



January 23rd, 2026

MEMORANDUM

ATTN: Alex Boekestyn - Planner II - Town of Niagara-on-the-Lake

RE: 727 East and West Line, Niagara-on-the-Lake
Proposed Development Drainage (ZBA-21-2025)
Historical Watercourse and Riparian Rights

1.0 Introduction

The following memorandum has been prepared on behalf of Niagara Orchard and Vineyard Corporation (“NOVC”). NOVC is currently proposing the redevelopment of their property located at 727 East and West Line in Niagara-on-the-Lake (the “Subject Property”). This memorandum will provide commentary related to historical watercourses and drainage implications for the proposed development of the subject property.

1.1 Local Context

The 2.19-hectare (5.41 acre) property has 135.64 metres of frontage on East and West Line. It is developed with a 203.3m² (2188.3 SF) existing single storey residential dwelling and a 106m² (1140.97 SF) shed. The subject property is presently in fallow, not being used for the farming of any crops. The subject property is within an active agricultural area of mainly vineyards and clusters of farm and non-farm residences.

1.2 Proposed Development

This proposed redevelopment will result in the creation of a new Agricultural Supply and Service Facility (“ASF”). The proposed Agricultural Supply & Service Facility will house the head office of NOVC as well as the packing, and storage and distribution of fruit, harvested from NOVC farms and other farms in Niagara. The Agricultural Supply & Service Facility will also sell and distribute a broad array of agricultural tools and equipment to agricultural operators and businesses in Niagara and beyond. An application for zoning by-law amendment to facilitate the proposed development was deemed complete by the municipality on October 22nd, 2025. The proposed development is illustrated by the Site Plan which is attached as **Appendix A** to this memorandum.



1.3 Existing Drainage

To inform the design of the ASF, NOVC has retained a civil engineer to design the site grading and servicing strategy for the proposed development. Under existing conditions, the site has two drainage outlets, approximately 1/10th of the site in the north-east corner drains to the existing ditch along East & West Line, the remaining 9/10ths of the site drains to the north-west corner, in the immediate vicinity of a proposed parking lot for the facility.

Based on available topographic survey data, which is attached as **Appendix B** to this memorandum, there is a low area in the south-west corner of the site which appears to carry drainage across the corner of the property from 1696 Niagara Stone Road (southern neighbour) to 701 East-West Line (westernmost neighbour). Based on the mapping of the Sloma Drain contributing areas there may also be an 8" tile drain along the alignment of this low area, which conveys drainage from the southern neighbour across the subject property, through 701 East and West Line, up to the ditch within East and West Line. This ditch within the municipal right of way ultimately conveys flow into the Sloma Drain.

1.4 Historical Watercourse

Based on Aerial imagery, Sloma Drain engineering reports, archaeological reporting, topographic mapping from governmental and university sources, as well as regulatory mapping from the NPCA, we are of the opinion that the low area identified by topographic surveying is in fact a historical watercourse on the property. The following memorandum will summarize this information as part of demonstrating that the Applicant has a riparian right to continue to discharge water into this historical watercourse.

2.0 Historical Aerial Imagery

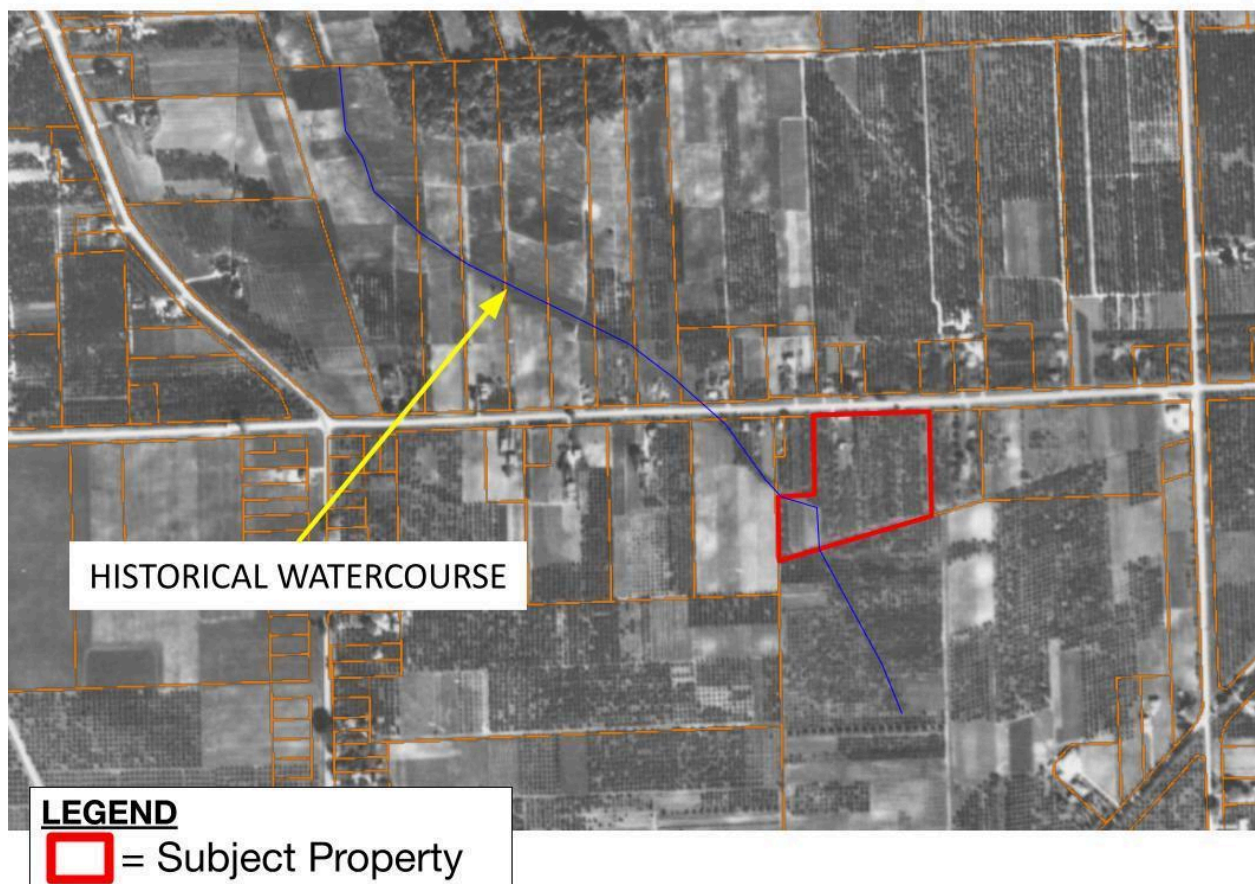
Historical aerial imagery from 1955 and 1965 has been obtained from Niagara Navigator, an interactive mapping tool for geographic data in Niagara Region. Aerial imagery of the subject property and surrounding areas has been consolidated within **Appendix C**, and is summarized below.

- **1955 Aerial Imagery (Appendix C1)**

An annotated version of **Appendix C1** is provided below as Figure 1. The imagery from 1955 illustrates some form of overland seasonal tributary / depression, starting on the lands to the south, crossing the subject property and ultimately flowing into a watercourse which connects with Four Mile Creek.

FIGURE 1

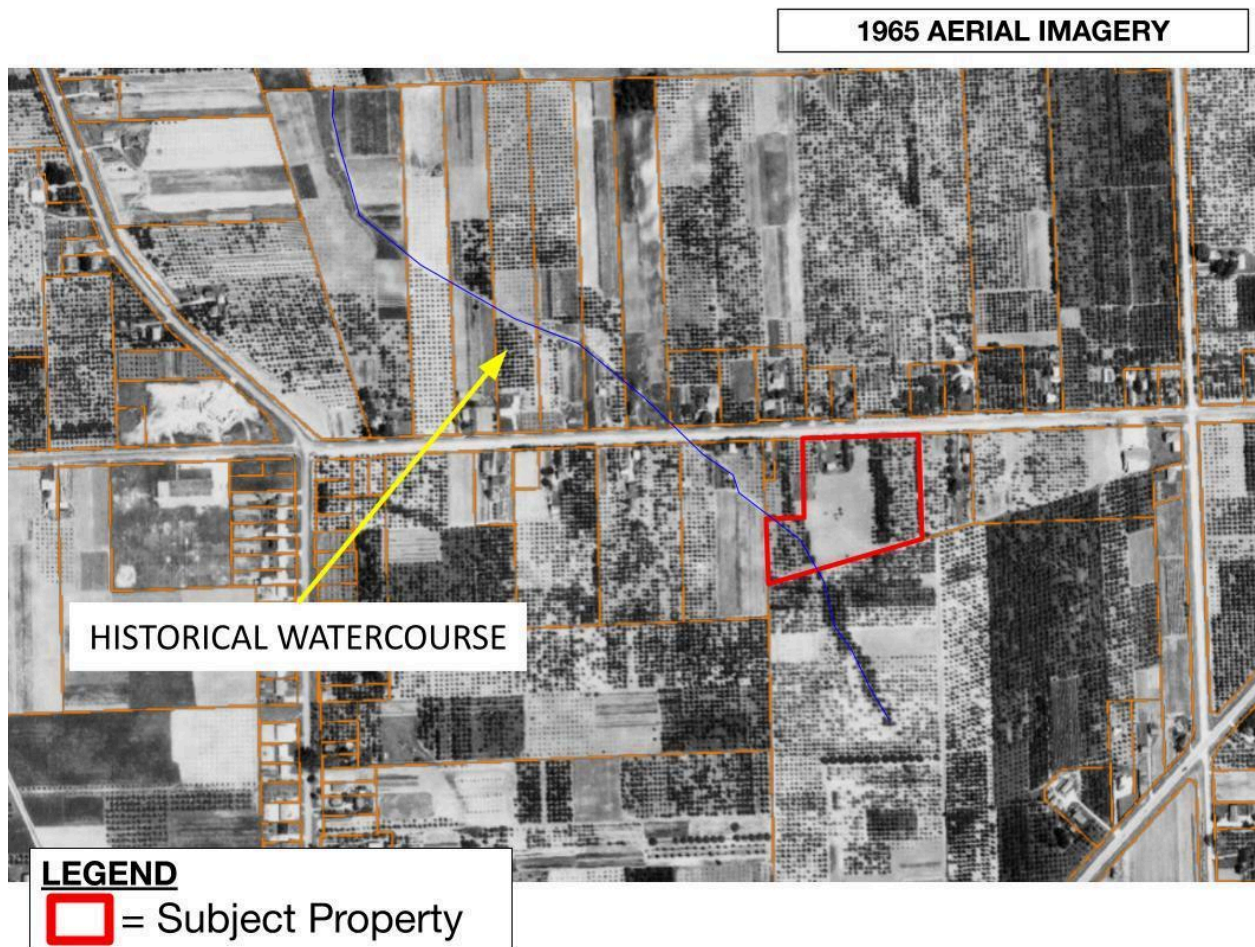
1954-1955 AERIAL IMAGERY



- **1965 Aerial Imagery (Appendix C2)**

An annotated version of **Appendix C2** is provided below as Figure 2. The imagery from 1965 again illustrates some form of overland seasonal tributary / depression, starting on the lands to the south, crossing the subject property and ultimately flowing into a watercourse which connects with Four Mile Creek.

FIGURE 2



2.1 1962 Blake Erwin Sloma Drain Report

The Sloma Drain was initially constructed in accordance with a report of R. Blake Erwin, P. Eng. dated November 8th 1962. Erwin notes that “an existing watercourse” had many tile drains discharging into it with insufficient and illegal outlets. Accordingly, his report provided for the construction of a new 400mm



to 300mm concrete tile drain “under the watercourse” from an outlet in the Four Mile Creek upstream to the limit of East-West Line.

This report confirms that the Sloma Drain follows the pathway of a historical watercourse (the same watercourse detailed by Section 2.0 of this memorandum). This report, and its associated mapping (**Appendix D**), also confirm that while the subject property is within the contributing catchment, and has an 8” contributing tile drain, that the Sloma Drain itself is not located on the subject property, and instead terminates on the south side of East and West Line. Both the Main Sloma Drain, and the 8” tile drain on the subject property, coincide with the location of a historical watercourse.

2.2 Archaeological Report

As part of the technical materials prepared in support of the proposed development, A Stage 1-2 Archaeological Assessment, dated May 13th 2025, was prepared by Detritus Consulting Ltd. The report states:

“The closest source of potable water is a tributary of the Four Mile Creek that passes through the southwestern section of the Study Area according to topographic mapping (Figure 1). No water was visible within the Study Area and this is likely a seasonal tributary no longer extant.”

While no water was visible within the watercourse, given the seasonal nature of the tributary and lack of major storm event at the time of the Archaeologist’s site visit, the archaeological study confirms the existence of a historical watercourse which traverses the subject property.

2.3 Natural Resource Canada Topographic Mapping

Topographic Mapping from Natural Resource Canada is provided as **Appendix E**. This mapping clearly illustrates a defined watercourse crossing the southwestern portion of the subject property.

2.4 Brock University Topographic Mapping

Topographic Mapping from Brock University is provided as **Appendix F**. This mapping again illustrates a tributary of Four Mile Creek crossing the southwestern portion of the subject property.

2.4 NPCA Watercourse Mapping

Regulatory watershed mapping from the Niagara Peninsula Conservation Authority is provided as **Appendix G**. This mapping illustrates some form of contributing tributary/channel which flows into the ditch on East and West Line, and ultimately into the main Sloma Drain to the north.



3.0 Conclusion

Aerial imagery, the 1962 Blake Erwin Report, archaeological reporting, topographic mapping from governmental and university sources, as well as regulatory mapping from the NPCA all confirm that there is evidence of a historical watercourse on the subject property, and adjacent property at 701 East and West Line, conveying flows from the property to the south towards the Sloma Drain. As there is a historical watercourse which has long accepted and conveyed drainage from the subject property, the Applicant has a riparian right to continue to contribute drainage to this watercourse.

With respect to discharge location, the development will continue to discharge water in the same location it does today, and has historically. Overland drainage from the south will not be blocked by the proposed development. The grading and drainage design prepared by Ownership's Civil Engineer will ensure that overland drainage from the south will continue to flow onto the subject property, entering a swale with a 0.3m wide french drain base, directing flow around the proposed parking lot, and ultimately discharging onto the adjacent property in the same location as the historical watercourse.

With respect to discharge quantity, the proposed development will utilize controls to ensure that during storm events flows will not exceed existing/historical conditions. Under the proposed development the south-west corner of the site will be developed into a parking area. In order to mitigate the increased runoff rates due to the added impervious surfaces it is proposed to construct a permeable paver system. The permeable paver system uses a 2" stone base - that stone has 40% void ratio and can store excess stormwater as a reservoir - releasing it to ground-water, and discharging it along the existing drainage pathway at release rates no higher than under existing conditions. This permeable paver system has been used in other locations in Niagara-on-the-Lake and has been accepted by the Town previously. It can be constructed above the existing tile drain, without damaging the existing tile or interrupting its function. If construction works result in conflicts with the existing tile drain, the drain will be reoriented to maintain its function following development of the subject property.

In conclusion, the proposed development will maintain existing drainage pathways. The construction of the future ASF will not result in any changes to existing flow conditions on adjacent properties or within the Sloma Drain.

Please contact our office if you have any questions.

Prepared by,

A handwritten signature in black ink that reads "Stephen Bedford". The signature is written in a cursive, flowing style.

Stephen Bedford, MCIP, RPP, PLE
Principal Planner
LANDx Developments Ltd.



REFERENCES

The following documents, publications, and resources were consulted in the preparation of this report, and are provided as appendices:

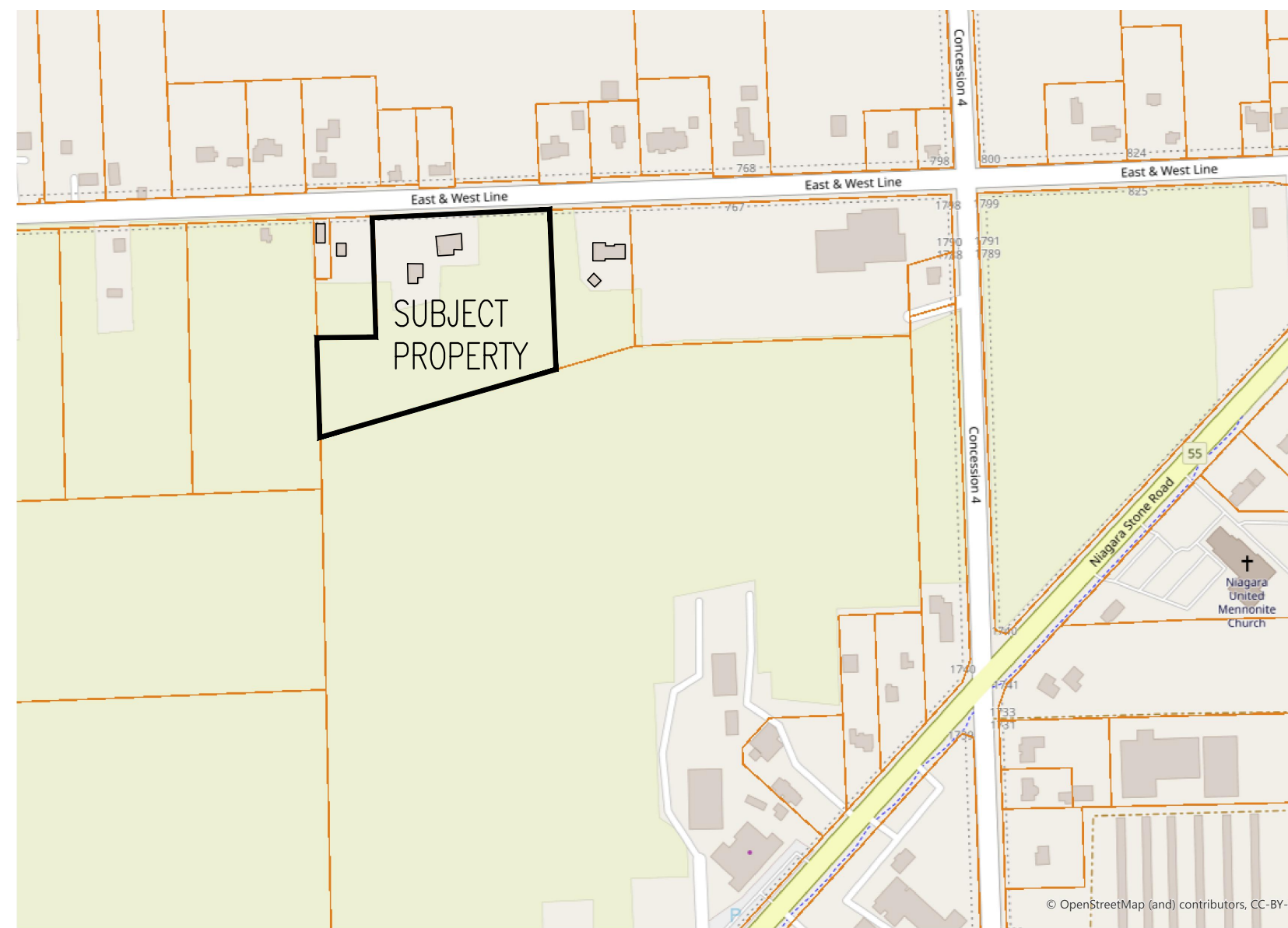
- A. *Proposed Site Plan*. 2M Architects Inc. September 8th, 2025
- B. *Site Condition Sketch*. J.D. Barnes Limited. December 16th, 2025
- C. *Niagara Navigator Aerial Imagery*. Regional Municipality of Niagara. Niagara Region GIS Portal, 1954 & 1965. Web. Accessed January 23rd, 2026. <https://maps.niagararegion.ca/Navigator/>
- D. *Plan Showing the Drainage Area of the Sloma Municipal Drain*. Blake Erwin P.Eng. November 7th, 1962.
- E. *Topographic Data of Canada - CanVEC Series, 2017*. Ottawa, ON: Natural Resources Canada. Accessed May 14th, 2025. http://ftp.maps.canada.ca/pub/nrcan_nrcan/vector/canvec/doc/
- F. *Topographic Map of Niagara, 2010*. Brock University Library Digital Maps. Accessed January 23rd, 2026. https://terra.library.brocku.ca/arcgis/rest/services/NiagaraTopos/Toporama_2010s/MapServer/.
- G. *Watershed Explorer Regulatory Mapping*. Niagara Peninsula Conservation Authority. 2026. Online mapping tool, Niagara Peninsula Conservation Authority GIS. <https://www.arcgis.com/apps/webappviewer/index.html?id=c7555050c8f24a7cbc829395557a7988>



727 East and West Line, NOTL

Memorandum - Historical Watercourse and Riparian Rights

Appendix A - Site Plan



KEYMAP

SCALE: _N.T.S.

PROPERTY, DIMENSIONS AND BEARING INFO; REFERENCED FROM SURVEYORS DRAWING BY, Roy S. Kirkup O.L.S. OF J.D. BARNES LIMITED, REFERENCE NO. : 23-16-367-00_1LDC, DATED: SEPT. 18, 2024

SITE STATISTICS - 727 EAST & WEST LINE

Zoning
RS - SUBURBAN RESIDENTIAL (ADJACENT TO STREET TO 63.5m SETBACK FROM EXIST. STREET PROP LINE)
A - AGRICULTURAL (63.5m SETBACK FROM STREET AND FURTHER)

PART 1 (EXISTING RETAINED)
LOT FRONTAGE ±69.76m
LOT AREA ±4,047m² (4,047m² MIN REQ'D) [1.00 acres]
LOT COVERAGE ±7.6% (309.3m², Dwelling + Shed)

PART 2 (SEVERED)
LOT FRONTAGE ±12.50m + 53.38m = 65.88m (38.10m MIN REQ'D)
LOT AREA ±17,626m² (40,500m² MIN REQ'D) [4.36 acres]
PORTION OF PART 2 (EAST SIDE) TO BE REZONED FROM 'RS' TO 'A' (APPROX. 3,242m²)
LOT COVERAGE ±38.32% (15% MAX LOT COVERAGE)
LANDSCAPE COVERAGE 3,704m² / 17,626m² = ±21.0%

OBC BUILDING CLASSIFICATION - 3.2.2.70. GROUP F2 UP TO 4 STOREYS
1 STOREY BUILDING A AREA 3,200m² MAX; 2,208m² PROP. (FACING 1 STREET)
1 STOREY BUILDING B AREA 3,200m² MAX; 2,044m² PROP. (FACING 1 STREET)
1 STOREY BUILDING C AREA 3,200m² MAX; 2,543m² PROP. (FACING 1 STREET)
TOTAL BUILDING A + B + C = 6,754m² (72,700H²)

FRONT YARD SETBACK 15.24m MIN REQ'D, 15.0m PROV'D (BUILDING A)
SIDE YARD SETBACK (WEST) 3.05m MIN REQ'D, 12.05m PROV'D (BUILDING B)
SIDE YARD SETBACK (EAST) 3.05m MIN REQ'D, 9.0m PROV'D (BUILDING A)
REAR YARD SETBACK 15.24m MIN REQ'D, 10.63m PROV'D (BUILDING B)

MINIMUM LANDSCAPE BUFFER ADJACENT TO RESIDENTIAL 'RS' ZONED LOTS 3m MIN REQ'D, >3m PROV'D

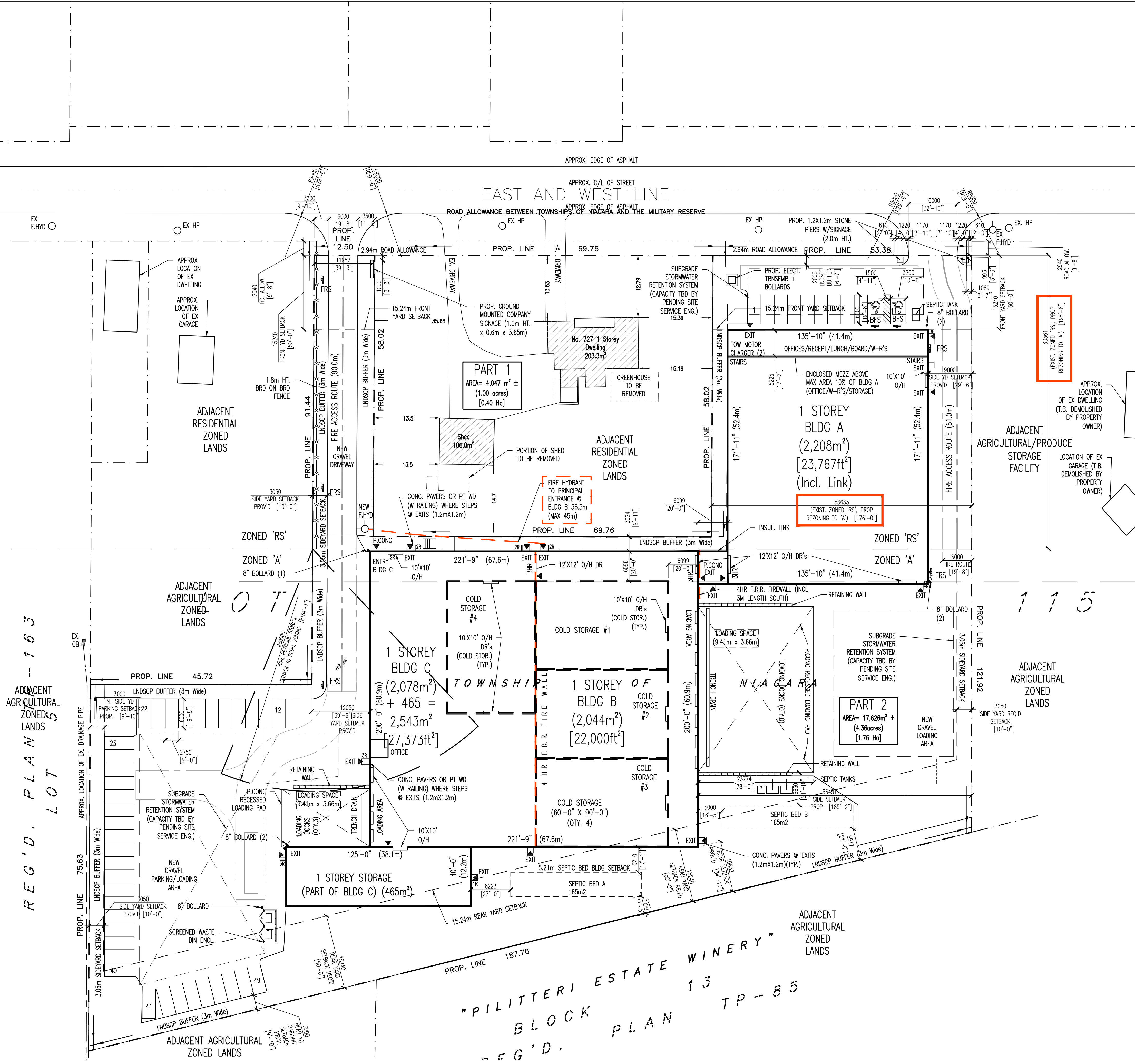
PARKING
MIN P/S Required: 1P/S Per Employee (16 Employees) = 16P/S, Provided: 49
MIN Loading Spaces Required: GFA >4,645 m² = 4, Provided: 11
MIN BFA P/S Required: 1-25 = 1 BFA P/S, Provided: 2

MAXIMUM BUILDING HEIGHT 10.67m REQ'D, 7.19m PROV'D

OCCUPANT LOAD BY DESIGN (20 EMPLOYEES)

LEGEND

	FIRE ROUTE
	FIRE ROUTE SIGN
	HYDRANT (EX. OR NEW)
	BARRIER FREE SIGN
	FIRE DEPARTMENT CONNECTION
	LIGHT FIXTURE



OVERALL SITE PLAN - 727 EAST AND WEST LINE - AGRICULTURAL / PRODUCE STORAGE FACILITY

SCALE: 1:400

THESE DOCUMENTS ARE NOT TO BE SCALED.
THE DESIGN AND DOCUMENTS REMAIN THE PROPERTY OF THE ARCHITECTS AND SHOULD NOT BE REPRODUCED, COPIED, ALTERED OR USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF THE ARCHITECTS. ALL DOCUMENTS TO BE RETURNED AT COMPLETION OF WORK.
CONTRACTOR TO SITE VERIFY ALL DETAILS AND DIMENSIONS AND TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS BEFORE COMMENCING WITH THAT RELATED PORTION OF THE WORK. ONLY SCALED SEALED AND STAMPED DOCUMENTS ARE TO BE USED FOR CONSTRUCTION PURPOSES.

No.	REV.	DATE	REVISION
11	MJ	2025-08-13	REV. BLDG LAYOUT ON SITE
12	MJ	2025-08-20	REV. BLDG LAYOUT ON SITE
13	MJ	2025-07-03	REV. SEPTIC & DRAINAGE
14	TV	2025-07-11	REV. SEPTIC & DRAINAGE
15	MJ	2025-08-13	FOR REVIEW
16	MJ	2025-08-13	FOR REVIEW
17	MJ	2025-08-28	FOR 3RD-DRAWING

CONSTRUCTION NORTH

ONTARIO ASSOCIATION OF ARCHITECTS
REGISTERED ARCHITECTS
1900-1900

2M architects inc.
115 Lake Street
St. Catharines, ON
Canada L2R 5X7
Tel: 905-687-9777
Fax: 905-687-9997
2Marchitects@cogeo.net
www.2marchitects.ca

drawn by:	MJ
design by:	MRM
checked by:	LJM
scale:	AS NOTED
date:	SEP 08, 2025

PROJECT NAME: PROP. AGRICULTURAL / PRODUCE STORAGE FACILITY
727 EAST & WEST LINE, NOTL, ON

PROPOSED SITE PLAN

revision number: 17
job number: 24-12
drawing number:

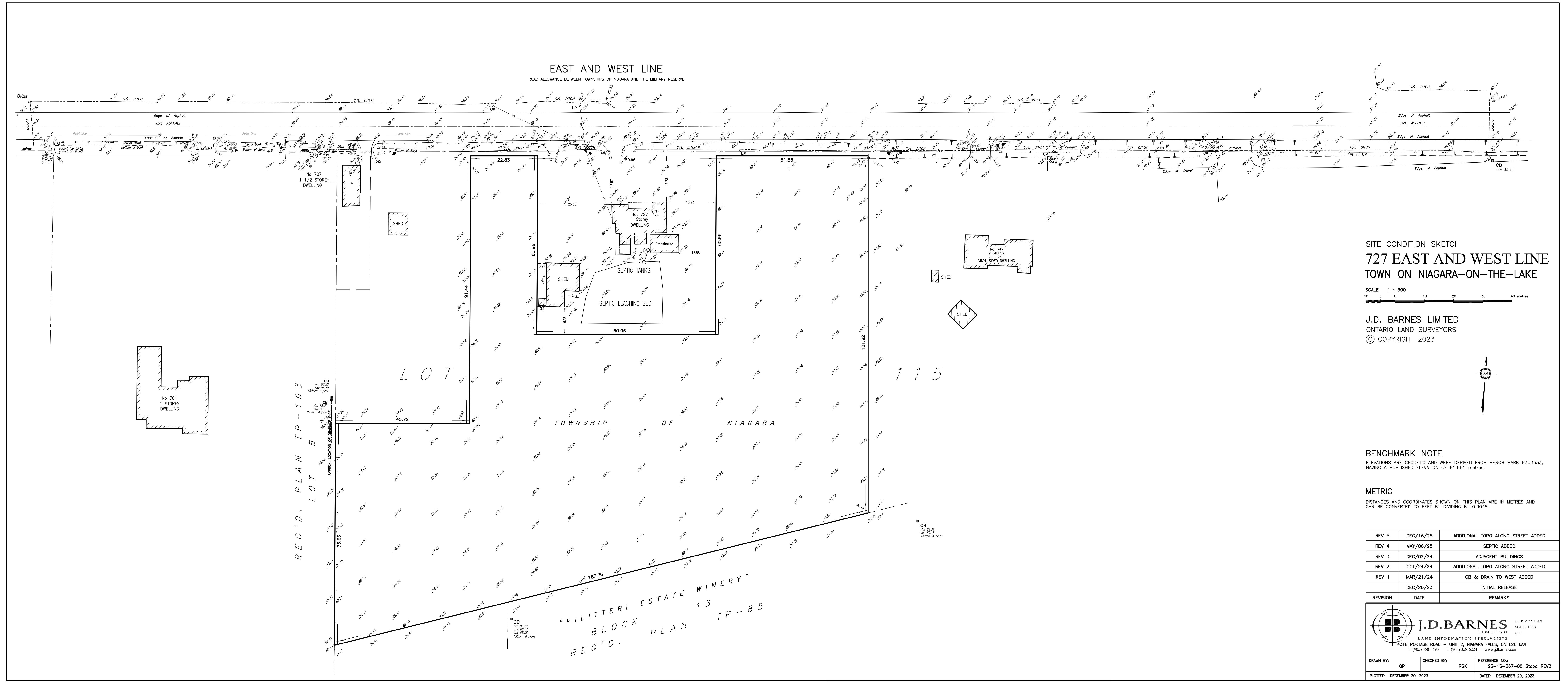
SP1



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Appendix B - Topographic Survey



SITE CONDITION SKETCH
727 EAST AND WEST LINE
 TOWN ON NIAGARA-ON-THE-LAKE
 SCALE 1 : 500
 J.D. BARNES LIMITED
 ONTARIO LAND SURVEYORS
 © COPYRIGHT 2023

BENCHMARK NOTE
 ELEVATIONS ARE GEODETIC AND WERE DERIVED FROM BENCH MARK 63035533,
 HAVING A PUBLISHED ELEVATION OF 91.861 metres.

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

REVISION	DATE	REMARKS
REV 5	DEC/16/25	ADDITIONAL TOPO ALONG STREET ADDED
REV 4	MAY/06/25	SEPTIC ADDED
REV 3	DEC/02/24	ADJACENT BUILDINGS
REV 2	OCT/24/24	ADDITIONAL TOPO ALONG STREET ADDED
REV 1	MAR/21/24	CB & DRAIN TO WEST ADDED
	DEC/20/23	INITIAL RELEASE

J.D. BARNES SURVEYING
 MAPPING
 LAND INFORMATION SPECIALISTS
 4318 PORTAGE ROAD - UNIT 2, NIAGARA FALLS, ON L2E 6A4
 T: (905) 335-2661 F: (905) 335-2662 www.jdbarnes.com

DRAWN BY: GP CHECKED BY: RSK REFERENCE NO.: 23-16-367-00_2topo_REV2
 PLOTTED: DECEMBER 20, 2023 DATED: DECEMBER 20, 2023



727 East and West Line, NOTL

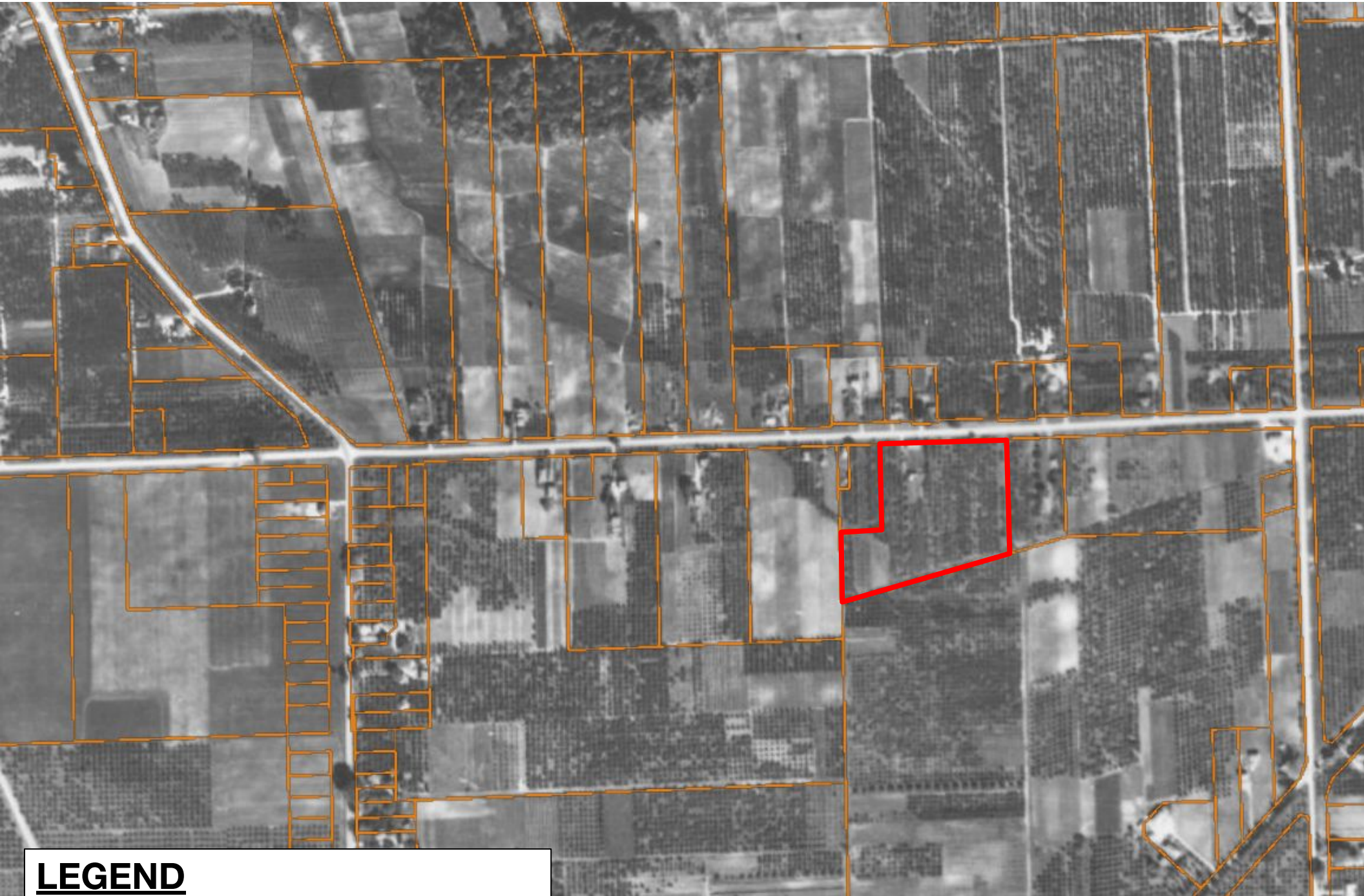
Memorandum - Historical Watercourse and Riparian Rights


Appendix C - Historical Aerial Imagery

C1 - 1954-1955

C2 - 1965

1954-1955 AERIAL IMAGERY



LEGEND
 = Subject Property

1965 AERIAL IMAGERY



LEGEND

 = Subject Property



727 East and West Line, NOTL

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Appendix D - 1962 BLAKE ERWIN REPORT SLOMA DRAIN MAPPING

PLAN SHOWING
THE DRAINAGE AREA OF THE
SLOMA MUNICIPAL DRAIN
TOWNSHIP OF NIAGARA
COUNTY OF LINCOLN

SCALE: 1" = 200'
FILE NO. 1143

Robert J. Quinn P. Eng.
TOWNSHIP ENGINEER

Niagara Falls, Ont. Nov 7, 1962.

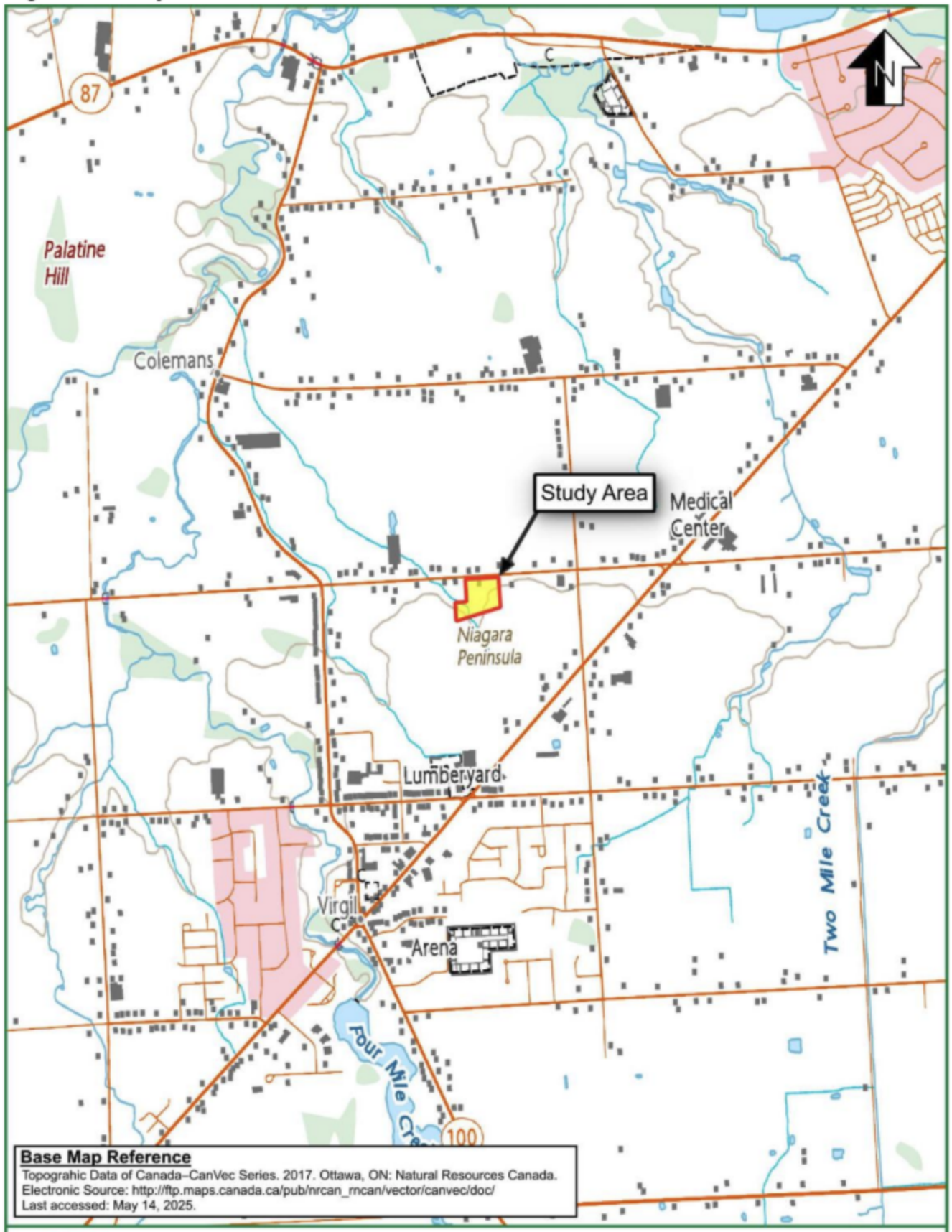




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Appendix E - Natural Resource Canada Topographic Mapping



Base Map Reference

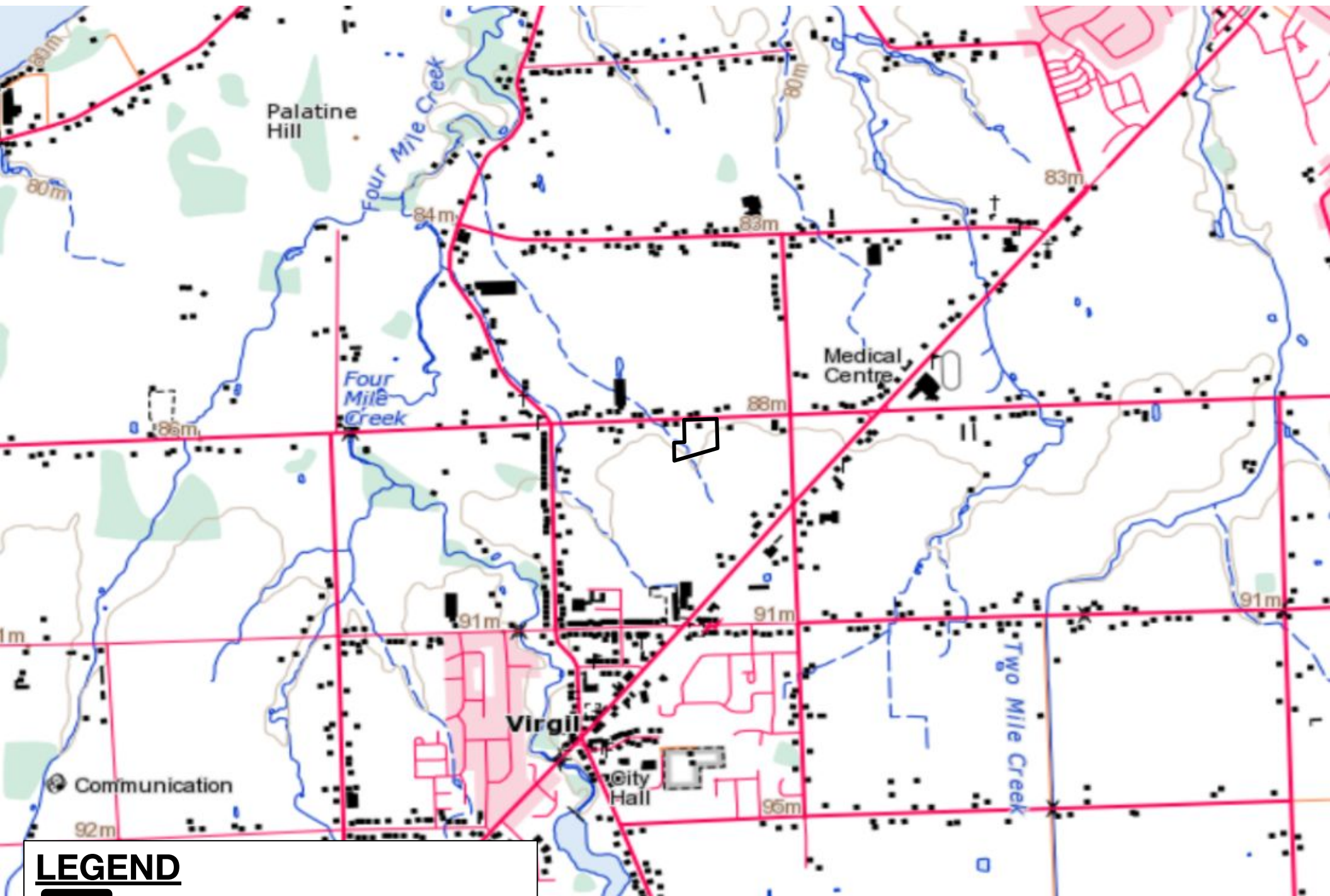
Topographic Data of Canada—CanVec Series. 2017. Ottawa, ON: Natural Resources Canada.
Electronic Source: http://ftp.maps.canada.ca/pub/nrcan_mcan/vector/canvec/doc/
Last accessed: May 14, 2025.



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Appendix F - Brock University Topographic Mapping



LEGEND

 = Subject Property



727 East and West Line, NOTL

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Appendix G - NPCA Watershed Mapping

