



PLANNING • CIVIL • STRUCTURAL • MECHANICAL • ELECTRICAL

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1000905949 Ontario Ltd.  
31 Wildflower Place  
London ON, N5Y 5M4

23 December 2025  
S251743

**Attn: Lauren Sooley**

**Re: Servicing Feasibility Study  
Proposed 6-unit Townhouse Development  
295-297 Metcalfe Street East, Strathroy, Ontario**

## 1. INTRODUCTION

This Servicing Feasibility Study (Study) has been prepared by Strik, Baldinelli, Moniz Ltd. (SBM) for 1000905949 Ontario Ltd. to address the servicing feasibility for the proposed 0.201 ha 6-unit townhouse development located at 295-297 Metcalfe Street East, Strathroy, ON.

The existing site is currently occupied by a semi-detached dwelling containing two single family units with two accesses from Metcalfe Street East. The site abuts the Metcalfe Street East Right-Of-Way (ROW) to the south, low-density residential dwellings to the north, east and west. It is our understanding that the proposed development is to include one (1) stacked back-to-back townhouse building with six (6) units with associated parking areas, access from Metcalfe Street East, and common amenity spaces. See the Concept Site Plan by Siv-ik Planning and Design inc. dated December 2025 provided in Appendix A.

This Study is to determine the adequacy of the existing Municipality of Strathroy-Caradoc services in support of the Zoning By-Law Amendment (ZBA) application for the proposed development.

Design requirements have been based on the Municipality of Strathroy-Caradoc Servicing Standards (MSCSS), dated October 2021, Servicing Capacity and Constraints Study (SCCS), prepared by WSP dated July 2022, Water, Wastewater and Stormwater Master Plan, prepared by RV Anderson Associates Limited dated December 4, 2024, the Ministry of the Environment, and the current edition of the Ontario Building Code (OBC).

## 2. WATER SERVICING

According to the Municipality's record drawing "Reconstruction of County Road No. 39, Proposed Utilities, Job No. 22/92, Sheet No. 9 of 18, dated February 22, 1995" provided in Appendix A, there is an existing 300 mm diameter watermain in the Metcalfe Street East ROW, along with two stubs (sizes unknown) extending to 295 and 297 Metcalfe Street East. It is proposed to service the site with a new connection from the existing 300 mm diameter watermain in the Metcalfe Street East ROW. Please refer to the Preliminary Site Servicing Schematic, provided in Appendix A. The proposed connection sizes and details to be designed as part of the Building Permit (Permit) process. According to the Water, Wastewater and Stormwater Master Plan, prepared by RV Anderson Associates Limited dated December 4, 2024, provided in Appendix B, there is an available hydrant flow of up to 70 L/s under the projected Maximum Day Demand + Fire Flow Scenario for 2046, and a projected pressure of less than or equal to 552 kPa (80 psi) under Peak Hour Demand Scenario for 2046.

## 2.1 Design Criteria

The design parameters outlined below are based on the Municipality's water design standards found in Section 4 of the MSCSS, dated October 2021:

- An average demand of 250 Litres per person per day (L/capita/day)
- A Medium density residential population density of 2.4 persons per unit
- Minimum water pressures to be maintained in the distribution system of:
  - Minimum of 140 kPa (20 psi) at maximum day demand flow plus fire flow
  - Minimum of 275 kPa (40 psi) at maximum hourly demand flow
  - Minimum of 275 kPa (40 psi) at average day demand flow
- Maximum residual pressure in the distribution system should not exceed 700 kPa (100 psi)
- Peaking factors of 3.5 for maximum day and 7.8 for maximum hour
- A maximum velocity of 3.0 m/s under fire flow demand and normal operating velocity between 0.9 and 1.5 m/s

## 2.2 Domestic Water Supply

The domestic water demand was determined based on the Concept Site Plan with the population of 44 people (6 units multiplied by 3 accounting for additional units as per Bill 23 guidelines, at 2.4 people per unit per Section 4.3.2 of the MSCSS) and the average day demand of 250 L/day/per person. An average day demand was calculated to be 0.13 L/s, maximum hour demand of 0.99 L/s and maximum day demand of 0.45 L/s were determined by multiplying the average daily flow by the peaking factors above. Water Demand Calculations are provided in Appendix B.

## 2.3 Water Supply for Fire Protection

Since the proposed townhouses are classified under Part 9 of the Ontario Building Code (OBC), an adequate water supply for fire-fighting is not required for these buildings. There is an existing fire hydrant located at the corner of Metcalfe Street East and McNab Street approximately 40 m from the subject site, as well as two existing fire hydrants in McNab Street approximately 180 m from the subject site. See Appendix B for Hydrant Flow Test Results for 120 McNab Street provided by Water, Wastewater and Stormwater Master Plan, prepared by RV Anderson Associates Limited dated December 4, 2024.

## 3. SANITARY SERVICING

According to the Municipality's record drawing "Reconstruction of County Road No. 39, Proposed Utilities, Job No. 22/92, Sheet No. 9 of 18, dated February 22, 1995" provided in Appendix A, the site currently drains to a 300 mm diameter sanitary sewer in the Metcalfe Street East ROW with two (2) sanitary PDCs (sizes unknown) that ultimately discharges into Albert Street Pumping Station.

It is proposed to have a new gravity-driven sanitary system comprised of 125 mm diameter sanitary sewers extended to the private drives of the proposed development to provide the sanitary servicing for the new development. The internal sanitary system will collect flows from the townhouse units and will ultimately drain to the Metcalfe Street East ROW, near the intersection with Metcalfe Street East, connected into the existing sanitary manhole in the existing 300 mm diameter sewer, generally matching existing conditions. Please refer to the Preliminary Site Servicing Schematic, provided in Appendix A.

As per the included Site Plan, the proposed residential development consists of 6 units multiplied by 3 accounting for additional units as per Bill 23 guidelines or 44 people using the rate of 2.4 people per unit as per Section 2.3 of the Municipality of Strathroy-Caradoc Servicing Standards, dated October 2021. Multiplying this population by the average usage of 300 L/day/capita and the Harmon peaking factor of 4.35 and adding the infiltration allowance of 0.02 litres per second per hectare yields a peak design flow for the building of 0.74 L/s. These calculations are provided in the included Sanitary Sewer Design Sheet.

With the addition of flow from the proposed development, the anticipated total flow will increase from 84.61 L/s to 85.36 L/s, resulting in a remaining capacity of 29.45%. Under the proposed conditions, the 300 mm diameter sewer has a remaining capacity of 23%, and with the addition of flow from the proposed development, the anticipated total flow will increase from 92.64 L/s to 93.39 L/s, resulting in a remaining capacity of 22.82%. Refer to Table B-3 Scenario 1 - Existing Conditions and Table B-4 Scenario 2 - Future Conditions, this sewer has sufficient capacity to accommodate flow from the proposed development, provided in Appendix C.

A private drain connection with a diameter of 125 mm and a slope of 2.0% has sufficient capacity (13.25 L/s) accommodate the expected total peak sanitary flow from the development. The two existing sanitary PDCs from Metcalfe Street will be capped at the property line and abandoned. A connection to the existing 300 mm sewer in the Metcalfe Street East ROW will be designed as part of the Permit process.

#### **4. STORM SERVICING AND STORMWATER MANAGEMENT**

According to the Municipality's record drawing "Reconstruction of County Road No. 39, Proposed Construction, Job No. 22/92, Sheet No. 6 of 18, dated February 27, 1995" provided in Appendix A, there's an existing 900 mm diameter concrete sewer in the Metcalfe Street East ROW in front of the site and according to the SCCS, provided in Appendix D, and approximately one third of the site is a tributary to the existing 900 mm diameter sewer at a C-value of 0.45. There are no known existing storm service connections to the subject site. According to the SCCS, these storm sewers ultimately discharge into the Sydenham River, refer to Figure 28, provided in Appendix D.

The subject site backs onto wetlands as per the Ministry of Natural Resources and Forestry (MNRF), and the Strathroy Engineered Floodplain as per the St. Clair Region Conservation Authority (SCRCA). The Regulatory Flood Elevation is 225.77 m CGD, and the Floodway Elevation is 224.57 m CGD. The wetlands were demarcated on November 24 by SBM Ltd's ecologist and surveyed on November 25th and 26th. The wetland has been accurately depicted on the Site Plan by Siv-ik dated December 2025. A map of the Floodplain and Wetlands is provided in Appendix A.

As outlined in the attached stormwater calculations (Appendix D), the proposed development is expected to experience increased stormwater runoff due to an increase in impervious surfaces, primarily from the larger development footprint. Pre-development area parameters were approximated using satellite imagery and post-development area parameters were approximated using the Concept Site Plan (Appendix A).

According to the SCCS, approximately one third of the site drains to the existing 900 mm concrete storm sewer located within Metcalfe Street East ROW, which is already over capacity (Appendix D). Based on correspondence with the Municipality of Strathroy-Caradoc (Appendix D), the site needs to meet the pre-development flows for the existing storm sewer to accommodate the new development.

Detailed stormwater management (SWM) strategy including calculations and grading design will be prepared during the detailed design phase as part of the Permit process. Stormwater Management quantity controls to control post-development flows for the 2-year through 100-year storm events to the pre-development levels. The 250-year storm event will be safely conveyed overland generally matching the existing conditions of the site. These controls will comply with the standards set by the Ministry of the Environment, Conservation and Parks (MECP) and will be assessed at the time of the Permit process.

#### **5. SUMMARY**

Based on the above, the existing municipal watermain and sanitary sewer infrastructure have sufficient capacity to accommodate the proposed townhouse development on the 0.201 ha subject site located at 295-297 Metcalfe Street East, Strathroy, ON. However, onsite underground storage and/or other feasible options may be required for stormwater management (SWM) to meet the requirements of the Municipality, SCRCA, and MECP.

#### **6. LIMITATIONS**

This Study was prepared by SBM for 1000905949 Ontario Ltd., the Municipality of Strathroy-Caradoc, and the County of Middlesex. Use of this Study by any third party, or any reliance upon its findings, is solely the responsibility of that party. SBM accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions undertaken as a result of this Study. Third party use of this Study, without the express written consent of the Consultant, denies any claims, whether in contract, tort, and/or any other cause of action in law, against the Consultant.

All findings and conclusions presented in this Study are based on site conditions as they appeared in the information presented to SBM and related to in this document. This Study is not intended to be exhaustive in scope, or to imply a risk-

free development. It should be recognized that the passage of time may alter the opinions, conclusions, and recommendations provided herein, as well as any changes in the layout of the development.

The design was limited to the documents referenced herein and SBM accepts no responsibility for the accuracy of the information provided by others. All designs and recommendations presented in this Study are based on the information available at the time of the review.

This document is deemed to be the intellectual property of SBM in accordance with Canadian copyright law.

## 7. CLOSURE

We trust this Study meets your satisfaction. Should you have any questions or require further information, please do not hesitate to contact us.

Respectfully submitted,

### **Strik, Baldinelli, Moniz Ltd.**

Planning • Civil • Structural • Mechanical • Electrical



Ryan Frouws, P. Eng  
Civil Team Lead, Eng IV



Jasmine Leikucs, P. Eng  
Civil Project Lead, Eng I



**APPENDIX A**

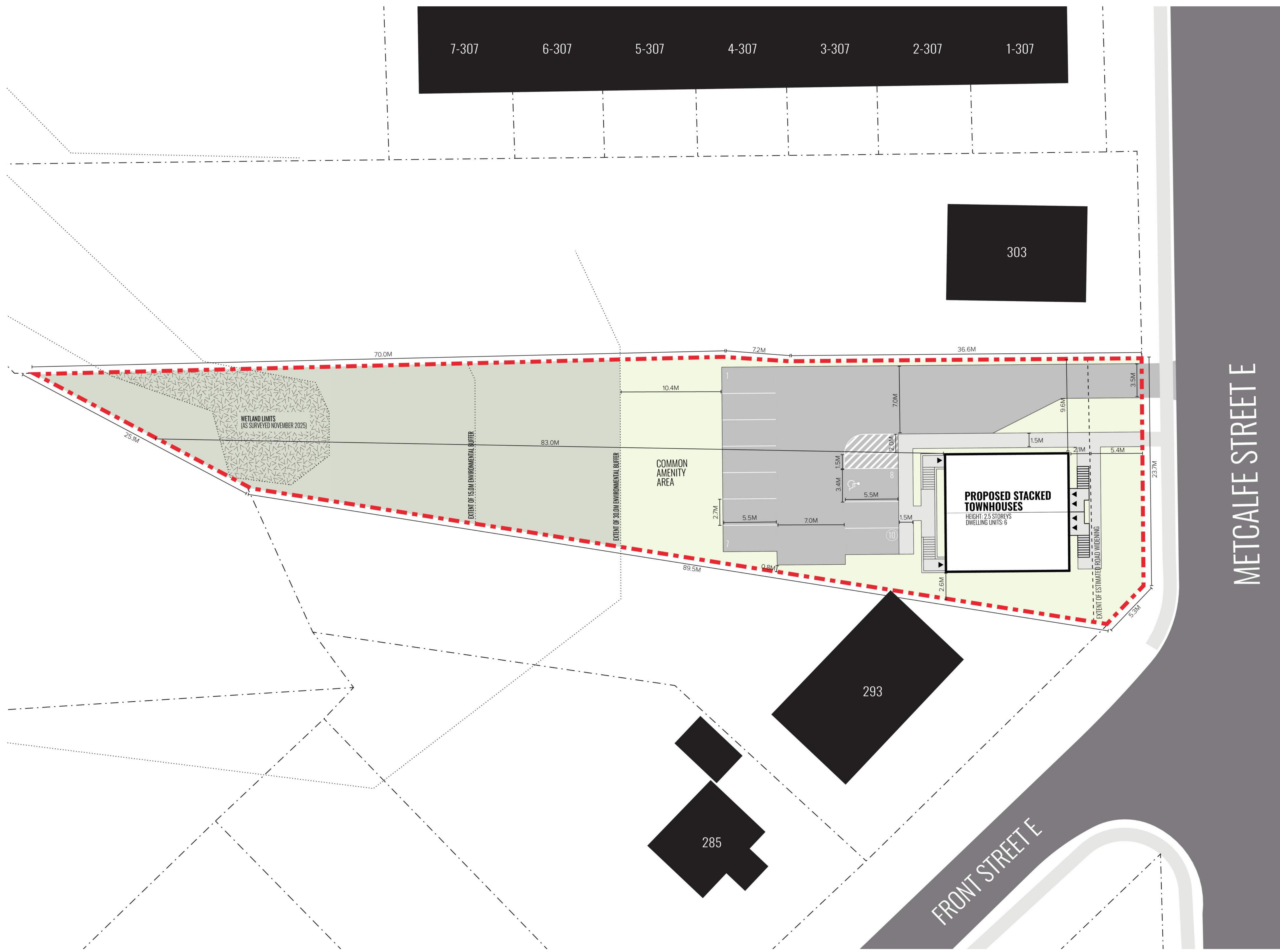
Concept Site Plan (Siv-ik)

Municipality's record drawing "Reconstruction of County Road No. 39, Proposed Utilities, Job No. 22/92, Sheet No. 9 of 18, dated February 22, 1995

Municipality's record drawing "Reconstruction of County Road No. 39, Proposed Construction, Job No. 22/92, Sheet No. 6 of 18, dated February 27, 1995

St. Clair Region Conservation Authority Floodplain and Wetland Map for 295 & 297 Metcalfe Street East, Strathroy, dated May 23, 2025

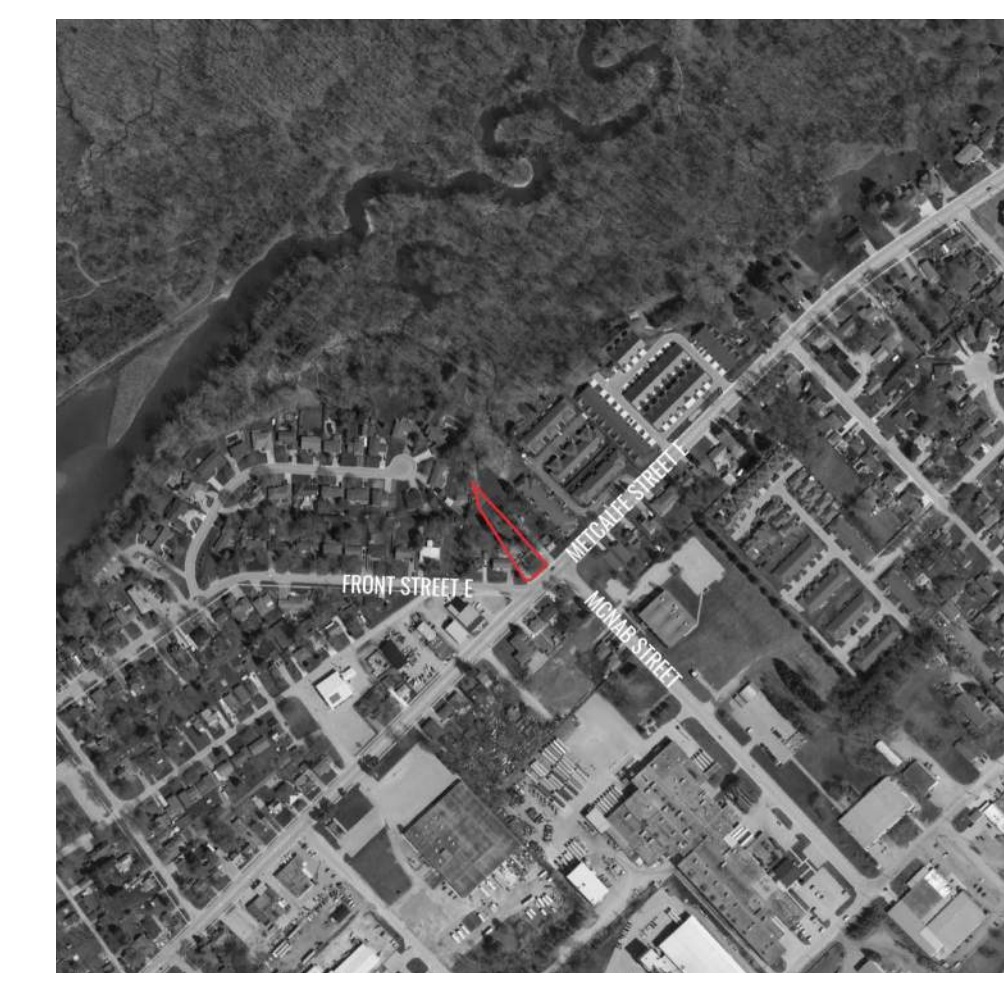
Preliminary Site Servicing Schematic (SBM)



# CONCEPT PLAN

**01**  
DWG

**PROJECT SITE**  
295 & 297 Metcalfe Street East, Strathroy ON



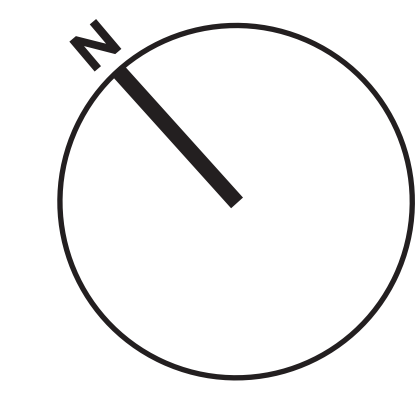
## SITE DATA

**R3-X**  
ZONE

Regulations	Required	Proposed
<b>Permitted Uses:</b>	Subsection 7.2	Multi-Unit Dwellings (Stacked Townhouses)
<b>Lot Area:</b>	280m <sup>2</sup> (min)	2,007.6m <sup>2</sup>
<b>Lot Frontage:</b>	20m (min)	23.7m
<b>Front Yard Depth:</b>	4.5m (min)	*2.1m
<b>Interior Side Yard Depth:</b>	2.0m (min)	2.6m (west) 9.6m (east)
<b>Rear Yard Depth:</b>	10.0m (min)	83.0m
<b>Lot Coverage:</b>	45% (max)	7.7%
<b>Landscaped Open Space:</b>	30% (min)	68.1%
<b>Parking Coverage:</b>	25% (max)	24.2%
	1.5 spaces/unit	1.5 spaces/unit
<b>Parking (Residential):</b>	9 spaces (min)	9 spaces
	0.15 spaces/unit	0.15 spaces/unit
<b>Parking (Visitor):</b>	1 space (min)	1 space
<b>Outdoor Common Amenity Area:</b>	20m <sup>2</sup> /unit (min)	>20m <sup>2</sup> /unit
	280m <sup>2</sup> (min)	>280m <sup>2</sup>

\* - Requires Special Provision

**Client:** 1000905949 Ontario Inc.  
**Date:** 12.22.2025  
**Drawn By:** C. Taylor  
**Plan Scale:** nts  
**File No:** 295ME  
**Version:** 6.0



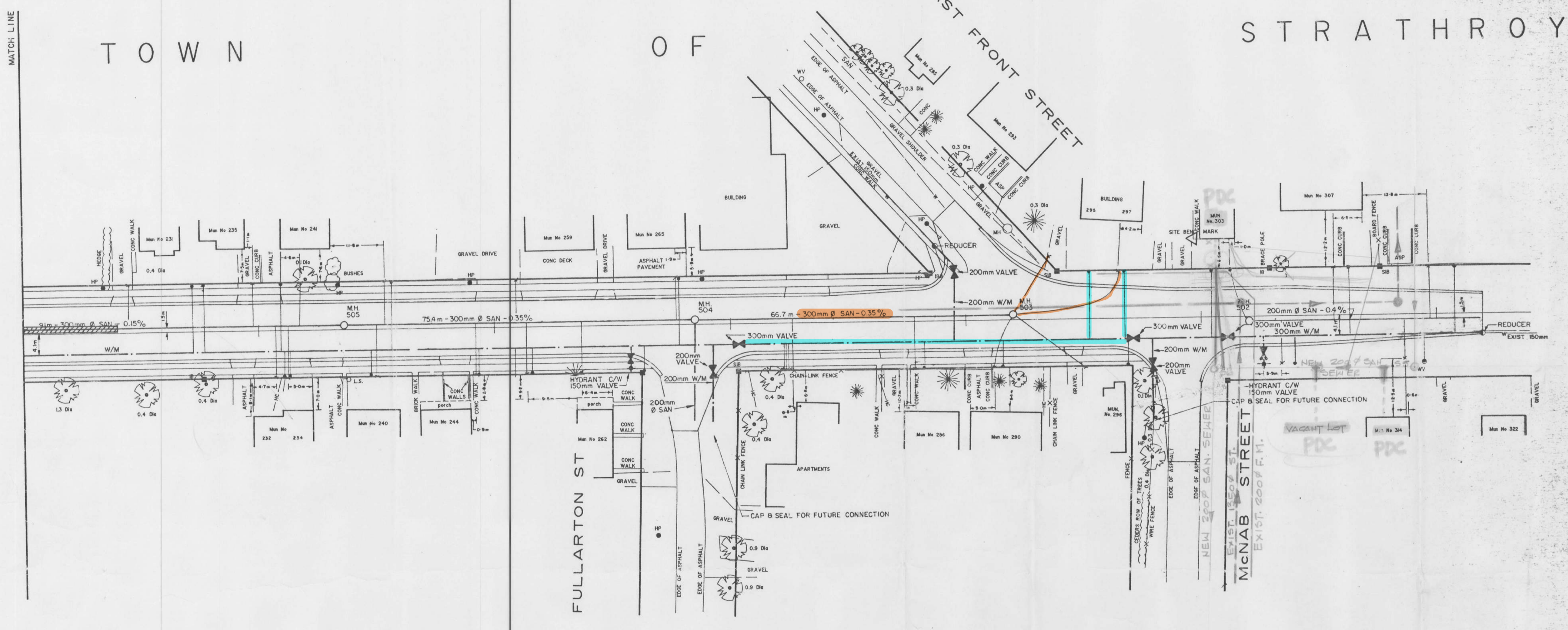
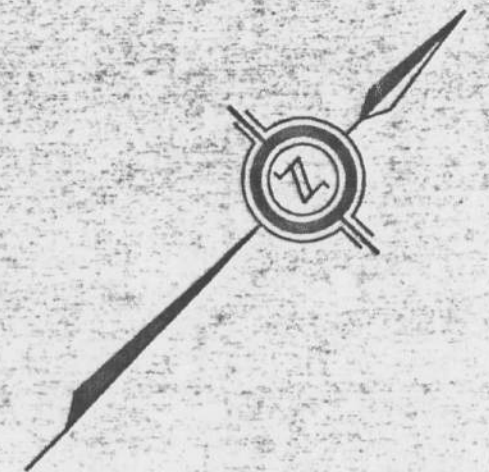
**[siv-ik]** PLANNING DESIGN  
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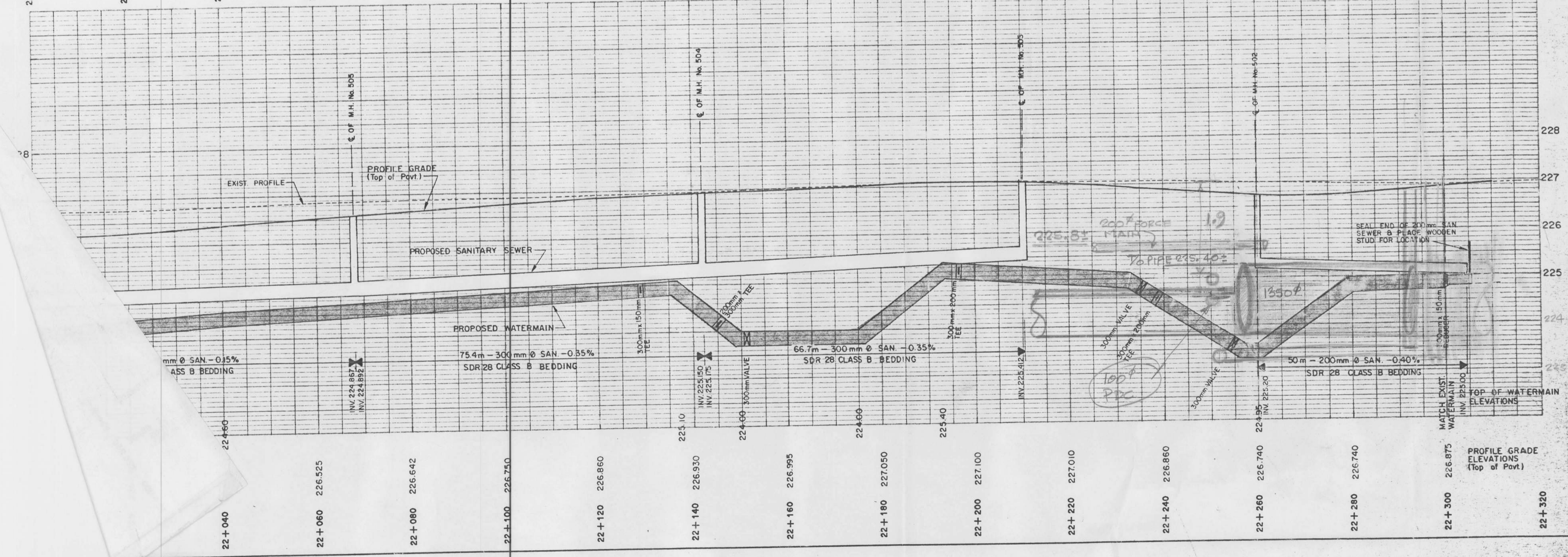
**Lot Boundary Disclaimer:** Site dimensions have been assumed based on data provided by Middlesex County. Siv-ik planning and design inc. makes no warranties or guarantees regarding the accuracy of the lot boundaries.

22+000 22+050 22+100 22+150 22+200 22+250 22+300

TOWN OF STRATHROY



22+000 22+020 22+040 22+060 22+080 22+100 22+120 22+140 22+160 22+180 22+200 22+220 22+240 22+260 22+280 22+300 22+320



SHEET No. 9 OF 18			
02/22/95	AS BUILT		R.D.T.
02/22/95	SANITARY P.D.C. TIES		P.D.T.
DATE	REVISIONS		BY
COUNTY OF MIDDLESEX			
RECONSTRUCTION OF COUNTY ROAD No. 39			
PROPOSED UTILITIES			
DRAWN K.O.	CHECKED	DESIGNED	SCALE AS SHOWN
JOB No. 22/92		COUNTY ROAD No. 39	
STRATH/39/ /R		COUNTY ENGINEER	
FILE No.		18	

MATCH LINE

22+000

22+050

22+100

22+150

22+200

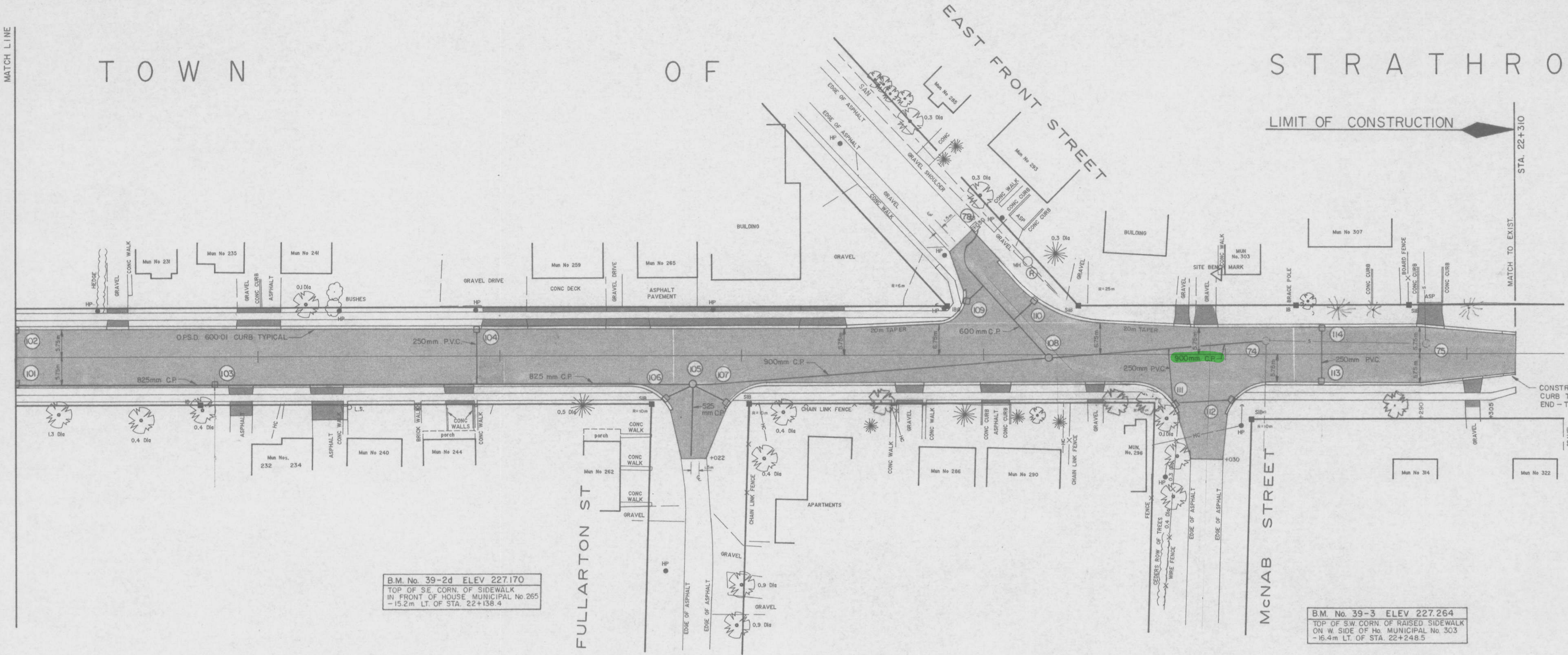
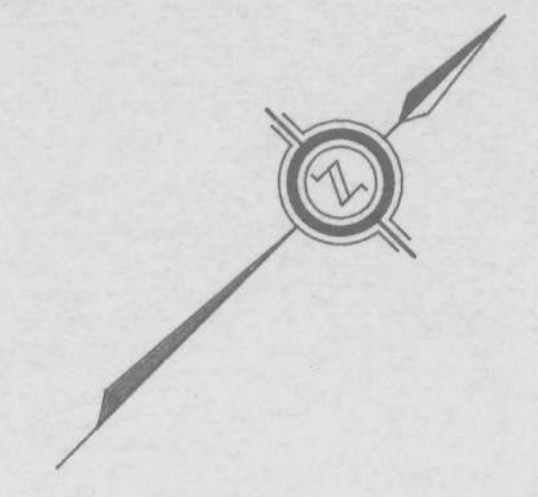
22+250

22+300

TOWN

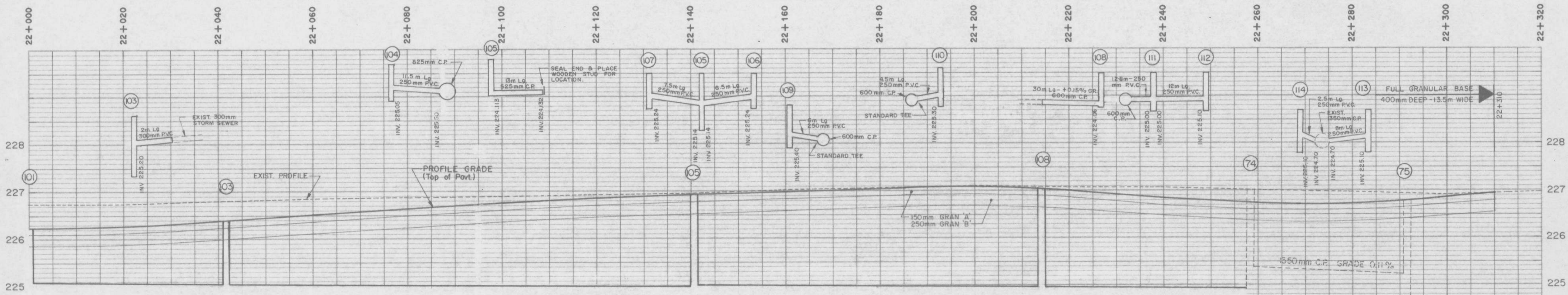
O F

STRATHROY



B.M. No. 39-2d ELEV 227.170  
 TOP OF SE CORN. OF SIDEWALK  
 IN FRONT OF HOUSE MUNICIPAL No 265  
 -15.2m LT. OF STA. 22+136.4

B.M. No. 39-3 ELEV 227.264  
 TOP OF SW CORN. OF RAISED SIDEWALK  
 ON W SIDE OF HO. MUNICIPAL No. 303  
 -15.4m LT. OF STA. 22+248.5



INV. 226.234	INV. 224.97	INV. 224.17	INV. 226.13	INV. 226.13	INV. 224.056	INV. 224.056	INV. 224.020	INV. 224.020	INV. 223.947
825mm C.P. - 41m Lg. - GRADE 0.09%	825mm C.P. - 99.3m Lg. - GRADE 0.08%	900mm C.P. - 73.6m Lg. - GRADE 0.08%	900mm C.P. - 44.6m Lg. - GRADE 0.08%						
C-76 1000 CLASS IV - CLASS B BEDDING	C-76 1000 CLASS IV - CLASS B BEDDING	C-76 1000 CLASS IV - CLASS B BEDDING	C-76 1000 CLASS IV - CLASS B BEDDING						

PROFILE GRADE ELEVATIONS (Top of Pavt.)

22+000	226.250	22+050	226.290	22+100	226.400	22+150	226.525	22+200	226.642	22+250	226.790	22+300	226.860	22+320	226.930
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PROFILE GRADE ELEVATIONS (Top of Pavt.)

SHEET No. 6 OF 18

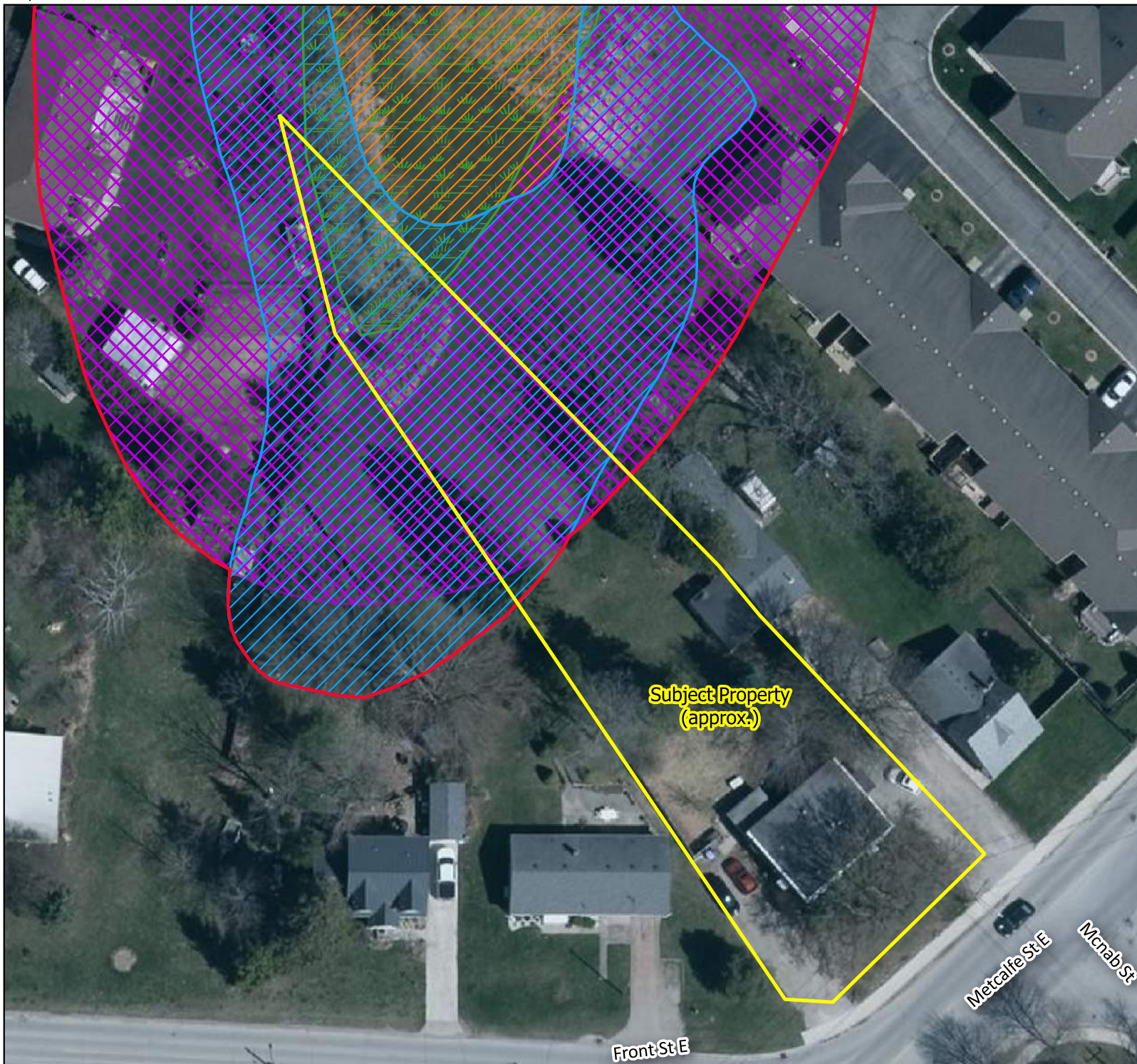
02/27/95	AS BUILT	R.D.T.
DATE	REVISIONS	BY

COUNTY OF MIDDLESEX  
 RECONSTRUCTION OF COUNTY ROAD No. 39

PROPOSED CONSTRUCTION

DRAWN	CHECKED	DESIGNED	SCALE
K.D.	J.H.	J.H.	AS SHOWN
JOB No. 22/92		COUNTY ROAD No. 39	
STRATH/39/ /R		COUNTY ENGINEER	





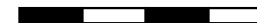
### Legend

- Subject Property (approx.)
- Areas Affected by Regulations
- Wetlands (MNR 2023)
- Wetland Adjacent Lands (30m)
- Strathroy Engineered Floodplain
  - Floodway
  - Regulatory/Flood Fringe

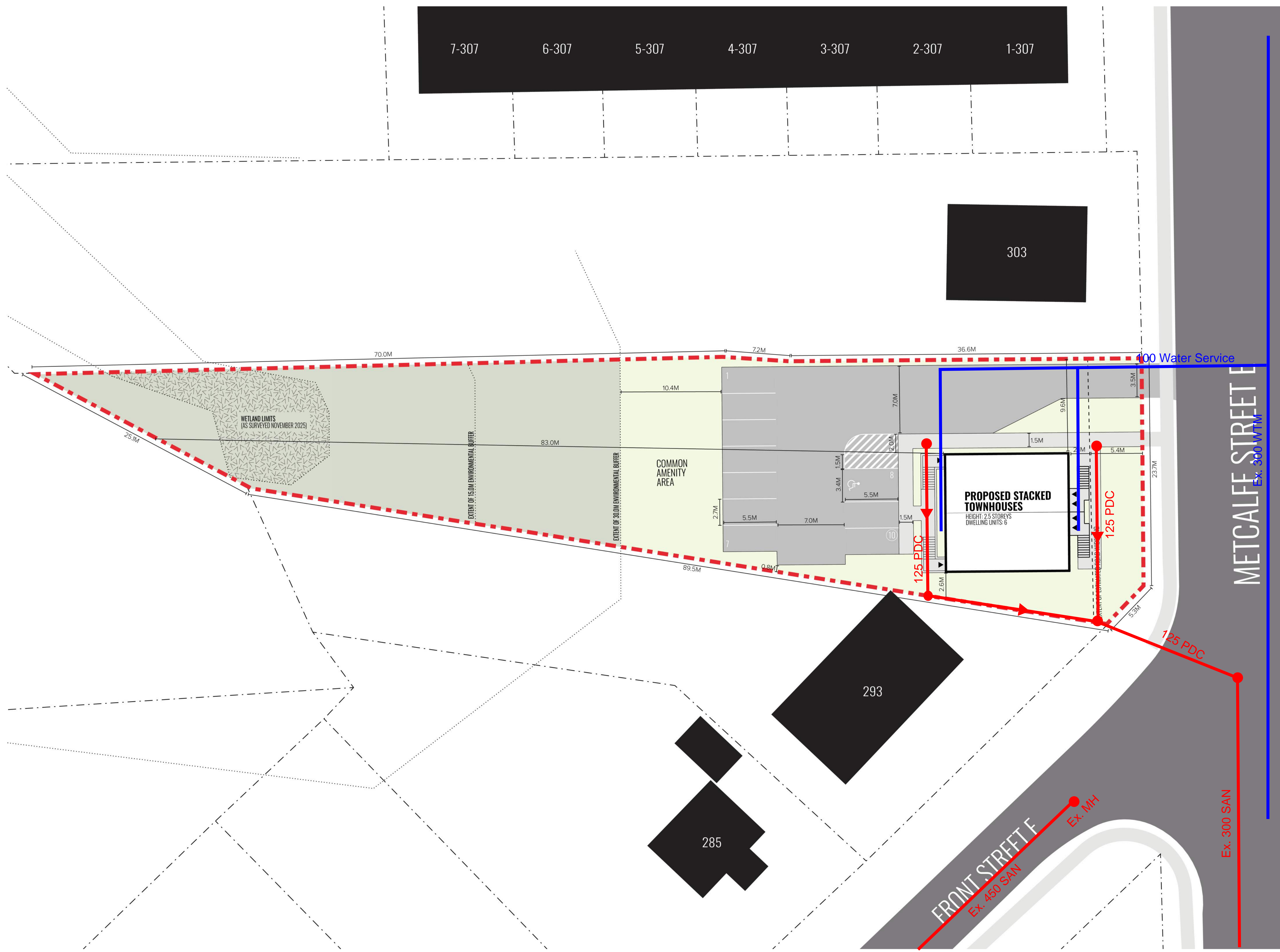


**295 & 297 Metcalfe Street E  
Strathroy**

0 5 10 15 20 m



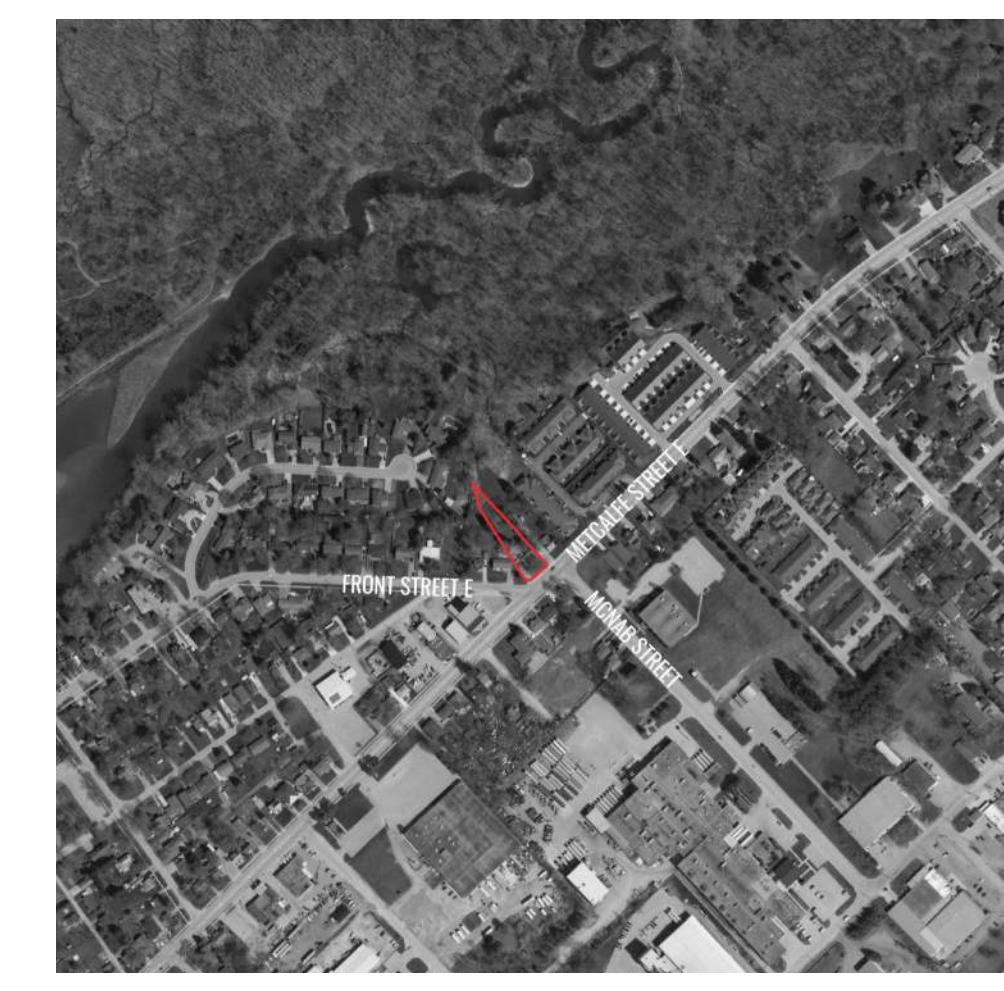
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THIS IS NOT A PLAN OF SURVEY. Aerial Photography Date: Spring 2020  
Map Created by: Shelby Campbell



**CONCEPT PLAN**

**01**  
DWG

**PROJECT SITE**  
295 & 297 Metcalfe Street East, Strathroy ON



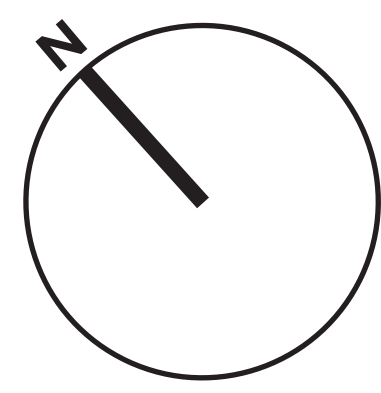
**SITE DATA**

**R3-X**  
ZONE

Regulations	Required	Proposed
<b>Permitted Uses:</b>	Subsection 7.2	Multi-Unit Dwellings (Stacked Townhouses)
<b>Lot Area:</b>	280m <sup>2</sup> (min)	2,007.6m <sup>2</sup>
<b>Lot Frontage:</b>	20m (min)	23.7m
<b>Front Yard Depth:</b>	4.5m (min)	*2.1m
<b>Interior Side Yard Depth:</b>	2.0m (min)	2.6m (west) 9.6m (east)
<b>Rear Yard Depth:</b>	10.0m (min)	83.0m
<b>Lot Coverage:</b>	45% (max)	7.7%
<b>Landscaped Open Space:</b>	30% (min)	68.1%
<b>Parking Coverage:</b>	25% (max)	24.2%
	1.5 spaces/unit	1.5 spaces/unit
<b>Parking (Residential):</b>	9 spaces (min)	9 spaces
	0.15 spaces/unit	0.15 spaces/unit
<b>Parking (Visitor):</b>	1 space (min)	1 space
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	280m <sup>2</sup> (min)	>280m <sup>2</sup>

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**Plan Scale:** nts  
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**Lot Boundary Disclaimer:** Site dimensions have been assumed based on data provided by Middlesex County. Siv-ik planning and design inc. makes no warranties or guarantees regarding the accuracy of the lot boundaries.

**APPENDIX B**

Domestic Water Demand Calculations (SBM)

Hydrant Flow Test Results (RVA)

Maximum Day Demand + Fire Flow - 2023 Scenario (RVA)

Peak Hour Demand - 2023 Scenario (RVA)

Maximum Day Demand + Fire Flow - 2030 Scenario (RVA)

Peak Hour Demand - 2030 Scenario (RVA)

Maximum Day Demand + Fire Flow - 2041 Scenario (RVA)

Peak Hour Demand - 2041 Scenario (RVA)

Maximum Day Demand + Fire Flow - 2046 Scenario (RVA)

Peak Hour Demand - 2046 Scenario (RVA)

## DOMESTIC WATER DEMAND, AND VELOCITY CALCULATION

DATE: November 26, 2025  
JOB No.: S251743

Client: 1000905949 Ontario Ltd.  
Project: Proposed 6-unit Townhome Development  
Location: 295-297 Metcalfe Street East, Strathroy, ON

### DEMAND CALCULATION

Avg. Day Demand = 250 L/day/cap  
Avg. Day Demand = 0.002893519 L/s/cap  
Max. Day Peaking Factor = 3.5  
Max. Hour Peaking Factor = 7.8  
Medium Density Residential = 2.4 p/unit

	Units	Population	Avg. Day (L/s)	Max. Hour (L/s)	Max. Day (L/s)
Medium Density Residential	18	44	0.13	0.99	0.45
<b>Total</b>			<b>0.13</b>	<b>0.99</b>	<b>0.45</b>

### VELOCITY CALCULATION

Diameter (mm)	Demand (L/s)	Velocity (m/s)
100	0.99	0.126

Maximum allowable velocity of 1.5 m/s under maximum hour domestic flow conditions as per Section 4.3.2 of the Municipality of Strathroy-Caradoc Servicing Standards.

A population of 44 people is calculated as follows: 6 units multiplied by 3 accounting for additional units as per Bill 23 guidelines, at 2.4 people per unit



# Hydrant Flow Test Results



RV Anderson Associates Ltd.  
2001 Sheppard Ave E, North York, ON M2J 4Z8  
Tel: (416) 497-8600

TEST INFORMATION		NOTES
<b>Date:</b> 14-Aug-23 <b>Time:</b> 12:00 AM <b>Location:</b> 120 McNab Street, Mount Brydges <b>Municipality:</b> Strathroy-Caradoc		HYDRANT FLOW TEST 10
<b>Municipal Operator(s):</b> Jeff, Dave & Cam <b>RVA Personnel:</b> A. Bhutani & K. Wong <b>Project No:</b>		
HYDRANT & WATERMAIN INFORMATION		
<b>Flow Hydrant:</b> <b>Residual Hydrant:</b> <b>Hydrant Elevation Difference:</b> 0.0 m		<b>Pipe Diameter:</b> 200mm <b>Pipe Material:</b>



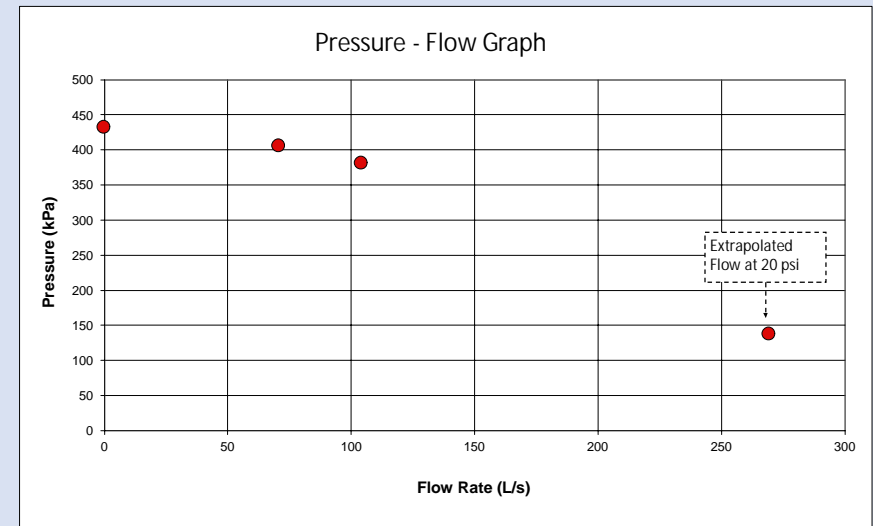
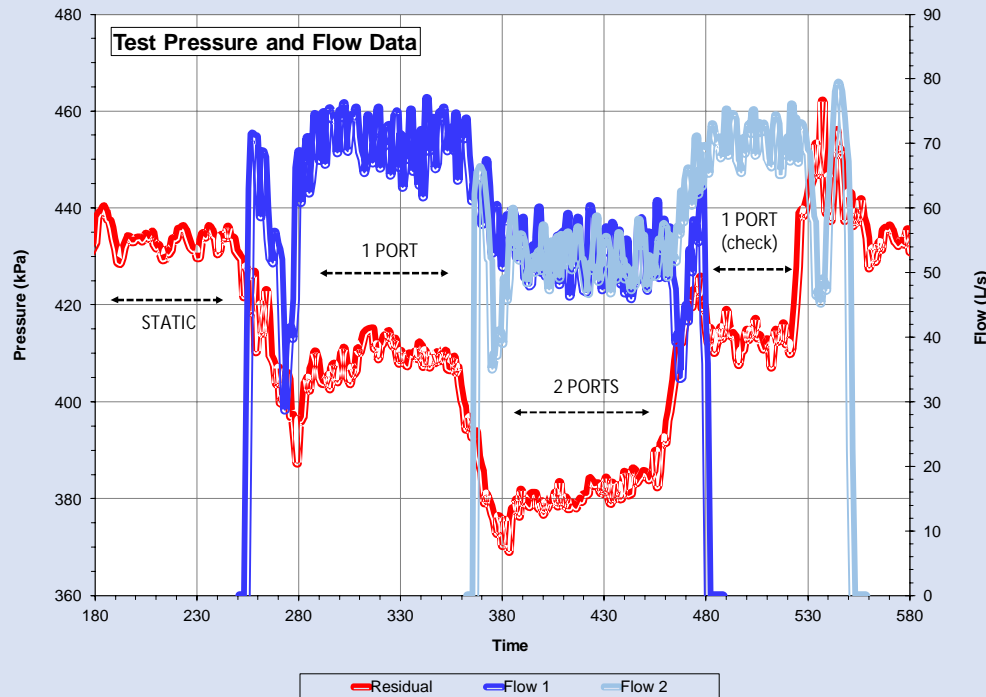
RESIDUAL HYDRANT		
Hydrant No.	0	
N.F.P.A. Colour Code	BLUE	
Static Pressure	62.7	psi
Residual Pressure (1 Port)	58.9	psi
Residual Pressure (2 Ports)	55.3	psi
Pressure Drop	7.4	psi
Pressure Drop Percentage	11.8	% of psi
Flow At Test Hydrant at 20 psi	4266.8	usgpm

FLOW HYDRANT(S)							
Test No.	Hydrant No.	No. of Ports Flowed	Outlet Dia (in.)	FM or Diffuser type	Nozzle Coeff.	Pitot Reading (psi)	Discharge flow (usgpm)
1st	0	1	2.5	SWIVEL BELL	0.9	44.6	1121.4
		2	2.5		0.9	24.3	1653.4
2nd							
Total Discharge Flow (USGPM)							2774.7

NO. OF PORTS OPEN	IMPERIAL		METRIC	
	RESIDUAL (psi)	FLOW (usgpm)	RESIDUAL (kPa)	FLOW (L/s)
STATIC	62.7	0.0	432.3	0.0
1	58.9	1121.4	406.1	70.8
2	55.3	1653.4	381.5	104.3
EXTRAPOLATED	20.0	4266.8	137.9	269.2

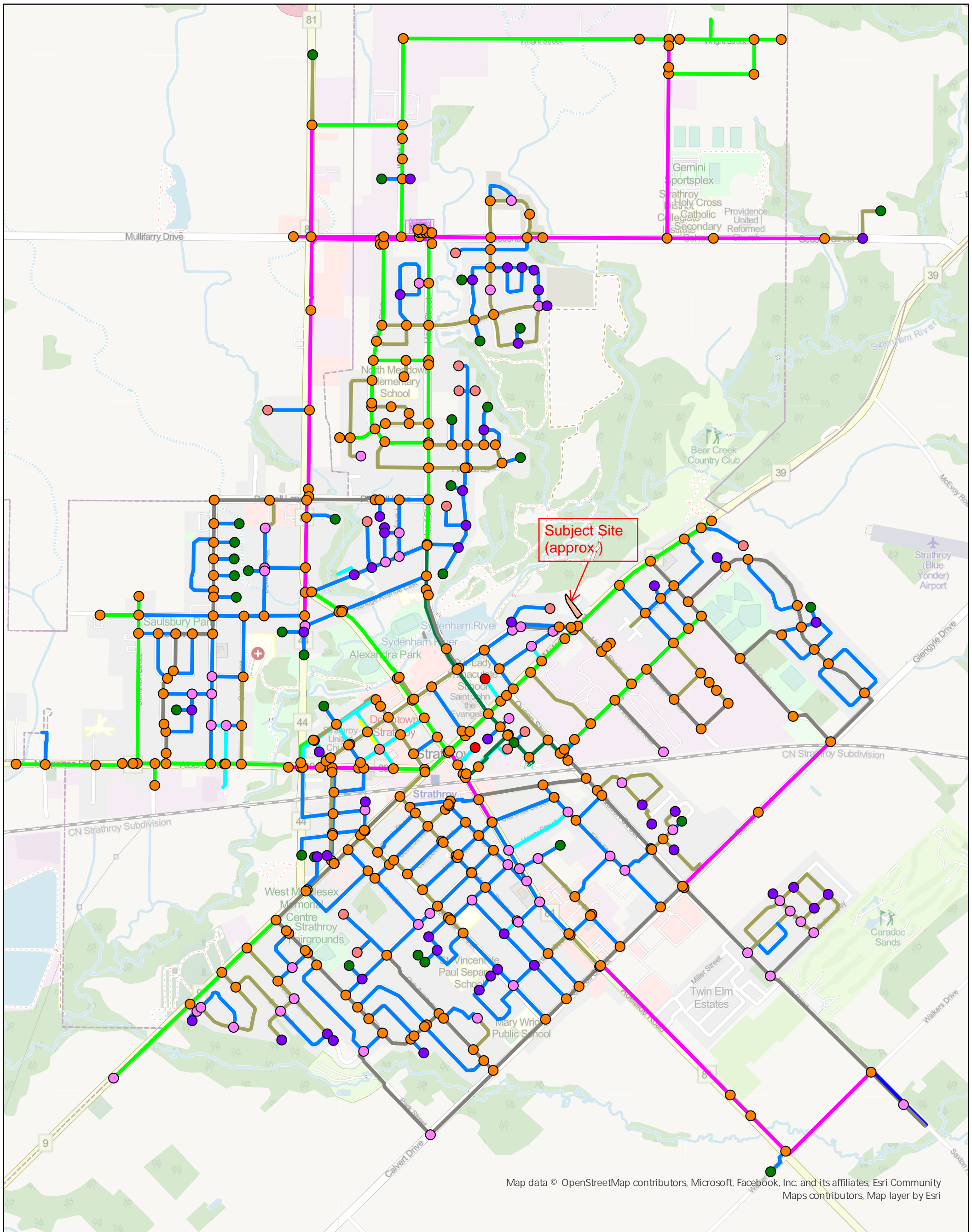
N.F.P.A. 291 HYDRANT CLASSIFICATION

AA	BLUE
----	------



$$Q_r = Q_t \left( \frac{P_s - P_r}{P_s - P_t} \right)^{0.54}$$

$Q_r$  = fire flow at residual pressure P (gpm)  
 $Q_t$  = hydrant discharge during test (gpm)  
 $P_s$  = static pressure (psi)  
 $P_r$  = desired residual pressure (psi)  
 $P_t$  = residual pressure during test (psi)



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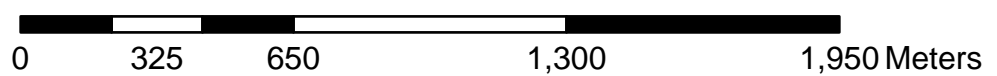
**Legend**

Junction Hydrant Available Flow (L/s)	Pipe DIAMETER
● ≤ 40 Lps	50 mm
● ≤ 70 Lps	100 mm
● ≤ 100 Lps	150 mm
● ≤ 150 Lps	200 mm
● ≤ 200 Lps	250 mm
● > 200 Lps	300 mm
	350 mm
	400 mm
	600 mm

**2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan**

**Water System Master Plan**

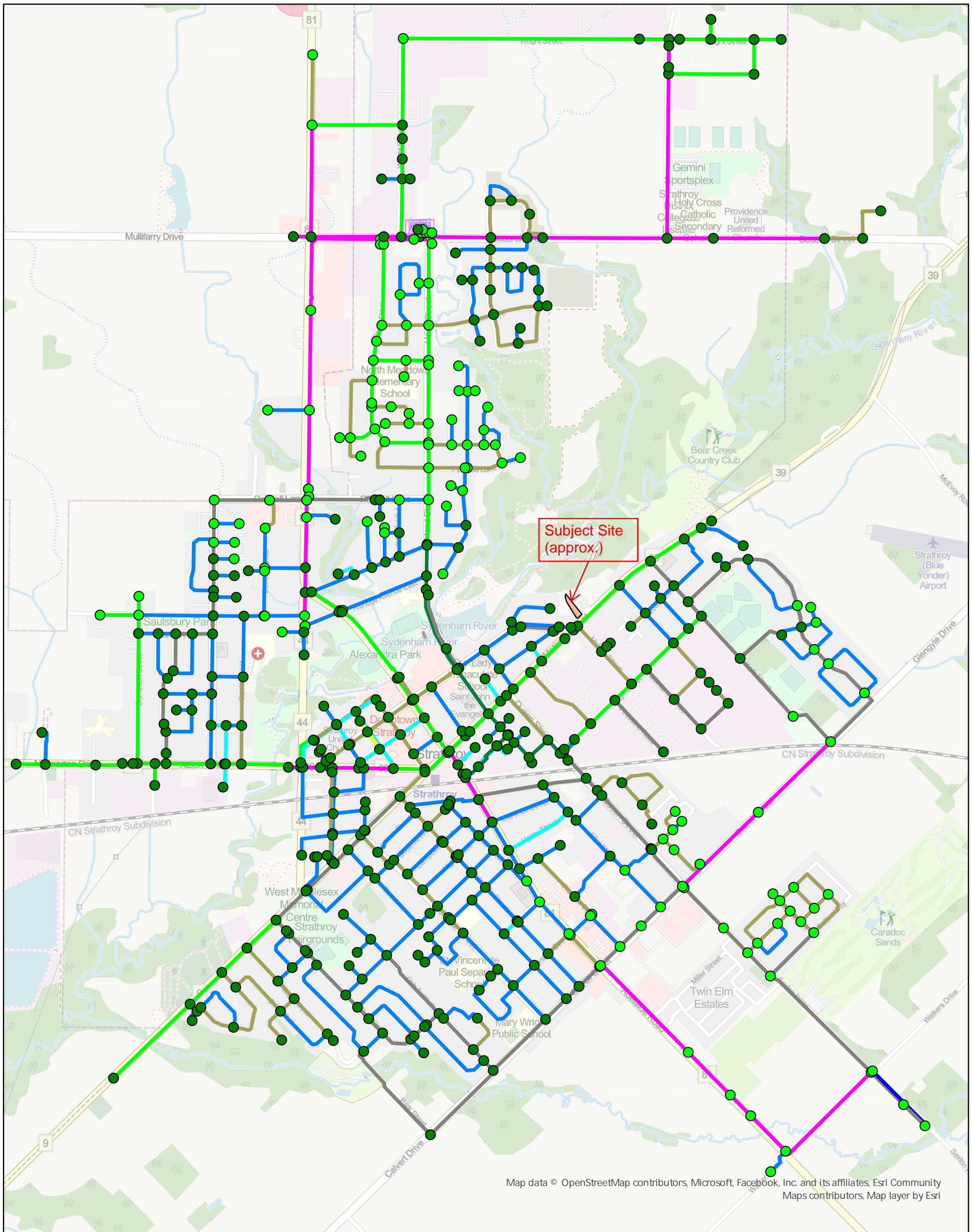
**Maximum Day Demand + Fire Flow - 2023 Scenario**



Scale: 1:18,000

Date: 2024-04-11





Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

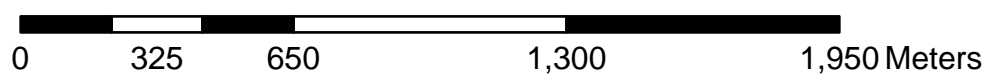
**Legend**

Junction Pressure (kPa)	Pipe Diameter (mm)
● ≤ 138 kPa (20 psi)	50 mm
● ≤ 276 kPa (40 psi)	100 mm
● ≤ 414 kPa (60 psi)	150 mm
● ≤ 552 kPa (80 psi)	200 mm
● ≤ 689 kPa (100 psi)	250 mm
○ > 689 kPa (100 psi)	300 mm
	350 mm
	400 mm
	600 mm

**2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan**

**Water System Master Plan**

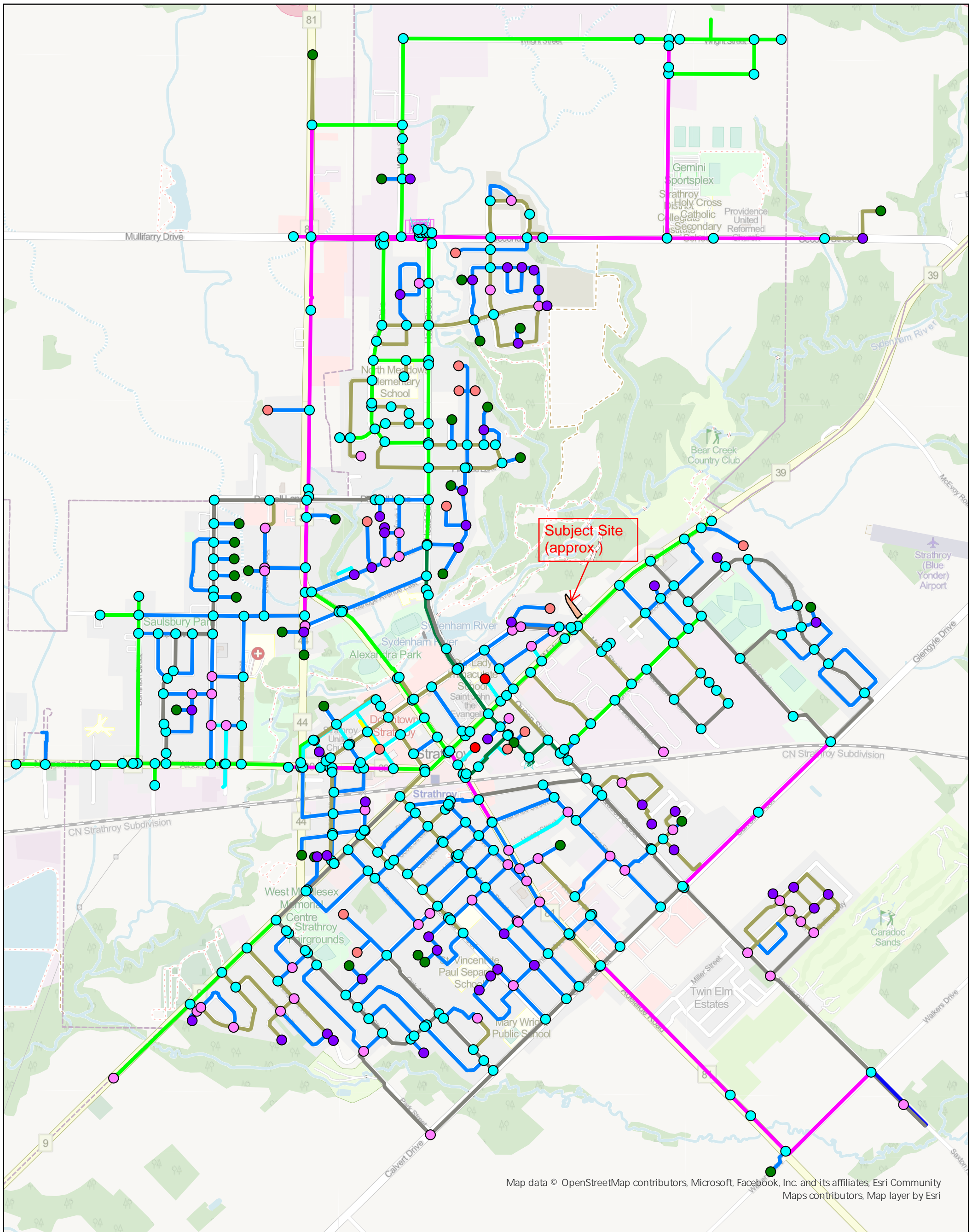
**Peak Hour Demand - 2023 Scenario**



Scale: 1:18,000

Date: 2024-04-11





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### Legend

Junction	Pipe
Hydrant Available Flow (L/s)	DIAMETER
● ≤ 40 Lps	50 mm
● ≤ 70 Lps	100 mm
● ≤ 100 Lps	150 mm
● ≤ 150 Lps	200 mm
● ≤ 200 Lps	250 mm
● > 200 Lps	300 mm
	350 mm
	400 mm
	600 mm

## 2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan

### Water System Master Plan

#### Maximum Day Demand + Fire Flow - 2030 Scenario

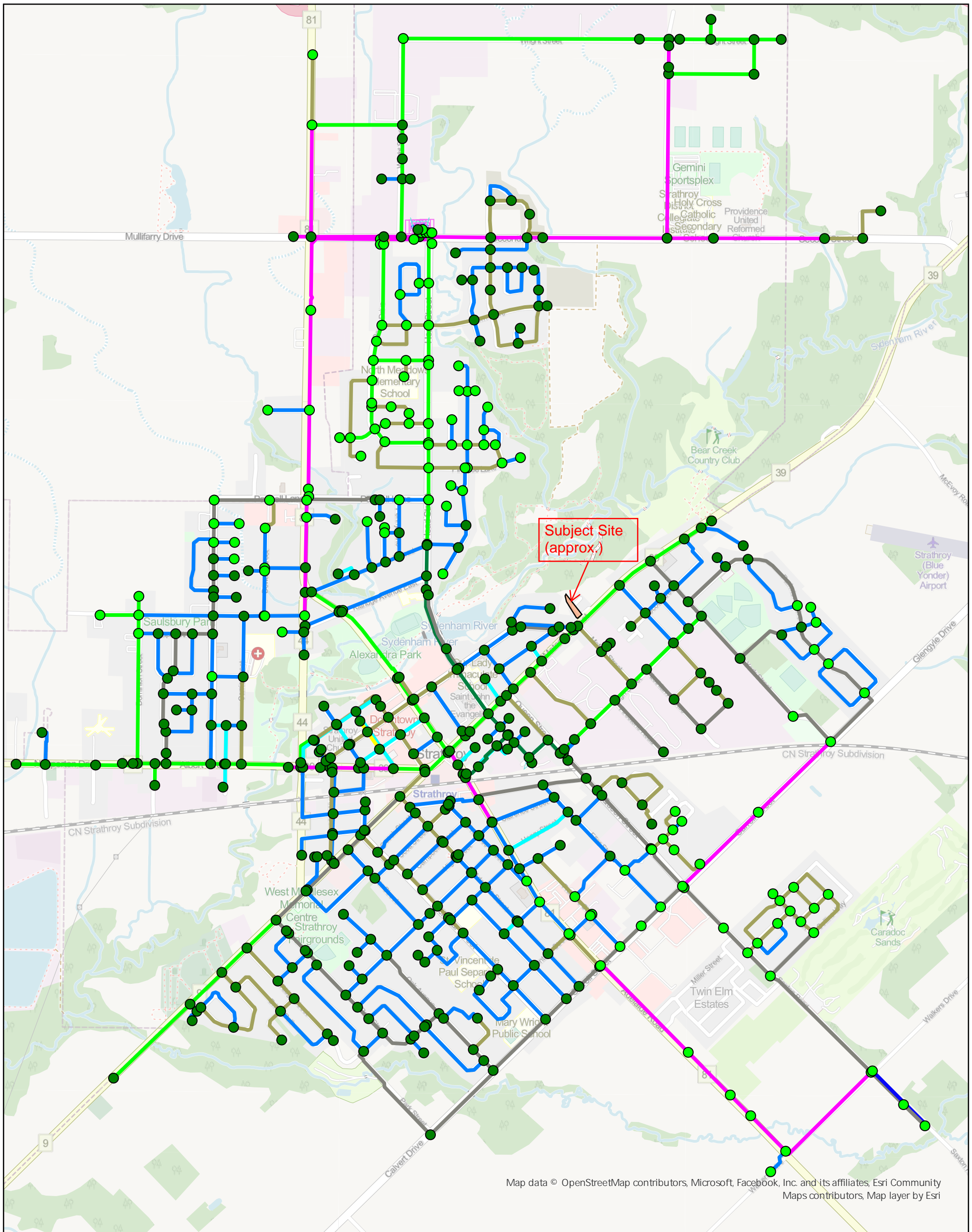


0 325 650 1,300 1,950 Meters

Scale: 1:18,000

Date: 2024-04-11





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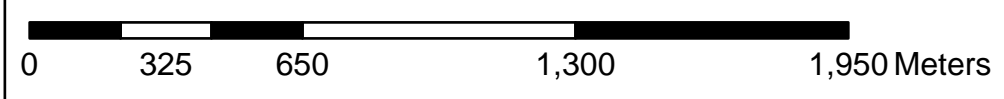
**Legend**

Junction Pressure (kPa)	Pipe Diameter (mm)
● ≤ 138 kPa (20 psi)	50 mm
● ≤ 276 kPa (40 psi)	100 mm
● ≤ 414 kPa (60 psi)	150 mm
● ≤ 552 kPa (80 psi)	200 mm
● ≤ 689 kPa (100 psi)	250 mm
○ > 689 kPa (100 psi)	300 mm
	350 mm
	400 mm
	600 mm

**2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan**

**Water System Master Plan**

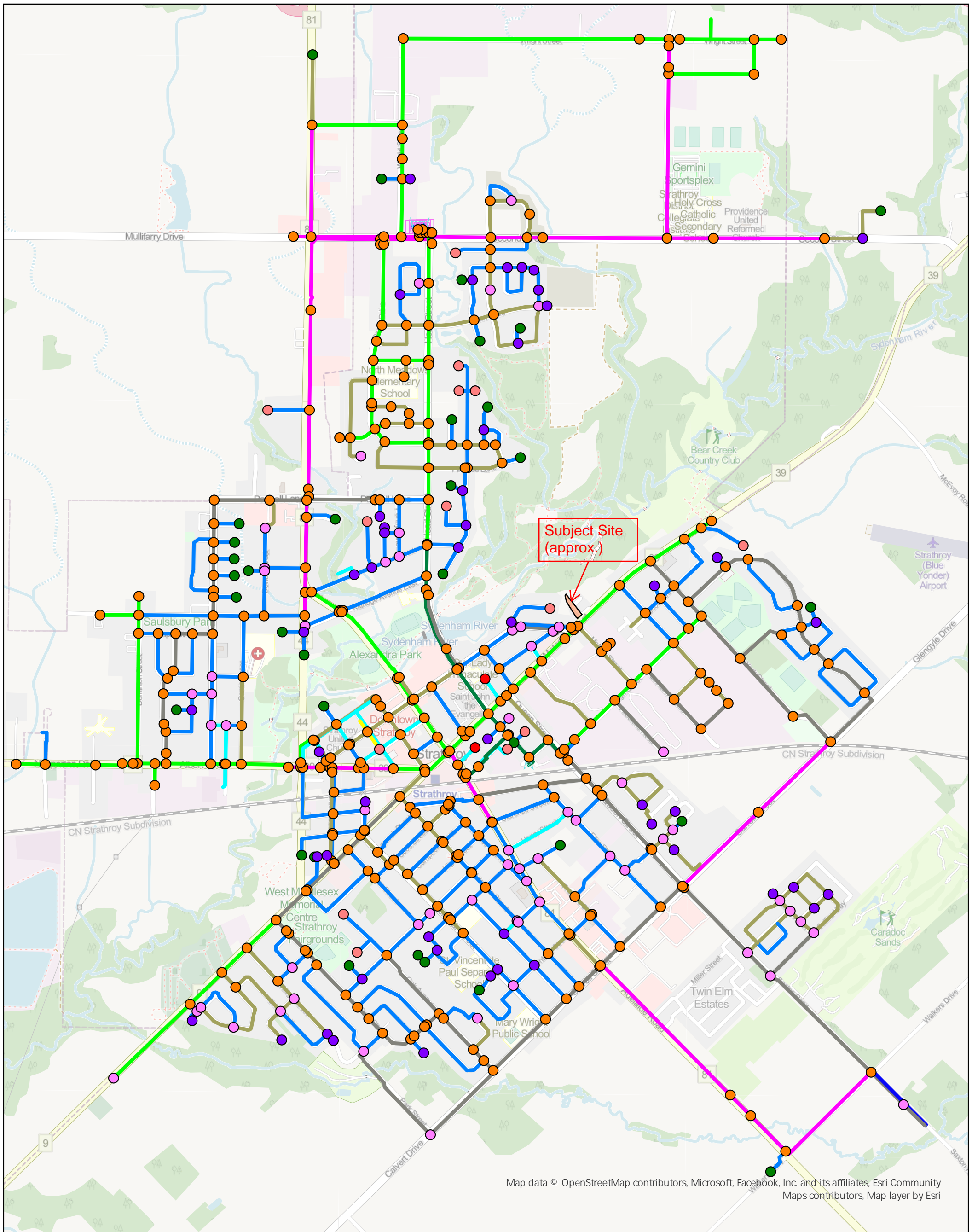
**Peak Hour Demand - 2030 Scenario**



Scale: 1:18,000

Date: 2024-04-11





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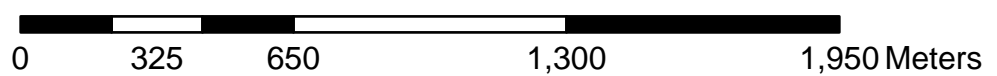
**Legend**

Junction	Pipe
Hydrant Available Flow (L/s)	DIAMETER
● ≤ 40 Lps	50 mm
● ≤ 70 Lps	100 mm
● ≤ 100 Lps	150 mm
● ≤ 150 Lps	200 mm
● ≤ 200 Lps	250 mm
● > 200 Lps	300 mm
	350 mm
	400 mm
	600 mm

**2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan**

**Water System Master Plan**

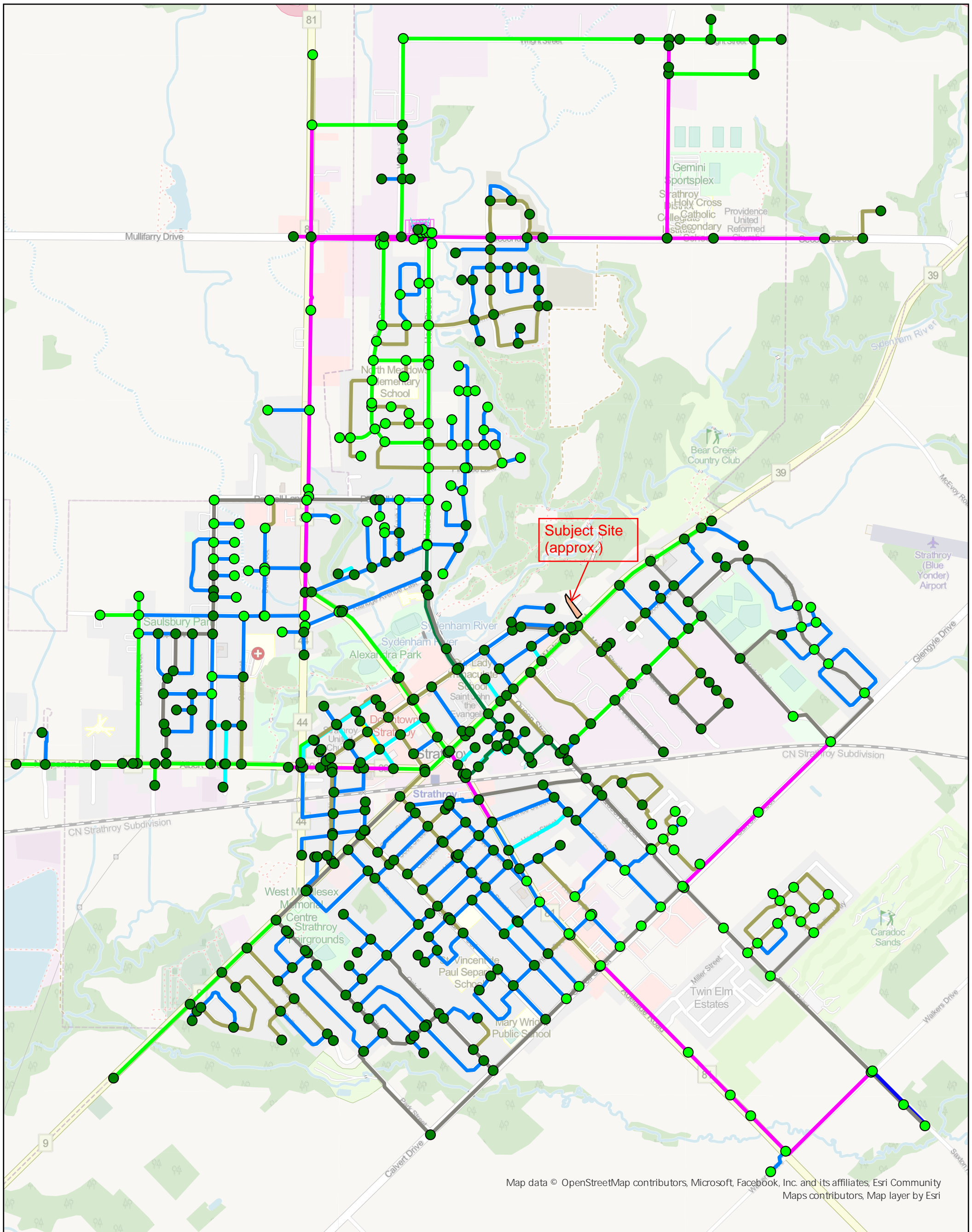
**Maximum Day Demand + Fire Flow - 2041 Scenario**



Scale: 1:18,000

Date: 2024-04-11





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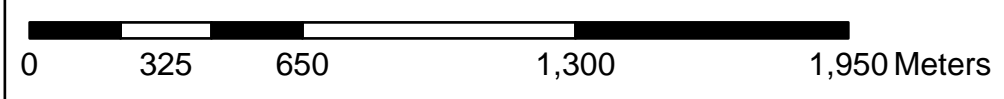
**Legend**

Junction Pressure (kPa)	Pipe Diameter (mm)
● ≤ 138 kPa (20 psi)	50 mm
● ≤ 276 kPa (40 psi)	100 mm
● ≤ 414 kPa (60 psi)	150 mm
● ≤ 552 kPa (80 psi)	200 mm
● ≤ 689 kPa (100 psi)	250 mm
○ > 689 kPa (100 psi)	300 mm
	350 mm
	400 mm
	600 mm

**2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan**

**Water System Master Plan**

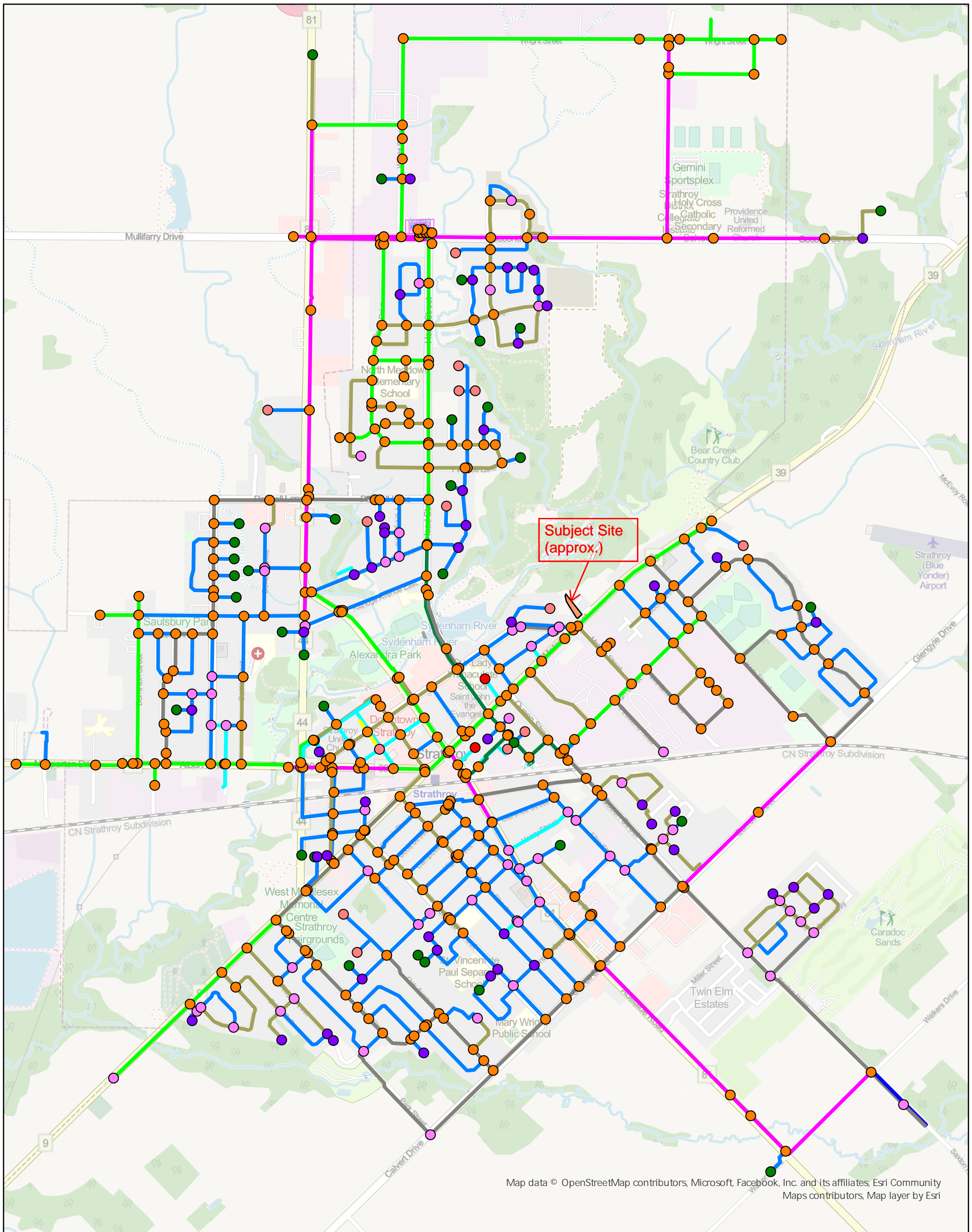
**Peak Hour Demand - 2041 Scenario**



Scale: 1:18,000

Date: 2024-04-11





Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

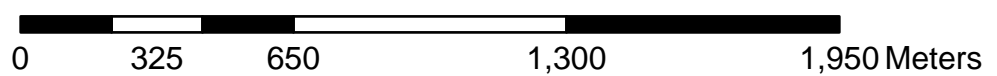
**Legend**

Junction Hydrant Available Flow (L/s)	Pipe DIAMETER
● ≤ 40 Lps	50 mm
● ≤ 70 Lps	100 mm
● ≤ 100 Lps	150 mm
● ≤ 150 Lps	200 mm
● ≤ 200 Lps	250 mm
● > 200 Lps	300 mm
	350 mm
	400 mm
	600 mm

**2025 Water, Wastewater and Stormwater Master Plan and Pollution Control Plan**

**Water System Master Plan**

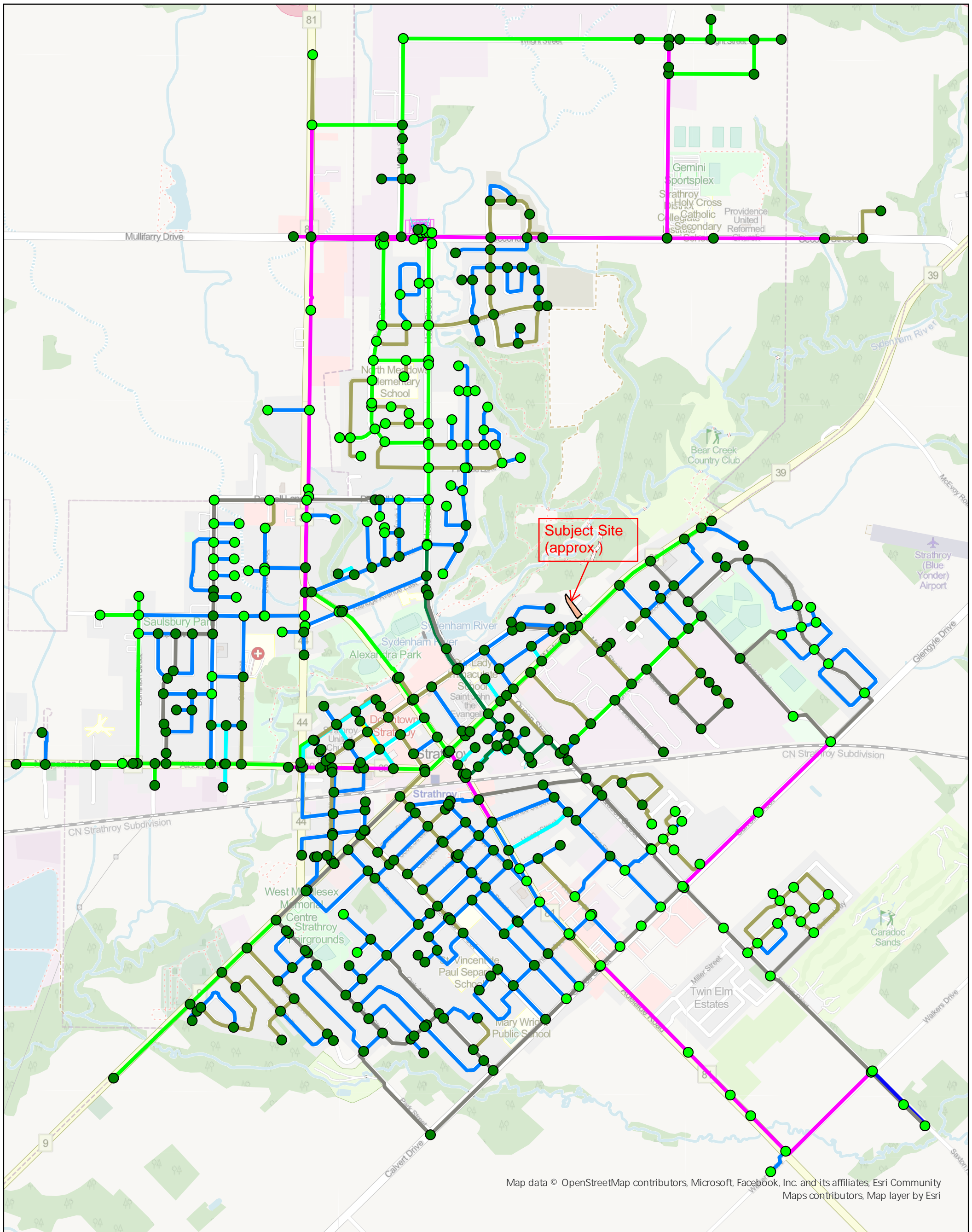
**Maximum Day Demand + Fire Flow - 2046 Scenario**



Scale: 1:18,000

Date: 2024-04-11





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/HJHQG		~ :DWHU :DVWHZDWHU DQG 6WRUPZD	
-XQFWLRQ 3LSH		3ROOXWLRQ &RQWURO 3ODQ	
3UHVXUH N3DLDPHWHU PP		:DWHU 6\ VWHP 0DVWHU 3ODQ	
● ~ N3D SVL	PP	3HDN +RXU 'HPDQG ~ 6FHQDULR	
● ~ N3D SVL	PP		
● ~ N3D SVL	PP		
● ~ N3D SVL	PP	6FDOH	'DWH
● ~ N3D SVL	PP	0HWHU	

## **APPENDIX C**

Sanitary Service Design Sheet (SBM)

Figures A-3 Strathroy Sewer Network - Existing Conditions Pages 4 of 5 and 5 of 5 (WSP)

Table B-3 Scenario 1 Strathroy Sanitary Sewer Capacity Analysis - Existing Condition (WSP)

Table B-4 Scenario 2 Strathroy Sanitary Sewer Capacity Analysis - Future Condition (WSP)



LONDON LOCATION  
 1599 Adelaide St. N., Unit 301  
 London, ON N5X 4E8  
 P: 519-471-6667

KITCHENER LOCATION  
 132 Queen St. S. Unit 4  
 Kitchener, ON N2G 1V9  
 P: 519-725-8093

www.sbm1td.ca

sbm@sbm1td.ca

### Sanitary Service Design Sheet

#### Residential Population Densities

**(A) Area Basis**

Low Density Residential

Medium Density Residential

High Density Residential

= 30 Units/hectare @ 2.4 people/unit

= **75 Units/hectare @ 2.4 people/unit**

=150-300 Units/hectare @ 1.6 people/unit

**Design Parameters\***

Daily Flow (L/cap/day) = 300

Sewage Infiltration (Litres/hectare/day) = 6740

Harmon Formula (Peaking Factor)

$M = (1 + 14/(4+P^{0.5}))$

Uncertainty Factor 1.1

Date: December 23, 2025

Job Number: S251743

Client: 1000905949 Ontario Ltd.

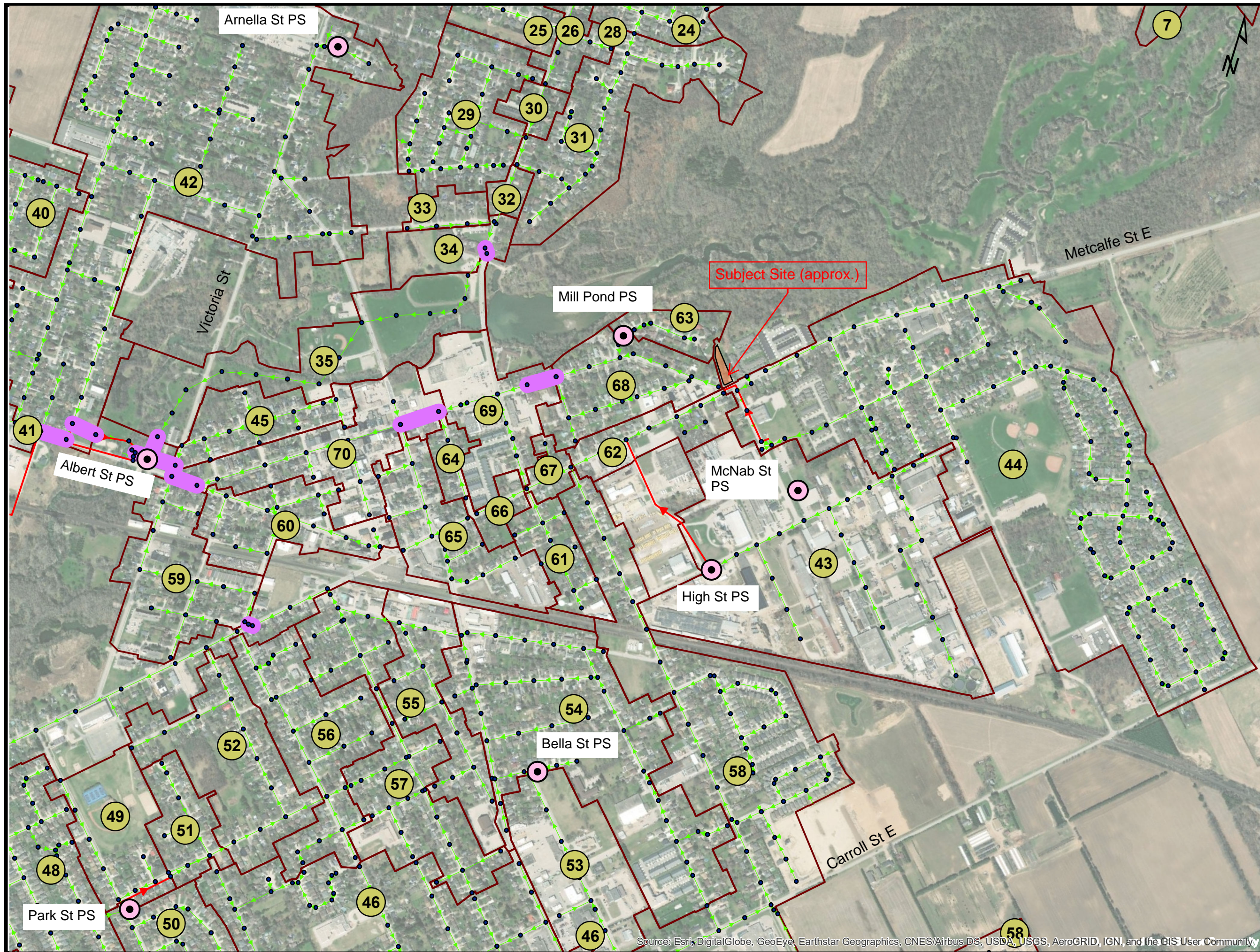
Project: Proposed 6-unit Townhome Development

Location: 295-297 Metcalfe Street East, Strathroy, ON

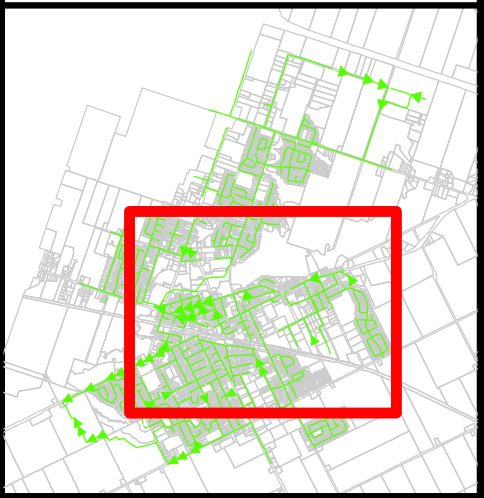
Location			Area		People				Sewage Flows				Sewer design					
Area No.	From MH	To MH	Delta Hectare	Total Hectare	People Per Unit	**No. of Units	*Delta Pop.	Total Pop.	Harmon Peaking Factor	Infiltr L/S	Sewage L/S	Total L/S	n	Pipe Slope %	Dia. mm	Capacity L/S	Velocity m/s	
<b>Proposed Conditions</b>																		
295-297 Metcalfe Street East, Strathroy, ON	Site	Ex. Sewer	0.201	0.201	2.4	18	44	44	4.33	0.02	0.73	0.74	0.013	2.00%	125	13.25	1.08	

\*Design Parameters per the Municipality of Strathroy-Caradoc Servicing Standards Section 2.3 dated October 2021

\*\*A population of 44 people is calculated as follows: 6 units multiplied by 3 accounting for additional units as per Bill 23 guidelines, at 2.4 people per unit



- Legend**
- Sanitary Manhole
  - ⊙ Sewage Pumping Station
  - Sanitary Forcemain
  - Sanitary Gravity Sewer
  - █ Analyzed Sewer Segment
  - ▭ Sanitary Subcatchment



**wsp**

Strathroy-Caradoc Official Plan

Figure A-3  
Strathroy Sewer Network - Existing Conditions  
Page 4 of 5

0      0.25      0.5  
Kilometers

20M-01349-00      January 2022

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Table B-3 Scenario 1 Strathroy Sanitary Sewer Capacity Analysis - Existing Condition**

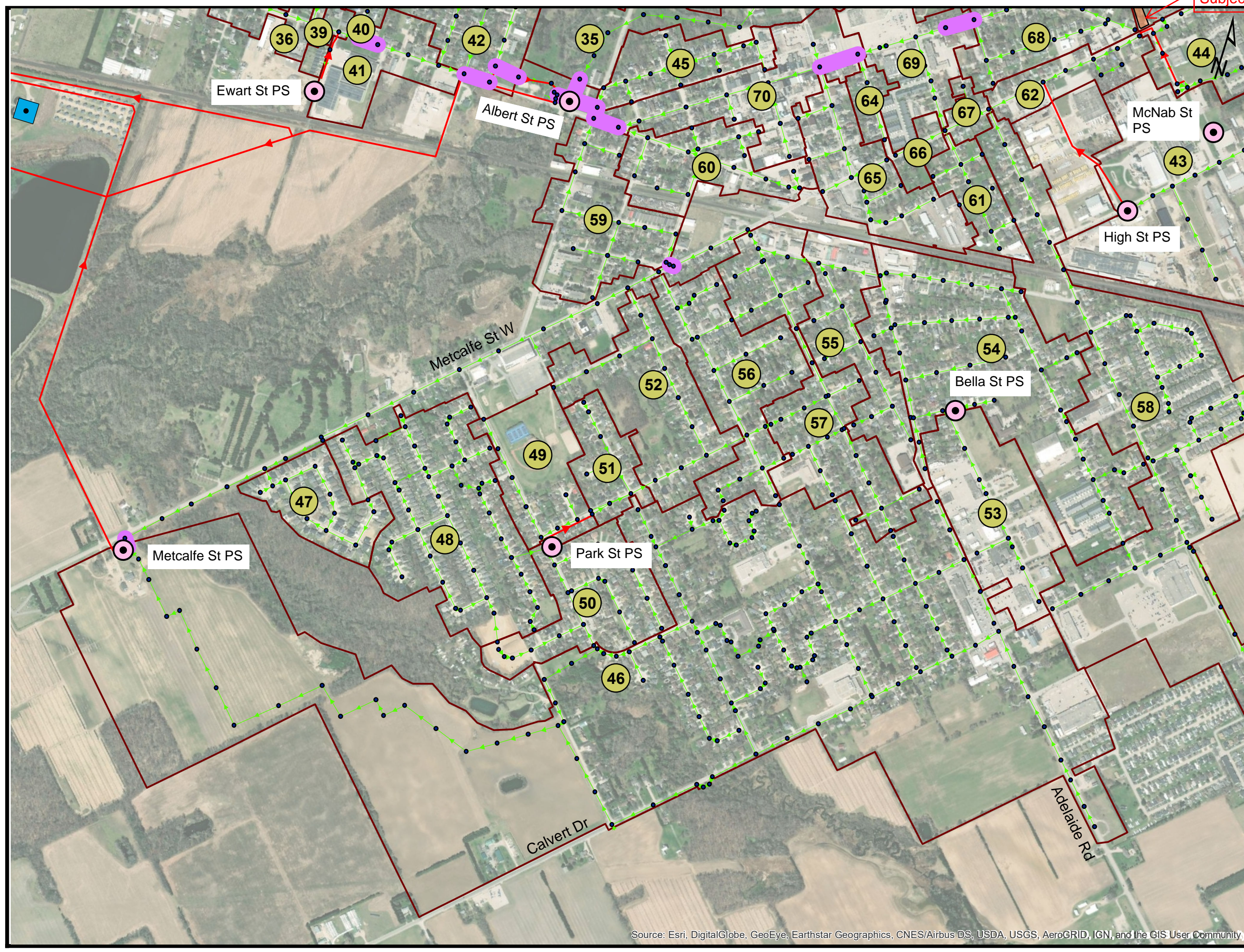
Anticipated total peak sanitary flow with the proposed development  
 $84.61 + 0.74 = 85.35 \text{ L/s}$   
 Remaining capacity = 29.45%

Remaining Capacity

Front St E (209 to 210)	68	9.97	7.98	3.50	2.07	0.50	3.84		0.18	120.96	0.76			
					<b>14.68</b>	<b>3.70</b>	<b>27.62</b>	450		<b>121.0</b>	<b>0.76</b>	23%	93.34	77%
High St Pumping Station	43	46.87	35.15	3.50	9.14	5.70	29.08							
Front St E (269 to 270)	58,61,62,64,66,67,69	96.96	51.35	3.50	13.35	4.16	27.91		0.18	120.96	0.76			
					<b>37.18</b>	<b>13.55</b>	<b>84.61</b>	450		<b>121.0</b>	<b>0.76</b>	70%	36.35	30%
Front St W (547 to 560)	60,65,70	32.95	26.39	3.50	6.86	2.88	16.94		0.22	133.73	0.84			
					<b>44.04</b>	<b>16.43</b>	<b>101.55</b>	450		<b>133.7</b>	<b>0.84</b>	76%	32.18	24%
Victoria St (560 to 561)	59	12.54	9.41	3.50	2.45	1.01	5.97		0.18	182.46	0.84			
					<b>46.48</b>	<b>17.44</b>	<b>107.52</b>	525		<b>182.5</b>	<b>0.84</b>	59%	74.94	41%
Victoria St Diversion (561 to 174)	45	6.76	5.41	3.50	1.41	0.79	4.18		0.71	362.38	1.67			
					<b>47.89</b>	<b>18.23</b>	<b>111.70</b>	525		<b>362.4</b>	<b>1.67</b>	31%	250.68	69%
<b>Total Flow to Albert St PS</b>					<b>112.08</b>	<b>32.54</b>	<b>225.95</b>							
<b>Sewer Leg#4 to Metcalf St Sewage Pump Station</b>														
Metcalf St W (356 to 492)	53,54,55,57	76.27	49.61	3.50	12.90	3.52	25.22		0.15	67.91	0.61			
					<b>12.90</b>	<b>3.52</b>	<b>25.22</b>	375		<b>67.9</b>	<b>0.61</b>	37%	42.69	63%
Park St Pumping Station	48,49,50	46.40	32.99	3.50	8.58	1.81	14.91							
Metcalf St W (018 to 019)	47,51,52,56	41.53	33.52	3.50	8.72	1.66	14.51		2.00	608.20	2.81			
					<b>30.19</b>	<b>6.98</b>	<b>54.64</b>	525		<b>608.2</b>	<b>2.81</b>	9%	553.56	91%
Park St Diversion (019 to PS)	46	171.75	17.18	3.50	4.47	1.74	10.57		1.00	614.01	2.17			
<b>Total Flow to Metcalfe St PS</b>					<b>34.66</b>	<b>8.73</b>	<b>65.21</b>	600		<b>614.0</b>	<b>2.17</b>	11%	548.80	89%
<b>Total Flow to Strathroy STP</b>					<b>146.74</b>	<b>41.26</b>	<b>291.16</b>							

\* - Area estimated based on ariel basemap

Subject Site (approx.)

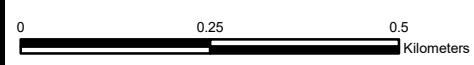


- Legend**
- Sanitary Manhole
  - ⊙ Sewage Pumping Station
  - Sewage Treatment Plant
  - Sanitary Forcemain
  - Sanitary Gravity Sewer
  - Analyzed Sewer Segment
  - ▭ Sanitary Subcatchment



Strathroy-Caradoc Official Plan

Figure A-3  
Strathroy Sewer Network - Existing Conditions  
Page 5 of 5



20M-01349-00 | January 2022

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Table B-4 Scenario 2 Strathroy Sanitary Sewer Capacity Analysis - Future Condition**

Anticipated total peak sanitary flow with the proposed development  
 $92.64 + 0.74 = 93.38 \text{ L/s}$   
 Remaining capacity = 22.82%

Remaining Capacity

Front St E (209 to 210)	68	9.97	7.98	3.50	2.07	0.50	3.84		0.18	120.96	0.76			
					<b>14.68</b>	<b>4.02</b>	<b>28.77</b>	450		<b>121.0</b>	<b>0.76</b>	24%	92.19	76%
High St Pumping Station	43	46.87	35.15	3.50	9.14	5.70	29.10							
Front St E (269 to 270)	58,61,62,64,66,67,69	96.96	51.35	3.50	13.35	6.12	34.77		0.18	120.96	0.76			
					<b>37.18</b>	<b>15.85</b>	<b>92.64</b>	450		<b>121.0</b>	<b>0.76</b>	77%	28.32	23%
Front St W (547 to 560)	60,65,70	32.95	26.39	3.50	6.86	2.94	17.14		0.22	133.73	0.84			
					<b>44.04</b>	<b>18.78</b>	<b>109.78</b>	450		<b>133.7</b>	<b>0.84</b>	82%	23.95	18%
Victoria St (560 to 561)	59	12.54	9.41	3.50	2.45	1.01	5.97		0.18	182.46	0.84			
					<b>46.48</b>	<b>19.79</b>	<b>115.75</b>	525		<b>182.5</b>	<b>0.84</b>	63%	66.71	37%
Victoria St Diversion (561 to 174)	45	6.76	5.41	3.50	1.41	1.19	5.58		0.71	362.38	1.67			
					<b>47.89</b>	<b>20.98</b>	<b>121.33</b>	525		<b>362.4</b>	<b>1.67</b>	33%	241.04	67%
<b>Total Flow to Albert St PS</b>					<b>112.08</b>	<b>48.61</b>	<b>282.20</b>							
<b>Sewer Leg#4 to Metcalf St Sewage Pump Station</b>														
Metcalf St W (356 to 492)	53,54,55,57	76.27	49.61	3.50	12.90	3.91	26.59		0.15	67.91	0.61			
					<b>12.90</b>	<b>3.91</b>	<b>26.59</b>	375		<b>67.9</b>	<b>0.61</b>	39%	41.31	61%
Park St Pumping Station	48,49,50	46.40	32.99	3.50	8.58	1.93	15.33							
Metcalf St W (018 to 019)	47,51,52,56	41.53	33.52	3.50	8.72	2.35	16.95		2.00	608.20	2.81			
					<b>30.19</b>	<b>8.19</b>	<b>58.87</b>	525		<b>608.2</b>	<b>2.81</b>	10%	549.33	90%
Park St Diversion (019 to PS)	46	171.75	17.18	3.50	4.47	6.03	25.58		1.00	614.01	2.17			
<b>Total Flow to Metcalfe St PS</b>					<b>34.66</b>	<b>14.22</b>	<b>84.44</b>	600		<b>614.0</b>	<b>2.17</b>	14%	529.57	86%
<b>Total Flow to Strathroy STP</b>					<b>146.74</b>	<b>62.83</b>	<b>366.65</b>							

\* - Area estimated based on ariel basemap

**APPENDIX D**

Stormwater Management Imperviousness Calculations (SBM)  
Town of Strathroy and Caradoc Storm Sewer Design Sheet with 5 Year Curve (WSP)  
Email from Municipality of Strathroy-Caradoc concerning SWM requirements  
Storm Sewer Plan (WSP)



PLANNING • CIVIL • STRUCTURAL • MECHANICAL • ELECTRICAL

LONDON LOCATION  
1599 Adelaide St. N., Unit 301  
London, ON N5X 4E8  
P: 519-471-6667

www.sbmltd.ca

KITCHENER LOCATION  
132 Queen St. S. Unit 4  
Kitchener, ON N2G 1V9  
P: 519-725-8093

sbm@sbmltd.ca

## IMPERVIOUSNESS CALCULATIONS

DATE: December 23, 2025  
JOB NO.: S251743

Client: 1000905949 Ontario Ltd.  
Project: Proposed 6-unit Townhome Development  
Location: 295-297 Metcalfe Street East, Strathroy, ON

### PRE-DEVELOPMENT

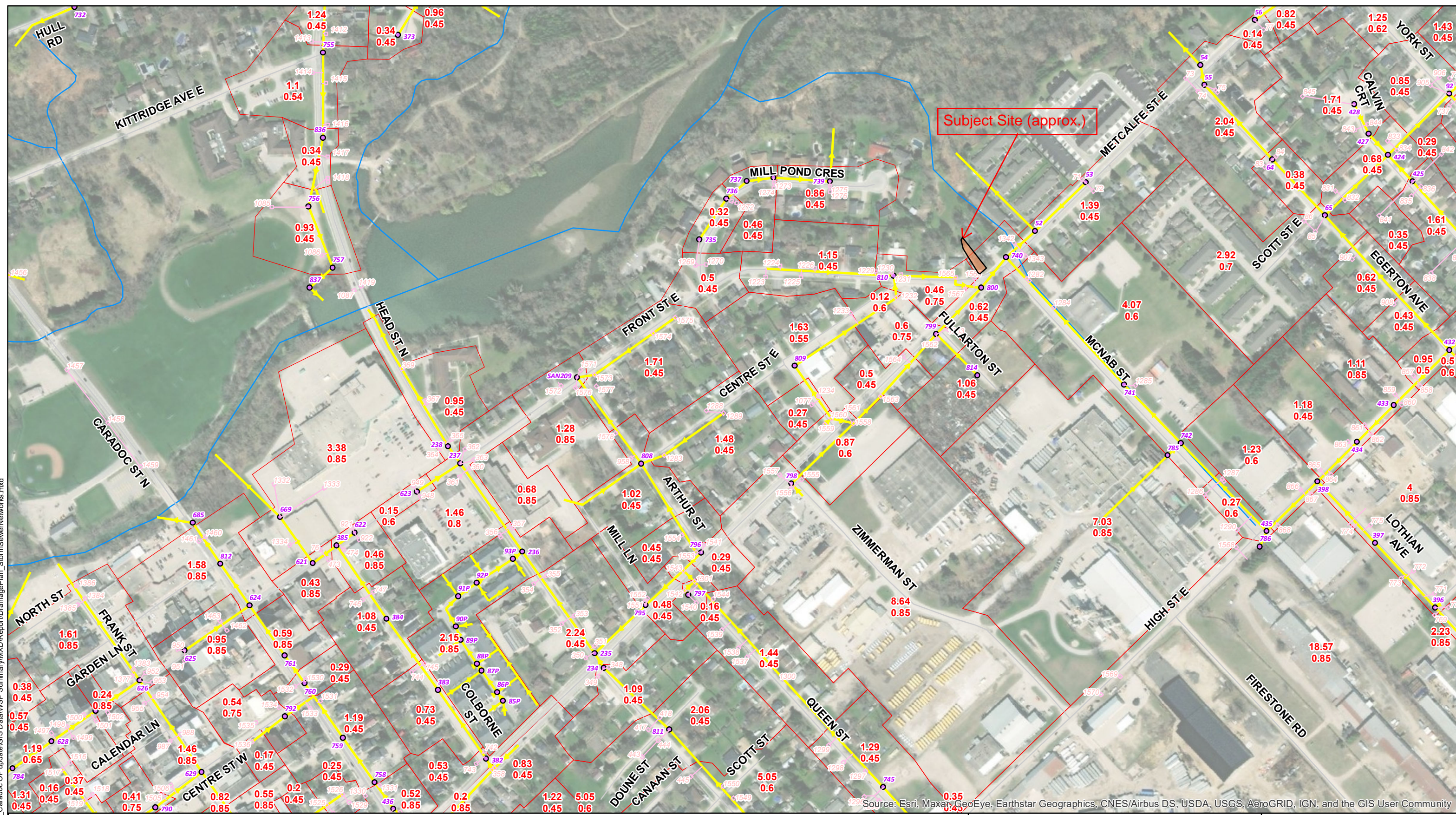
	Area (m2)	C	A*C
Total Area:	2007.60		
Building Area:	150.00	0.9	135.00
Concrete/Asphalt:	250.00	0.9	225.00
Gravel:	0.00	0.7	0.00
Landscaped/Open:	1607.60	0.2	321.52
Totals:	2007.60		681.52
Ceq = Sum(A*C)/Sum(A) =	0.34		
Imperviousness (%)	19.9		

### POST-DEVELOPMENT

	Area (m2)	C	A*C
Total Area:	2007.60		
Building Area:	150.66	0.9	135.59
Concrete/Asphalt/Amenity:	593.61	0.9	534.25
Gravel:	0.00	0.9	0.00
Landscaped/Open:	1263.33	0.2	252.67
Totals:	2007.60		922.51
Ceq = Sum(A*C)/Sum(A) =	0.46		
Imperviousness (%)	37.1		

As the post development C-Value exceeds the pre-development condition SWM controls will be proposed during the detailed design phase in accordance with correspondence with the municipality.

Document Path: F:\E\WSP\_Strathroy\_MXD\Report\DrainagePlan\_StormSewerNetworks.mxd

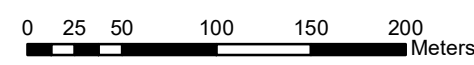


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

- Types of Manhole**
- Storm Sewer
  - Watercourse
  - CB
  - STRM\_MH
  - railway
  - Road
  - Boundary
  - Catchment Boundary

**0.25** — DRAINAGE AREA (ha)  
**0.45** — RUNOFF COEFFICIENT



CLIENT	MUNICIPALITY OF STRATHROY-CARADOC	
TITLE	SERVICING CAPACITY AND CONSTRAINTS STUDY – STORMWATER	
<b>STORM SEWER PLAN</b>		

Checked	J.Z.
Drawn	J.C.
Date	June 2022
Proj. No.	20M-01349-00
Scale	1:4,000
Figure No.	<b>STM-11</b>

**Town of Strathroy and Caradoc  
STORM SEWER DESIGN  
WITH 5 Year CURVE**

5 Year Parameters  
A= 1137.3  
B= 7.184  
C= 0.830

Runoff Coefficients  
Townhouse: 0.75  
Single Res. 0.45  
Roadway 0.60  
School 0.75  
Commercial/Industrial 0.85  
Park 0.25

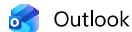
100 Year Parameters  
A= 2561.2  
B= 9.093  
C= 0.888

Q = KCAi  
K = Conversion Factor 0.002778  
C = Runoff Coef.  
A = Area (ha)  
i = Rainfall Intensity  
 $Q = \frac{A}{(i+B)^C}$   
10.00

CONSULTANT: WSP CANADA INC.  
SUBDIVISION: Urban Area  
PROJECT NO.: 20M-01349-00  
DRAWING REF:  
REVISION: OP REVIEW  
DESIGNED BY:  
REVIEWED BY: JZ

**2022 Capacity Review - STRATHROY**

STREET	CATCHMENT ID	FROM MH	TO MH	AREA (ha)	CUMUL AREA (ha)	RUN OFF COEF.	CA	CUMUL CA	INT. 5YR (i) (mm/hr)	FLOW 5YR (Q) (cms)	INT. 100YR (i) (mm/hr)	FLOW 100YR (Q) (cms)	CUMUL FLOW (Q) (cms)	LENGTH (m)	PIPE DIA. (mm)	SLOPE (%)	VELOCITY (m/s)	INLET TIME (min)	SECTION TIME (min)	ACCUM TIME (min)	CAPACITY (cms)	CAPACITY CHECK
METCALFE ST E		800	740	0.00	15.03	0.45	0.00	10.80	64.50	1.936			1.936	44.6	900	0.08	0.813	24.55	0.91	25.47	0.52	374.05%
METCALFE ST E		740	52	0.62	79.01	0.45	0.28	61.50	63.00	10.762			10.762	127.0	1350	0.15	1.460	25.47	1.45	26.92	2.09	515.14%
METCALFE ST E		53	52	1.39	1.39	0.45	0.63	0.63	107.33	0.186			0.186	80.0	300	1.12	1.463	10.00	0.91	10.91	0.10	180.31%
METCALFE ST E		52	OUTLET	0.00	80.40	0.45	0.00	62.12	60.76	10.486			10.486	90.0	1350	0.50	2.665	26.92	0.56	27.48	3.81	274.92%
EGERTON ST		CBMH90	CBMH89	0.43	0.43	0.45	0.19	0.19	107.33	0.058			0.058	69.0	300	0.30	0.757	10.00	1.52	11.52	0.05	107.78%
EGERTON ST		CBMH89	65	0.62	1.05	0.45	0.28	0.47	100.04	0.131			0.131	55.0	300	0.30	0.757	11.52	1.21	12.73	0.05	245.32%
EGERTON ST		65	64	2.92	3.97	0.70	2.04	2.52	94.97	0.664			0.664	93.5	1350	0.25	1.884	12.73	0.83	13.56	2.70	24.62%
EGERTON ST		64	55	0.38	4.35	0.45	0.17	2.69	91.81	0.685			0.685	112.5	1350	0.25	1.884	13.56	1.00	14.55	2.70	25.42%
METCALFE ST E		55	54	2.04	6.39	0.45	0.92	3.61	88.31	0.885			0.885	19.1	1350	0.30	2.064	14.55	0.15	14.71	2.95	29.94%
METCALFE ST E		54	OUTLET	0.00	6.39	2.45	0.00	3.61	87.79	0.879			0.879	51.0	1350	0.30	2.064	14.71	0.41	15.12	2.95	29.76%
JUNIPER CRES		613	612	0.70	0.70	0.45	0.32	0.32	107.33	0.094			0.094	28.0	375	0.56	1.201	10.00	0.39	10.39	0.13	70.83%
WILLOW CRES		614	612	0.56	0.56	0.45	0.25	0.25	107.33	0.075			0.075	17.0	300	0.51	0.987	10.00	0.29	10.29	0.07	107.65%
PARKVIEW DR		612	611	0.00	1.26	0.45	0.00	0.57	105.35	0.166			0.166	73.2	450	0.49	1.268	10.39	0.96	11.35	0.20	82.27%
PARKVIEW DR		CBMH86	611	0.50	0.50	0.45	0.23	0.23	107.33	0.067			0.067	47.5	300	0.50	0.978	10.00	0.81	10.81	0.07	97.08%
PARKVIEW DR		CBMH87	611	0.54	0.54	0.45	0.24	0.24	107.33	0.072			0.072	50.5	300	0.50	0.978	10.00	0.86	10.86	0.07	104.84%
PARKVIEW DR		611	610	0.39	2.69	0.45	0.18	1.21	100.79	0.339			0.339	71.5	600	0.43	1.439	11.35	0.83	12.18	0.41	83.29%
PARKVIEW DR		CBMH12	610	0.44	0.44	0.45	0.20	0.20	107.33	0.059			0.059	34.5	300	0.48	0.958	10.00	0.60	10.60	0.07	87.19%
PARKVIEW DR		610	609	0.00	3.13	0.45	0.00	1.41	97.20	0.380			0.380	71.6	600	0.40	1.388	12.18	0.86	13.04	0.39	96.91%
PARKVIEW DR		609	608	0.72	3.85	0.45	0.32	1.73	93.76	0.451			0.451	41.3	600	0.35	1.298	13.04	0.53	13.57	0.37	122.92%
JUNIPER CRES		CBMH88	618	0.26	0.26	0.45	0.12	0.12	107.33	0.035			0.035	42.7	300	0.91	1.319	10.00	0.54	10.54	0.09	37.42%
JUNIPER CRES		618	617	0.29	0.55	0.45	0.13	0.25	104.61	0.072			0.072	68.7	375	0.40	1.015	10.54	1.13	11.67	0.11	64.18%
JUNIPER CRES		617	616	0.42	0.97	0.45	0.19	0.44	99.39	0.121			0.121	62.6	375	0.37	0.976	11.67	1.07	12.74	0.11	111.82%
JUNIPER CRES		616	615	0.00	0.97	0.45	0.00	0.44	94.94	0.115			0.115	21.6	375	0.79	1.426	12.74	0.25	12.99	0.16	73.10%
JUNIPER CRES		615	608	0.50	1.47	0.45	0.23	0.66	93.95	0.173			0.173	57.4	450	0.31	1.009	12.99	0.95	13.94	0.16	107.62%
WILLOW CRES		CBMH83	603	0.55	0.55	0.45	0.25	0.25	107.33	0.074			0.074	47.1	300	0.68	1.140	10.00	0.69	10.69	0.08	91.57%
WILLOW CRES		603	604	0.40	0.95	0.45	0.18	0.43	103.88	0.123			0.123	65.3	375	0.50	1.134	10.69	0.96	11.65	0.13	98.46%
WILLOW CRES		604	605	0.45	1.40	0.45	0.20	0.63	99.47	0.174			0.174	66.7	450	0.35	1.072	11.65	1.04	12.69	0.17	102.13%
WILLOW CRES		CBMH84	605	0.82	0.82	0.45	0.37	0.37	107.33	0.110			0.110	46.4	300	0.50	0.978	10.00	0.83	10.83	0.07	159.20%
WILLOW CRES		605	606	0.00	2.22	0.45	0.00	1.00	95.14	0.264			0.264	20.5	450	0.35	1.072	12.69	0.32	13.00	0.17	154.89%
WILLOW CRES		CBMH85	606	0.61	0.61	0.45	0.27	0.27	107.33	0.082			0.082	45.0	300	0.71	1.165	10.00	0.64	10.64	0.08	99.39%
WILLOW CRES		606	607	0.00	2.83	0.45	0.00	1.27	93.90	0.332			0.332	52.5	525	0.58	1.529	13.00	0.57	13.58	0.33	100.35%
WILLOW CRES		607	608	0.59	3.42	0.45	0.27	1.54	91.74	0.392			0.392	64.0	525	0.30	1.100	13.58	0.97	14.55	0.24	164.76%
PARKVIEW DR		608	593	0.61	9.35	0.45	0.27	4.21	88.33	1.032			1.032	91.7	675	0.35	1.404	14.55	1.09	15.63	0.50	205.43%
HICKORY BLVD W		594	593	0.83	0.83	0.45	0.37	0.37	107.33	0.111			0.111	68.4	375	0.44	1.064	10.00	1.07	11.07	0.12	94.74%
HEMLOCK BLVD E		602	593	1.08	1.08	0.45	0.49	0.49	107.33	0.145			0.145	87.8	450	0.46	1.229	10.00	1.19	11.19	0.20	74.15%
PARKVIEW DR		593	592	0.23	11.49	0.45	0.10	5.17	84.82	1.218			1.218	80.1	750	0.38	1.570	15.63	0.85	16.48	0.69	175.66%
PARKVIEW DR		592	591	0.00	11.49	0.45	0.00	5.17	82.28	1.182			1.182	41.9	750	0.41	1.631	16.48	0.43	16.91	0.72	164.06%
PARKVIEW DR		591	590	1.37	12.86	0.45	0.62	5.79	81.07	1.303			1.303	33.9	750	0.40	1.611	16.91	0.35	17.26	0.71	183.15%
HICKORY BLVD W		597	596	0.42	0.42	0.45	0.19	0.19	107.33	0.056			0.056	24.8	300	0.46	0.938	10.00	0.44	10.44	0.07	85.01%
HICKORY BLVD W		596	595	0.00	0.42	0.45	0.00	0.19	105.09	0.055			0.055	26.1	300	0.77	1.213	10.44	0.36	10.80	0.09	64.34%
HICKORY BLVD W		595	590	0.61	1.03	0.45	0.27	0.46	103.35	0.133			0.133	87.0	450	0.39	1.131	10.80	1.28	12.08	0.18	73.95%
HEMLOCK BLVD E		601	600	0.26	0.26	0.45	0.12	0.12	107.33	0.035			0.035	16.2	300	0.50	0.978	10.00	0.28	10.28	0.07	50.48%
HEMLOCK BLVD E		600	598	0.00	0.26	0.45	0.00	0.12	105.92	0.034			0.034	25.5	300	0.50	0.978	10.28	0.43	10.71	0.07	49.82%
WALNUT CRT		599	598	0.38	0.38	0.45	0.17	0.17	107.33	0.051			0.051	39.0	300	0.60	1.071	10.00	0.61	10.61	0.08	67.35%
HEMLOCK BLVD E		598	590	0.84	1.48	0.45	0.38	0.67	103.78	0.192			0.192	79.2	450	0.50	1.281	10.71	1.03	11.74	0.20	94.24%



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**FW: S251743 - 295-297 Metcalfe Street East, Strathroy - Servicing Inquiry**

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**From:** Ryan Frouws <rfrouws@sbmltd.ca>  
**Date:** Wed 11/26/2025 9:55 AM  
**To:** Jasmine Leikucs <jleikucs@sbmltd.ca>  
**Cc:** Kyle Kane <kkane@sbmltd.ca>

Plz include the email below with respect to the storm (ill send reds shortly)

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**From:** Jake DeRidder <jderidder@strathroy-caradoc.ca>  
**Sent:** Monday, September 29, 2025 3:07 PM  
**To:** Ryan Frouws <rfrouws@sbmltd.ca>  
**Cc:** Kyle Kane <kkane@sbmltd.ca>; Levi Prinsen <lprinsen@sbmltd.ca>  
**Subject:** RE: S251743 - 295-297 Metcalfe Street East, Strathroy - Servicing Inquiry

Hi Ryan,

If you just don't exceed your pre-development flows to the storm sewer you'll be fine to connect. I'm not aware of any plans to upgrade this section of road in the near future unfortunately.

Regards,

Jake

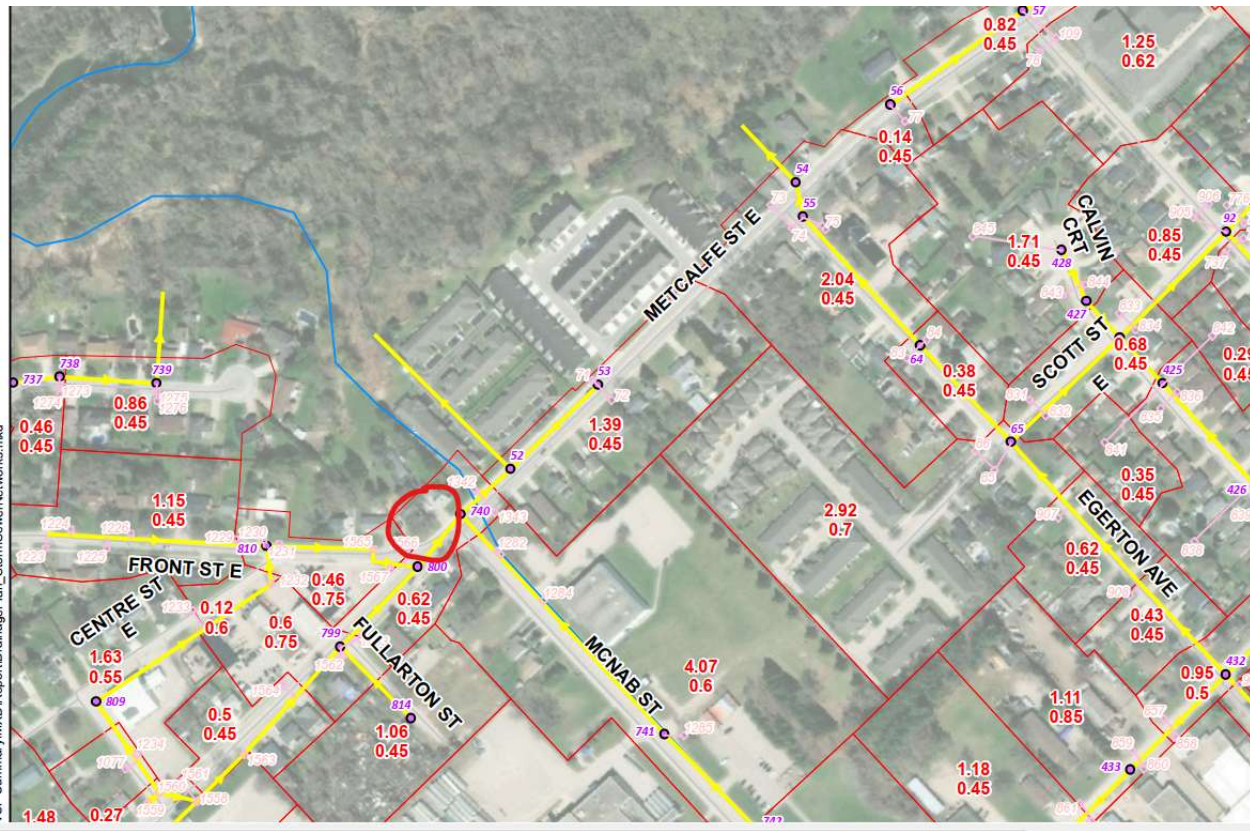
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**From:** Ryan Frouws <rfrouws@sbmltd.ca>  
**Sent:** Thursday, September 25, 2025 4:43 PM  
**To:** Jake DeRidder <jderidder@strathroy-caradoc.ca>  
**Cc:** Kyle Kane <kkane@sbmltd.ca>; Levi Prinsen <lprinsen@sbmltd.ca>  
**Subject:** RE: S251743 - 295-297 Metcalfe Street East, Strathroy - Servicing Inquiry

Good Afternoon Jake,

We are working with the client to provide a feasibility study to support the potential re-development at 295-297 Metcalfe Street East in Strathroy. In our review we have reviewed the master servicing study that previously you provided us for other projects (helpful) and in this specific case when we review the storm (appendix 3 pdf page 18 of 55) we notice that the storm sewer appears to be over capacity however this site in general is tributary to the storm sewer at a c-value of 0.45 (or at least a portion of the site is). For this specific site it appears that the sewer is available for us but at the same time might not be? The rear of the property slopes towards the conservation regulated areas which is where the storm sewer also outlets (so for all intents and purposes the outlet at the rear of the site and the front is the same but takes a different path).

Can you advise what you would require in this instance? Is the storm sewer going to be upgraded in the future? Do we design the site to the C-value of 0.45 (or the small area that's noted below)? The ideal would be a storm sewer connection for the stacked towns and parking lot with the landscaping at the back matching the pre-development condition but we wanted your opinion on this first. Is it possible the master servicing study is being interpreted incorrectly by us?



20M-01349-00  
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TOWN OF STRATHROY AND CARADOC STORM SEWER DESIGN WITH 5 YEAR CURVE		5 Year Parameters		Runoff Coefficients		100 Year Parameters		Q = KCAI		CONSULTANT		WSP CANADA INC.											
2022 Capacity Review - STRATHROY		A= 1137.3	B= 7.184	Townhouse: 0.75	Commercial/Industrial: 0.85	A= 2361.2	B= 9.093	K = Conversion Factor	0.002778	SUBDIVISION	URBAN AREA	PROJECT NO.	20M-01349-00										
		C= 0.830		Single Res: 0.45	Park: 0.25	C= 0.888		C = Runoff Coef.		DRAWING REF.		REVISION	OP REVIEW										
				Roadway: 0.60				A = Area (ha)		DESIGNED BY		REVIEWED BY	JZ										
				School: 0.75				I = Rainfall Intensity															
				Commercial/Industrial: 0.85				(h-B)F															
				Park: 0.25				10.00															
								Minimum Initial Time of Concentration =															
STREET	CATCHMENT ID	FROM MH	TO MH	AREA (ha)	CUMUL AREA (ha)	RUN OFF COEF.	CA	CUMUL CA	INT. SYR (l/s)	FLOW SYR (Q) (l/s)	INT. 100YR (l/s)	FLOW 100YR (Q) (l/s)	FLOW 100 SYR (Q) (l/s)	CUMUL FLOW (Q) (l/s)	LENGTH (m)	PIPE DIA. (mm)	SLOPE (%)	VELOCITY (m/s)	INLET TIME (min)	SECTION TIME (min)	ACCUM TIME (min)	CAPACITY (l/s)	CAPACITY CHECK (%)
METCALFE ST E		800	740	0.00	15.03	0.45	0.20	10.80	54.50	1.230				1.230	44.2	200	0.28	0.813	24.55	0.21	25.47	0.33	374.00%
METCALFE ST E		740	52	0.02	79.01	0.45	0.28	61.80	63.00	10.702				10.702	127.0	1350	0.15	1.480	25.47	1.48	20.02	2.00	615.14%
METCALFE ST E		53	52	1.39	1.39	0.45	0.53	0.63	107.33	0.185				0.185	60.0	300	1.12	1.463	10.00	0.91	10.91	0.10	180.31%
METCALFE ST E		52	OUTLET	0.00	80.40	0.45	0.00	52.12	50.75	10.485				10.485	90.0	1350	0.50	2.585	25.92	0.58	27.48	3.81	274.62%
EGERTON ST	CBMH80	CBMH89		0.43	0.43	0.45	0.19	0.19	107.33	0.058				0.058	55.0	300	0.30	0.757	11.52	1.21	12.73	0.05	107.78%
EGERTON ST	CBMH89	85		0.02	1.05	0.45	0.28	0.47	100.04	0.131				0.131	55.0	300	0.30	0.757	11.52	1.21	12.73	0.05	246.92%
EGERTON ST	85	84		2.02	3.07	0.70	2.04	2.52	94.57	0.654				0.654	93.5	1350	0.25	1.884	12.73	0.83	13.56	2.70	34.02%
EGERTON ST	84	55		0.38	4.35	0.45	0.17	2.00	91.81	0.685				0.685	112.5	1350	0.25	1.884	13.56	1.00	14.55	2.70	25.42%
METCALFE ST E	55	54		2.04	0.30	0.45	0.92	3.01	88.31	0.880				0.880	15.1	1350	0.30	2.084	14.55	0.15	14.71	2.05	29.84%
METCALFE ST E	54	OUTLET		0.00	0.30	0.45	0.00	3.01	87.79	0.870				0.870	51.0	1350	0.30	2.084	14.71	0.41	15.12	2.95	35.70%
JUNIPER CRES	813	812		0.70	0.70	0.45	0.32	0.32	107.33	0.094				0.094	28.0	375	0.58	1.201	10.00	0.30	10.30	0.13	70.83%
WILLOW CRES	814	812		0.55	0.55	0.45	0.25	0.25	107.33	0.075				0.075	17.0	300	0.51	0.987	10.00	0.20	10.20	0.07	107.65%
PARKVIEW DR	812	811		0.00	1.25	0.45	0.00	0.57	105.35	0.155				0.155	73.2	450	0.40	1.258	10.30	0.25	11.35	0.20	82.37%
PARKVIEW DR	CBMH86	811		0.80	0.80	0.45	0.23	0.23	107.33	0.057				0.057	47.5	300	0.50	0.978	10.00	0.81	10.81	0.07	97.08%
PARKVIEW DR	CBMH87	811		0.54	0.54	0.45	0.24	0.24	107.33	0.072				0.072	50.5	300	0.50	0.978	10.00	0.80	10.80	0.07	104.64%
PARKVIEW DR	811	810		0.30	2.02	0.45	0.18	1.21	100.79	0.330				0.330	71.5	600	0.43	1.430	11.35	0.83	12.18	0.41	89.20%
PARKVIEW DR	CBMH12	810		0.44	0.44	0.45	0.20	0.20	107.33	0.059				0.059	34.5	300	0.48	0.958	10.00	0.50	10.50	0.07	87.19%
PARKVIEW DR	810	609		0.00	3.13	0.45	0.00	1.41	97.20	0.380				0.380	71.0	600	0.40	1.388	12.18	0.80	13.04	0.30	95.91%
PARKVIEW DR	609	608		0.72	3.85	0.45	0.32	1.73	93.75	0.451				0.451	41.3	600	0.35	1.268	13.04	0.53	13.57	0.37	112.02%
JUNIPER CRES	CBMH88	818		0.25	0.25	0.45	0.12	0.12	107.33	0.038				0.038	45.7	300	0.51	1.110	10.00	0.54	10.54	0.00	37.42%
JUNIPER CRES	818	817		0.30	0.55	0.45	0.13	0.25	104.91	0.072				0.072	58.7	375	0.40	1.015	10.54	1.13	11.67	0.11	64.18%
JUNIPER CRES	817	816		0.42	0.97	0.45	0.19	0.44	90.30	0.121				0.121	62.5	375	0.37	0.970	11.67	1.07	12.74	0.11	111.82%
JUNIPER CRES	816	815		0.00	0.97	0.45	0.00	0.44	94.64	0.115				0.115	21.5	375	0.70	1.420	12.74	0.25	15.90	0.10	73.10%
JUNIPER CRES	815	608		0.50	1.47	0.45	0.23	0.68	93.95	0.173				0.173	57.4	450	0.31	1.000	12.90	0.95	13.94	0.10	107.62%
WILLOW CRES	CBMH83	803		0.55	0.55	0.45	0.25	0.25	107.33	0.074				0.074	47.1	300	0.68	1.140	10.00	0.50	10.00	0.08	21.57%
WILLOW CRES	803	804		0.45	0.95	0.45	0.18	0.43	103.88	0.123				0.123	55.3	375	0.50	1.134	10.00	0.25	11.65	0.13	85.45%
WILLOW CRES	804	805		0.45	1.40	0.45	0.20	0.63	99.47	0.174				0.174	56.7	450	0.35	1.072	11.65	1.04	12.90	0.17	102.19%
WILLOW CRES	CBMH84	805		0.82	0.82	0.45	0.37	0.37	107.33	0.110				0.110	42.4	300	0.50	0.978	10.00	0.83	10.83	0.09	152.20%
WILLOW CRES	805	806		0.00	2.22	0.45	0.00	1.00	95.14	0.254				0.254	20.5	450	0.35	1.072	12.90	0.32	13.00	0.17	154.60%
WILLOW CRES	CBMH85	806		0.01	0.01	0.45	0.27	0.27	107.33	0.082				0.082	45.0	300	0.71	1.185	10.00	0.54	10.54	0.08	99.30%
WILLOW CRES	806	807		0.00	2.83	0.45	0.00	1.27	93.00	0.332				0.332	52.5	525	0.88	1.520	13.00	0.87	13.88	0.33	100.33%

Regards,

**Ryan Frouws, P. Eng**  
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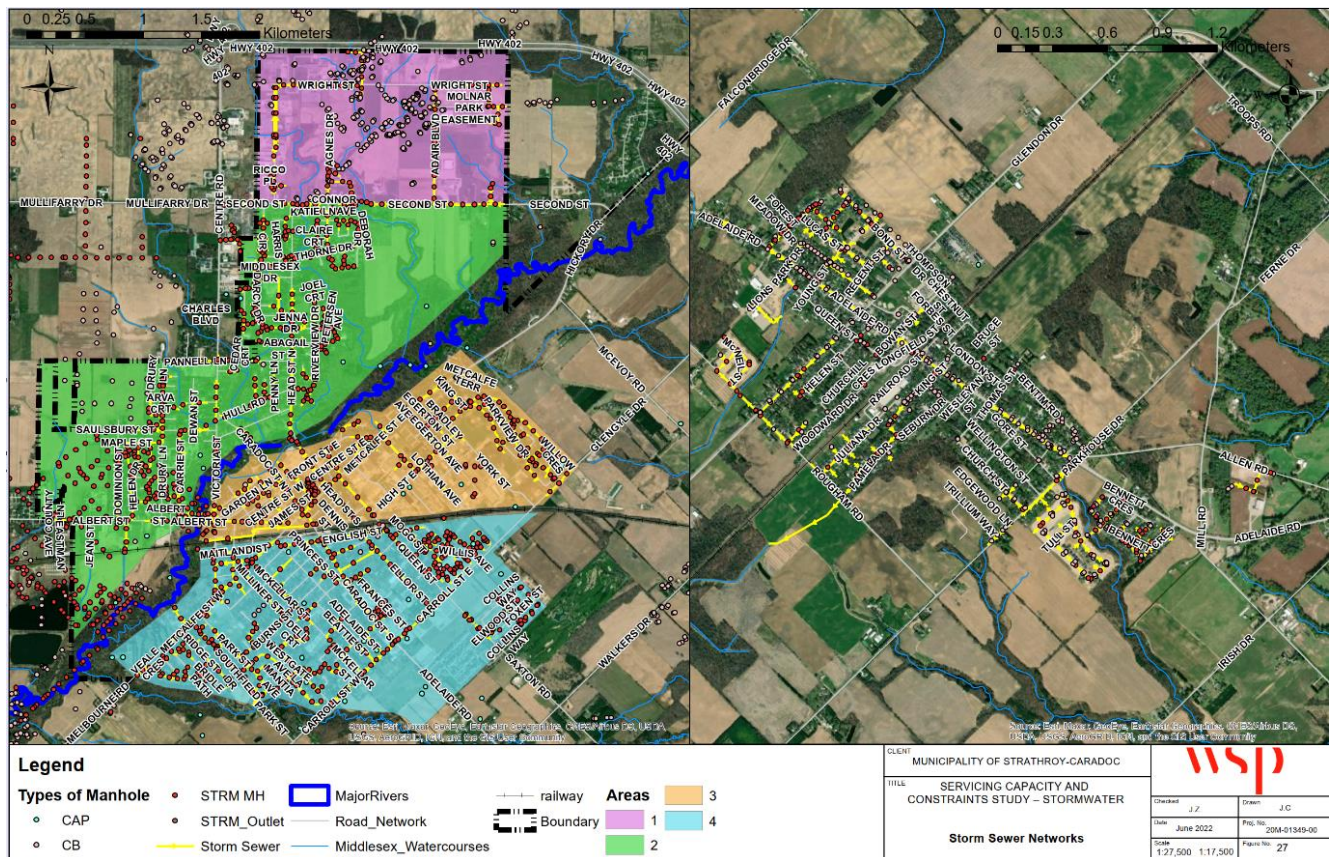
### Thames River Drainage Basin (9,970 ha, 36.8%)

Approximately 9,970 ha or 36.8% of the Municipality’s lands drain to Thames River to the south, which is under the jurisdiction of the Lower Thames Valley Conservation Authority (LTVCA).

#### 5.1.2.2 Minor System - Storm Sewers

The Municipality of Strathroy-Caradoc adopted a dual storm drainage system in its urbanized areas of Strathroy and Mount Brydges. As per the Servicing Standards of the Municipality (2021), the storm sewers are to be designed to convey the 5-year minor storm event to a sufficient outlet or a stormwater management facility for quantity control.

**Figure 28** presents an overview of the existing storm sewer networks in both Strathroy and Mount Brydges, shown in yellow lines.



**Figure 28: Overview of the Existing Storm Sewer Networks**

#### 5.1.2.3 Major System - Overland Flow Route

As per the Servicing Standards of the Municipality, overland flow routes should be designed to convey major storm flows in excess the minor system up to the 100-year and Regional storm. The overland flow route shall be either the roadway right-of-way (ROW) or by other lands such as flow easements under the control of the Municipality.

## 5.2 Storm Sewer Capacity Analysis

The storm sewer capacity analysis was carried out using a spreadsheet model developed for this study. The spreadsheet model was used to evaluate the capacity of the minor storm system as per the Municipality's current Servicing Standards (2021). The capacity analysis consists of a hydrologic analysis of the upstream contributing drainage area and hydraulic analysis of the storm sewer systems.

The overland flow routes and open portions of municipal drains were not included in the analysis.

### 5.2.1 Spreadsheet Model Setup

The GIS database of the Strathroy and Mount Brydges storm sewer networks, provided by the Municipality of Strathroy-Caradoc, were used for the hydrology and hydraulic analysis of the storm sewer system. The storm sewer network data include storm pipes, maintenance holes (MHs), catch-basin and maintenance holes (CBMHs), catch-basins (CBs), double catch-basins (DCBs), stormwater management (SWM) ponds, storm headwalls / outlets.

All the storm sewers servicing the communities of Strathroy and Mount Brydges were reviewed. Refer to **Figure 28** for the storm sewer networks for Strathroy and Mount Brydges.

#### 5.2.1.1 Strathroy

For the study purpose, the Strathroy is divided into four sub-areas as shown on **Figure 28**.

**Area #1** includes the Molnar Industrial Park located north of Second Street and south of Highway 402. Stormwater runoff from Area #1 is either conveyed by the storm sewers or directly discharge into various tributaries running southernly, and ultimately drains to the East Sydenham River. The storm sewers on Wright Street and Second Street are generally installed during 2000 to 2010.

**Area #2** is a predominantly residential area located south of Second Street and north of the East Sydenham River. Stormwater runoff from this area is conveyed by the storm sewers to various tributaries running southernly, or directly discharged into the East Sydenham River. The storm sewers in this area are generally installed since 1990s with portion installed as early as the 1970s.

**Area #3** is located south of the East Sydenham River and north of the Canadian National Railway (CNR). This area consists of Downtown Strathroy, industrial/commercial areas, and residential areas. Stormwater runoff from this area is generally conveyed by the storm sewers northernly to East Sydenham River. The storm sewers in this area are installed prior to 1990s and as early as in 1950s.

**Area #4** is located south of the CNR. This area represents the older residential areas with newer developments east of Queen Street and south of Carroll St. Stormwater runoff from this area generally drains westerly to Humphrey Drain and then to East Sydenham River. Storm sewers in this area are installed as early as in 1950s.

#### 5.2.1.2 Mount Brydges

Mount Brydges is a predominantly residential community and is divided into two sub-areas. The first area, north of the CNR, generally flows westerly and ultimately discharges into the East