Functional Servicing Report

for

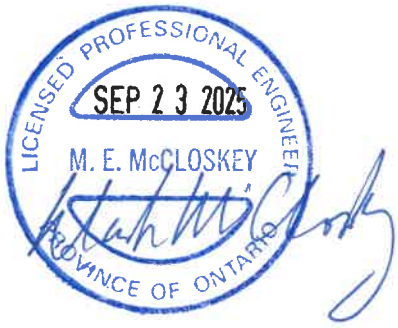
Proposed Residential Development

4276 Roseland Drive East, Windsor, Ontario

By

D.C. McCloskey Engineering Ltd.

Certification of Authorization No. 11557479



Project No: M25-206

23 September 2025

FUNCTIONAL SERVICING REPORT FOR

Proposed Residential Development
4276 Roseland Drive East, Windsor, Ontario

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1. Report Objective

This Functional Servicing Report has been prepared to assess the potential impact of the re-development of the property at 4276 Roseland Drive East on the current municipal water, sanitary and storm sewer services. This report provides an assessment of the proposed domestic water demand, wastewater flows, and the design criteria for the stormwater management design and review the current capacity of each utility to support the rezoning application from Institutional (ID1.1) to Residential (RD2.2).

2. Project Description

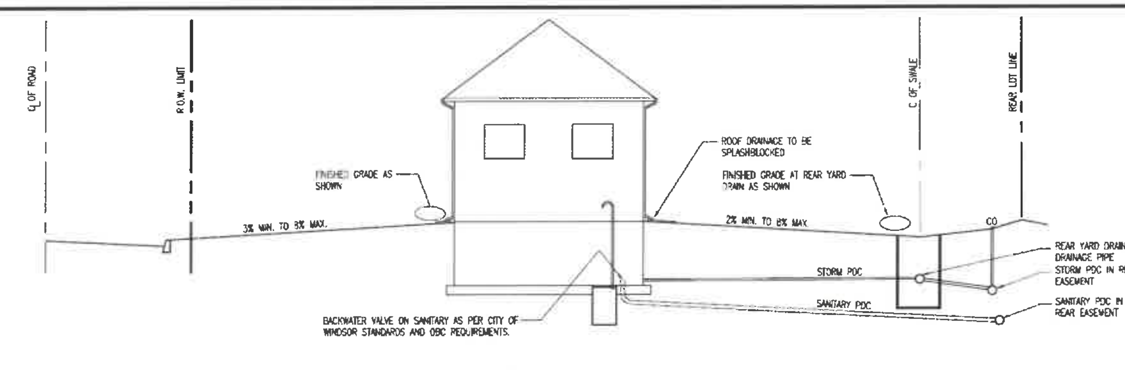
The former St. James Anglican Church, situated on the 0.5-hectare triangular shaped property, is proposed to be developed into a residential community comprising of sixteen freehold residential units. The development program includes:

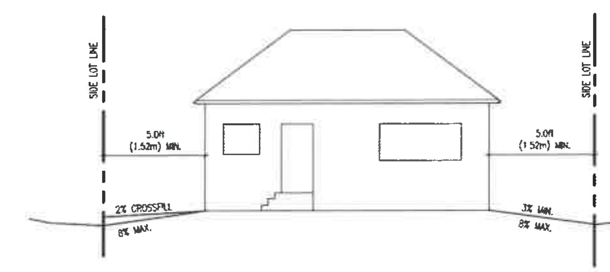
- Four semi-detached units arranged in two buildings
- Twelve townhouse units arranged in four buildings
- Associated private driveways and landscaped areas
- Integration of sustainable stormwater management system

3. Report References

The following drawings and standards were referenced in the preparation of this report:

- Topographic Survey prepared by Verhaegen Land Surveyors dated 02 January 2024
- City of Windsor sewer map (sewer atlas maps K15 and L15)
- City of Windsor Development Manual (refer to City website for document)
- Ministry of Environment, Conservation and Parks (MECP) Stormwater Management Design Guidelines
- MECP Design Criteria for Sewers and Forcemains (2019)
- MECP Design Criteria for Sanitary Sewers, Storm Sewers and Forcemains for Alterations Authorized under Environmental Compliance Approval (version 2.0, 31 May 2023)





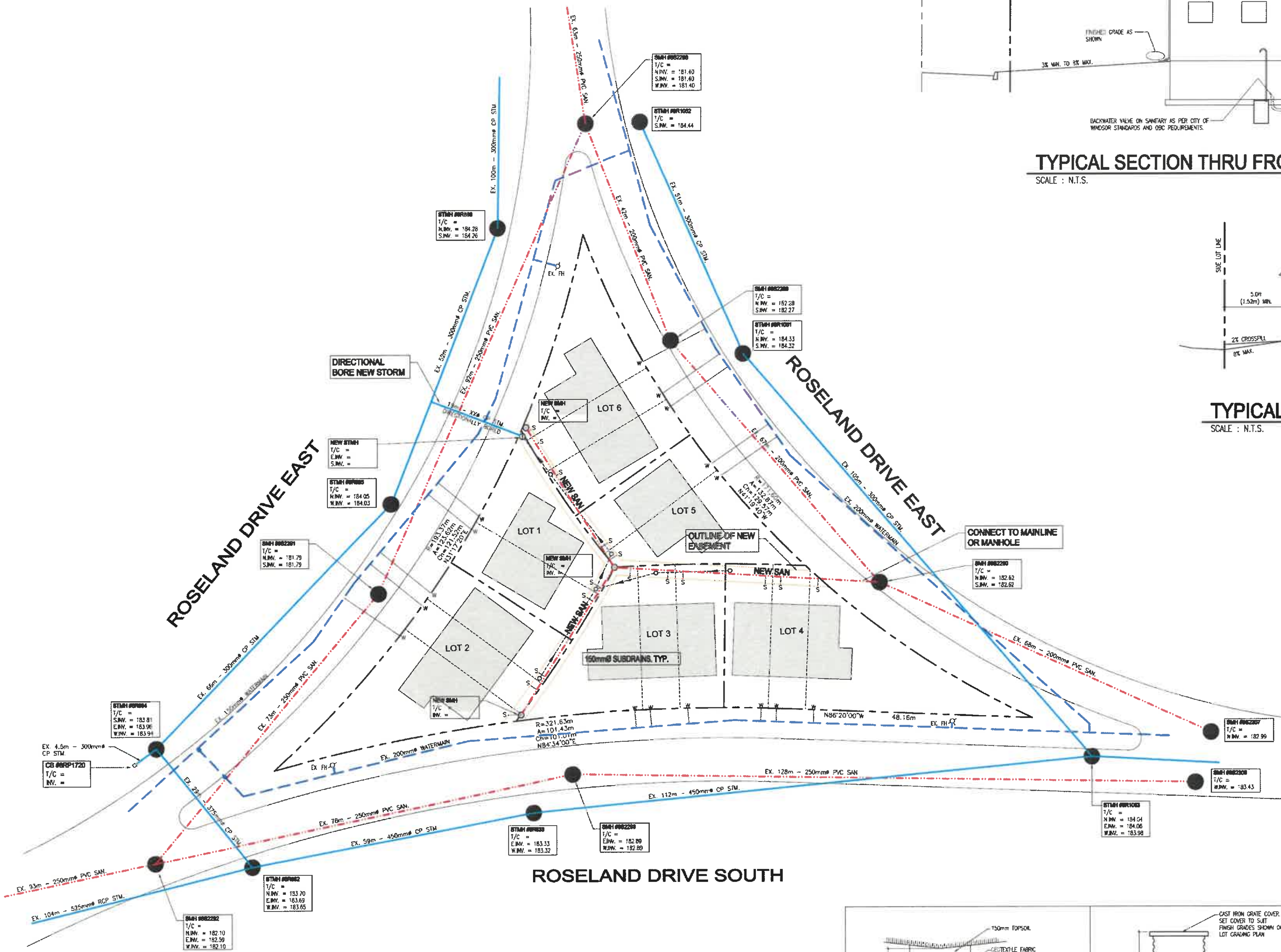
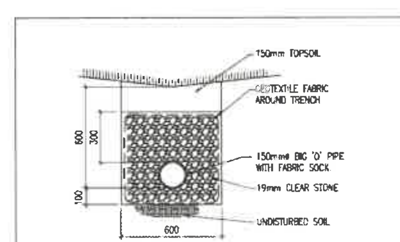
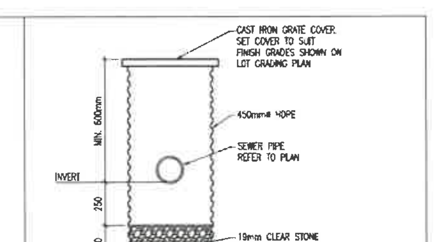


FIGURE 1 - SITE SERVICING

SCALE : 1:400



SUB-DRAIN DETAIL



YARD DRAIN DETAIL

LEGEND

ADJ	TO BE ADJUSTED	RWL	RAINWATER LEADER w/ CLEANOUT
BC	BOTTOM OF CURB	SAN	SANITARY SEWER
BP	BELL PEDESTAL	SMH	SANITARY SEWER MANHOLE
BOL	BOLLARD	ST	STORM SEWER
B/D	BOTTOM OF DITCH	STMH	STORM SEWER MANHOLE
B/SW	BOTTOM OF SWALE	TC	TOP OF CURB
CB	CATCH BASIN	T/C	TOP OF COVER
CBMH	CATCH BASIN MANHOLE	TL	TRAFFIC LIGHT
C O	CLEAN OUT	TMH	TRAFFIC MANHOLE
CSP	CORRUGATED STEEL PIPE	TRMH	TRAFFIC SIGNAL ELECTRICAL MANHOLE
CS	CURB STOP	TRC	TRAFFIC CONTROL
CTV	CABLE TELEVISION	UP	UTILITY POLE
DICB	DITCH INLET CATCH BASIN	VAC	VACUUM
DS/CO	DOWNSPOUT w/ CLEANOUT	VT	VENT
DS/SB	DOWNSPOUT w/ SPLASHBLOCK	WCR	WHEELCHAIR RAMP (CURB CUT)
DWS	DOMESTIC WATER SERVICE	WP	WALL PACK LIGHTING
E/P	EDGE OF PAVEMENT	WV	WATER VALVE
E/SH	EDGE OF SHOULDER	YD	YARD DRAIN
FDC	FIRE DEPARTMENT CONNECTION	+ 603.68	EXIST. GRADE
FH	FIRE HYDRANT	+603.68 (boxed)	NEW GRADE
FP	FLAG POLE		SLOPE LINES
GM	GAS METER		PRIMARY BLDG. ENTRANCE
GW	GUY WIRE		SECONDARY BLDG. ENTRANCE
HP	HYDRO POLE	(H)	HYDRO METER
INV	SEWER INVERT	(1)	CATCHMENT AREA DESIGNATION
LS	LIGHT STANDARD		BACKFLOW PREVENTER & CHAMBER
MHW	WATER MANHOLE		OVERLAND FLOW
MW	MONITORING WELL		BARRIER CURB
PIV	POST INDICATOR VALVE		CURB & GUTTER
REL	TO BE RELOCATED		
REM	TO BE REMOVED		

GAS LINE
BELL LINE
HYDRO LINE
SANITARY SEWER
WATER LINE
STORM SEWER
SUBDRAIN
SUBDRAIN AND SWALE
SWALE
PROPERTY LINE

d.c. mccloskey engineering ltd.
200-5745 wyandotte street east, windsor, ontario n8s 1m6 tel (519) 977 5800

general notes:

1. THIS PRINT IS AN INSTRUMENT OF SERVICE ONLY AND IS THE PROPERTY OF THE ENGINEER.
2. DRAWINGS SHALL NOT BE SCALED.
3. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS.
4. ATTENTION IS DIRECTED TO PROVISIONS IN THE GENERAL CONDITIONS REGARDING CONTRACTOR'S RESPONSIBILITIES IN REGARDS TO SUBMISSION OF SHOP DRAWINGS.
5. IN THE EVENT THE DESIGNER IS RETAINED TO REVIEW SHOP DRAWINGS, SUCH REVIEW IS ONLY TO CHECK FOR CONFORMANCE WITH DESIGN CONCEPT AND WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS.
6. CONTRACTORS SHALL PROMPTLY NOTIFY THE DESIGNER IN WRITING OF THE EXISTENCE OF ANY OBSERVED VARIATIONS BETWEEN THE CONTRACT DOCUMENTS AND ANY APPLICABLE CODES OR BY-LAWS.
7. THE DESIGNER IS NOT RESPONSIBLE FOR THE CONTRACTORS'S MEANS, METHODS AND OR TECHNIQUES IN THE CONSTRUCTION OF THIS FACILITY.

DETAIL NUMBER / LOCATION SHEET / DETAIL SHEET

DATE (dd/mm/yy)	ISSUED FOR
19/09/25	ZONING BYLAW AMENDMENT

PROJECT

RESIDENTIAL DEVELOPMENT AT AMEN CORNER

4276 ROSELAND DRIVE EAST
WINDSOR, ONTARIO

CLIENT

PETCON REALTY GP INC.

DRAWING TITLE

SITE SERVICING

DATE :	JULY 2025
SCALE :	AS NOTED
DRAWN BY :	JLD
CHECKED BY :	MEM
PROJECT FILE NO.	M25-206
DRAWING NO.	FIG.1

4. Existing Municipal Infrastructure

Information for the existing municipal services was obtained from the City of Windsor Sewer Atlas (Figure 2) and EnWin GIS Maps (Figure 3). Based on review of City of Windsor Sewer Atlas maps and preliminary field reconnaissance, the site benefits from comprehensive municipal servicing on all three boundaries:

Sanitary Sewer Infrastructure:

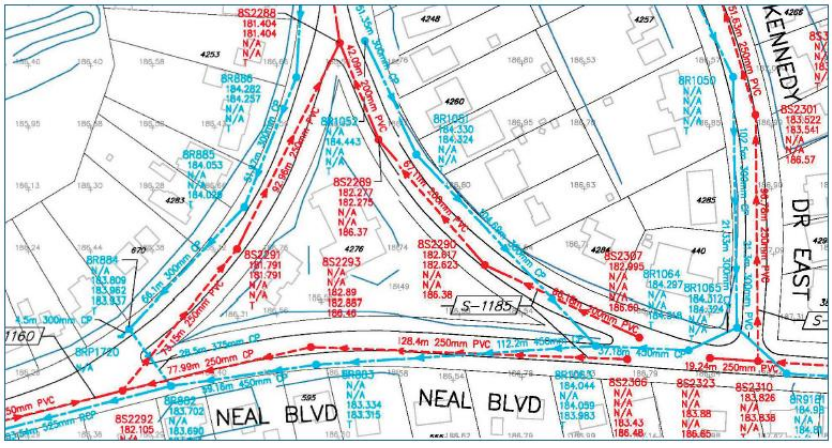
- Roseland Drive East: 250mm PVC and CP sanitary sewer on Roseland Drive South with top end of sewer at east end of property, sewer flows west.
- 250mm PVC on Roseland Drive East (western boundary) flowing north.
- 200mm PVC on Roseland Drive East (eastern boundary) flowing north.

The 200mm and 250mm sewers on the east and west section of Roseland Drive East connect to the 250mm RCP on Roseland Drive East and flow northerly.

Storm Sewer Infrastructure:

- South Boundary: 450mm concrete pipe storm sewer, flowing west.
- 300mm concrete pipe on Roseland Drive East (west boundary), flowing south.
- East Boundary: 300mm concrete pipe on Roseland Drive East (east boundary), flowing south.

Figure 2 – City of Windsor Sewer Atlas:

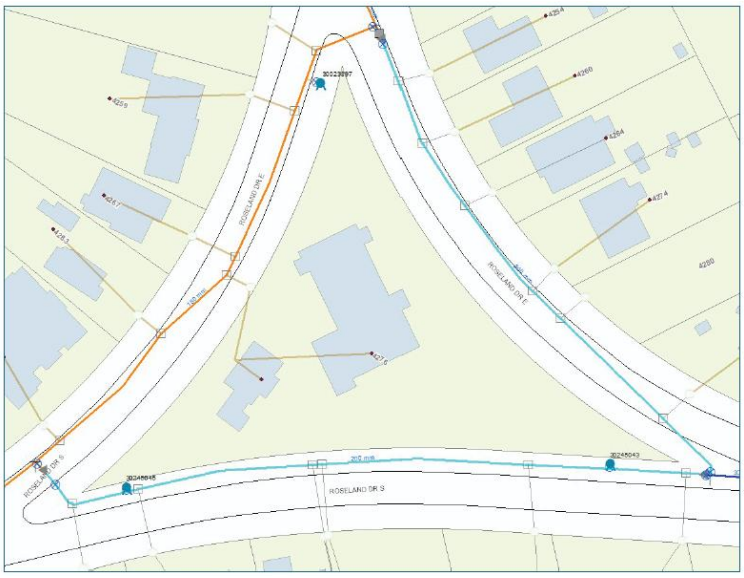


Water Supply Infrastructure:

- 200mm PVC watermain along Roseland Drive South and East.
- 150mm PVC watermain on Roseland Drive East (west boundary).

The 200mm PVC on Roseland Drive South / Neal Blvd. is connected to the 600mm feeder main on Howard Avenue.

Figure 3 – EnWin GIS Maps:



5. Sanitary Sewer

The ultimate flow from this development is determined from the following formula in the City of Windsor Development manual section 9.1.2:

Q (Ultimate) = Residential Sewage Flow x Ultimate Population Served x Ultimate Flow Factor + Infiltration

P = (ultimate population) = (3.5 persons/unit x 16 units) = 56

Residential sewage flow: (q) 0.0042 Litre/second/capita

Property area = 0.5 hectares

Infiltration 0.1560 Litre/second/hectare

Ultimate Flow Factor (UFF) = 6.0

$Q_{ULTIMATE}$ = P x q x UFF + 1 x A = 1.5 L/s

City of Windsor Development Manual uses a population density code of 22 and 50 persons per hectare for institutional (church) and residential land uses respectively. The density increases by 230%, however, consideration for the increased use of higher efficiency fixtures in both the new and existing residential developments have an estimated 50% decrease in wastewater flow rates in the past 30 years.

The sanitary sewer for the proposed development would be located in a servicing easement in the rear yards. The location of this sewer with one connection to the municipal sewer reduces the potential for sewer and pavement settlement issues by eliminating the number of road trench excavations and connections to the municipal sewer.

The 1.5 L/s ultimate flow uses 3.5% of the full flow capacity of the 250mm PVC municipal sewer. The sanitary sewer assessment concludes the additional 1.5 L/s flow into the municipal sewer will not have an adverse effect on the conveyance capacity of the sewer.

6. Domestic Water Demand

The domestic water demand of 28m^3/day is calculated using an average of 250 L/day/person, a peak factor of 2.0, and an ultimate population of 56 persons.

The fire hydrants on each of the streets provides the required fire protection coverage in accordance with the Ontario Building Code for each building. Correspondence with EnWin, appended to this report (Appendix A), confirmed there are no issues / concerns with the current water distribution system supplying the required water demand.

7. Stormwater Management Plan

Existing Development

The former church property developed area consisted of the main church building, the clergy residence, two driveways and a parking area located adjacent to the road along the east boundary line. The lot is generally flat with the runoff shedding off the property towards each of the three roads with no known storm connections to the municipal sewer. The total impervious area of the former church development is 2,150m^2 (reference ERCA GIS mapping aerial photography.

Proposed Development

The proposed development has an estimated 3,085m^2 of impervious areas including buildings, driveways and rear yard patios. The stormwater runoff will be managed by incorporating the following elements into the lot grading and servicing of this development:

i. Installation of a 200mm subdrain in the rear yard
ii. Grading of each rear yard to provide temporary detention storage during heavy rainfall events
iii. Install pop-up drain emitters on all roof downspouts

The MECP considers storm water runoff from the building roofs and rear yards to be considered “polished” water and therefore no additional water quality treatment is required.

The above stormwater management elements incorporated into the final site servicing and lot grading plans will decrease the post-development runoff rate to be equal to or less than the current runoff rate.

8. Assessment Conclusions

This functional servicing report and assessment has concluded that the proposed re-development of this property will not have a measurable impact on the municipal domestic water, sanitary sewers, or storm sewers. The following is a summary of the assessment of each of the municipal services and the design criteria to be incorporated into the final building design for each municipal service:

1. The 1.5 L/s ultimate flow uses 3.5% of the full flow capacity of the 250mm PVC municipal sewer. The sanitary sewer assessment concludes the additional 1.5 L/s flow into the municipal sewer will not have an adverse effect on the conveyance capacity of the sewer.
2. The current watermain and fire hydrant infrastructure have adequate capacity to service the proposed residential development.

3. The above stormwater management elements incorporated into the final site servicing and lot grading plans will decrease the post-development runoff rate to be equal to or less than the current runoff rate.

END OF REPORT

APPENDIX A
EnWin Correspondence

From: Mark McCloskey
To: Amie
Cc: "Jennifer Deschaine"
Subject: FW: [External] Amen Corner - Roseland Drive
Date: September 17, 2025 3:33:49 PM
Attachments: Untitled attachment 00021.png
Untitled attachment 00024.png
Untitled attachment 00027.png

Hi Amie
Please save in the FSR Report appendix – Utility Correspondence.
Thanks
Mark

From: Bruce Ogg <bogg@enwin.com>
Sent: September 17, 2025 3:19 PM
To: Mark McCloskey <mmccloskey@mccloskeyengineering.com>
Subject: RE: [External] Amen Corner - Roseland Drive

Hi Mark,

There should be no issues servicing these buildings. Everything is PVC surrounding the property. It is connected to a 600mm feedermain on Howard.

Bruce Ogg
Water Project Review Officer
ENWIN Utilities Ltd.

P: (519) 251-7300 ext 220
C: (519) 791-7170

4545 Rhodes Drive | P.O. Box 1625 Station A | Windsor, Ontario | N8W 5T1

www.enwin.com twitter.com/ENWINUtilities youtube.com/ENWINUtilitiesLtd

From: Mark McCloskey <mmccloskey@mccloskeyengineering.com>
Sent: September 15, 2025 4:15 PM
To: Bruce Ogg <bogg@enwin.com>
Subject: [External] Amen Corner - Roseland Drive

Hi Bruce
We are working on a functional service report for the former church property on Roseland.

Are you aware of any potential issues with supplying domestic water for the proposed 16 semi and townhomes on this property? Is the 150mm watermain ductile iron or PVC?

Thanks

Mark McCloskey, P.Eng.

d.c. mccloskey engineering ltd.
5745 Wyandotte Street East, Suite 200
Windsor, Ontario
N8S 1M6

p: 519-977-6800 ext. 236
e: mmccloskey@mccloskeyengineering.com

APPENDIX B
Plan of Survey

INTEGRATION DATA

COORDINATES ARE DERIVED FROM GPS OBSERVATIONS USING THE CAN-NET NETWORK SERVICE AND ARE REFERRED TO UTM ZONE 17 (81° WEST LONGITUDE) NAD83 (CSRS) (2010.0).
COORDINATE VALUES ARE TO AN URBAN ACCURACY IN ACCORDANCE WITH SECTION 14(2) OREG 216/10

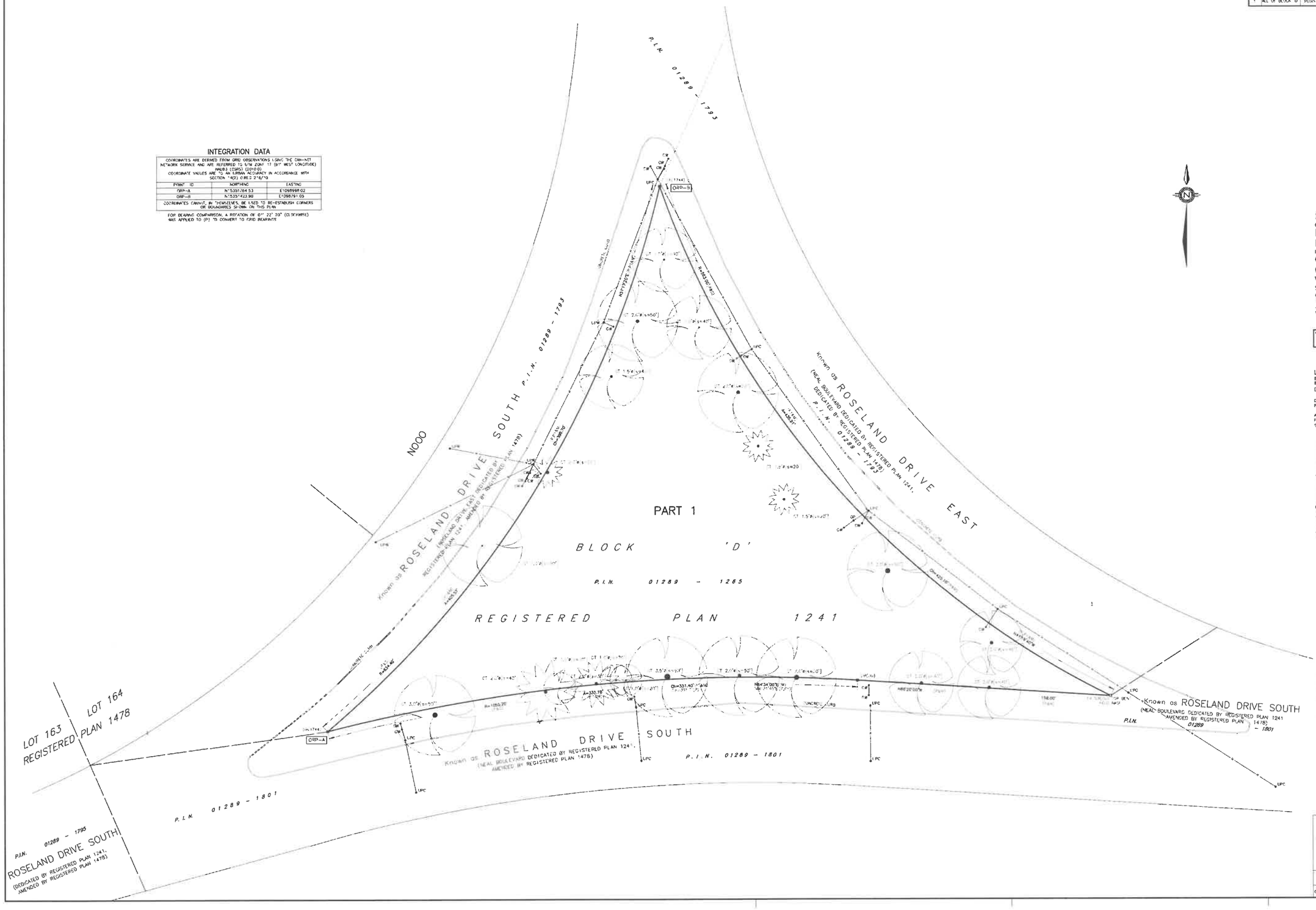
POINT ID	NORTHING	EASTING
ORP-A	N 5331764.53	E 1098998.02
ORP-B	N 5331923.90	E 1098791.05

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN

FOR BEARING COMPARISON, A ROTATION OF 0° 22' 20" (CLOCKWISE) WAS APPLIED TO (P) TO CONVERT TO GRID BEARINGS

PARTS SCHEDULE

PART	LOT	PLAN	P.I.N.
1	ALL OF BLOCK 'D'	REGISTERED PLAN 1241	ALL OF 01289-1265



PLAN OF SURVEY
OF
BLOCK 'D'
REGISTERED PLAN 1241
IN THE
CITY OF WINDSOR
COUNTY OF ESSEX, ONTARIO
VERHAEGEN LAND SURVEYORS, A DIVISION OF J.D. BARNES LTD.

SCALE : 1"=20'

0	10.0	20.0	40.0	60.0	FEET 100.0

THE INTENDED PLOT SIZE OF THIS PLAN IS 48 INCHES IN WIDTH BY 30 INCHES IN HEIGHT WHEN PLOTTED AT A SCALE OF 1"=20'

"IMPERIAL" DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN FEET AND CAN BE CONVERTED TO METRES BY MULTIPLYING BY 0.3048

LEGEND AND NOTES

BEARINGS ARE UTM GRID DERIVED FROM OBSERVED REFERENCE POINTS 'A' AND 'B' BY REAL TIME NETWORK OBSERVATIONS AND ARE REFERRED TO UTM ZONE 17 (81° WEST LONGITUDE) NAD83 (CSRS) (2010.0).

DISTANCES ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99991.

ALL SET SSIB AND PB MONUMENTS WERE USED DUE TO LACK OF OVERBURDEN AND/OR PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH SECTION 11(4) OF ORREG 525/98

IB	DENOTES	SURVEY MONUMENT FOUND
CI	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
RIB	DENOTES	ROUND IRON BAR
PB	DENOTES	PLASTIC BAR
CC	DENOTES	CUT-CROSS
SP	DENOTES	STEEL PIN
WIT	DENOTES	WITNESS
⊥	DENOTES	PERPENDICULAR
(M)	DENOTES	MEASURED
(S)	DENOTES	SET
PROP	DENOTES	PROPORTION
(D)	DENOTES	DEED R1281582
(NI)	DENOTES	NOT IDENTIFIABLE
(OU)	DENOTES	ORIGIN UNKNOWN
ORP	DENOTES	OBSERVED REFERENCE POINT
(P)	DENOTES	REGISTERED PLAN 1241
(P1)	DENOTES	REGISTERED PLAN 1478
(JDB)	DENOTES	J.D. BARNES LIMITED, O.L.S.
(744)	DENOTES	VERHAEGEN LAND SURVEYORS, O.L.S.

N = NORTH, S = SOUTH, E = EAST, W = WEST

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

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

2 THIS SURVEY WAS COMPLETED ON THE 20th DAY OF JUNE, 2025

DATE JULY 14, 2025

ROY A. SIMONE
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER W-107837

VERHAEGEN LAND SURVEYORS
A DIVISION OF J.D. BARNES LTD.
944 OTTAWA STREET, WINDSOR, ON N8X 2E1
T: (519) 258-1772 F: (519) 258-1791 www.jdbarnes.com

SURVEYING MAPPING GIS

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
D.J.	RAS	25-47-247-00
CAD File: 25-47-247-00.dwg	E-1241-BLK D	CAD Date: July 14, 2025 11:36 AM