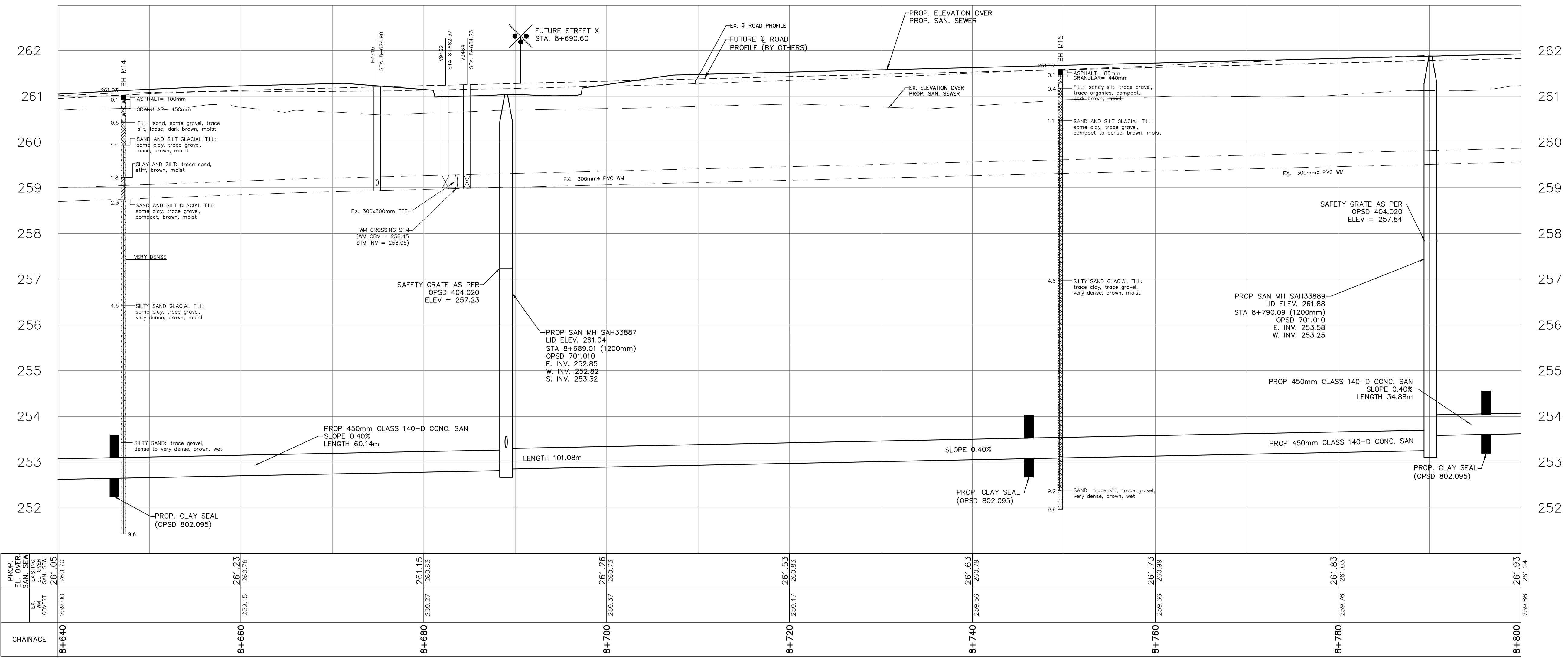
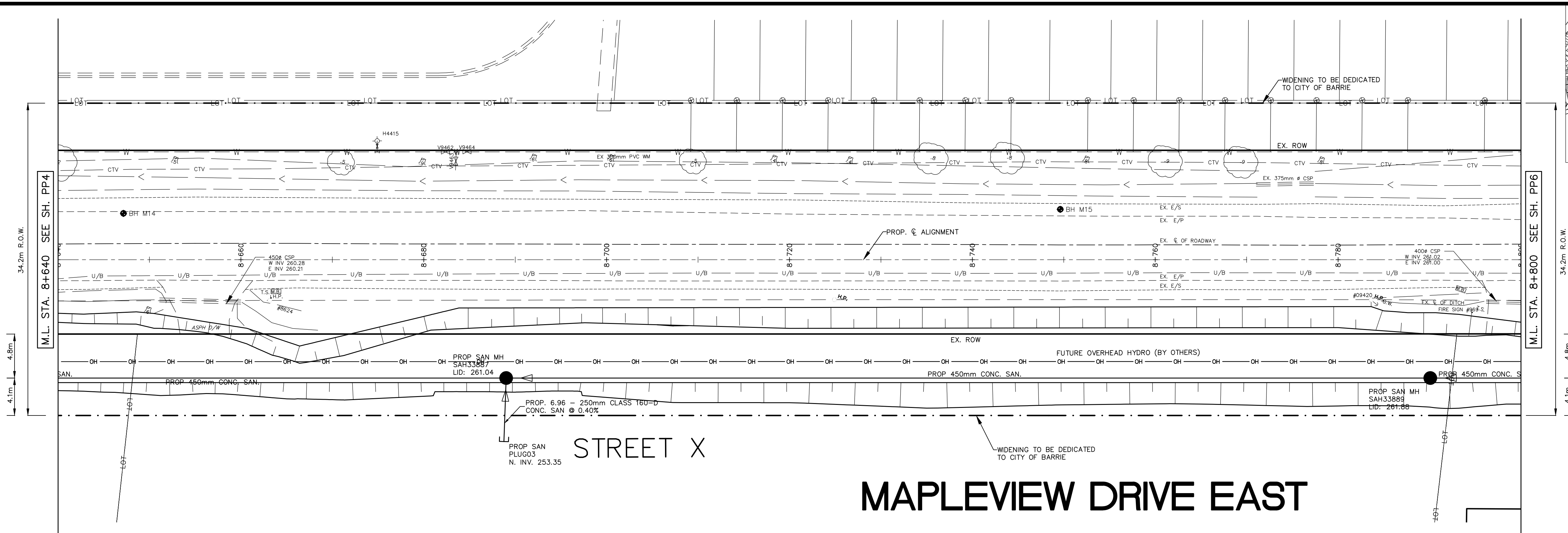
Schedule "A" to attached By-law 2022-054



THE CORPORATION OF THE CITY OF BARRIE

[Signature]
 MAYOR - J.R. LEHMAN

[Signature]
 DEPUTY CITY CLERK - MEGAN WILLIAMS



GENERAL NOTES

REFER TO CURRENT CITY OF BARRIE STANDARDS FOR APPLICABLE GENERAL NOTES.

BENCH MARKS

DISTANCE NOTE

BEARING NOTE

BENCH MARK V010865470

NO.	REVISIONS	DATE	APPROVED
1	ISSUED FOR 30% SUBMISSION	18/11/26	DD
2	ISSUED FOR 60% SUBMISSION	20/02/28	DD
3	ISSUED FOR 90% SUBMISSION	20/07/31	DD
4	ISSUED FOR 100% SUBMISSION	21/03/26	DD
5	ISSUED FOR TENDER	21/05/17	DP

CITY OF BARRIE

ACCEPTED

DATE:

DIRECTOR OF ENGINEERING

MAPLEVIEW DRIVE

EAST ROAD WIDENING

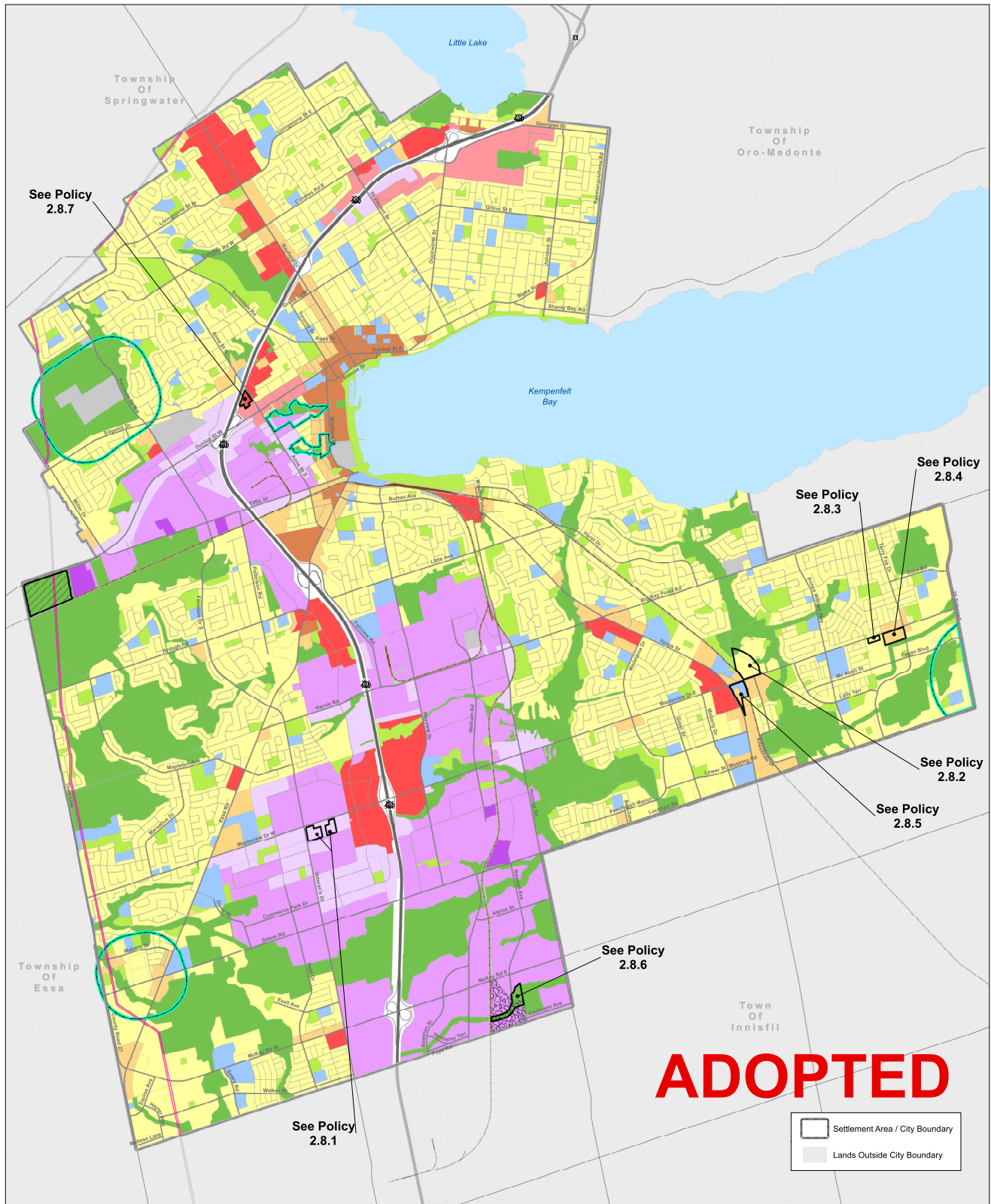
PLAN & PROFILE

STA. 8+640 TO STA. 8+800

Barrie

INFRASTRUCTURE DEPARTMENT

SCALE HOR.	1:250	VERT.	1:50	CONTRACT NO.	300042426
DESIGN	DP	DRAWN	ML	SHEET NO.	PP5
REVIEWED	DD	DATE	2018/11/26		



OFFICIAL PLAN **MAP 2** **Land Use Designations**

February 2022

- | | | |
|---|--|---|
| Neighbourhood Area | Employment Area - Non Industrial | Waste Disposal Assessment Area |
| Medium Density | Employment Area - Industrial | Extractive Industrial |
| High Density | Employment Area - Restrictive Industrial | Defined Policy Area |
| Strategic Employment and Economic District (SEED) | Natural Heritage System | Application Before the Local Planning Appeal Tribunal (LPAT) |
| Commercial District | Greenspace | TransCanada Pipeline Right-of-way |
| Community Hub | Infrastructure and Utility | |

* All land use designations extend to the centre line of the right-of-way for streets. Land use designations, where applicable, extend to/terminate at the boundary of the right-of-way for provincial highways, rail corridors and utility corridors.

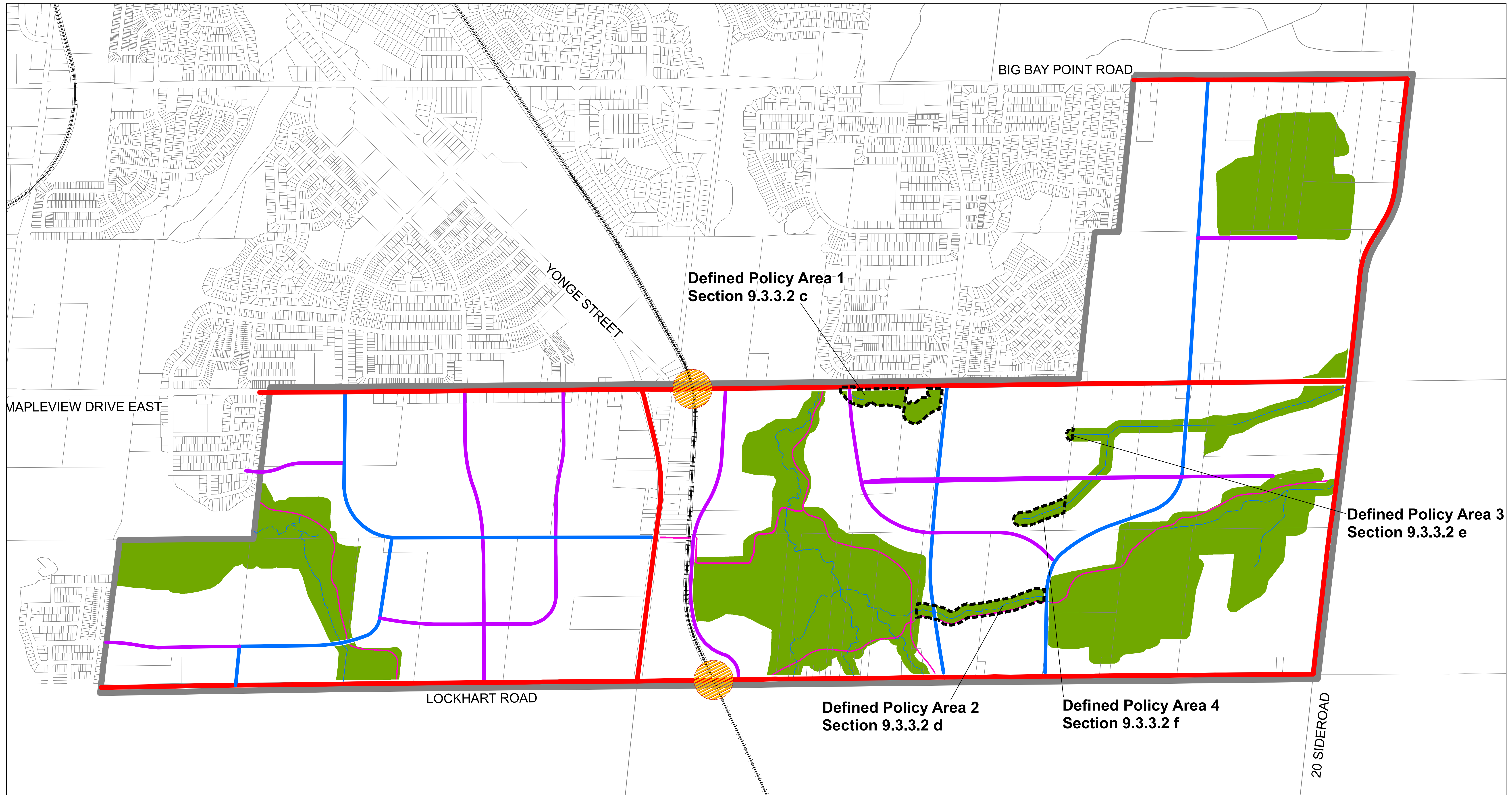
** Certain features like roads, parks and trails within the undeveloped designated greenfield area are conceptual and subject to change.

0 1 2 km

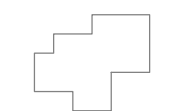


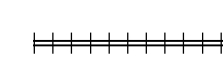
The City of Barrie does not warrant the accuracy, completeness, content, or currency of the information provided.
This is not a legal Plan of Survey.
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© Members of the Ontario Geospatial Data Exchange. All rights reserved.
For information please contact Service Barrie at 705-726-4242 or ServiceBarrie@barrie.ca

Development Services 3/2/2022



 Secondary Plan Boundary

 Existing Parcel Fabric

 Railway

 Stream

 Arterial

 Major Collector

 Minor Collector

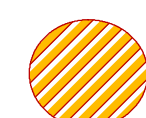
 Pathway System

Maximum Width (m)

41

27

24

 Potential Grade Separation

 Natural Heritage System

 Defined Policy Area

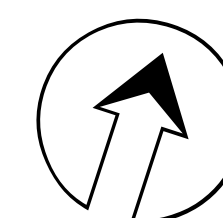
Schedule 9D-2

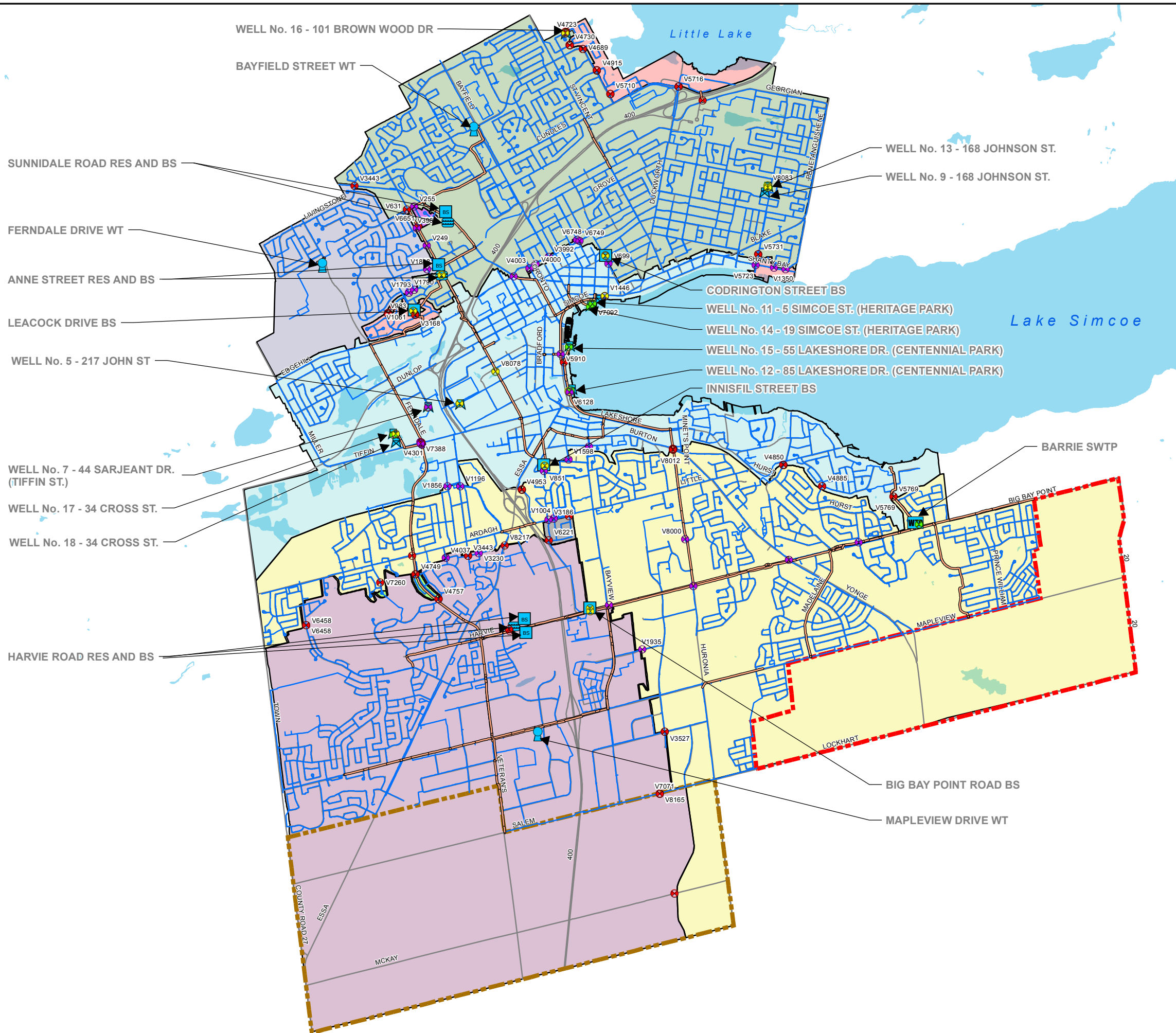
Street Widening Plan

City of Barrie
Hewitt's Secondary Plan

May 2016

0 0.25 0.5 1 km





1224 GARDINERS RD, SUITE 201
KINGSTON, ONTARIO,
CANADA, K7P 0G2
WWW.WSP.COM

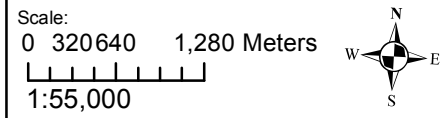


CITY OF BARRIE
P.O. BOX 400
BARRIE, ONTARIO

Legend

- BOOSTER STATION
- WATER RESERVOIR
- ELEVATED STORAGE TANK
- WELL PUMP HOUSE
- WATER TREATMENT PLANT
- Hewitt Secondary Plan Area
- Salem Secondary Plan Area
- WATER MAIN > 350
- WATER MAIN
- ROADS
- WATERBODY
- WATER PRESSURE ZONE**
- 1
- 2N
- 2N REDUCED
- 2S
- 3N
- 3N REDUCED
- 3S
- 3S REDUCED
- CHIEFTAIN DECREASED PRESSURE
- VALVE**
- PRESSURE REDUCING VALVE
- PRESSURE SUSTAINING VALVE
- FLOW CONTROL VALVE
- THROTTLE CONTROL VALVE
- OTHER

Data Source: Ontario Base Mapping, Ministry of Natural Resources, August 2013. Engineering Department, City of Barrie 2017.

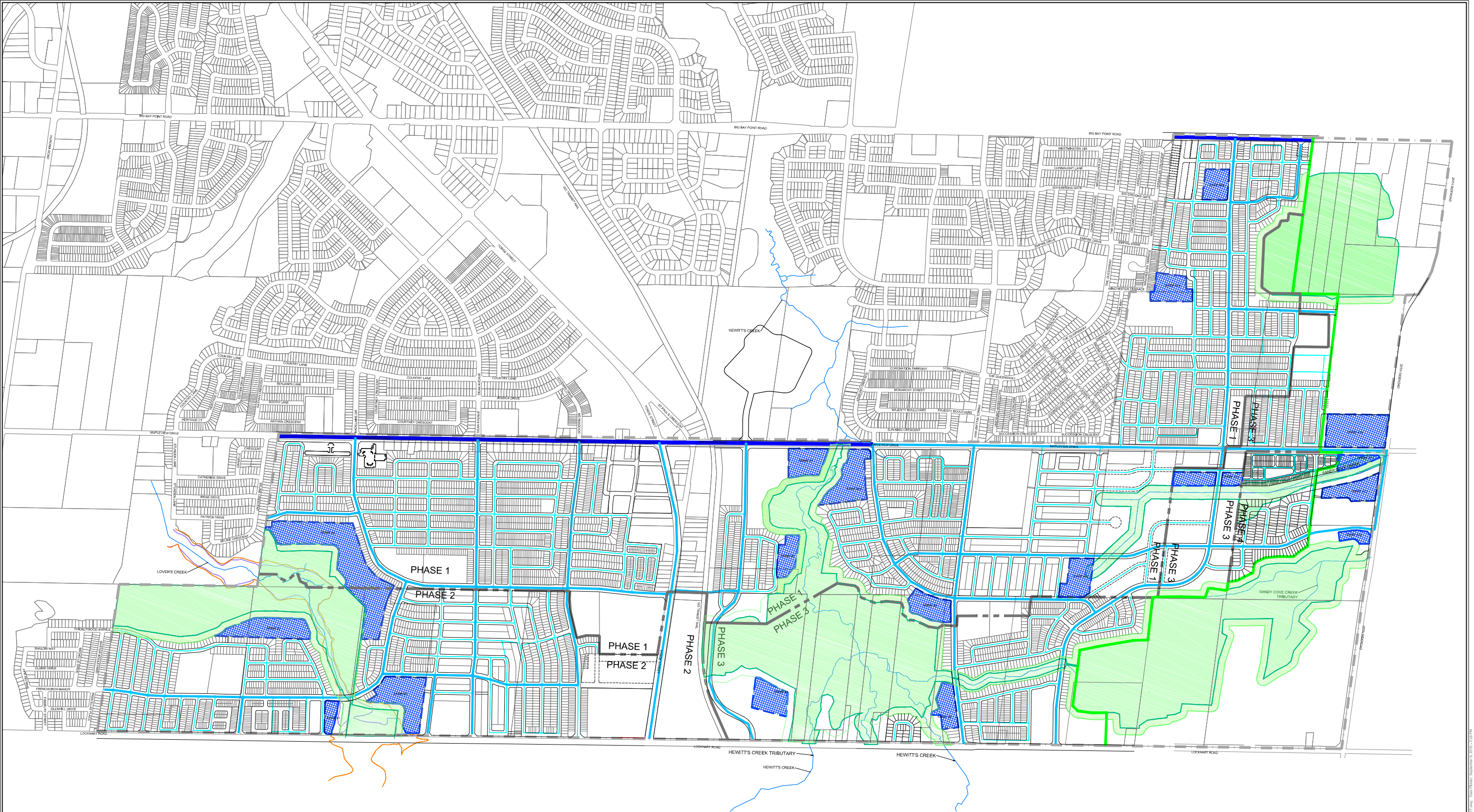


Project:
Water and Wastewater Master Plan Updates

City of Barrie, Ontario

Title:
WATER DISTRIBUTION OVERVIEW MAP

Project No.: 171-07636-03		Date: SEPTEMBER 2018	
Drawn By: RJ	Checked By: MF	Code: MP	Figure No.: 2 -2



LEGEND

- | | | | |
|--|----------------------------|--|--|
| | DC TRUNK WATERMAIN | | 2031 PHASE LINE |
| | LOCAL TRUNK WATERMAIN | | PHASING LIMITS |
| | LOCAL WATERMAIN | | LIMIT OF HEWITT'S CREEK SECONDARY PLAN |
| | SURVEYED NHS LIMITS (2015) | | STAKED 2015 NHS LIMITS |
| | NHS BUFFER LIMITS | | NHS BUFFER LIMITS |

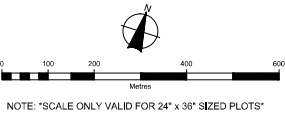
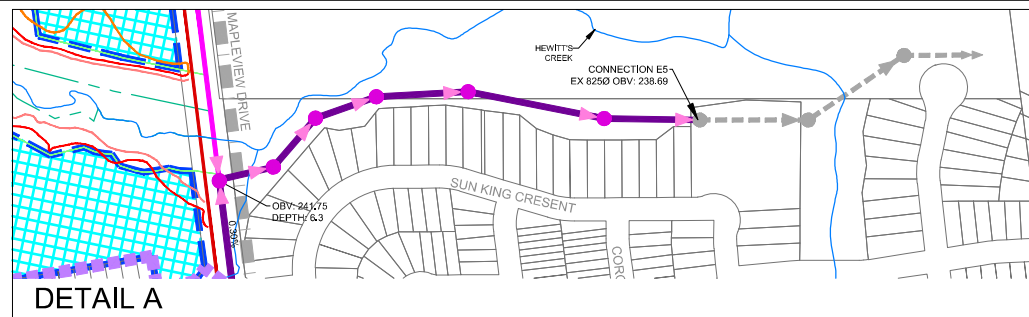
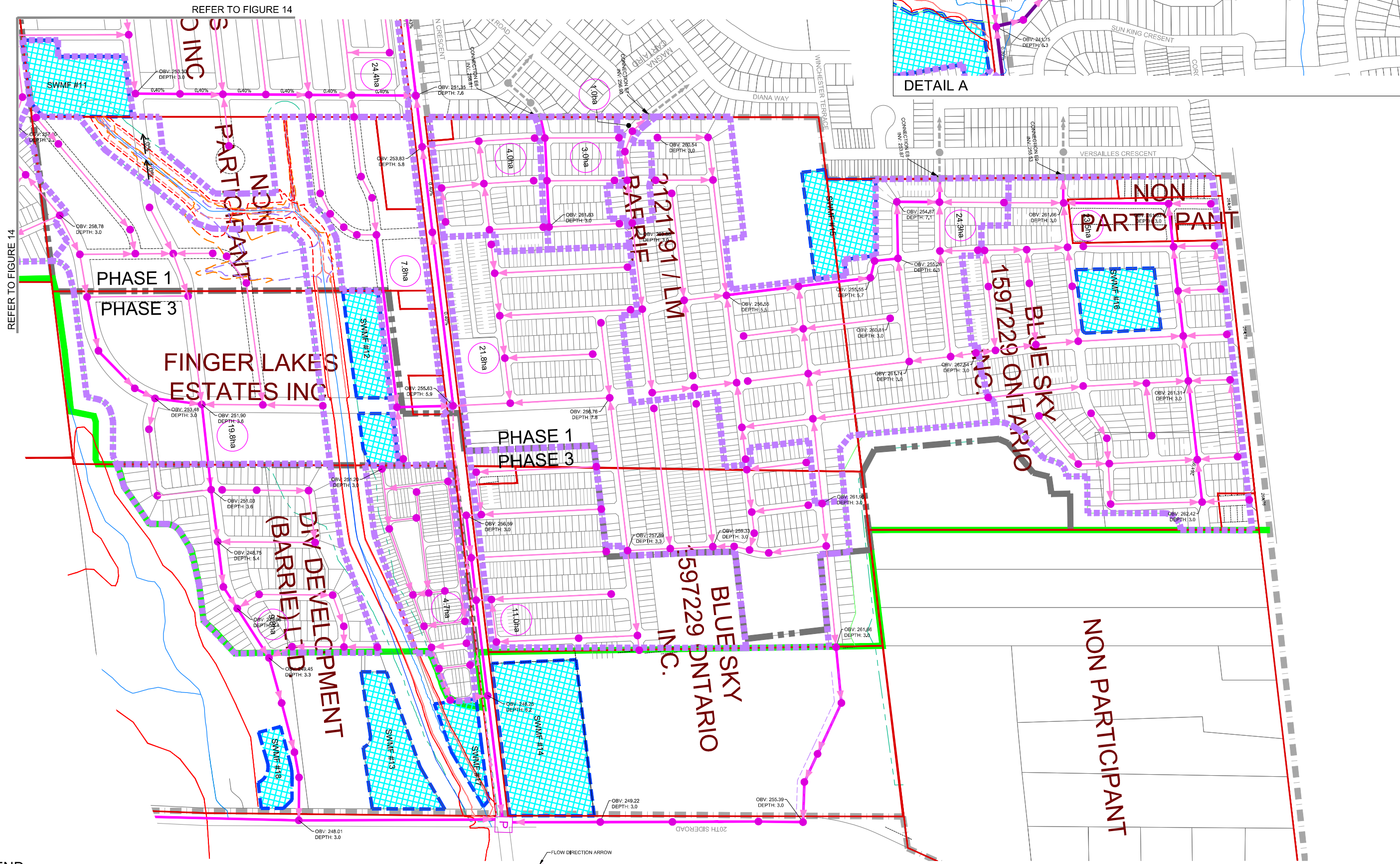


	Figure 18b: HEWITT'S SECONDARY PLAN AREA SUBWATERSHED IMPACT STUDY PROPOSED WATER DISTRIBUTION PLAN			Figure No. FIG 12
	Client:	Drawn:	Checked:	
	HEWITT'S CREEK LANDOWNERS GROUP INC.	AQ	BH	
	Date:	15/01/28	Project No.:	
	Scale:	H 1:4,000'	300032860	



LEGEND

- SURVEYED NHS LIMIT (2015)
- NHS BUFFER LIMIT
- 2031 PHASE LIMITS
- DEV. LIMITS
- PHASING LIMITS

- 2031 PHASE LIMITS
- EXISTING 100 YR FLOOD LIMITS
- EXISTING REGIONAL FLOOD LIMITS
- PROPOSED 100 YR FLOOD LIMITS
- PROPOSED REGIONAL FLOOD LIMITS
- PROPOSED DRAINAGE BOUNDARY

DASHED FLOOD LINES ARE APPROXIMATE ONLY, BASED ON INTERPOLATED DATA BETWEEN FINGERLAKES AND 1091369 ONTARIO INC. DETAILED TOPOGRAPHIC DATA. FLOODLINES ARE SUBJECT TO CHANGE BASED ON ADDITION OF DETAILED TOPOGRAPHIC SURVEY.

- SANITARY DC TRUNK SEWER
- SANITARY LOCAL TRUNK SEWER
- SANITARY LOCAL COLLECTOR SEWER
- SANITARY FORCEMAIN
- SANITARY MANHOLE
- EXISTING SANITARY SEWER

FLOW DIRECTION ARROW

FLOW DIRECTION ARROW DEPICTS SEWER CONTINUES ON IN ARROW DIRECTION

P PUMP STATION

NOTE: "SCALE ONLY VALID FOR 24" x 36" SIZED PLOTS"

BURNSIDE

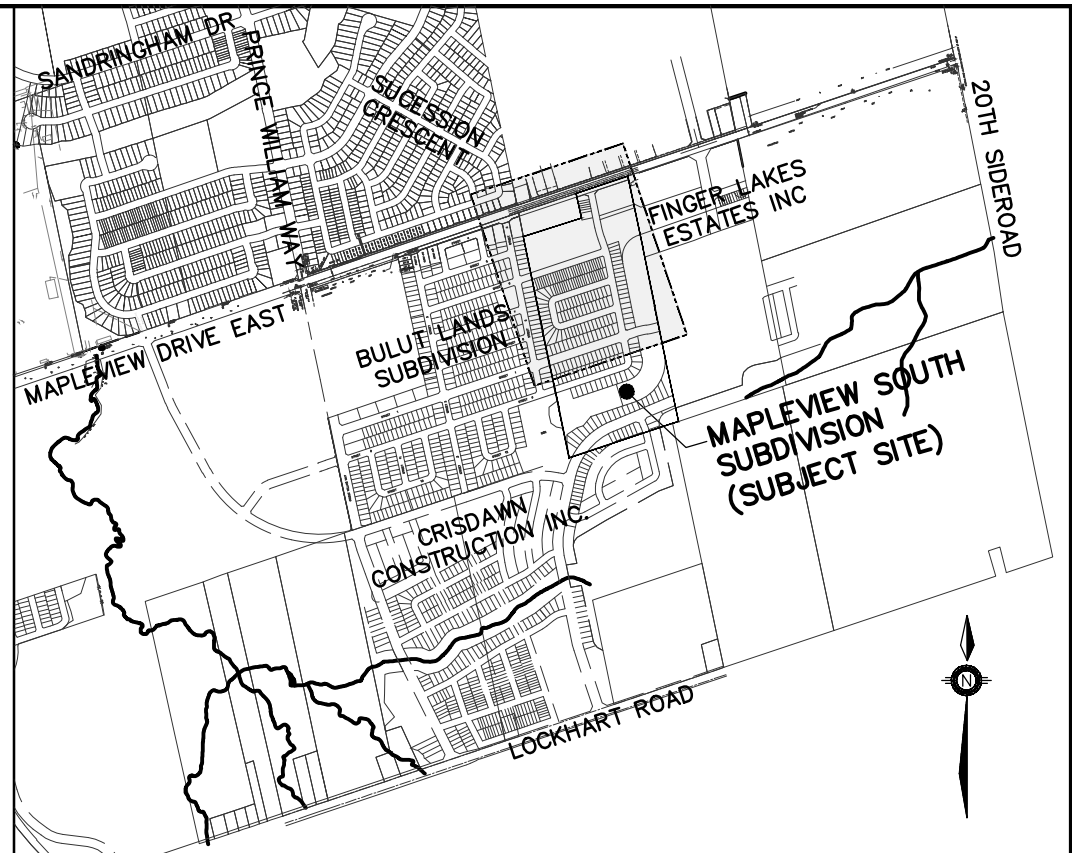
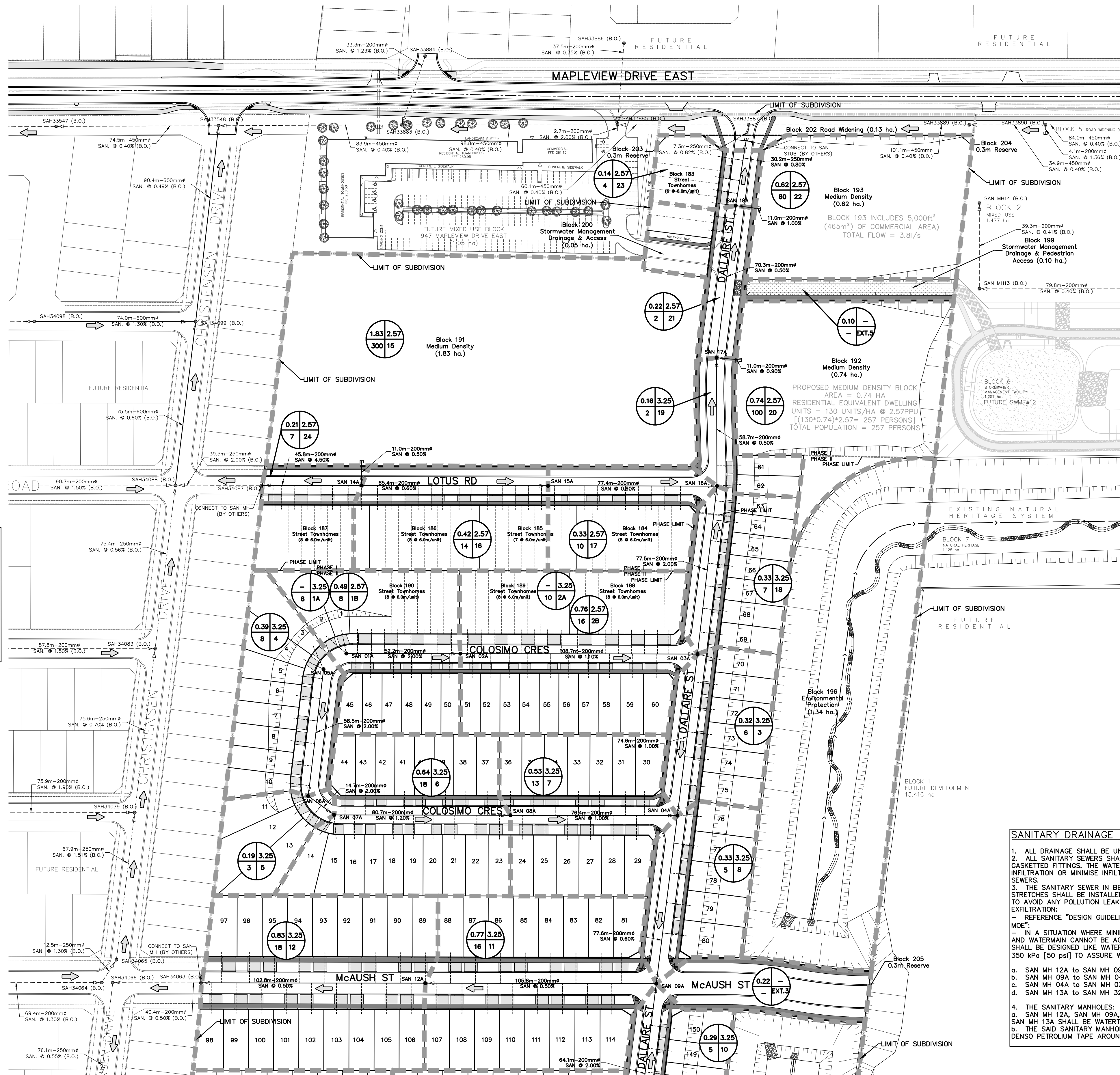
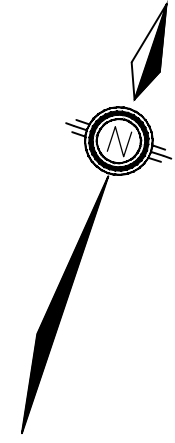
HEWITT'S CREEK LANDOWNERS GROUP INC.

Figure Title

HEWITT'S SECONDARY PLAN AREA SUBWATERSHED IMPACT STUDY

PROPOSED SANITARY SEWER PLAN (3 OF 3)

Client	Drawn	Checked	Date	Figure No.
BH	CC	CC	16/09/07	FIG 15
Scale	3000/32860			



KEY PLAN
NTS

LEGEND

- PROP. SANITARY SERVICE
- PHASE LIMIT
- SANITARY MAINTENANCE HOLE (B.O.)
- SANITARY SEWER & DIRECTION OF FLOW (B.O.)
- PROP. SANITARY MAINTENANCE HOLE
- PROP. SANITARY SERVICE
- PROP. SANITARY SEWER & DIRECTION OF FLOW
- MUNICIPAL ADDRESS
- LOT NUMBER
- SUB CATCHMENT BOUNDARY
- DIRECTION SANITARY OF FLOW
- AREA (ha.)
- PERSONS PER UNIT
- No. of UNITS
- CATCHMENT AREA ID NUMBER

*B.O. - BY OTHERS

SANITARY DRAINAGE NOTES

- ALL DRAINAGE SHALL BE UNDERTAKEN AS GRAVITY FLOW.
- ALL SANITARY SEWERS SHALL HAVE WATERTIGHT JOINTS AND GASKETTED FITTINGS. THE WATERTIGHT JOINTS WILL PREVENT INFILTRATION OR MINIMISE INFILTRATION WITHIN SANITARY SEWERS.
- THE SANITARY SEWER IN BETWEEN THE FOLLOWING STRETCHES SHALL BE INSTALLED AS LIKE PRESSURE WATERMAIN TO AVOID ANY POLLUTION LEAKING IN THE NEIGHBORHOOD OF EXFILTRATION:
 - REFERENCE "DESIGN GUIDELINES FOR SEWAGE WORKS, 2008, M.O.E."
 - IN A SITUATION WHERE MINIMUM SEPARATION AMONG SEWERS AND WATERMAIN CANNOT BE ACHIEVED, THE SANITARY SEWER SHALL BE DESIGNED LIKE WATERMAIN AND PRESSURE TESTED AT 350 kPa [50 psi] TO ASSURE WATERTIGHTNESS.
- THE SANITARY MANHOLES:
 - SAN MH 12A, SAN MH 09A, SAN MH 04A, SAN MH 03A AND SAN MH 13A SHALL BE WATERTIGHT AS WELL PER OPSS-1351.
 - THE SAID SANITARY MANHOLES SHALL BE PROVIDED WITH DENS0 PETROLEUM TAPE AROUND ALL JOINTS ON EXTERIOR FACE.

REFERENCES:

- CITY OF BARRIE LATEST MANUALS AND GUIDELINES
- OPSS AND OPSS
- CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED
- SANDY GLOVE CREEK REJOURNEMENT BY TATHAM ENGINEERING LIMITED
- BULLY LANDS SUBDIVISION DEVELOPMENT BY SCHAEFFERS CONSULTING ENGINEERING
- DRAFT PLAN OF MAPLEVIEW SOUTH SUBDIVISION BY JONES CONSULTING GROUP LTD.
- MAPLEVIEW DRIVE EAST WIDENING BY R.J. BURNSIDE & ASSOCIATES LIMITED
- PLAN BY RUDY MAN SURVEYING LTD.
- AWAN GROUP RESIDENTIAL DEVELOPMENT BY PEARSON ENGINEERING LTD.
- HEWITTS GATE EAST PHASE 3 BRADLEY HOMES BY JONES CONSULTING GROUP LTD.
- GEOTECHNICAL INVESTIGATION REPORT BY CAMBRIUM INCORPORATION
- HYDROLOGICAL ASSESSMENT BY R.J. BURNSIDE & ASSOCIATES LIMITED
- HEWITTS SECONDARY PLAN AREA SS BY R.J. BURNSIDE & ASSOCIATES LIMITED
- LSRCA LATEST MANUALS AND GUIDELINES

BENCHMARK:

BENCHMARK NO. 03120080055 LOCATED APPROXIMATELY 1.9km EAST OF YONGE STREET, APPROXIMATELY 6m NORTH OF CENTERLINE OF MAPLEVIEW DRIVE EAST AND 35m WEST OF CITY BOUNDARY LINE. N4912122.851 E611241.154

BENCHMARK NO. 03120110020 LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 70m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4912284.547 E611717.298

BENCHMARK NO. 03120080008 LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #17) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610187.698

BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST APPROXIMATELY 10m EAST OF HURON ROAD. N4910578.122 E607601.052

NO.	REVISIONS	DATE	INITIAL
3.	DETAILED DESIGN SUBMISSION	JUN 2023	RC
2.	FSR SUBMISSION - UPDATED	JUN 2022	MF
1.	FSR SUBMISSION FOR DRAFT PLAN	JUN 2021	DR



Barrie

70 COLLIER STREET
BARRIE, ONTARIO, L4M 4T5
TEL: (705) 726-4242
EMAIL: SERVICE.BARRIE@BARRIE.CA

Lake Simcoe Region
conservation authority

120 BAYVIEW PARKWAY
NEWMARKET, ONTARIO, L3Y 3W3
TEL: (905) 895-1281
TOLL FREE: 1-800-465-0437

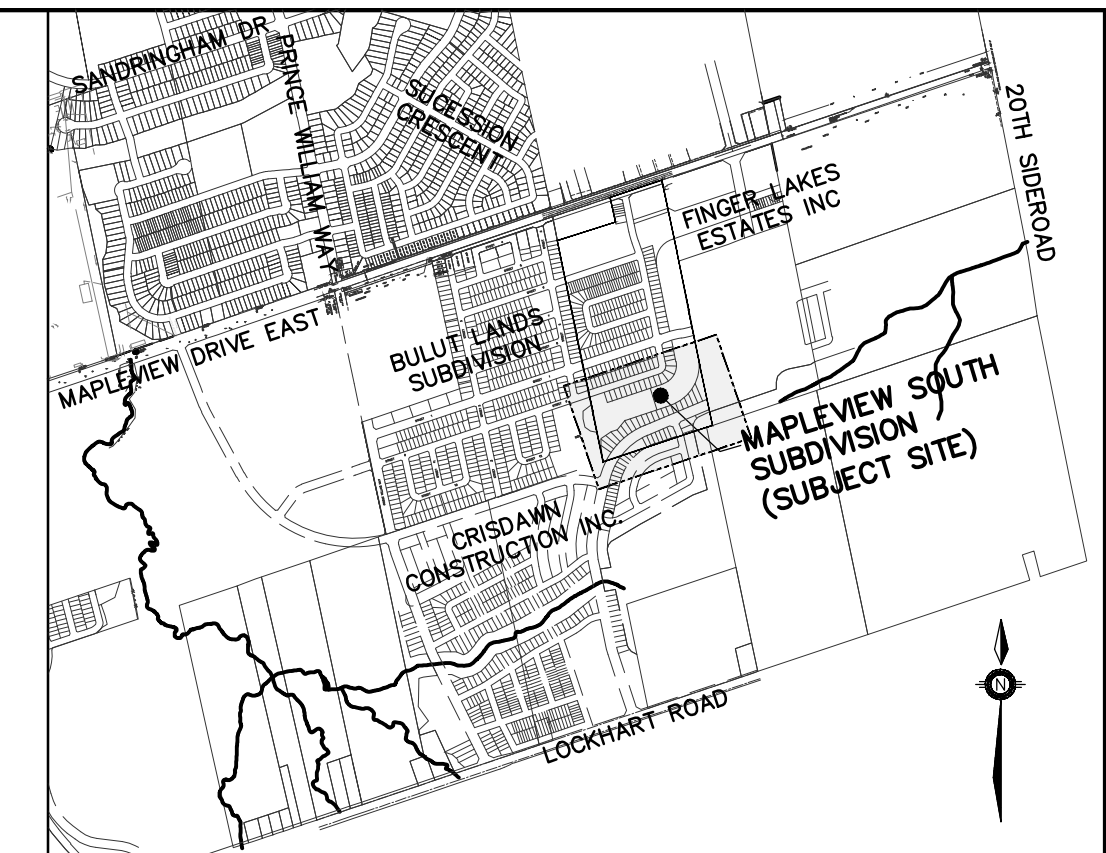
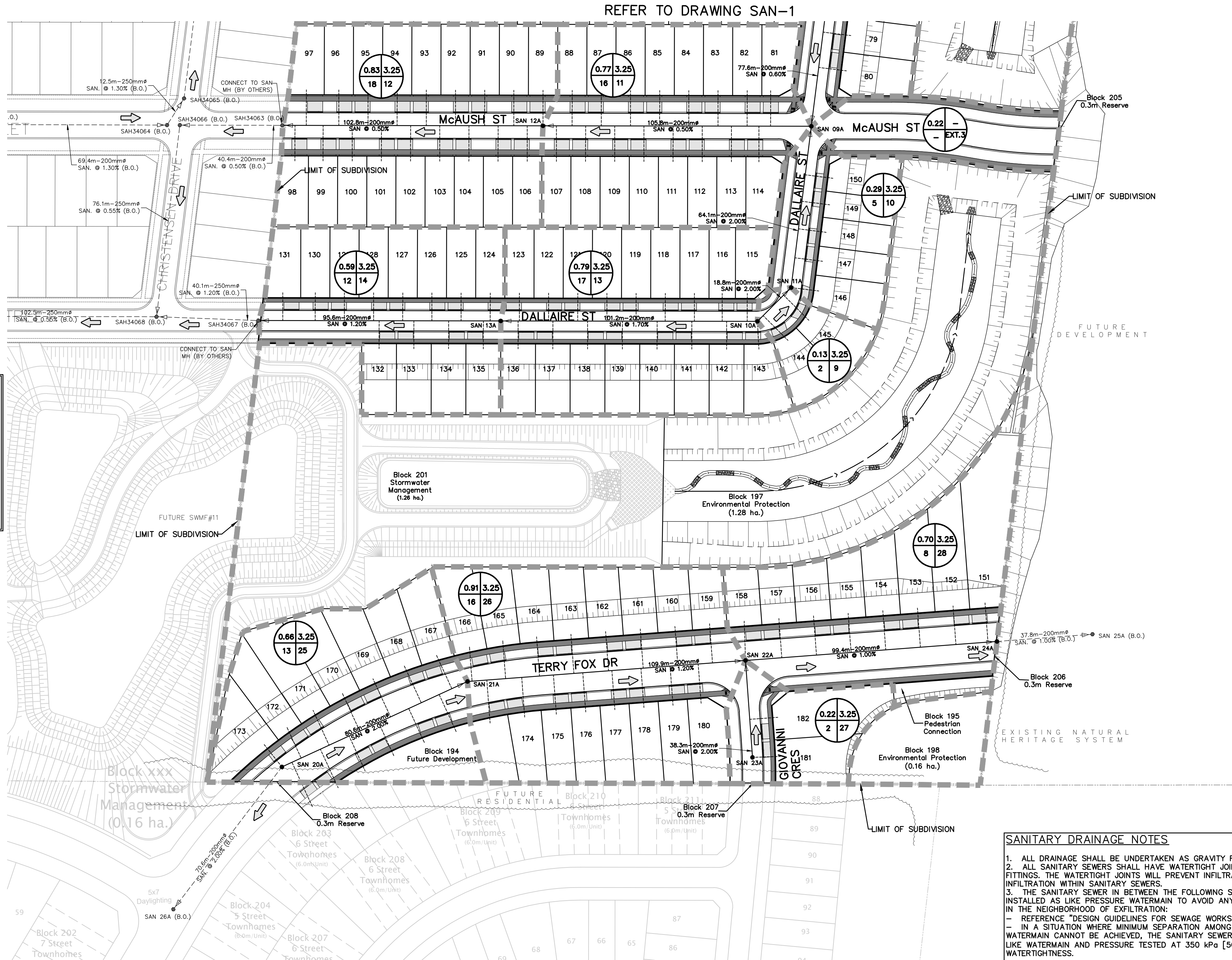
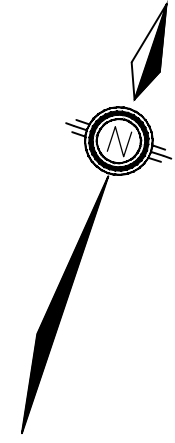
MAPLEVIEW SOUTH (INNISFIL) LTD
953 MAPLEVIEW DRIVE EAST
CITY OF BARRIE

SANITARY DRAINAGE
AREA PLAN



229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W6
P. 705.734.2538
F. 705.734.1056

DESIGN	VBS	SCALE: 1:1000	DATE	FEB 2023
DRAWN	VBS	PROJECT	DWG. NO	
CHECKED	RC/DR	REI-17055	SAN-1	



KEY PLAN
NTS

LEGEND *B.O. - BY OTHERS

- PROP. SANITARY SERVICE
- PHASE LIMIT
- SANITARY MAINTENANCE HOLE (B.O.)
- SANITARY SEWER & DIRECTION OF FLOW (B.O.)
- PROP. SANITARY MAINTENANCE HOLE
- PROP. SANITARY SERVICE
- PROP. SANITARY SEWER & DIRECTION OF FLOW
- MUNICIPAL ADDRESS
- LOT NUMBER
- SUB CATCHMENT BOUNDARY
- DIRECTION SANITARY OF FLOW
- AREA (ha.)
- PERSONS PER UNIT
- No. OF UNITS
- CATCHMENT AREA ID NUMBER

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- THE SANITARY MANHOLES:
 - SAN MH 12A to SAN MH 09A OVER McAUSH STREET
 - SAN MH 09A to SAN MH 04A OVER DALLAIRE STREET
 - SAN MH 04A to SAN MH 03A OVER DALLAIRE STREET
 - SAN MH 13A to SAN MH 32A [B.O.] OVER DALLAIRE STREET

G:\Veg-3D\VEH-17055-Production\DWG\REI-17055-SANITARY DRAINAGE.dwg Layout: SAN-2 Plotted Jun 14, 2023 @ 4:38pm by cagapron The Jones Consulting Group Ltd.

REFERENCES:

- CITY OF BARRIE LATEST MANUALS AND GUIDELINES
- OPSS AND OPSS
- CRYSTAL HOMES SUBDIVISION DEVELOPMENT BY TATHAM ENGINEERING LIMITED
- SANDY GLOVE CREST REJOURNEMENT BY TATHAM ENGINEERING LIMITED
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- HEWITTS GATE EAST PHASE 3 BRADLEY HOMES BY JONES CONSULTING GROUP LTD.
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- HYDROGEOLOGICAL ASSESSMENT BY R.J. BURNSIDE & ASSOCIATES LIMITED
- HEWITTS SECONDARY PLAN AREA S8 BY R.J. BURNSIDE & ASSOCIATES LIMITED
- LSRCA LATEST MANUALS AND GUIDELINES

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BENCHMARK NO. 03120110020 LOCATED ON MAPLEVIEW DRIVE EAST ON THE SOUTH SIDE OF THE BOULEVARD, APPROXIMATELY 700m WEST OF THE MAPLEVIEW DRIVE EAST AND 20TH SIDE ROAD INTERSECTION. N4812284.547 E611717.298

BENCHMARK NO. 03120080008 LOCATED ON THE NORTH SIDE OF MAPLEVIEW DRIVE EAST (12TH CONCESSION ROAD), APPROXIMATELY 0.8km EAST OF YONGE STREET (HWY #1) AND APPROXIMATELY 10.0m NORTH OF MAPLEVIEW DRIVE EAST CENTERLINE. N4911763.816 E610187.698

BENCHMARK NO. 03120080054 LOCATED ON THE SOUTH LIMIT OF MAPLEVIEW DRIVE WEST APPROXIMATELY 10m EAST OF HURONTARIO ROAD. N4910578.122 E607601.062 ELEV 248.996

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CHECKED	RC/DR	REI-17055	SAN-2	SAN-2

