ENVISION
CONSULTANTS LTD

FUNCTIONAL SERVICING REPORT

23 Elizabeth Street North & 42 – 46 Park Street East

Project #: 25-0893
Prepared for: Edenshaw Elizabeth Developments Limited
Date: August 29, 2025

Report Version: 03

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August 29, 2025

Edenshaw Elizabeth Developments Limited
129 Lakeshore Road, Suite 201
Mississauga, Ontario L5G 1E5

Attention: Roman Tsap, Development Manager

SUBJECT: FUNCTIONAL SERVICING REPORT, 23 ELIZABETH STREET NORTH & 42 – 46 PARK STREET EAST

EnVision Consultants Ltd. is pleased to present the enclosed Functional Servicing Report in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) applications for the above-noted property. This report provides the conceptual framework for water distribution, sanitary sewage and storm drainage for this development. A Stormwater Management Report outlining the proposed quality and quantity controls for stormwater on this Site has also been prepared by EnVision Consultants Ltd. under separate cover.

We thank you for utilizing EnVision for this assignment. If there are any questions regarding the enclosed report, please do not hesitate to contact us.

Yours sincerely,

Alex Williams, P.Eng.
Director – Land Development
awilliams@envisionconsultants.ca

QUALITY MANAGEMENT

ISSUE	FIRST ISSUE	REVISION 1	REVISION 2
PROJECT NUMBER	25-0893	25-0893	25-0893
PROJECT REFERENCE	Functional Servicing Report, 23 Elizabeth Street North & 42 – 46 Park Street East	Functional Servicing Report, 23 Elizabeth Street North & 42 – 46 Park Street East	Functional Servicing Report, 23 Elizabeth Street North & 42 – 46 Park Street East
VERSION NO.	01	02	03
REMARKS	Final	Final	Final
PREPARED BY	Dabi Abikoye, P.Eng.	Dabi Abikoye, P.Eng.	Dabi Abikoye, P.Eng.
SIGNATURE			
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SIGNATURE			
DATE	February 19, 2025	May 23, 2025	August 29, 2025

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EnVision Consultants Ltd. (EnVision) was retained by Edenshaw Elizabeth Developments Limited (the 'Client') to conduct a functional servicing assessment in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) applications for the property located at 23 Elizabeth Street North & 42 – 46 Park Street East (the 'Site').

The development is a 0.18 ha parcel of land bounded by Park Street East to the south, an existing residential development (49 Queen Street East) to the north, Elizabeth Street North to the west and an existing residential development (52 Park Street East) to the east. Under existing conditions, the Site is occupied by four (4) single-family residential dwellings. The proposed development will consist of one (1) 30-storey residential building with four (4) below grade levels. The existing buildings within the Site are proposed to be demolished to accommodate the development proposal.

The scope of this review includes site water distribution, sanitary drainage and stormwater drainage for the proposed development. A Stormwater Management Report outlining the proposed quality and quantity controls for stormwater on this Site has been prepared by EnVision under separate cover. EnVision has reviewed the Site Plan provided by Kirkor Architects and Planners dated May 23, 2025, background information provided by the Client, City of Mississauga, Region of Peel, Conservation Authority and other publicly available materials.

Based on the functional servicing review, EnVision presents the following findings.

- The Site will be serviced by the existing 300mm Zone 1 watermain on Park Street East. The proposed servicing for the Site will include one (1) 150mm domestic watermain and one (1) 200mm fire watermain connecting to the existing watermain on Park Street East;
- Hydrant flow tests were performed on the existing 300mm watermains on Park Street East and the and Elizabeth Street North on April 10, 2025 by L&D Waterworks Inc. The test results indicate that there is sufficient water supply in the existing municipal water network to accommodate the development;
- The proposed sanitary servicing for the Site will connect to the existing 250mm sanitary sewer on Park Street East via a 200mm municipal sanitary service connection from the Site;
- Based on the findings of the external sanitary sewer capacity analysis, there is surcharging in the downstream sanitary sewer system under both pre- and post-development conditions. Local sanitary sewer upgrades will be required on Helene Street North and discussions are ongoing with Region staff regarding capacity constraints in the downstream sanitary trunk sewer system up to the Elmwood pumping station. EnVision is also aware of proposed major upgrades to the local sanitary sewer system on Helene Street North and the trunk sewer system on Lakeshore Road E which are currently in the design stage. Coordination with the Region regarding the planned capacity and timing of the proposed municipal upgrade works is required;
- One (1) 200mm municipal storm service connection is proposed to the existing 300mm storm sewer on Park Street East. An underground stormwater cistern is proposed to meet the quantity control and water balance requirements for the Site prior to discharging flows to the existing storm sewer on Park Street East.

2. INTRODUCTION

EnVision Consultants Ltd. (EnVision) was retained by Edenshaw Elizabeth Developments Limited (the 'Client') to conduct a functional servicing assessment for the property located at 23 Elizabeth Street North & 42 – 46 Park Street East (the 'Site'). It is our understanding that this assessment has been requested in support of the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) applications.

2.1. SITE DESCRIPTION

The development is a 0.18 ha parcel of land bounded by Park Street East to the south, an existing residential development (49 Queen Street East) to the north, Elizabeth Street North to the west and an existing residential development (52 Park Street East) to the east. Under existing conditions, the Site is occupied by four (4) single-family residential dwellings. Refer to Figure 1 for the Site Location Plan and Figure 2 for the Pre-Development Plan.

The proposed development will consist of one (1) 30-storey residential building with four (4) below grade levels. The existing buildings within the Site are proposed to be demolished to accommodate the development proposal. The development statistics are summarized in Table 2-1. Refer to Figure 3 for an illustration of the Proposed Development Plan.

Table 2-1: Development Summary

LAND USE	NUMBER OF FLOORS	TOTAL GFA	RESIDENTIAL UNITS	UNDERGROUND LEVELS
RESIDENTIAL	30	20,951 m^2	378	4

The Site will be serviced by existing local municipal sewers and watermains within the adjoining municipal rights-of-way. Any existing service connections to the Site within the municipal road allowance will be decommissioned by the municipality at the Owner's cost. The proposed service connections will be extended to the underground parking foundation walls and coordinated with the building design team.

2.2. OBJECTIVES, SCOPE AND BACKGROUND MATERIALS

2.2.1. OBJECTIVES

The objectives of the Functional Servicing Report are to:

- Determine the site specific water, sanitary and stormwater servicing requirements to ensure that the development proposal is in conformance with City of Mississauga and Region of Peel guidelines;
- Establish the proposed water and sanitary demands from the development;

- Demonstrate the impact of the proposed development on the capacity of the existing infrastructure in the area and identify necessary improvements to municipal servicing infrastructure if required;
- Develop a water, sanitary and stormwater servicing strategy for the development; and
- Determine the grading approach for the development and identify grading constraints.

2.2.2. SCOPE

The scope of this Functional Servicing Report includes the following components:

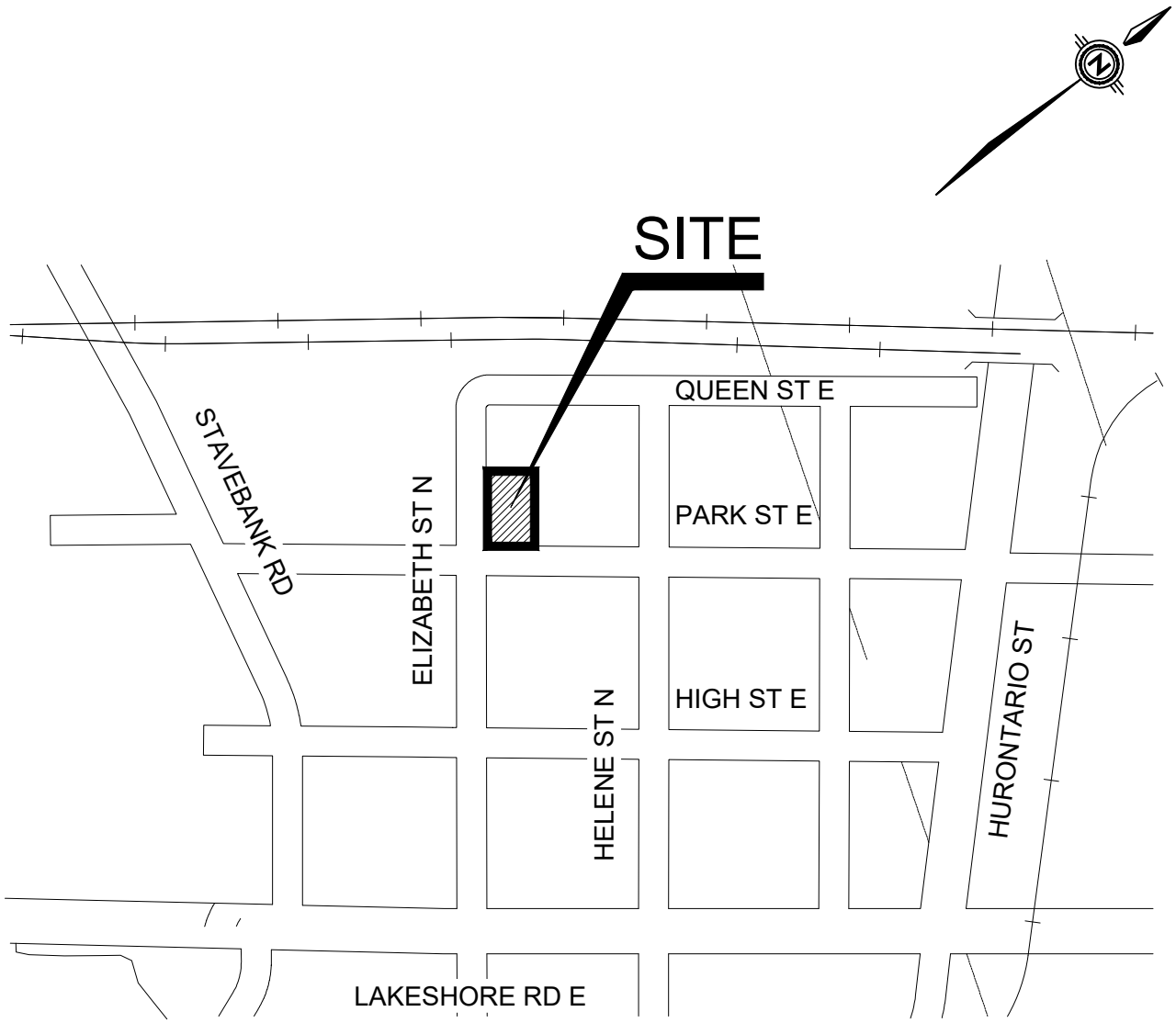
- Water Distribution
- Sanitary Drainage
- Stormwater Drainage
- Site Grading

A Stormwater Management (SWM) Report outlining the proposed stormwater quality and quantity controls has been prepared under a separate cover by EnVision Consultants Ltd., dated May 23, 2025.

2.2.3. BACKGROUND MATERIALS

In preparing this report, EnVision used the following information to evaluate the servicing and grading for the Site:

- Topographic Survey prepared by R. Avis Surveying Inc. dated July 23, 2019;
- Architectural Plan prepared by Kirkor Architects and Planners dated May 23, 2025;
- City of Mississauga Transportation and Works Development Requirements Manual dated August 2020;
- Region of Peel Linear Wastewater Standards dated March 2023;
- Region of Peel Public Works Design, Specifications & Procedures Manual – Watermain Design Criteria dated June 2010; and
- Section 8 – City of Mississauga Transportation and Works Development Requirements Manual dated August 12, 2020.



CLIENT

EDENSHAW ELIZABETH
DEVELOPMENTS LIMITED

TITLE

23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

LOCATION PLAN

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Date: AUG 2025	Proj. No. 25-0893
Scale: NTS	Figure No. 1

FILENAME: C:\Users\JulianaZupancic\DC\ACCDocs\EnVision\EnVision - LD\Project Files\25-0893 23 Elizabeth St\Mun\FSR\25-0893_Fig 1.dwg
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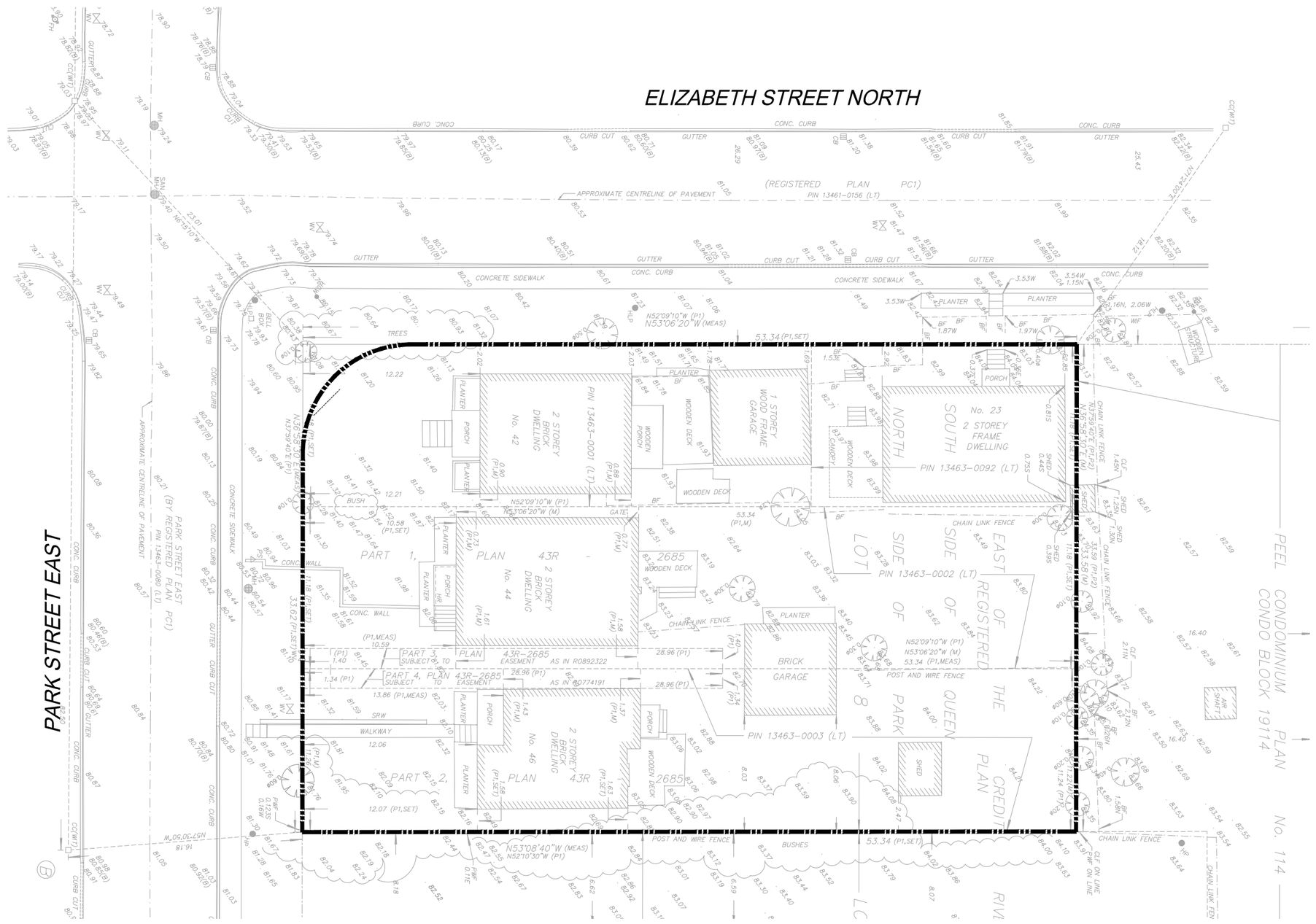

LEGEND

LIMIT OF PROPERTY

CLIENT: EDENSHAW ELIZABETH DEVELOPMENTS LIMITED

TITLE: 23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

PRE- DEVELOPMENT PLAN

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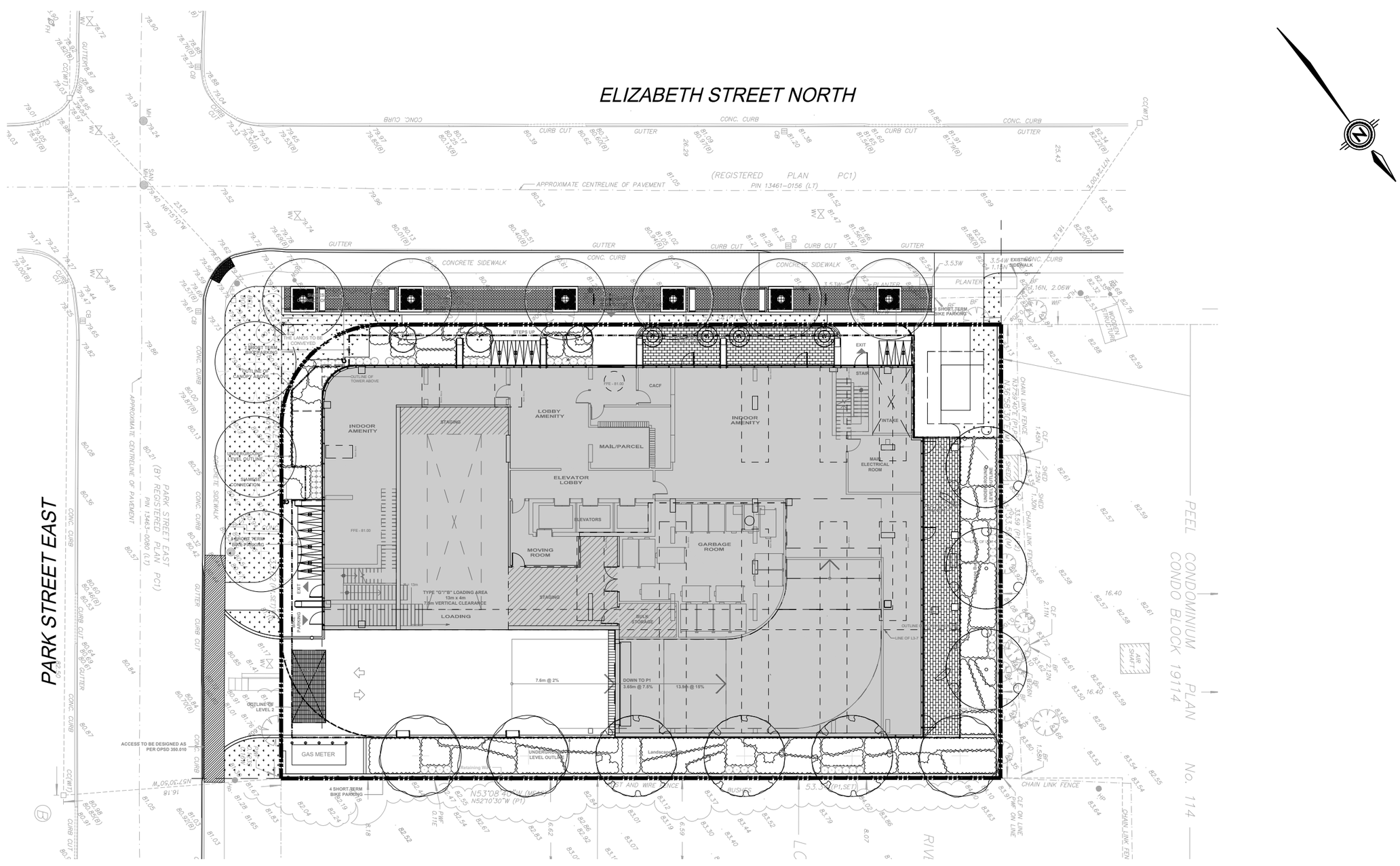
Date: AUG 2025	Proj. No.: 24-0893
Scale: 1: 300	Figure No.: 2



LEGEND

LIMIT OF PROPERTY

CLIENT	EDENSHAW ELIZABETH DEVELOPMENTS LIMITED
TITLE	23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST MISSISSAUGA, ONTARIO

PROPOSED DEVELOPMENT PLAN

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Date	AUG 2025	Proj. No.	24-0893
Scale	1: 300	Figure No.	3

3. WATER SERVICING

3.1. EXISTING CONDITIONS

EnVision has obtained record engineering drawings from the Region of Peel for the area surrounding the Site. Under existing conditions, there is a 300mm Zone 1 PVC watermain on the east side of Elizabeth Street North and a 300mm Zone 1 PVC watermain on the south side of Park Street East adjacent to the Site. There is also an abandoned 100mm Zone 1 Cast Iron watermain on the north side of Park Street East, an abandoned 200mm Zone 1 PVC watermain on the south side of Park Street East and an abandoned 300mm Zone 1 PVC watermain on the east side of Elizabeth Street North adjacent to the Site.

3.2. WATER DEMANDS

3.2.1. DOMESTIC WATER DEMAND

The peak domestic water demand for the development was calculated using the Region of Peel's design criteria for apartment developments. The results of the calculation are summarized in Table 3-1 below. Refer to Appendix B for detailed domestic water demand calculations.

Table 3-1: Estimated Domestic Water Demand

CRITERION	INFORMATION
RESIDENTIAL WATER DEMAND RATE	280 L/person/day
TOTAL RESIDENTIAL UNITS	131 0-1-Bed Units 128 1-Bed + Den Units 117 2-Bed Units 2 2-Bed + Den Units
TOTAL RESIDENTIAL POPULATION[(1)]	811 people
PEAKING FACTORS	Residential: Max. Day = 2.0, Peak Hour = 3.0
AVERAGE WATER DEMAND FROM SITE	2.63 L/s
PEAK WATER DEMAND FROM SITE	Max. Day = 5.26 L/s, Peak Hour = 7.88 L/s

[(1)] Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.

3.2.2. FIRE FLOW DEMAND

The estimated fire flow has been calculated using the recommendations of the 2020 Fire Underwriters Survey. The fire flow calculation indicates that the recommended fire flow is 133.33 L/s (2,111 USGPM). The fire flow calculations have been prepared with the assumption that the building will be classified as fire resistive construction with combustible hazard occupancy and will be equipped with a supervised sprinkler system. The results of these calculations are included in Appendix B.

There is currently one (1) existing hydrant adjacent to the Site at the southwest corner of the Elizabeth Street North and Park Street East intersection. The Siamese connections to the building will be located so that they are a maximum of 45m away from a hydrant.

3.2.3. PROPOSED WATER SERVICING

One (1) domestic water service connection and one (1) fire water service connection are proposed to service the entire development. An H-style service connection with a 150mm diameter domestic service branching off a 200mm diameter fire service connection will extend from the existing 300mm Zone 1 PVC watermain on Park Street East. Valves shall be provided on all connections at the property line. A water meter and backflow preventer will be provided on the domestic connection within the mechanical room in the building. The mechanical room will need to be accessible by the Region and provide remote read-out locations for the Region's use in reading the meters. A double detector check-valve will be provided on the fire connection immediately inside the property line and outside the foundation wall.

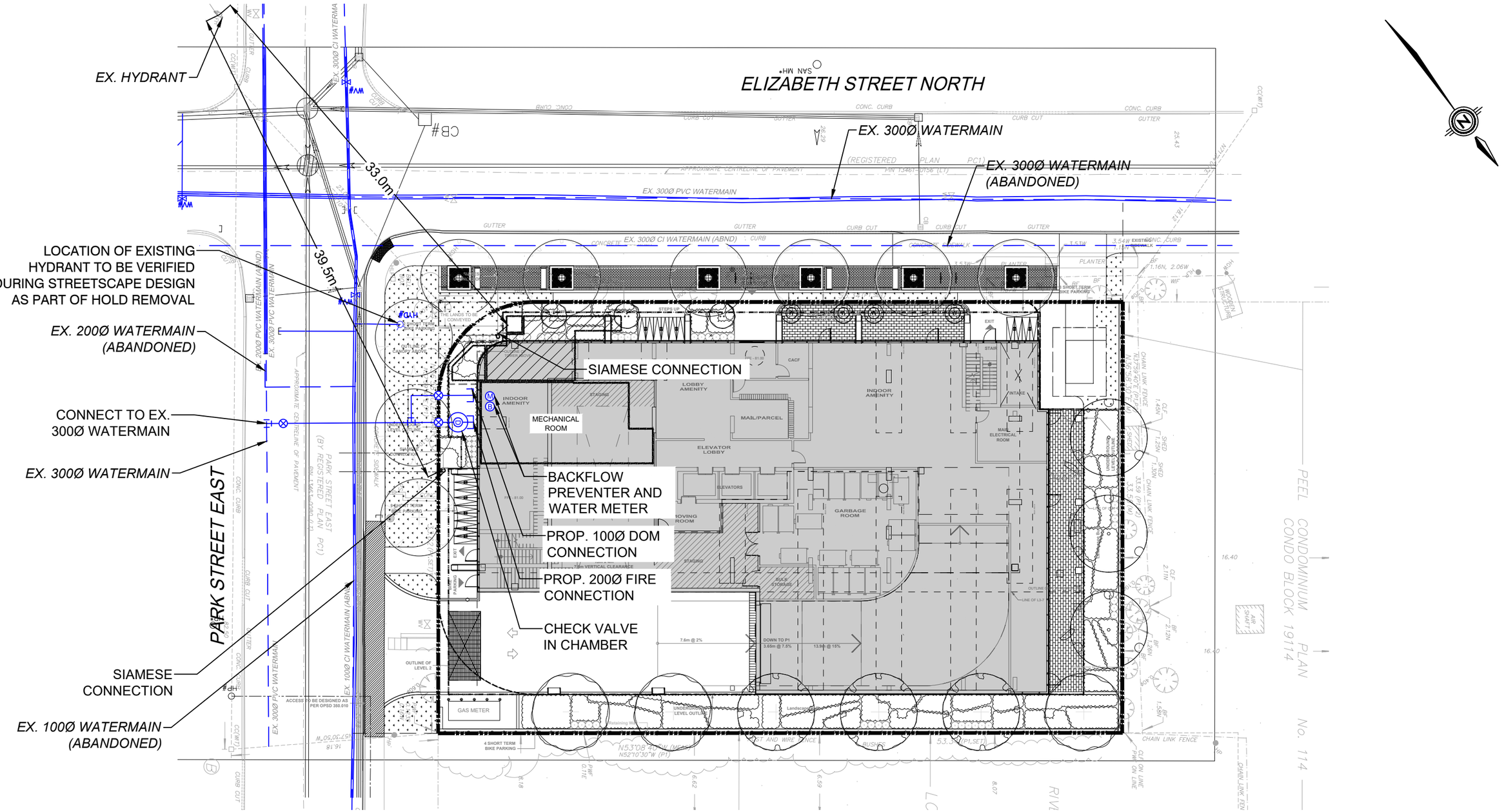
The service connections within the municipal rights-of-way will be designed to Region of Peel standards and the water services within the proposed building will be designed by the Site mechanical consultant to meet Ontario Plumbing Code Standards. The proposed water servicing and the hydrant locations are shown on Figure 4.

3.3. HYDRANT FLOW TEST

The required fire flow demand for the proposed development was calculated to be 133.33 L/s (2,111 USGPM) as defined by the Fire Underwriters Survey (FUS). The maximum day demand for the proposed development is 5.26 L/s. Therefore, the total maximum day plus fire flow demand is 138.59 L/s for the proposed development. Refer to Appendix B for FUS fire flow and detailed domestic demand calculations.

Hydrant flow tests were performed on the existing 300mm watermain on Park Street East and the existing 300mm watermain on Elizabeth Street North on April 10, 2025 by L&D Waterworks Inc. to determine the available water supply for fire protection. Detailed results of the hydrant flow test are included in Appendix B. The flow test on the existing 300mm watermain on Park Street East indicates that a flow of 576 L/s (9,122 USGPM) could be achieved while maintaining a water pressure of 20psi (140kPa) while the flow test on the existing 300mm watermain on Elizabeth Street North indicates that a flow of 592 L/s (9,379 USGPM) could be achieved while maintaining a water pressure of 20psi (140kPa). Therefore, the existing 300mm watermains on Park Street East and Elizabeth Street North have sufficient capacity to provide the required fire protection for the proposed development.

It is our understanding that the Region of Peel will use the multi-use demand table appended to this report to confirm using their water model that water supply will be available to meet the estimated demand from the proposed development. The multi-use demand table for the Site has been included in Appendix D.



LEGEND

- LIMIT OF PROPERTY
- EX. WATERMAIN
- PROP. W/M CONNECTION
- PROP. VALVE & CHAMBER
- PROP. VALVE & BOX

CLIENT
EDENSHAW ELIZABETH DEVELOPMENTS LIMITED

TITLE
23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

WATER SERVICING PLAN

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Date AUG 2025	Proj. No. 24-0893
Scale 1: 300	Figure No. 4

4. SANITARY SERVICING

4.1. EXISTING CONDITIONS

EnVision has obtained record engineering drawings from the Region of Peel for the area surrounding the Site. Under existing conditions, there is a 250mm PVC sanitary sewer draining west on Park Street East and a 250mm PVC sanitary sewer draining south on Elizabeth Street North adjacent to the Site.

4.2. SANITARY FLOWS

4.2.1. DESIGN PARAMETERS

To calculate the peak sanitary flows, the following Region of Peel design criteria have been utilized:

- 290 L/cap/day average daily flow for residential use;
- Population equivalent based on unit type for residential use:
  - 4.2 people per single detached dwelling
  - 1.7 people per studio and 1-bedroom apartment unit;
  - 3.1 people per 2-bedroom apartment unit;
  - 3.1 people per 3-bedroom apartment unit;
  - 2.7 people per unit for apartments greater than 475 persons per hectare
- Peaking Factor for residential use: Harmon Formula M = 1+(14/√(4+P/1000))
- Inflow/Infiltration Allowance: 0.26 L/s/ha

An estimate of the pre- and post-development sanitary sewage flows has been calculated and is included in Appendix C. The results of the calculations are discussed in Sections 4.2.2 and 4.2.3.

4.2.2. EXISTING SEWAGE FLOWS

The Site consists of single-family dwellings under existing conditions. The existing buildings have their sanitary flows directed to the existing 250mm Elizabeth Street North sanitary sewer and the 250mm Park Street East sanitary sewer which both ultimately convey flows to a 250mm PVC sanitary sewer which drains south on Elizabeth Street North. An estimate of the pre-development sanitary sewage flows from the Site to the downstream sanitary sewer system has been calculated using the Region of Peel Design Criteria:

- Average Sanitary Flow = 0.11 L/s (including Inflow/Infiltration allowance)
- Peak Sanitary Flow = 0.28 L/s (including Inflow/Infiltration allowance)

Detailed calculations of the pre-development flows are included in Appendix B.

4.2.3. POST-DEVELOPMENT SEWAGE FLOW

An estimate of the post-development sanitary sewage flows from the Site to the downstream sanitary sewer system has been calculated based on the development statistics provided by Kirkor Architects and Planners and has been calculated using the Region of Peel Design Criteria. The calculation results are summarized in Table 4-1. Refer to Appendix C for post-development sanitary flow calculations.

Table 4-1: Estimated Sanitary Flows

CRITERION	INFORMATION
RESIDENTIAL SANITARY DEMAND RATE	290 L/person/day
TOTAL RESIDENTIAL UNITS	131 0-1-Bed Units 128 1-Bed + Den Units 117 2-Bed Units 2 2-Bed +Den Units
TOTAL RESIDENTIAL POPULATION[1]	811 people
PEAKING FACTORS	3.86 (Harmon Peaking Factor)
INFLOW / INFILTRATION ALLOWANCE	0.05 L/s
AVERAGE SANITARY FLOW FROM SITE	2.77 L/s
PEAK SANITARY FLOW FROM SITE	10.55 L/s

[1] Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.

The approximate peak sanitary flow to the existing sanitary sewer system for the pre- and post-development conditions are 0.28 L/s and 10.55 L/s, respectively. Consequently, the increase in peak sanitary design flow resulting from the development to the sanitary sewer is 10.27 L/s. An analysis of the impacts of the increase in peak sanitary flow contributions from the development on the downstream system was completed by EnVision and the results of the analysis are discussed further in Section 4.4. It is our understanding that the Region of Peel will use the multi-use demand table appended to this report to confirm using their sanitary infrastructure model if there will be sufficient capacity in the existing municipal sanitary sewer system to meet the estimated sanitary demand from the proposed development. The multi-use demand table for the Site has been included in Appendix D.

4.3. SANITARY SERVICING

The development will have one (1) 200mm diameter municipal sanitary service connection. Sanitary flows from the development will be discharged to the existing 250mm sanitary sewer on Park Street East. As per Region of Peel requirements, a control manhole is proposed to be placed immediately inside the property line for the service connection. The sanitary service connection within the municipal right-of-way will be designed to Region of Peel standards and the sanitary services within the proposed building will be designed by the Site mechanical consultant to meet Ontario Plumbing Code Standards. The proposed sanitary servicing layout shown on Figure 5.

4.4. DOWNSTREAM SEWER CAPACITY ANALYSIS

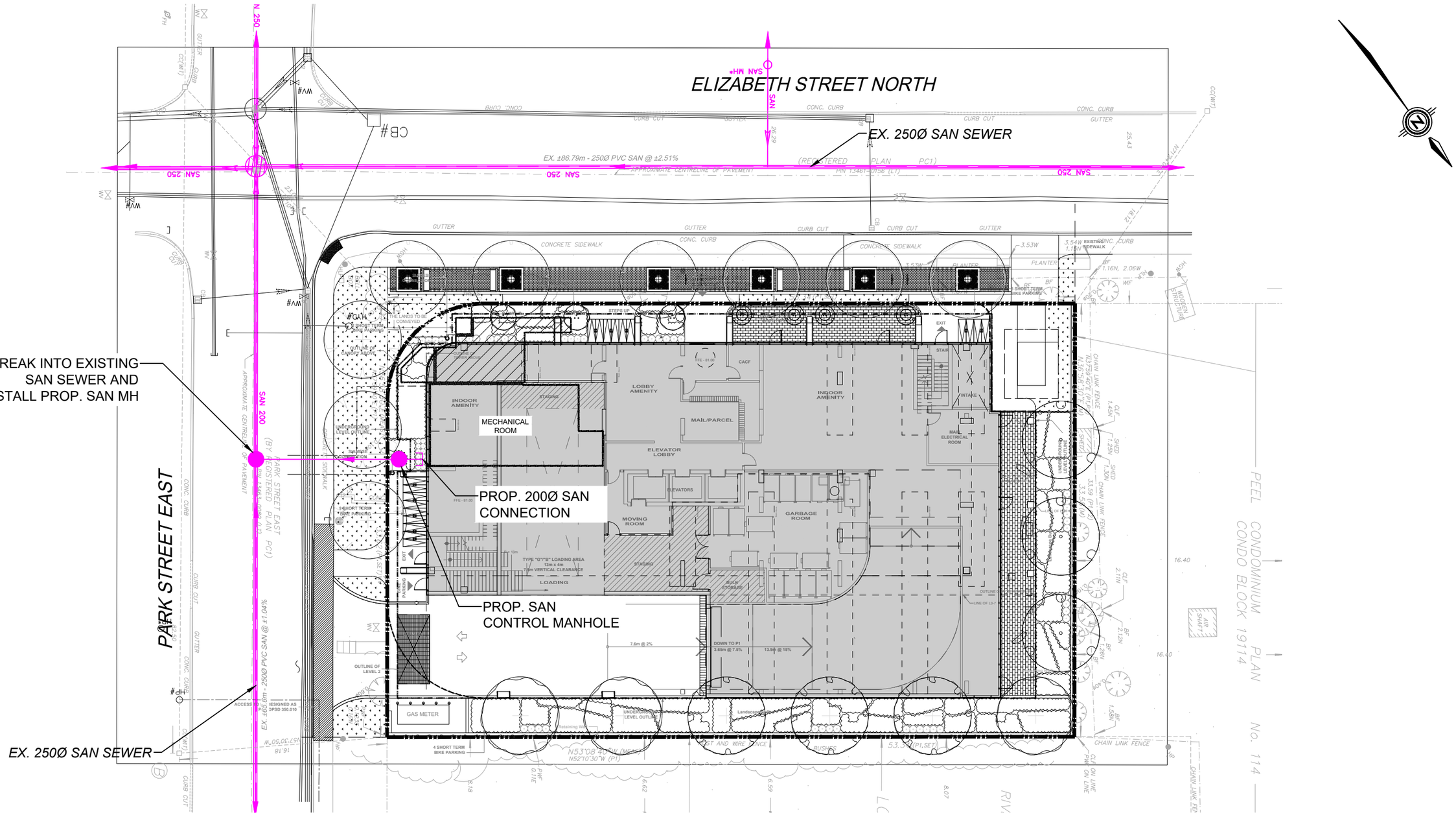
EnVision has prepared pre- and post-development downstream sanitary sewer analysis up to the existing 450mm local trunk sewer at the intersection of Lakeshore Road East and Helene Street North to assess the impacts of the sanitary demand from the development on the existing receiving sanitary sewer system.

The sanitary flows for the sewershed was calculated using the Region of Peel Linear Wastewater Design Manual criteria as outlined in Section 4.2.1. An Inflow/Infiltration allowance of 0.26 L/s/ha has also been included in the analysis. See Appendix C for the Sanitary Sewer Design Sheets. Sanitary Drainage Area figures have been created to facilitate this analysis and are included in Appendix C.

Development applications for 70 Park Street East, 88 Park Street East and 10 GO West have been submitted and the Metrolinx Port Credit LRT station is under construction. The post-development sanitary flows from these developments, calculated based on the Region of Peel design Criteria and site statistics identified in the most recent development applications have been included in the pre- and post-development downstream sanitary sewer analysis for the purpose of analyzing the receiving sewer capacity.

Based on the analysis of the contributing flows to the downstream sanitary sewer system up to the 450mm trunk sanitary sewer on Lakeshore Road East, it was determined that there is surcharging of the sewers on Helene Street North, further downstream of the Site, under both pre- and post-development conditions. Local sanitary sewer upgrades will be required on Helene Street North to accommodate the additional 10.27 L/s of flow from the development. Discussions are ongoing with Region staff regarding capacity constraints in the downstream sanitary trunk sewer system up to the Elmwood pumping station. EnVision is also aware of proposed major upgrades to the local sanitary sewer system on Helene Street North (Region of Peel Capital Project 24-2115) and the trunk sewer system on Lakeshore Road E (Region of Peel Capital Project 19-2215) which are understood to currently be in the design stage. EnVision will coordinate the planned capacity and timing of the proposed municipal upgrade works with the Region.

It is our understanding that the Region of Peel will use the multi-use demand table appended to this report to confirm using their sanitary infrastructure model if there will be sufficient capacity in the existing municipal sanitary sewer system to meet the estimated sanitary demand from the proposed development. The multi-use demand table for the Site has been included in Appendix D.



LEGEND

- LIMIT OF PROPERTY
- EX. SANITARY SEWER
- PROP. SAN CONNECTION

CLIENT
EDENSHAW ELIZABETH DEVELOPMENTS LIMITED

TITLE
23 ELIZABETH STREET NORTH &
42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

SANITARY SERVICING PLAN

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Date AUG 2025	Proj. No. 24-0893
Scale 1: 300	Figure No. 5

5. STORM DRAINAGE

5.1. STORMWATER MANAGEMENT REPORT

A Stormwater Management (SWM) Report outlining the proposed stormwater quality and quantity controls has been prepared under separate cover by EnVision Consultants Ltd., dated May 23, 2025. The SWM Report is in compliance with MECP Stormwater Management Planning and Design Manual (2003), TRCA Stormwater Management Criteria (August 2012), the Region of Peel Public Works Stormwater Design Criteria and Procedural Manual (June 2019) and the City of Mississauga Storm Drainage Design Requirements and identifies the stormwater quantity and quality controls under which this Site will operate.

5.2. EXISTING CONDITIONS

The Site is located within the Credit River subwatershed. Based on City record drawings, there is a 300mm PVC storm sewer draining west on Park Street East and a 300mm PVC storm sewer draining south on Elizabeth Street North adjacent to the Site.

Under existing conditions, a portion of the Site drains to Park Street East, another portion of the Site drains to Elizabeth Street North and a small portion drains towards the adjacent property.

5.3. PROPOSED MINOR STORM DRAINAGE SYSTEM

All storm flows within the development will be collected by an internal storm drainage system and directed to a proposed cistern located on the underground "P1A" & "P1" parking levels adjacent to Elizabeth Street North. The cistern will be designed to hold a volume of 156 m^3. The cistern is sized to control flows up to the 100-year storm event to the 2-year pre-development level per City of Mississauga requirements. A proposed 200mm storm service connection will be made from the cistern to the existing 300mm storm sewer on Park Street East. A mechanical pump system will be used to control flows from the chamber to the allowable release rate of 5.5 L/s. The allowable release rate is such that for all storm events up to the 100-year storm, the total storm outflow from the Site is reduced to the 2-year pre-development level to conform with City of Mississauga requirements. The chamber will have an access hatch accessible at grade which will act as an emergency overflow in case of system failure. As per City requirements, a storm control manhole will be placed immediately inside the property line and will be accessible by the City.

A sump volume of 11.7m^3 will be provided within the cistern for stormwater to be retained, infiltrated and/or reused on-site for the water balance requirement.

Since all storm flows up to the 100-year storm event will be reduced to the 2-year pre-development level, it can therefore be concluded that the existing storm sewer system will not be adversely affected under the post-development condition and will have adequate capacity to support flows from the proposed development. For further information on the stormwater management system being used or this Site, please see the Stormwater Management Report prepared by EnVision under a separate cover.

The storm service connection within the municipal right-of-way will be designed to City of Mississauga standards and the storm services within the proposed parking structure will be designed by the Site mechanical consultant to meet Ontario Plumbing Code Standards. The proposed storm servicing layout is shown on Figure 6.

5.4. PROPOSED MAJOR STORM DRAINAGE SYSTEM

The major storm system is a conveyance system for flows in excess of the minor system flows. Stormwater runoff from events up to and including the 100-year storm event will be contained on-site via an underground cistern and released at a controlled rate within the allowable post development limits to the minor storm system. For major storm events exceeding the 100-year storm and the capacity of the underground storage system, overland flow routes ill be provided to direct excess flows to the adjacent municipal rights-of-way.

For the development of the Site, the grading design will be prepared such that the surface (i.e. drive aisles, walkways and landscaped areas) grades will direct surface drainage away from the building to the adjoining municipal rights-of-way. The proposed grading of the Site will ensure that existing grade elevations will be met along the property limits. The plumbing system for the building will be coordinated with the mechanical consultant to ensure that they are designed to convey the 100-year storm event runoff from the development. For major storm events exceeding the 100-year storm event and the capacity of the cistern, an overflow will be designed to direct excess flows to grade and ultimately to the adjacent public right-of-way.

EX. 600Ø STM SEWER

EX. 300Ø STM SEWER

REMOVE EX CB AND DISPOSE OFFSITE. INSTALL NEW CBMH AND RECONNECT EXISTING STORM SEWERS

PROP. 200Ø STM SEWER

OGS STORMFILTER FOR GROUNDWATER TREATMENT (TO BE DESIGNED BY MECHANICAL)

EX. 300Ø STM SEWER

EX. 300Ø STM SEWER

STORM CONTROL MANHOLE

PUMP DISCHARGE CHAMBER

PROP. STORMWATER CISTERN

ELIZABETH STREET NORTH

PARK STREET EAST

PEEL CONDOMINIUM PLAN No. 114
CONDO BLOCK 19114

LEGEND

- LIMIT OF PROPERTY
- EX. STORM SEWER
- PROP. STORM SEWER
- PROP. STORM SINGLE/DOUBLE CATCH BASIN
- PROP. STORM MH

CLIENT: EDENSHAW ELIZABETH DEVELOPMENTS LIMITED

TITLE: 23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

STORM SERVICING PLAN

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Date: AUG 2025	Proj. No.: 24-0893
Scale: 1: 300	Figure No.: 6

6. SITE GRADING

Under existing conditions, a portion of the Site slopes southwest towards Elizabeth Street North and another portion slopes southeast towards Park Street East. There is also steep sloping and retaining wall systems in the northwest corner of the Site . Existing elevations within the Site generally range from 79.5 masl to 84.0 masl.

The grading design of the proposed development will direct storm runoff to the on-site collection points so that the drainage is self-contained. The grading design will comply with the City of Mississauga standards and will be designed to achieve the following:

- Maintain existing perimeter grades so that there is no impact to adjacent properties;
- Optimize earthworks i.e. minimize the quantity of deficit materials to be imported or exported;
- Minimize disruption to existing municipal rights-of-way containing existing utilities and services;
- Promote drainage to the minor storm sewer system and accommodate stormwater management requirements;
- Provide adequate cover for underground services;
- Provide safe overland conveyance of flows exceeding the capacity of the storm sewer system through ponding;
- Satisfy the City's requirement for maximum 0.25m of stormwater ponding; and
- Building floor level will be set to avoid building / property damage during all design storms.

The proposed grading for the Site will, where possible, generally follow the existing grades to maintain drainage patterns and match boundary grades. Minor storm drainage is to be conveyed towards catchbasins that convey flows to the internal storm sewer network which discharges to the existing 300mm storm sewer on Park Street East. Overland flow routes are provided to direct major storm drainage away from proposed and existing structures towards the Elizabeth Street North and Park Street East rights-of-way.

A retaining wall is proposed along the northern and eastern development limits to ensure that drainage is contained within the Site. Retaining walls above 1.0m in height will be designed by a Structural Engineer in accordance with City standards.

At-grade surfaces will be designed with a minimum grade of 1.0%. Where surface ponding is proposed, the maximum ponding will be limited to 0.25m.

Coordination with the landscape consultant and mechanical consultant will be necessary to ensure grading initiatives support stormwater management and landscape objectives and provided sufficient cover above the sewers within the Site.

7. CLOSING

7.1. CONCLUSIONS AND RECOMMENDATIONS

Based on the information obtained through functional servicing assessment, EnVision presents the following conclusions and recommendations.

7.1.1. WATER SERVICING

The Site will be serviced by the existing 300mm Zone 1 watermain on Park Street East. The proposed building will have one (1) 150mm domestic water service connection and one (1) 200mm fire water service connection which will be serviced by the existing 300mm Zone 1 watermain on Park Street East. The results of the hydrant flow test performed by L&D Waterworks Inc. in April 2025 indicate that there is sufficient water supply in the municipal watermain system to meet the demands from the proposed development.

The water service connections within the municipal right-of-way will be designed to Region of Peel standards while the water services within the proposed building are to be designed by the Site mechanical consultant per OBC, and coordinated with EnVision.

7.1.2. SANITARY SERVICING

The proposed building will have one (1) 200mm sanitary service connection which will discharge flows to the existing 250mm sanitary sewer on Park Street East. Based on the findings of the external sanitary sewer capacity analysis, there is surcharging in the downstream sanitary sewer system under both pre- and post-development conditions. Local sanitary sewer upgrades will be required on Helene Street North and discussions are ongoing with Region staff regarding capacity constraints in the downstream sanitary trunk sewer system up to the Elmwood pumping station. EnVision is also aware of proposed major upgrades to the local sanitary sewer system on Helene Street North and the trunk sewer system on Lakeshore Road E which are currently in the design stage. Coordination with the Region regarding the planned capacity and timing of the proposed municipal upgrade works is required.

The sanitary service connection within the municipal right-of-way will be designed to Region of Peel standards while the sanitary services within the proposed building are to be designed by the Site mechanical consultant per OBC, and coordinated with EnVision.

7.1.3. STORM SERVICING

The proposed development storm flows, up to the 100-year storm event, will be attenuated to the allowable levels using an underground stormwater cistern. In compliance with City of Mississauga guidelines, the total storm flow rate of discharge from the Site under post-development conditions will be reduced to the 2-year pre-development level. Therefore, the existing storm sewer system will not be adversely affected under the post-development condition and will have adequate capacity to support flows from the proposed development. For major storm events exceeding the 100-year storm event, the

Site will be graded to direct surface runoff away from the proposed building, and towards the adjoining public rights-of-way.

One (1) 200mm storm service connection will be provided from the Site to the existing 300mm storm sewer on Park Street East. The storm service connection within the municipal right-of-way will be designed to City of Mississauga standards while the storm services within the proposed building are to be designed by the Site mechanical consultant per OBC, and coordinated with EnVision.

A separate Stormwater Management Report has been prepared by EnVision under a separate cover to address requirements concerning stormwater management.

7.2. CERTIFICATION AND SIGNATURES

Prepared by

Dabi Abikoye, P.Eng.
Senior Project Engineer

dabikoye@envisionconsultants.ca

Reviewed by

Alex Williams, P.Eng.
Director – Land Development

awilliams@envisionconsultants.ca

7.3. QUALIFIER

EnVision prepared this report solely for the use of the intended recipient in accordance with the professional services agreement. In the event a contract has not been executed, the parties agree that the EnVision General Terms and Conditions, which were provided prior to the preparation of this report, shall govern their business relationship.

The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment. The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the report are based on the observations and/or information available to EnVision at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by EnVision and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

EnVision disclaims any obligation to update this report if, after the date of this report, any conditions appear to differ significantly from those presented in this report; however, EnVision reserves the right to amend or supplement this report based on additional information, documentation or evidence.

EnVision makes no other representations whatsoever concerning the legal significance of its findings. The intended recipient is solely responsible for the disclosure of any information contained in this report. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. EnVision does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report.

EnVision has provided services to the intended recipient in accordance with the professional services agreement between the parties and in a manner consistent with that degree of care, skill and diligence normally provided by members of the same profession performing the same or comparable services in respect of projects of a similar nature in similar circumstances. It is understood and agreed by EnVision and the recipient of this report that EnVision provides no warranty, express or implied, of any kind. Without limiting the generality of the foregoing, it is agreed and understood by EnVision and the recipient of this report that EnVision makes no representation or warranty whatsoever as to the sufficiency of its scope of work for the purpose sought by the recipient of this report.

In preparing this report, EnVision has relied in good faith on information provided by others, as noted in the report. EnVision has reasonably assumed that the information provided is correct and EnVision is not responsible for the accuracy or completeness of such information.

Unless otherwise agreed in writing by EnVision, the Report shall not be used to express or imply warranty as to the suitability of the site for a particular purpose. EnVision disclaims any responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions /or costs.

This limitations statement is considered an integral part of this report.

APPENDIX A: *Site Plan, Topographic Survey and Subsurface Utility Investigation*

STANDARD SIGNED CONDOMINIUM DECLERATION FOR
MULTIPLE FAMILY RESIDENTIAL DEVELOPMENTS:

I hereby certify that the Landscape plan conforms to the Site Grading and Drainage Plan for this application.

As follows:

DOMINION OF CANADA PROVINCE OF ONTARIO	)))	IN THE MATTER OF A MULTIPLE RESIDENTIAL BUILDING DEVELOPMENT
REGIONAL MUNICIPALITY OF PEEL TO WIT:	)))))))	ON THE PROPERTY LOCATED IN THE CITY OF MISSISSAUGA BEING KNOWN AS ______________________ ______________________ ______________________ ______________________

I, ____

MAKE OATH AND SAY AS FOLLOWS:

1. I AM THE PRESIDENT OF ______________________ WHICH IS THE OWNER AND BUILDER OF MULTI RESIDENTIAL BUILDING(S) ON THE PROPERTY DESCRIBED ABOVE.

2. THAT THE SAID MULTI RESIDENTIAL BUILDING(S) IS BEING BUILT TO BE SOLD / RENTED AS CONDOMINIUM / RENTAL TOWNHOUSES / APARTMENTS (AS APPLICABLE).

AND I MAKE THIS SOLEMN DECLARATION CONSCIENTIOUSLY BELIEVING IT TO BE TRUE AND KNOWING THAT IT IS ON THE SAME FORCE AND EFFECT AS IF I MAKE IT UNDER OATH.

DECLARED BEFORE ME AT THE ______________________ IN THE MUNICIPALITY OF ______________________ THIS________, DAY OF ________ 20__________.	))))))))	______________________ ______________________ ______________________ ______________________ ______________________ ______________________ ______________________ ______________________
A COMMISSIONER ETC.		______________________

WASTE COLLECTION NOTE:

RELIANCE ON PROPERTY MANAGEMENT STAFF TO FACILITATE WASTE COLLECTION WILL BE CONSIDERED AT THE REGIONS
DISCRETION SUBJECT TO THE FOLLOWING REQUIREMENTS:

A. THE BINS SHOULD BE PROPERLY POSITIONED IN THE COLLECTION AREA ON THE DAY OF COLLECTION BEFORE 7 AM.

B. THE DRIVER IS NOT REQUIRED TO EXIT THE COLLECTION VEHICLE TO FACILITATE COLLECTION.

C. PROPERTY MANAGEMENT IS RESPONSIBLE FOR MOVING BINS DURING COLLECTION.

D. THE REGION WILL NOT BE RESPONSIBLE FOR EMPTYING BINS THAT ARE INACCESSIBLE TO THE COLLECTION VEHICLE.

E. PROPERTY MANAGEMENT MUST BE VISIBLE TO WASTE COLLECTION VEHICLE ON APPROACH TO SITE, OTHERWISE THE
WASTE COLLECTION VEHICLE WILL NOT ENTER THE SITE.

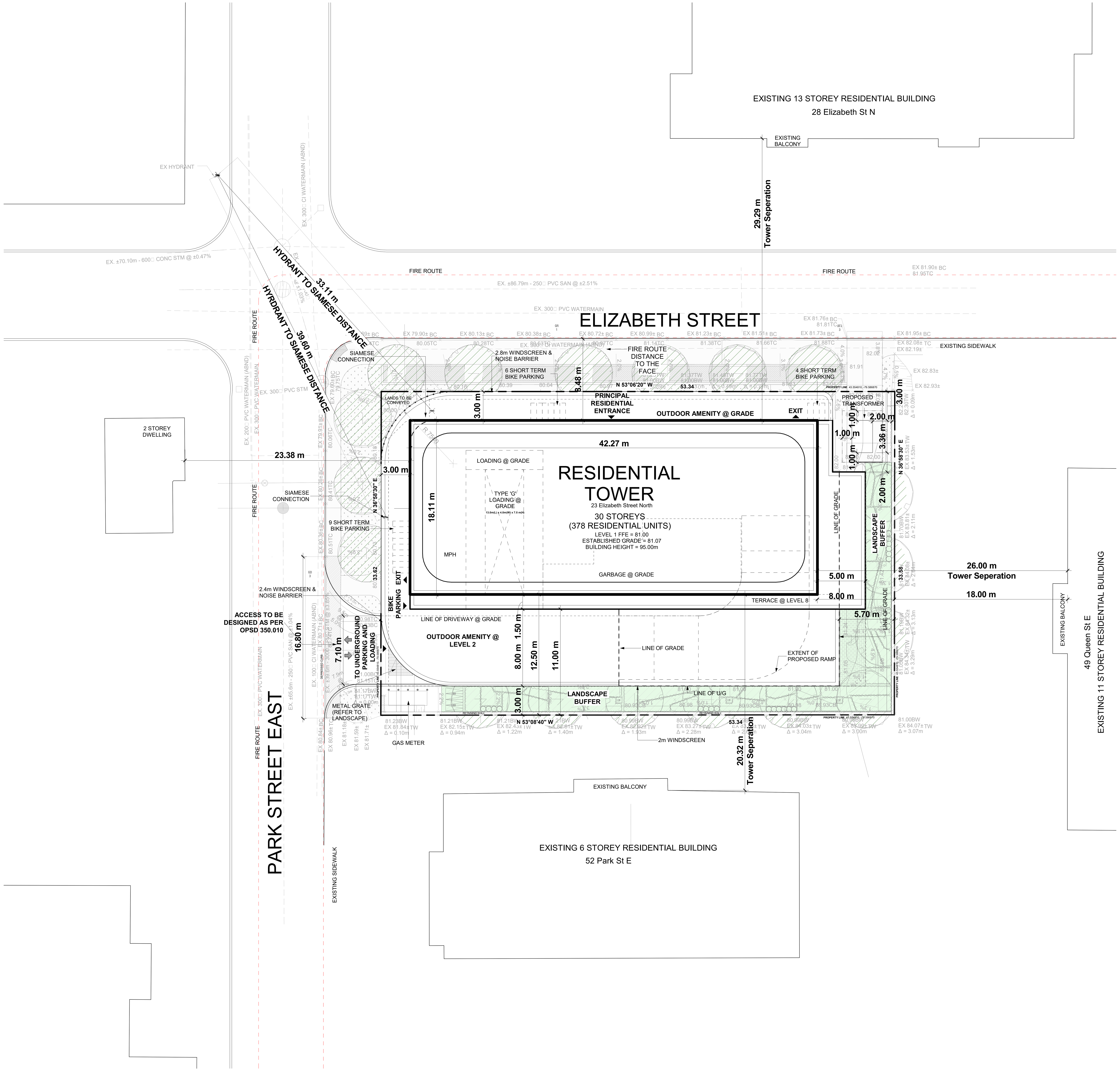
F. THE GROUND OF THE COLLECTION POINT WILL BE MARKED TO SHOW PROPERTY MANAGEMENT STAFF AND WASTE COLLECTION VEHICLE DRIVERS WHERE BINS MUST BE STAGED TO BE LIFTED FOR COLLECTION

G. PROPERTY MANAGEMENT WILL BE RESPONSIBLE FOR SAFELY MANEUVERING WASTE COLLECTION VEHICLES INTO AND/OR OUT OF, AS WELL AS AROUND THE SITE.

H. INTERNAL ROADWAYS MUST BE OCNSTRUCTED OF A HARD SURFACE MATERIAL, SUCH AS ASPHALT, CONCRETE AND DESIGNED TO SUPPORT A MINIMUM OF 35 TONNES, THE WEIGHT OF A FULLY LOADED COLLECTION VEHICLE

I. IF THE WASTE COLLECTION VEHICLE IS REQUIRED TO DRIVE ONTO OR OVER A SUPPORTED STRUCTURE (SUCH AS AN AIR GATE, OR TRANSFORMER COVER) THE REGION MUST BE PROVIDED WITH A LETTER FORM A PROF.ENG. (LICENSED BY PROF. ENG. ONTARIO) CERTIFYING THAT THE STRUCTURE CAN SAFELY SUPPORT A FULLY LOADED WASTE COLLECTION VEHICLE WEIGHING 35 TOMMES

2 General Notes
NTS



1 Site Plan
1:200

Authorities Having Jurisdiction

Date:

KIRKOR
ARCHITECTS AND PLANNERS
20 De Boers Drive Suite 400
Toronto ON M3J 0H1

Revisions:

No.:	Revision:	Date:

No.:	Issued For:	Date:
01	OPA/OZ Submission	May 23, 2025

EDENSHAW

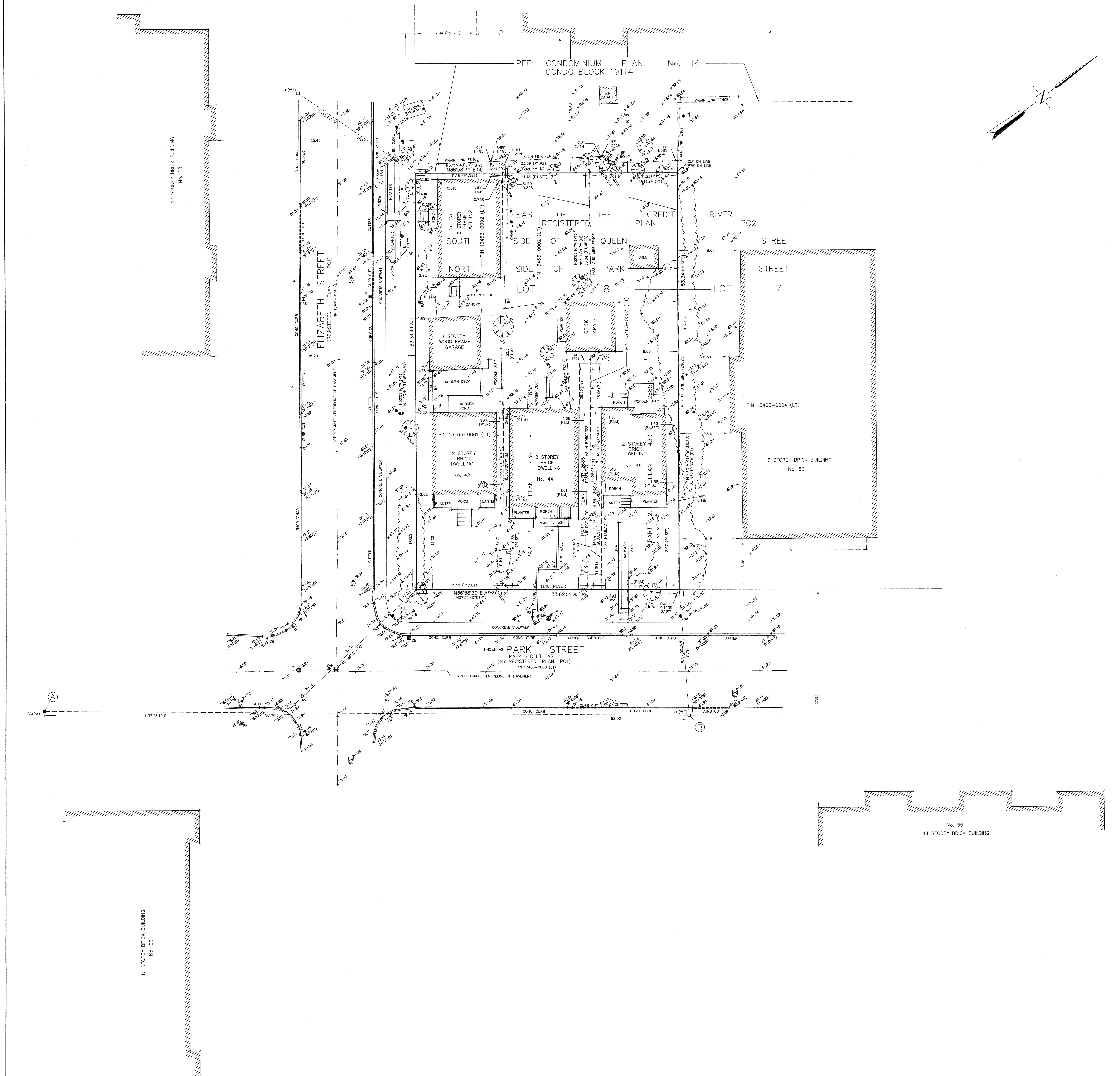
Client:
EDENSHAW ELIZABETH DEVELOPMENTS LTD.

23 Elizabeth St. N
Proposed Residential Development

Drawing Title:
Site Plan

Scale: 1 : 200
Drawn by: B.B., S.D.
Checked by: R.P
Project No.: 24-113
Date: May 23, 2025
Drawing No.:

dA1.02



PLAN OF SURVEY OF

PART OF LOT 8
NORTH SIDE OF PARK STREET
SOUTH SIDE OF QUEEN STREET
EAST OF THE CREDIT RIVER
REGISTERED PLAN PC2

CITY OF MISSISSAUGA

REGIONAL MUNICIPALITY OF PEEL

SCALE 1 : 200

5m 4 3 2 1 0 5 10 15m

R. AVIS SURVEYING INC.

METRIC : DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES AND LEGEND

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS Ⓐ AND Ⓑ BY REAL TIME NETWORK (RTN) OBSERVATIONS UTM ZONE 17, (81° WEST LONGITUDE) NAD83 (CSRS)(2011)

OBSERVED REFERENCE POINTS: UTM ZONE 17, NAD83 (CSRS)(2011) COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10		
POINT	NORTHING	EASTING
A	4823319.84	614152.42
B	4823385.39	614202.51
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN		

DISTANCES SHOWN HEREON ARE ADJUSTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.99974856.

ELEVATIONS SHOWN HEREON ARE MISSISSAUGA DATUM AND ARE REFERRED TO CITY OF MISSISSAUGA BENCH MARK No. 3470, HAVING AN ELEVATION = 78.304 metres. (TO OBTAIN GEODETIC ELEVATIONS (1978 G.S.C RE-ADJUSTMENT), SUBTRACT 0.121metres FROM THE VALUE SHOWN HEREIN.)

ELEVATIONS AS SHOWN AT CONCRETE CURB INDICATE THE TOP OF CURB UNLESS OTHERWISE NOTED.

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT PLANTED
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
CC	DENOTES	CUT CROSS
WIT	DENOTES	WITNESS
MEAS/M	DENOTES	MEASURED
N,S,E,W	DENOTES	NORTH, SOUTH, EAST, WEST
OU	DENOTES	ORIGIN UNKNOWN
P1	DENOTES	PLAN 43R-2685
P2	DENOTES	PEEL CONDOMINIUM PLAN No. 114
BF	DENOTES	BOARD FENCE
CB	DENOTES	CATCH BASIN
CLF	DENOTES	CHAIN LINK FENCE
CRW	DENOTES	CONCRETE RETAINING WALL
TRW	DENOTES	TIMBER RETAINING WALL
CONC.	DENOTES	CONCRETE
GM	DENOTES	GAS METER
HLP	DENOTES	HYDRO LIGHT POLE
HR	DENOTES	HAND RAIL
MH	DENOTES	MANHOLE
SAN	DENOTES	SANITARY
WV	DENOTES	WATER VALVE
LS	DENOTES	LIGHT STANDARD
HP	DENOTES	HYDRO POST
PM	DENOTES	PARKING METER
(B)	DENOTES	BOTTOM OF CURB
PS	DENOTES	PARKING SIGN
WIF	DENOTES	WROUGHT IRON FENCE
PWF	DENOTES	POST AND WIRE FENCE
(coniferous tree symbol) 0.10ø	DENOTES	CONIFEROUS TREE WITH TRUNK DIAMETER 0.10 metres
(deciduous tree symbol) 0.10ø	DENOTES	DECIDUOUS TREE WITH TRUNK DIAMETER 0.10 metres
× 000.00	DENOTES	SPOT ELEVATION

TOTAL AREA = 1792.1 sq. m

SURVEYOR'S CERTIFICATE

I CERTIFY THAT

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.

2. THE SURVEY WAS COMPLETED ON THE 23rd DAY OF JULY , 2019

JULY 29, 2019
DATE

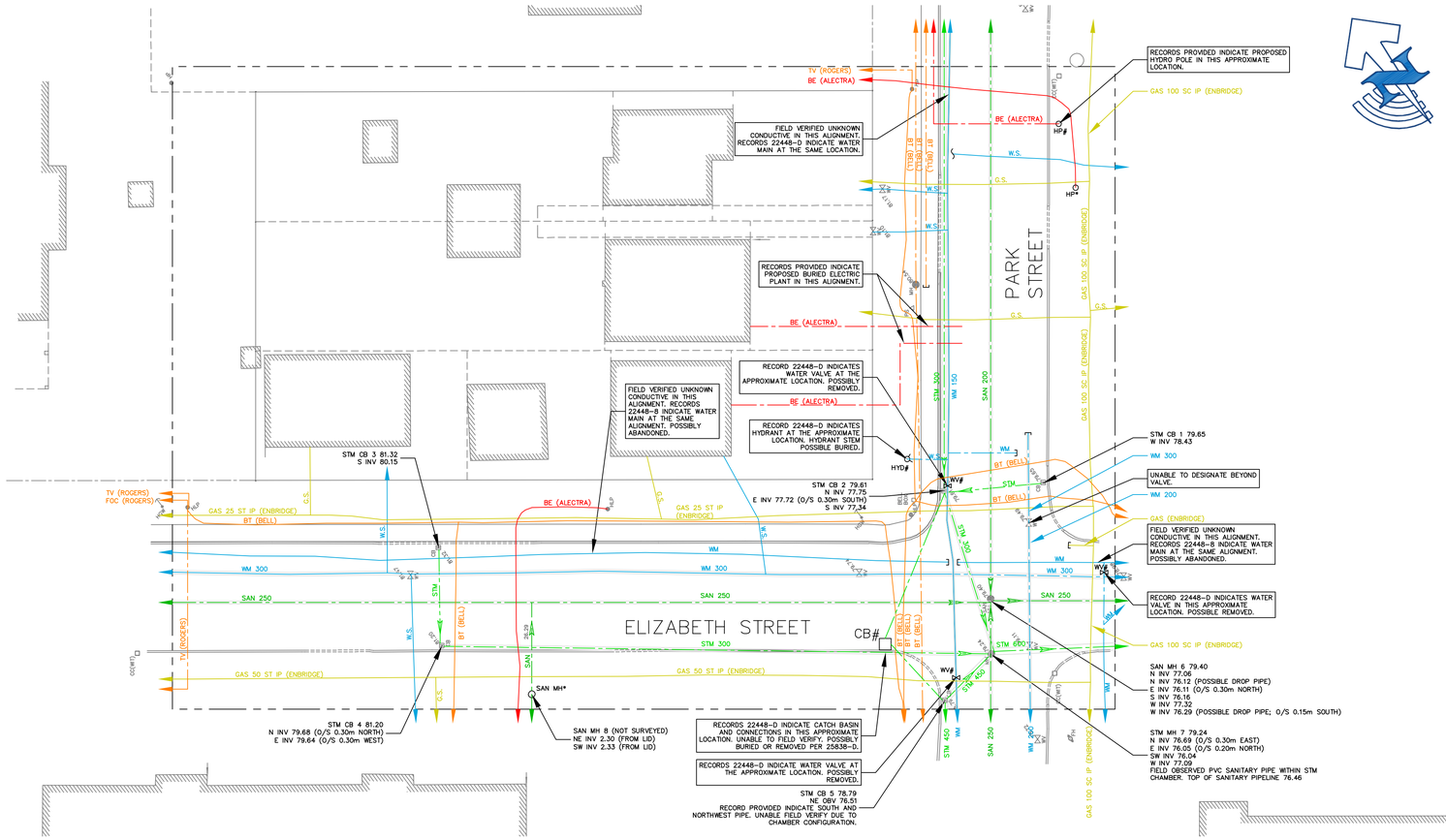
GEORGE C. M. LO
Ontario Land Surveyor

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2095468

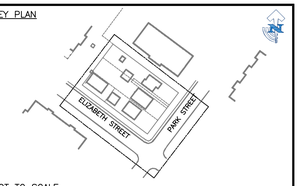
THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29(3).

R. AVIS SURVEYING INC.
SUITE 203
235 YORKLAND BOULEVARD
TORONTO, ONTARIO
M2J 4Y8
TEL.: (416) 490-8352 FAX: (416) 491-6206
www.ravissurveying.com

CHECKED BY : G.L., O.L.S.	
CALCULATED BY : SR	PROJECT No. : 3296-0
DRAWN BY : SR/GN	DRAWING No. : 3296-OT.DWG



KEY PLAN



NOT TO SCALE

GENERAL NOTES

1. T2UE'S SUE FIELD INVESTIGATION WAS PERFORMED OCTOBER 2019. CHANGES TO UTILITIES THAT OCCURRED FOLLOWING OUR INVESTIGATION MAY NOT BE SHOWN. CONSIDERATION SHOULD BE GIVEN TO UPDATING THIS PLAN PRIOR TO FINAL DESIGN AND CONSTRUCTION.

2. LIMIT OF INVESTIGATION: (AS SHOWN ON DRAWING)

3. FIELD VERIFICATION OF UTILITIES WAS COMPLETED USING A COMBINATION OF ELECTROMAGNETIC PIPE AND CABLE LOCATE EQUIPMENT.

4. EMPTY CONDUITS, SERVICES, LATERALS TO BUILDINGS, ABANDONED FACILITIES SUCH AS STREET LIGHT CABLES, WITHIN THE INVESTIGATION AREA MAY NOT BE SHOWN ON THE DRAWING.

5. T2UE USED AVAILABLE MEANS IN AN ATTEMPT TO DETERMINE THE LOCATION OF UNDOCUMENTED UTILITIES HOWEVER CANNOT BE RESPONSIBLE FOR FINDING ALL UNDOCUMENTED UTILITIES.

6. SURVEY OF T2UE'S UNDERGROUND UTILITY INFORMATION WAS COMPLETED BY NOVEMBER 2019.

7. THE BASEPLAN WAS PROVIDED BY WSP. THEREFORE T2UE IS NOT RESPONSIBLE FOR ITS ACCURACY.

8. UTILITY OWNERSHIP, MATERIAL, SIZES AND FLOW SHOWN ON DRAWING ARE BASED ON RECORDS INFORMATION RECEIVED, FIELD INVESTIGATION AND PROFESSIONAL JUDGEMENT.

9. UTILITY WIDTHS ON DRAWING ARE BASED ON RECORDS RECEIVED.

10. PIPE OFFSETS ARE SHOWN WHERE THE CENTER OF THE PIPE IS OFFSET FROM CENTER OF THE CHAMBER LID BASED ON RECORDS OR VISUAL VERIFICATION. DISTANCE SHOWN IS APPROXIMATE AND DIRECTION IS NOTED FROM THE CENTER OF THE LID.

11. PLANT SHOWN AS "ABANDONED (ABND)" ON THE DRAWINGS ARE BASED ON RECORD INFORMATION PROVIDED. STATUS OF THE UTILITY SHOULD TO BE CONFIRMED WITH THE UTILITY OWNER.

12. SEE PROJECT REPORT FOR ADDITIONAL INFORMATION.

ASCE QUALITY LEVELS

THE UTILITY INFORMATION SHOWN ON THIS DRAWING WAS COLLECTED IN ACCORDANCE TO ASCE STANDARD 38-02. THE INFORMATION IS SHOWN BY QUALITY LEVEL WHICH INDICATES THE LEVEL OF EFFORT USED TO DETERMINE THE LOCATION OF THE DATA

INCREASED QUALITY

QUALITY LEVEL "D" – INFORMATION DERIVED FROM EXISTING RECORDS OR VERBAL RECOLLECTIONS.

QUALITY LEVEL "C" – INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO THE QUALITY LEVEL "D" INFORMATION.

QUALITY LEVEL "B" – INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF THE UTILITIES.

QUALITY LEVEL "A" – PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITES OBTAINED BY THE ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES.

LEGEND

GAS	GAS
G.S.	GAS SERVICE
WM	WATER
W.S.	WATER SERVICE
SAN	SANITARY SEWER
SAN LAT.	SANITARY LATERAL
STM	STORM SEWER
STM LAT.	STORM LATERAL
BE	BURIED ELECTRIC
BE-SL	BURIED ELECTRIC STREET LIGHT
BE-TL	BURIED ELECTRIC TRAFFIC LIGHT
UNK	UNKNOWN CONDUCTIVE
FOC	FIBRE OPTIC CABLE
TV	BURIED TELEVISION CABLE
BT	BURIED TELECOMMUNICATIONS
O/H	OVERHEAD WIRE
	QUALITY LEVEL "B"
	QUALITY LEVEL "C"
	QUALITY LEVEL "D"
	LIMIT OF INVESTIGATION
	TEST HOLE QUALITY LEVEL "A"
	CONTINUATION ARROW
	FLOW ARROW
	END CAP
*	NOT SURVEYED, LOCATION BASED ON FIELD OBSERVATION
#	NOT SURVEYED, LOCATION BASED ON RECORD INFORMATION
O/S	OFFSET
	LOSS OF SIGNAL

REVISIONS

DISCLAIMER.

THIS DRAWING HAS BEEN PREPARED FOR THE USE OF T2UE'S CLIENT AND MAY NOT BE USED, REPRODUCED OR RELIED UPON BY THIRD PARTIES, EXCEPT AS AGREED BY T2UE AND ITS CLIENT, AS REQUIRED BY LAW OR FOR USE BY GOVERNMENT REVIEWING AGENCIES. T2UE ACCEPTS NO RESPONSIBILITY, AND DENIES ANY LIABILITY WHATSOEVER, TO ANY PARTY THAT MODIFIES THIS DRAWING WITHOUT T2UE'S EXPRESS WRITTEN CONSENT.

PREPARED BY.

T2 utility engineers
1-855-222-T2UE | WWW.T2UE.COM

THE ENGINEER'S SEAL HEREON IS TO CERTIFY THAT THE UTILITIES SHOWN HAVE BEEN INVESTIGATED IN ACCORDANCE WITH STANDARD SUE INDUSTRY PRACTICES. ALL OTHER INFORMATION HEREON HAS BEEN PROVIDED BY OTHERS AND IS NOT A PART OF THIS CERTIFICATION.

	DATE (MM/DD/YY)
DRAWN C.D.S.	11/26/19
CHECKED E.S.	11/26/19
APPROVED	

SCALE 1: 250 (0 5 10m)

PROJECT.
ELIZABETH AND PARK

DRAWING.
SUBSURFACE UTILITY ENGINEERING
MAPPING SERVICES

CLIENT.
wsp

PROJECT NO. 61001587

SHEET NO. 01 OF 01

APPENDIX B:

Domestic Water Demand, Fire Flow Calculations & Hydrant Flow Test Results

EnVision Consultants Ltd.
23 Elizabeth Street N
Project No.: 25-0893

Domestic Water Demand

Region of Peel

2025-08-27
Designed: J.Z.
Checked: D.A.

Proposed Flows

Land Use	Site Area (ha)	Number of Residential Units	Population Density	Equivalent Population (persons)	Unitary Demand Rate (L/person/day)	Average Daily Demand (L/s)	Max Day Peaking Factor	Max Day Demand (L/s)	Max Hour Peaking Factor	Max Hour Demand (L/s)
Residential (0-1 Bedroom)	0.18	131	1.7 persons/unit	223	280	0.72	2.0	1.45	3.0	2.17
Residential (1 Bedroom + Den)		128	1.7 persons/unit	218	280	0.71	2.0	1.41	3.0	2.12
Residential (2 Bedrooms)		117	3.1 persons/unit	363	280	1.18	2.0	2.35	3.0	3.53
Residential (2 Bedrooms + Den)		2	3.1 persons/unit	7	280	0.02	2.0	0.05	3.0	0.07
Total				811		2.63		5.26		7.88

Notes:
1. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated May 23, 2025.
2. Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.

Fire Flow Demand

EnVision Consultants Ltd. | 2025-08-27

23 Elizabeth Street N | Region of Peel | Designed: D.A.

Project No.: 25-0893 | Checked: A.W.

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

where RFF = Required Fire Flow (Lpm)

C = Construction Coefficient

A = Total Effective Floor Area (m2)

Section A - Building Construction Type

Construction Type = Type II Noncombustible Construction

Therefore Construction Coeffecient, C = 0.8

Section B - Total Effective Floor Area

For structures with a Construction Coefficient value below 1.0 and protected vertical openings;

A = Total Effective Floor Area

= Largest Floor Area + 25% of Adjoining Floor Areas

= 854.95+ 0.25(854.95 + 854.95)

= 1282 m2

Section C - Building Height in Storeys

30 storey

Section D - Base Required Fire Flow

RFF = Required Fire Flow

= 220 x C x √A

= 220 x 0.8 x √1282

= 6302 Lpm

Section E - Additions and Reductions to Required Fire Flow

Building Contents = Combustible

RFF Adjustment for Building Contents = 0%

Sprinkler System = Automatic Sprinkler System per NFPA 13

RFF Adjustment for Sprinkler System = -30%

North exposure distance =	26	m
South exposure distance =	23.38	m
East exposure distance =	20.32	m
West exposure distance =	8.48	m

RFF Adjustment for Building Exposure = 50%

Total RFF Adjustment = 20%

= 0.2 x 6302 Lpm

= 1260 Lpm

Section F - Required Fire Flow Calculation

RFF = Base RFF + Total RFF Adjustments

= 7562 Lpm

= 8000 Lpm

= 2111 US GPM

= 133.33 L/s

Notes:

1. Fire Flow Calculations per Water Supply for Public Fire Protection, 2020 by Fire Underwriters Survey.
2. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated May 23, 2025.

Hydrant Flow Test Report

SITE NAME:

SITE ADDRESS / MUNICIPALITY: **23 Elizabeth St N Mississauga, ON**

TEST HYDRANT LOCATION : **Park Street East @ Elizabeth Street North (Municipal ID: HYD: 6527504)**

BASE HYDRANT LOCATION: **Park Street East @ Helene Street North (Municipal ID: HYD: 6530245)**

TEST BY: Luzia Wood

TEST DATE: April 10 2025

TEST TIME: 10:05AM

TEST DATA

FLOW HYDRANT — Pipe Diam. (in / mm): 200mm PVC

	PITOT 1	PITOT 2
SIZE OPENING (inches):	2.5	2.5
COEFFICIENT (**note 1**):	0.90	0.90
PITOT READING (psi):	70	57 / 57
FLOW (usgpm):	**1404**	**2534**

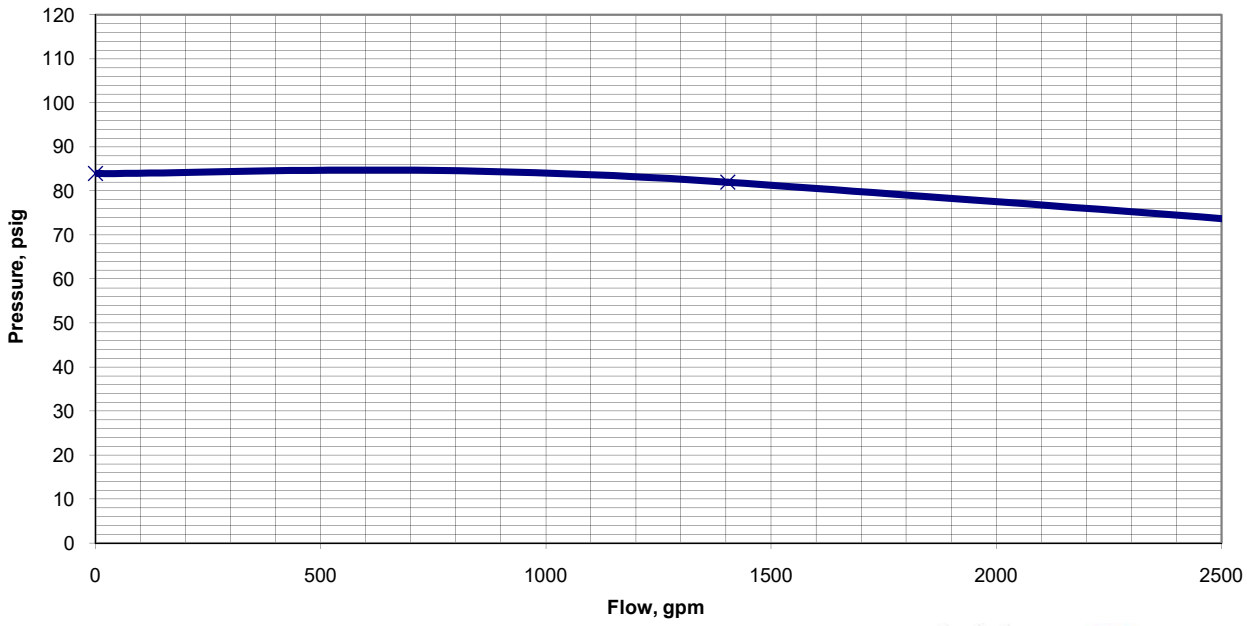
THEORETICAL FLOW @ 20 PSI 9122

BASE HYDRANT — Pipe Diam. (in / mm): 300mm PVC

STATIC READING (psi): 84 RESIDUAL 1 (psi): 82 RESIDUAL 2 (psi): 80

REMARKS:

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



L & D Waterworks Inc.
491 Port Maitland Rd
Dunnville, ON N1A 2W6
Ph: 289.684.6747
Email: ldwaterworks2005@gmail.com

Hydrant Flow Test Report

SITE NAME:

SITE ADDRESS / MUNICIPALITY: **23 Elizabeth St N Mississauga, ON**

TEST HYDRANT LOCATION : **Elizabeth St N @ High St E (Municipal ID: HYD: 6527464)**

BASE HYDRANT LOCATION: **Elizabeth St N @ Queen St E (Municipal ID: HYD: 6527524)**

TEST BY: Luzia Wood

TEST DATE: April 10 2025

TEST TIME: 9:20AM

TEST DATA

FLOW HYDRANT — Pipe Diam. (in / mm): 300mm PVC

	PITOT 1	PITOT 2
SIZE OPENING (inches):	2.5	2.5
COEFFICIENT (**note 1**):	0.90	0.90
PITOT READING (psi):	74	58 / 58
FLOW (usgpm):	**1443**	**2556**

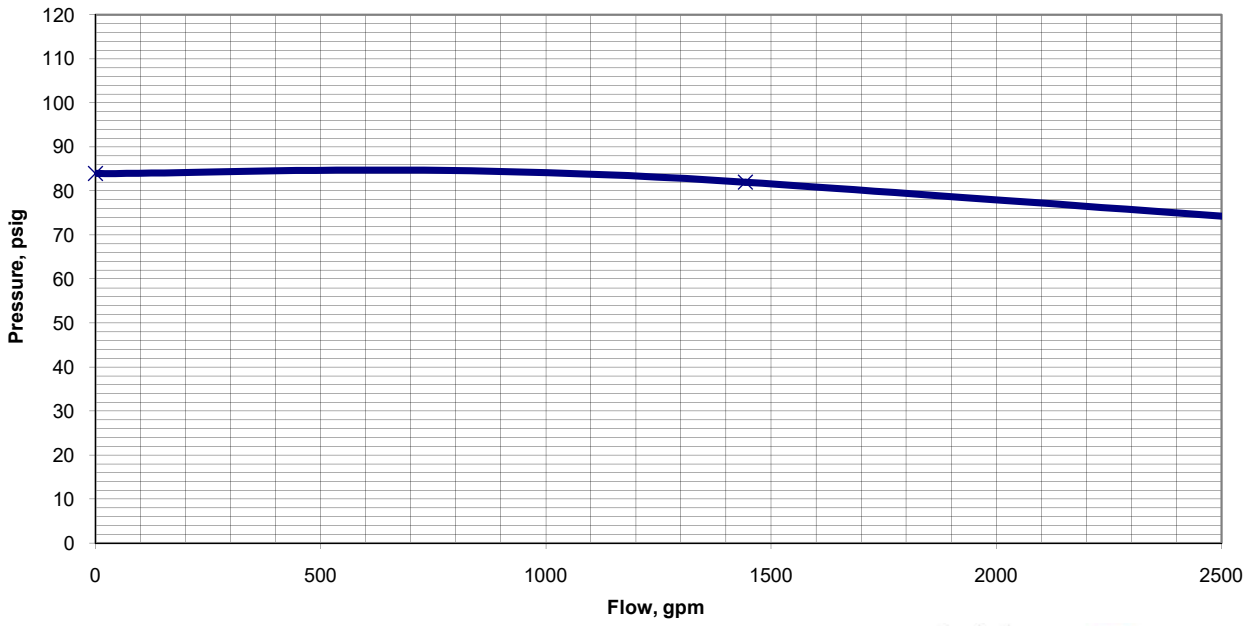
THEORETICAL FLOW @ 20 PSI 9379

BASE HYDRANT — Pipe Diam. (in / mm): 300mm PVC

STATIC READING (psi): 84 RESIDUAL 1 (psi): 82 RESIDUAL 2 (psi): 80

REMARKS:

NOTE 1: Conversion factor of .90 used for flow calculation based on rounded and flush internal nozzle configuration. No appreciable difference in pipe invert between flow and base hydrants.



L & D Waterworks Inc.
491 Port Maitland Rd
Dunnville, ON N1A 2W6
Ph: 289.684.6747
Email: ldwaterworks2005@gmail.com

APPENDIX C:

Sanitary Demand Calculations & Sanitary Design Sheet

EnVision Consultants Ltd.
23 Elizabeth Street N
Project No.: 25-0893

Sanitary Flow Generation - Pre-Development

Region of Peel

2025-08-27
Designed: JZ
Checked: DA

Existing Flows

Land Use	Site Area (ha)	Number of Residential Units	Population Density	Equivalent Population (persons)	Unitary Flow Rate (L/person/day)	Average Daily Flow (L/s)	Peaking Factor	Peak Flow (L/s)	I&I Allowance (L/s)	Total Design Flow (L/s)
Residential (Single Detached Dwelling)	0.18	4	4.2 persons/unit	17	290	0.06	4.00	0.23	0.05	0.28
Total	0.18	4		17	290	0.06	4.00	0.23	0.05	0.28

Notes:
1. Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.
2. Inflow/Infiltration allowance of 0.26 L/s/ha per Region of Peel Guidelines

EnVision Consultants Ltd.
23 Elizabeth Street N
Project No.: 25-0893

Sanitary Flow Generation - Post-Development

Region of Peel

2025-08-27
Designed: JZ
Checked: DA

Proposed Flows

Land Use	Site Area (ha)	Number of Residential Units	Population Density	Equivalent Population (persons)	Unitary Flow Rate (L/person/day)	Average Daily Flow (L/s)	Peaking Factor	Peak Flow (L/s)	I&I Allowance (L/s)	Total Design Flow (L/s)
Residential (0-1 Bedroom)	0.18	131	1.7 persons/unit	223	290	0.75			0.05	
Residential (1 Bedroom + Den)		128	1.7 persons/unit	218	290	0.73				
Residential (2 Bedrooms)		117	3.1 persons/unit	363	290	1.22				
Residential (2 Bedrooms + Den)		2	3.1 persons/unit	7	290	0.02				
Total		378		811	290	2.72	3.86	10.50	0.05	10.55

Notes:

1. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated May 23, 2025.
2. Population densities and unitary flow rates are based on the guidelines as per Region of Peel Linear Wastewater Design Manual, dated March 29, 2023.
3. No extraneous flow (infiltration and inflow) is included in the post-development sanitary analysis as

EnVision Consultants Ltd.
23 Elizabeth St N, Mississauga
Project No.: 25-0893

Sanitary Sewer Design Sheet - Existing Conditions

Region of Peel

2025-08-27

Designed: JZ
Checked: DA

Population Density		
Singles	50	persons/ha
Semis	70	persons/ha
Towns	175	persons/ha
Apartments	475	persons/ha

Population Density		
Commercial	50	persons/ha
Industrial	70	persons/ha
School	50	persons/ha
Park	25	persons/ha

$$M = 1 + \frac{14}{4 + \sqrt{P/1000}}$$

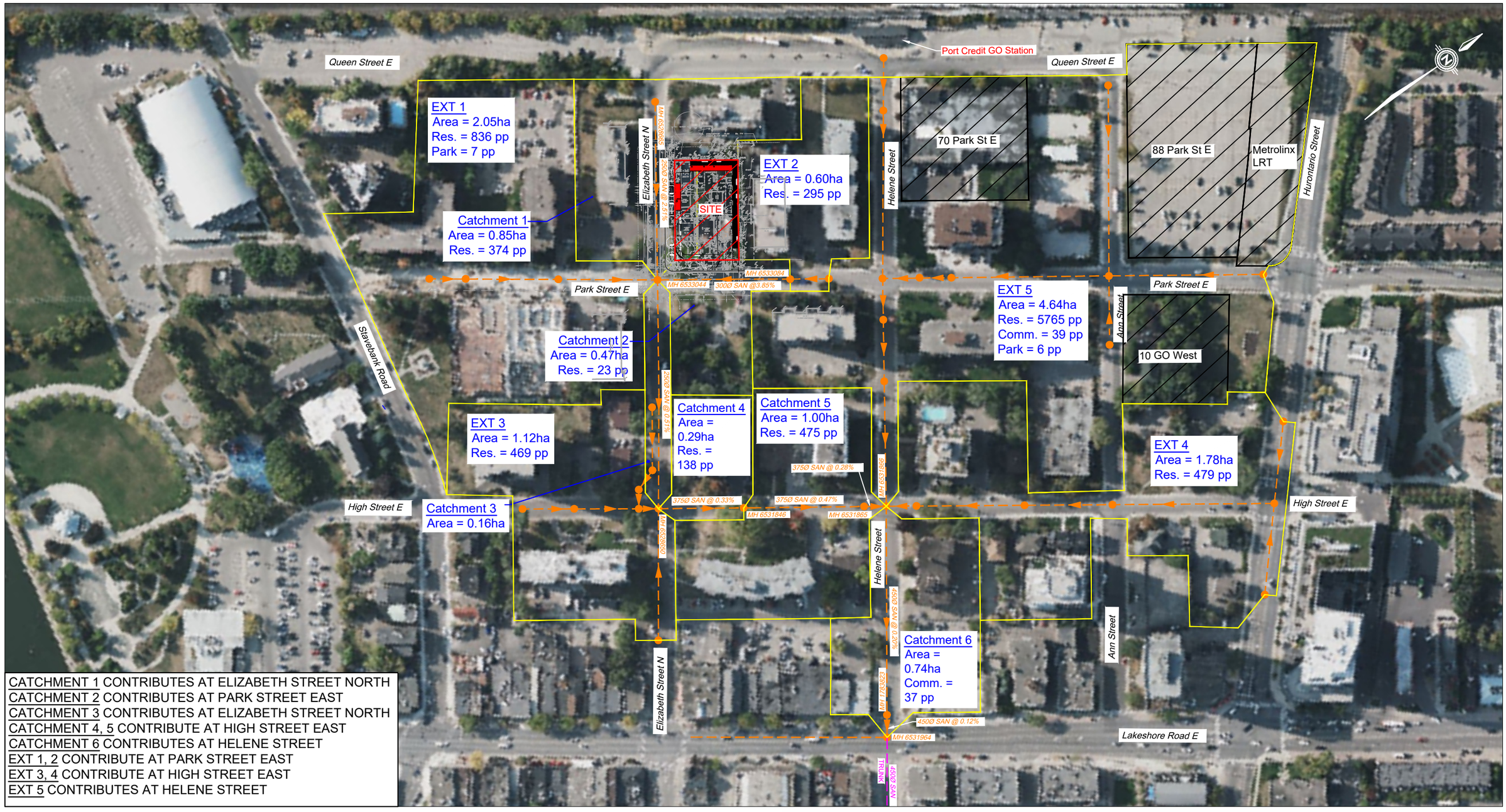
where M = peaking factor
P = population

Manning's n = 0.013
Infiltration Allowance = 0.260 L/s/ha

Res. Average Daily Flow = 290 L/cap/day
Non-Res. Average Daily Flow = 270 L/cap/day

Street Name	From MH	To MH	Incremental Area (ha)								Incremental Population	Total Population	Res. Avg. Flow **(Hide)**	Non-Res. Avg. Flow **(Hide)**	Average Flow	M	Peak Flow	Incremental Area	Total Area	I&I Allowance	Incremental Pumped Flow	Total Pumped Flow	Total Design Flow	Sewer Information						
			Singles	Semis	Towns	Apartments	Commercial	Industrial	School	Park	(persons)	(persons)			(L/s)		(L/s)	(ha)	(ha)	(L/s)	(L/s)	(L/s)	(L/s)	Length (m)	Dia. (mm)	Slope (%)	Full Capacity (L/s)	Full Velocity (m/s)	% Full	Actual Velocity (m/s)
Park St E	EXT 1	MH 6533044				1.76				0.28	843	843	2.81	0.02	2.83	3.847	10.878	2.05	2.05	0.533		0.00	11.411							
Elizabeth St N Catchment 1	MH 6528665	MH 6533044	0.06			0.78					374	374	1.25	0.00	1.25	4.000	5.015	0.85	0.85	0.221		0.00	5.236	86.79	250	2.51%	94.2143	1.9193	5.6%	1.03
Park St E	EXT 2	MH 6533084				0.60					285	285	0.96	0.00	0.96	4.000	3.826	0.60	0.60	0.156		0.00	3.982							
Catchment 2	MH 6533084	MH 6533044	0.47								24	309	0.08	0.00	1.04	4.000	4.142	0.47	1.07	0.278		0.00	4.420	39.6	250	3.85%	116.6837	2.3771	3.8%	1.12
Catchment 3	MH 6533044	MH 6528650									0	1526	0.00	0.00	5.12	3.674	18.801	0.16	4.13	1.074		0.00	19.874	122.39	250	0.51%	42.4683	0.8652	46.8%	0.85
High St E	EXT 3	MH 6528650	0.15			0.97					469	469	1.57	0.00	1.57	3.988	6.268	1.12	1.12	0.291		0.00	6.560							
Catchment 4	MH 6528650	MH 6531846				0.29					138	2133	0.46	0.00	7.15	3.564	25.485	0.29	5.54	1.440		0.00	26.926	40	375	0.33%	100.7195	0.9119	26.7%	0.77
Catchment 5	MH 6531846	MH 6531865				1.00					475	2608	1.59	0.00	8.75	3.493	30.551	1.00	6.54	1.700		0.00	32.251	70.02	375	0.47%	120.2003	1.0883	26.8%	0.92
	MH 6531865	MH 6531866									0	2608	0.00	0.00	8.75	3.493	30.551	0.00	6.54	1.700		0.00	32.251	10.8	375	0.28%	92.7760	0.8400	34.8%	0.76
	EXT 4	MH 6531866	0.92			0.91					479	479	1.61	0.00	1.61	3.984	6.395	1.78	1.78	0.463		0.00	6.858							
	Metrolinx LRT	EXT 5					0.35				18	18		0.06																
	70 Park St E	EXT 5									1167	1167	3.90	0.02																
	88 Park St E	EXT 5									1137	1137	7.42	0.05																
	10 GO West	EXT 5									981	981	3.29																	
Helene St	EXT 5	MH 6531866	0.46			1.91				0.25	937	4240	17.74	0.14	17.88	3.311	59.197	4.64	4.64	1.206		0.00	60.403							
Catchment 6	MH 6531866	MH 1783823					0.74				37	7364	0.00	0.12	28.35	3.085	87.460	0.74	13.70	3.562		0.00	91.022	55.53	375	0.20%	78.4100	0.7099	116.1%	0.71
	MH 1783823	MH 6531964									0	7364	0.00	0.00	28.35	3.085	87.460	0.00	13.70	3.562		0.00	91.022	16.18	375	0.12%	60.7361	0.5499	149.9%	0.55

Notes:
1. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated February 19, 2025.
2. Population densities and unitary flow rates are based on the guidelines found in the Regional Municipality of Halton Water and Wastewater Linear Design Manual, dated October 2019.
3. Infiltration and inflow allowance is 0.26 L/s/ha, per Region standards.
4. Peaking factor determined by modified Harmon formula, per Region standards.
5. Site statistics for 70 Park Street E per Functional Servicing Report prepared by Urbantech, dated January 11, 2023
6. Site statistics for 88 Park Street E per Functional Servicing Memo prepared by EnVision Consultants Ltd., dated December 18, 2024
7. Site statistics for 10 GO West per Functional Servicing Memo prepared by Urbantech, dated June 19, 2024
8. Metrolinx Port Credit LRT station assumed to be Commercial land use for the purpose of sanitary flow generation estimation



CATCHMENT 1 CONTRIBUTES AT ELIZABETH STREET NORTH
CATCHMENT 2 CONTRIBUTES AT PARK STREET EAST
CATCHMENT 3 CONTRIBUTES AT ELIZABETH STREET NORTH
CATCHMENT 4, 5 CONTRIBUTE AT HIGH STREET EAST
CATCHMENT 6 CONTRIBUTES AT HELENE STREET
EXT 1, 2 CONTRIBUTE AT PARK STREET EAST
EXT 3, 4 CONTRIBUTE AT HIGH STREET EAST
EXT 5 CONTRIBUTES AT HELENE STREET

LEGEND

- CATCHMENT BOUNDARY
- TRUNK SAN SEWER
- SAN SEWER

CLIENT: EDENSHAW ELIZABETH DEVELOPMENTS LIMITED

TITLE: 23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

SANITARY DRAINAGE FIGURE

EXISTING CONDITIONS - CATCHMENTS TRIBUTARY TO EX. 450Ø LAKESHORE RD E LOCAL TRUNK SAN

6415 Northwest Dr.
Mississauga, ON Canada
L4V 1X1
Office (905) 677-0202
E-mail admin@envisionconsultants.ca

Checked	Drawn
A.W.	D.A.
Date: AUG 2025	Proj. No. 25-0893
Scale: 1:2000	Figure No. SA-EX

FILENAME: C:\Users\JULIAN~1\AppData\Local\Temp\AcPublish_1756\25-0893_San Analysis.dwg
PLOTDATE: Aug 28, 2025 - 1:53pm, JulianaZupancic

EnVision Consultants Ltd.
23 Elizabeth St N,
Mississauga
Project No.: 25-0893

Sanitary Sewer Design Sheet - Proposed Conditions

Region of Peel

2025-08-27

Designed: JZ
Checked: DA

Population Density		
Singles	50	persons/ha
Semis	70	persons/ha
Towns	175	persons/ha
Apartments	475	persons/ha

Population Density	
Commercial	50 persons/ha
Industrial	70 persons/ha
School	50 persons/ha
Park	25 persons/ha

$$M = 1 + \frac{14}{4 + \sqrt{P/1000}}$$

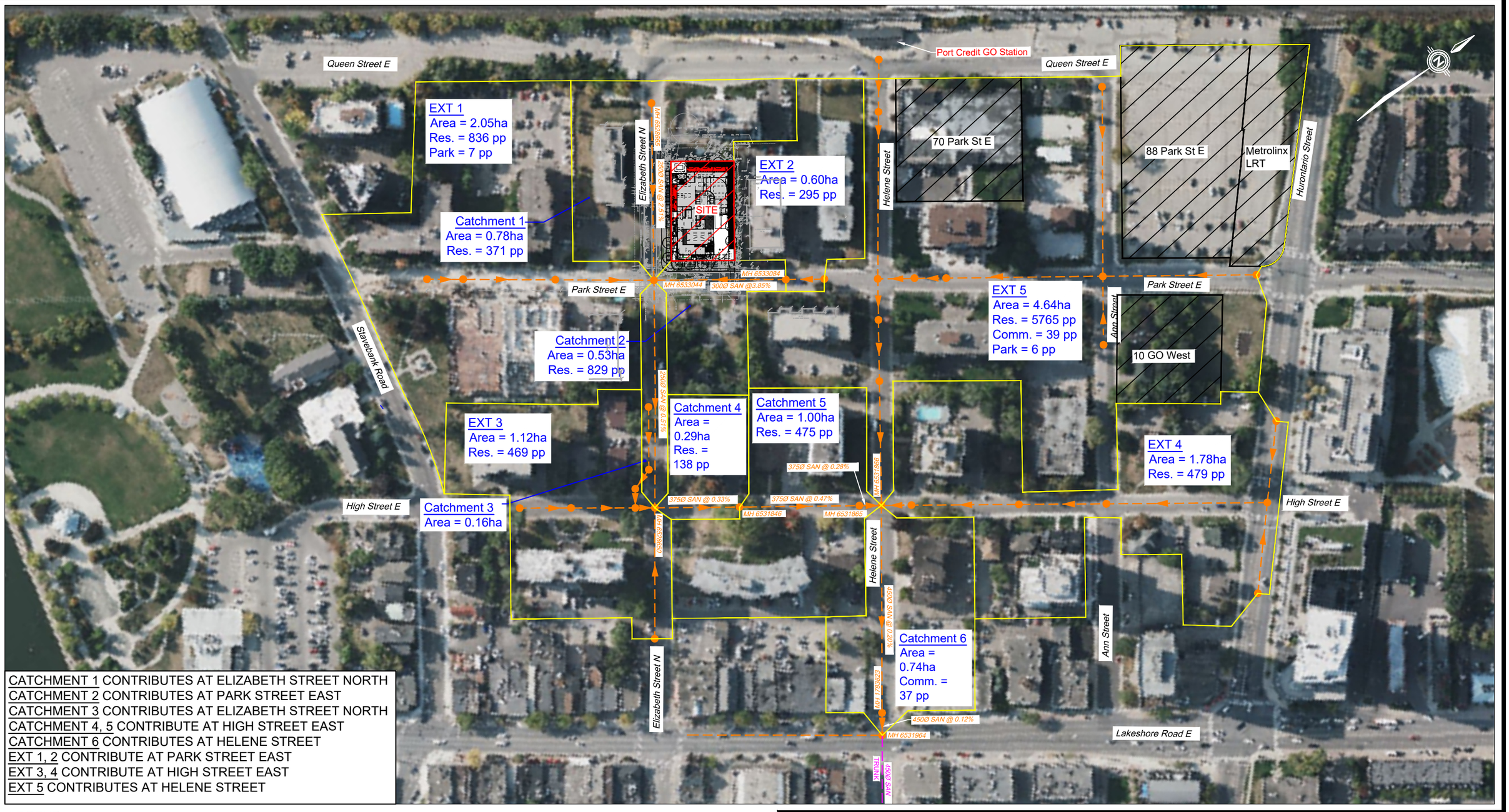
where M = peaking factor
P = population

Manning's n = 0.013
Infiltration Allowance = 0.260 L/s/ha

Res. Average Daily Flow = 290 L/cap/day
Non-Res. Average Daily Flow = 270 L/cap/day

Street Name	From MH	To MH	Incremental Area (ha)								Incremental Population (persons)	Total Population (persons)	Average Flow (L/s)	M	Peak Flow (L/s)	Incremental Area (ha)	Total Area (ha)	I&I Allowance (L/s)	Incremental Pumped Flow (L/s)	Total Pumped Flow (L/s)	Total Design Flow (L/s)	Sewer Information						
			Singles	Semis	Towns	Apartments	Commercial	Industrial	School	Park												Length (m)	Dia. (mm)	Slope (%)	Full Capacity (L/s)	Full Velocity (m/s)	% Full	Actual Velocity (m/s)
Park St E	EXT 1	MH 6533044				1.76				0.28	843	843	2.83	3.847	10.878	2.05	2.05	0.533		0.00	11.411						
Elizabeth St N Catchment 1	MH 6528665	MH 6533044				0.78					371	371	1.24	4.000	4.974	0.78	0.78	0.203		0.00	5.177	86.79	250	2.51%	94.2143	1.9193	5.5%	1.02
Park St E	EXT 2	MH 6533084				0.60					285	285	0.96	4.000	3.826	0.60	0.60	0.156		0.00	3.982						
	23 Elizabeth St	MH 6533084									**811**	**811**															
Catchment 2	MH 6533084	MH 6533044	0.35								18	1114	3.74	3.769	14.087	0.53	1.13	0.294		0.00	14.381	39.6	250	3.85%	116.6837	2.3771	12.3%	1.61
Catchment 3	MH 6533044	MH 6528650									0	2328	7.81	3.534	27.593	0.16	4.12	1.071		0.00	28.665	122.39	250	0.51%	42.4683	0.8652	67.5%	0.93
High St E	EXT 3	MH 6528650	0.15			0.97					469	469	1.57	3.988	6.268	1.12	1.12	0.291		0.00	6.560						
Catchment 4	MH 6528650	MH 6531846				0.29					138	2935	9.84	3.450	33.963	0.29	5.53	1.438		0.00	35.401	40	375	0.33%	100.7195	0.9119	35.1%	0.83
Catchment 5	MH 6531846	MH 6531865				1.00					475	3410	11.44	3.395	38.824	1.00	6.53	1.698		0.00	40.522	70.02	375	0.47%	120.2003	1.0883	33.7%	0.98
	MH 6531865	MH 6531866									0	3410	11.44	3.395	38.824	0.00	6.53	1.698		0.00	40.522	10.8	375	0.28%	92.7760	0.8400	43.7%	0.81
	EXT 4	MH 6531866	0.92			0.91					479	479	1.61	3.984	6.395	1.78	1.78	0.463		0.00	6.858						
	Metrolinx LRT	EXT 5					0.35				*18*	*18*															
	70 Park St E	EXT 5									*1167*	*1167*															
	88 Park St E	EXT 5									*1137*	*1137*															
	10 GO West	EXT 5									*981*	*981*															
Helene St	EXT 5	MH 6531866	0.46			1.91				0.25	937	4240	17.88	3.311	59.197	4.64	4.64	1.206		0.00	60.403						
Catchment 6	MH 6531866	MH 1783823					0.74				37	8166	31.04	3.042	94.407	0.74	13.69	3.559		0.00	97.966	55.53	375	0.20%	78.4100	0.7099	124.9%	0.71
	MH 1783823	MH 6531964									0	8166	31.04	3.042	94.407	0.00	13.69	3.559		0.00	97.966	16.18	375	0.12%	60.7361	0.5499	161.3%	0.55

Notes:
1. Site statistics are based on the Site Plan provided by Kirkor Architects and Planners, dated April 25, 2025.
2. Population densities and unitary flow rates are based on the guidelines found in the Regional Municipality of Halton Water and Wastewater Linear Design Manual, dated October 2019.
3. Infiltration and inflow allowance is 0.26 L/s/ha, per Region standards.
4. Peaking factor determined by modified Harmon formula, per Region standards.
5. Site statistics for 70 Park Street E per Functional Servicing Report prepared by Urbantech, dated January 11, 2023
6. Site statistics for 88 Park Street E per Functional Servicing Memo prepared by EnVision Consultants Ltd., dated December 18, 2024
7. Site statistics for 10 GO West per Functional Servicing Memo prepared by Urbantech, dated June 19, 2024
8. Metrolinx Port Credit LRT station assumed to be Commercial land use for the purpose of sanitary flow generation estimation



CATCHMENT 1 CONTRIBUTES AT ELIZABETH STREET NORTH
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EXT 5 CONTRIBUTES AT HELENE STREET

LEGEND

- CATCHMENT BOUNDARY
- TRUNK SAN SEWER
- SAN SEWER

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PLOTDATE: Aug 28, 2025 - 1:54pm, JulianaZupancic

CLIENT: EDENSHAW ELIZABETH DEVELOPMENTS LIMITED

TITLE: 23 ELIZABETH STREET NORTH & 42 - 46 PARK STREET EAST
MISSISSAUGA, ONTARIO

SANITARY DRAINAGE FIGURE

PROPOSED CONDITIONS - CATCHMENTS TRIBUTARY TO EX. 450Ø LAKESHORE RD E LOCAL TRUNK SAN

6415 Northwest Dr.
Mississauga, ON Canada
L4V 1X1
Office (905) 677-0202
E-mail admin@envisionconsultants.ca

Checked	A.W.	Drawn	D.A.
Date	MAY 2025	Proj. No.	25-0893
Scale	1:2000	Figure No.	SA-PROP

APPENDIX D:

Region Multi-Use Demand Table

EnVision Consultants Ltd.
23 Elizabeth Street N
Project No.: 25-0893

Water and Wastewater Multi-Use Demand Table

Region of Peel

2025-08-29
Designed: D.A.
Checked: A.W.

		units	persons
Existing Residential			
	Residential (Single Detached Dwelling)	4	17
Total Existing Residential		4	17

		units	persons
Proposed Residential			
	Residential (0-1 Bedroom)	131	223
	Residential (1 Bedroom + Den	128	218
	Residential (2 Bedrooms)	117	363
	Residential (2 Bedrooms + De	2	7
Total Proposed Residential		378	811

Proposed GFA (Residential) (sqm)	20,951
Proposed Land Area (ha)	0.18

WATER CONNECTION

Hydrant flow test			
	Base Hydrant Location	Test Hydrant Location	Date
	Elizabeth St N & Queen St E HYD: 6527524	Elizabeth St N & High St E HYD: 6527464	2025-04-10
	Park St E & Helene St N HYD: 6530245	Park St E @ Elizabeth St N HYD: 6527504	2025-04-10

		Pressure (kPa)	Flow (L/s)	Time
Eliz.	Minimum water pressure	510.21	157.73	9:20AM
	Maximum water pressure	586.05	37.85	9:20AM
Park	Minimum water pressure	510.21	157.73	10:05AM
	Maximum water pressure	592.95	37.85	10:05AM

No.	**Water demands (L/s)**		
	Demand type	**Residential Building**	**Total**
1	Average day flow	2.63	2.63
2	Maximum day flow	5.26	5.26
3	Peak hour flow	7.88	7.88
4	Fire flow	133.33	133.33
Analysis			
5	Maximum day plus fire flow	138.59	138.59

WASTEWATER CONNECTION

		Discharge Location	**Flow**
5	Existing wastewater effluent (L/s)	Elizabeth Street N & Park Street E	0.28
6	Proposed wastewater effluent (L/s)	24 Elizabeth Street N	10.55