



STORMWATER MANAGEMENT IMPLEMENTATION REPORT

Creditmills Development Corp

Type of Document:

Final Report

Project Name:

1295 Sixth Line, Oakville

Project Number:

ALL-23015173-A0

Prepared and Reviewed By:

Nicholas Melatti and Scott Passmore, P.Eng.

EXP

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Approved By:

Scott Passmore

Date + Time Submitted:

2024-01-25

2024-12-23 Revision 1

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1. Introduction

EXP Services Inc. has been retained by Credit Mills Development (“Owner”) to prepare a Stormwater Management Report (SWM) in support of a site plan application on approximately 0.38 ha of land in the Town of Oakville, Region of Halton. The subject land is municipally known as 1295 Sixth Line, located on the east side of Sixth Line. Refer to Figure 1 for the site location plan.

The subject lot is currently occupied by a residential unit with driveway access from Sixth Line. The proposed development will include a six-storey apartment building with 70 units within 6,160.4 m² of Gross Floor Area (GFA). A total of 80 parking spaces will be provided through one level of underground parking. Refer to the Owner’s Site Plan located in Appendix A for reference.

This report has been updated to address the first ZBA Application comments received from Town staff dated June 26, 2024 and to accommodate the minor site plan changes.

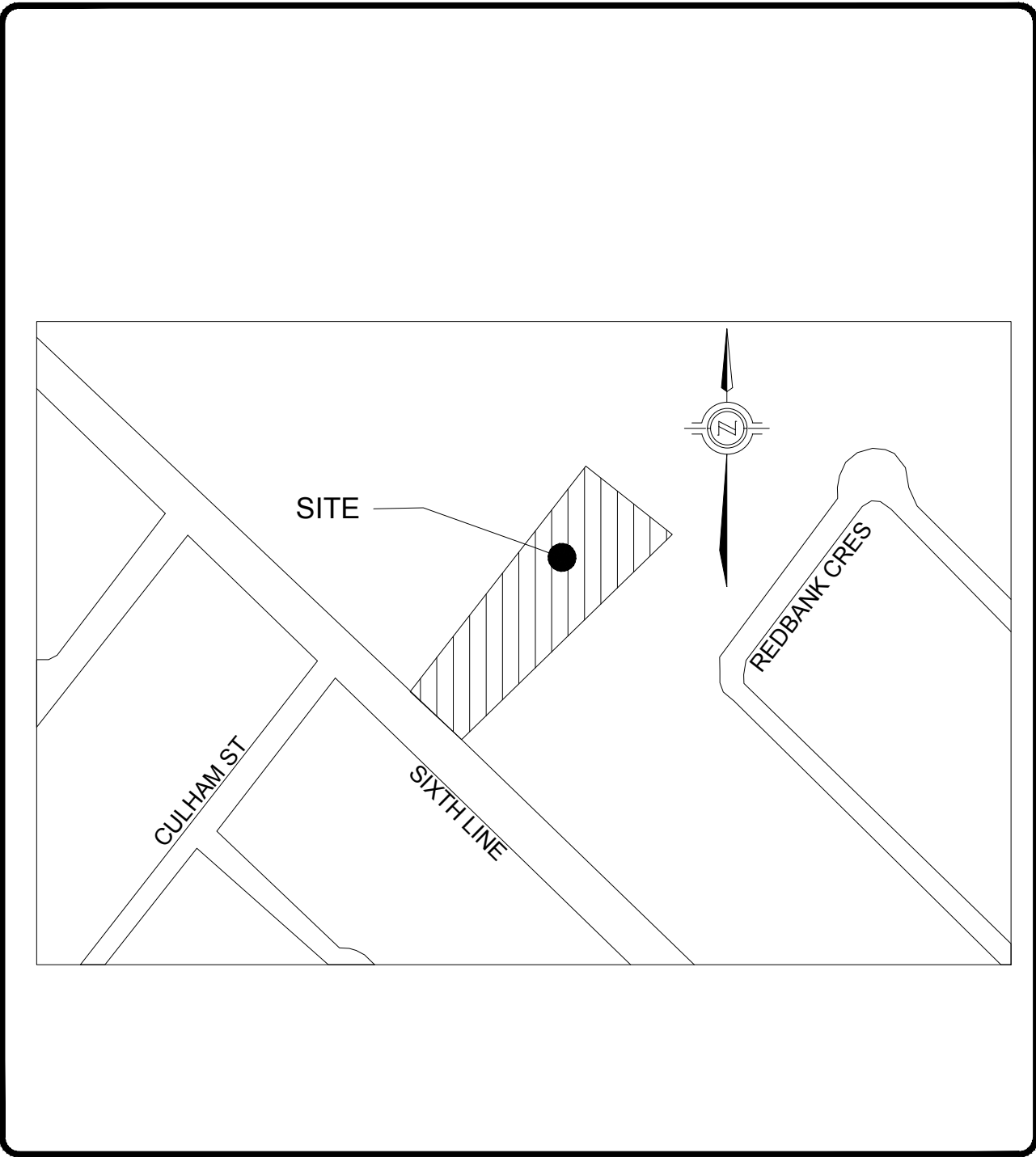
Finally, the objective of this SWM Report is to give an overview of the proposed SWM strategy while demonstrating how the Town of Oakville drainage criteria have been met.

2. Site Characteristics

The development site is 0.38 hectares in size and is bound by Sixth line to the west, a residential apartment building to the south, and the White Oaks secondary school park block to the north and east. The site is located within the Sixteen Mile Creek watershed outside of Conservation Halton’s (CH) regulated area. It has also been confirmed to be outside of the Ministry of Transportation Ontario (MTO) controlled area. Refer to figure 1 for Site Location Plan

The application proposed is to redevelop the site into a six (6) storey residential apartment building with 70 new units including one level of underground parking. Driveway access for the proposed residential apartment building will be to Sixth Line. Refer to the Preliminary Site Plan (prepared by Rick Brown and Associates Inc) in Appendix A for additional information.

E:\MRKALL-23015173-A0\60 Execution\65 Drawings\Civil\xxxx-FIG-01 LOCATION PLAN.dwg



Project:		1295 SIXTH LINE, OAKVILLE, ON	
Title:		LOCATION PLAN	
Approved by:	S.P	Date:	JAN, 2024
Drawn by:	N.M	Scale:	N.T.S.
Project No.:		ALL-23015173-A0	
Figure no.:		FIG-01	

3. Existing Drainage Conditions

To assess the existing site topography within and surrounding the site, EXP staff reviewed Town Record Drawings, VuMap Software and Town of Oakville GIS Mapping software. The existing site topography shows elevations falling in the range of approx. 1.5 m from the northeast corner of the property to the southwest corner. Currently, there is a driveway access to the site on the west side to Sixth Line. Refer to the topographic information taken from Town of Oakville's GIS Mapping Software which is included in Appendix A for reference.

There is an existing 525 mm diameter storm sewer located on Sixth Line which flows in the southerly direction. Record drawings do not show any connection to the existing 525 mm diameter storm sewer from the property. Existing property service cards and internal plumbing have been requested but were not available at the time this report was submitted.

In order to calculate the theoretical peak flow runoff rates for the site under existing conditions, a runoff coefficient of $C=0.34$ was calculated. Refer to calculations provided in Appendix B for runoff coefficient calculations. Also, refer to existing conditions drainage plan on Figure 2 for additional information regarding existing drainage patterns.

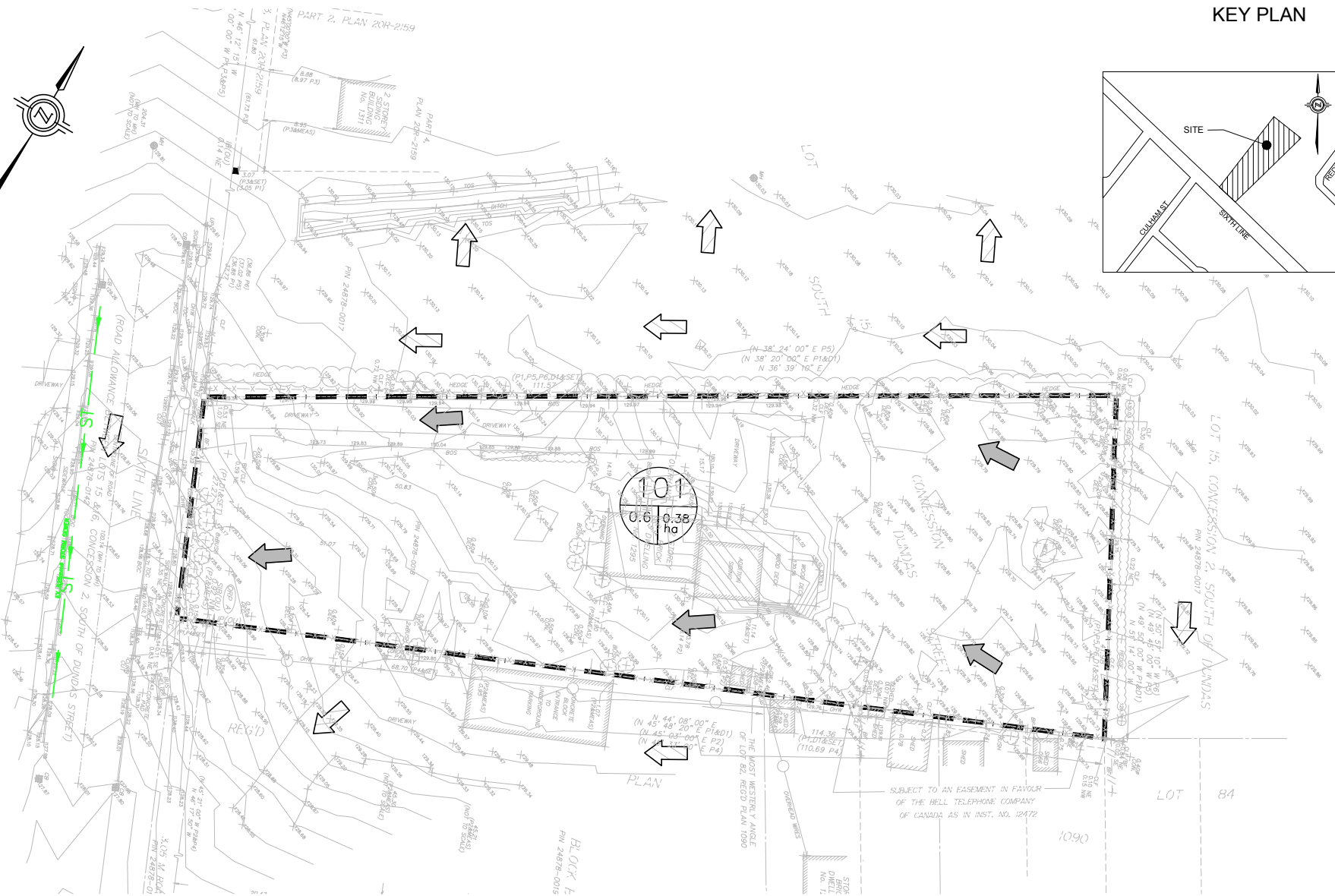
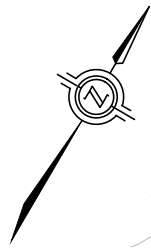
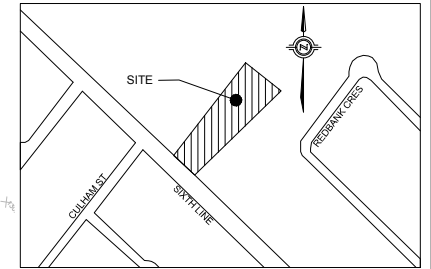
Using the land area of 0.38 ha, a runoff coefficient of 0.34 which was calculated based on the existing imperviousness of the site, and time of concentration of 10min, the following peak flows were calculated for the site and can be summarized in Table 1 below:

Table 1: Peak Flow Summary (Existing Conditions):

Contributing Area	ID#	Area (ha)	Peak Flow -5 Year (L/sec)	Peak Flow -25 Year (L/sec)	Peak Flow -100 Year (L/sec)
Entire Site	101	0.38	41.3	58.7	72.6

The peak flow runoff calculations can be found in Appendix B. After reviewing the Peak Flow Summary table and the information provided during the pre-consultation meetings, the maximum allowable release rate of the site is 41.3 L/s.

KEY PLAN



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR (0.5m / 1.0m)
- EXISTING GRADE
- OVERLAND FLOW DIRECTION
- EXTERNAL FLOW DIRECTION
- STORM DRAINAGE ID NUMBER
- AREA (ha)
- RUNOFF COEFFICIENT
- CATCHMENT BOUNDARY

Project:

1295 SIXTH LINE
OAKVILLE, ON

Title:

EXISTING CONDITIONS DRAINAGE PLAN

Approved by:

S.P

Date:

NOV 2024

Project No.:

ALL-23015173-A0

Drawn by:

N.M

Scale:

N.T.S.

Figure no.:

FIG-02

4. Proposed Drainage Conditions

4.1 Proposed Grading

The proposed grading design generally maintains the existing drainage patterns for the site, while directing drainage away from building entrances and ensuring all major overland flow is conveyed in the southwesterly direction. High points within the parking areas have been positioned to minimize potential ponding within the parking and landscaped areas.

Overall, the preliminary grading design for the site is to be completed in concert with the proposed stormwater management (SWM) strategy for the site which includes a network of high and low points, and inlet designed to capture and attenuate the 100-year storm event. For additional grading details refer to the Preliminary site Servicing and Grading Plan provided in Appendix D.

4.2 Groundwater

After reviewing the Owner's Preliminary Site Plan it was noted that the plan is to incorporate one level of underground parking to service the parking needs of the proposed development. EXP staff reviewed the Town of Oakville's standards and recommend that a hydrogeological investigation be conducted as part of the detailed design process. Once completed, EXP Staff will review the findings of the investigation and provide a groundwater management strategy that is in accordance with the Town of Oakville Standards. It is noted that as per the Town Standards and the notes provided within the site's pre-consultation meeting that the Town of Oakville does not support the permanent dewatering of underground parking structures into municipal infrastructure.

4.3 Methodology

The following is a summary of the key design standards that have been referenced as part of the proposed SWM strategy for the site:

- Town of Oakville Development Engineering Procedures and Guidelines;
- Sixteen Mile Creek Subwatershed Study;
- MOE Stormwater Management Planning and Design Manual; and,
- Conservation Halton Policies and Guidelines for Administration of O.Reg. 162/06.

For the required peak storm runoff and SWM storage calculations, the Rational Method was selected which is deemed appropriate for the size of the subject site.

4.4 Proposed Conditions Peak Flows

Based on the proposed grading and servicing design for the site, each catchment area was reviewed and calculated with corresponding runoff coefficient. The runoff calculations can be found in Appendix C, where the corresponding drainage area and runoff coefficient is shown on Figure 3.

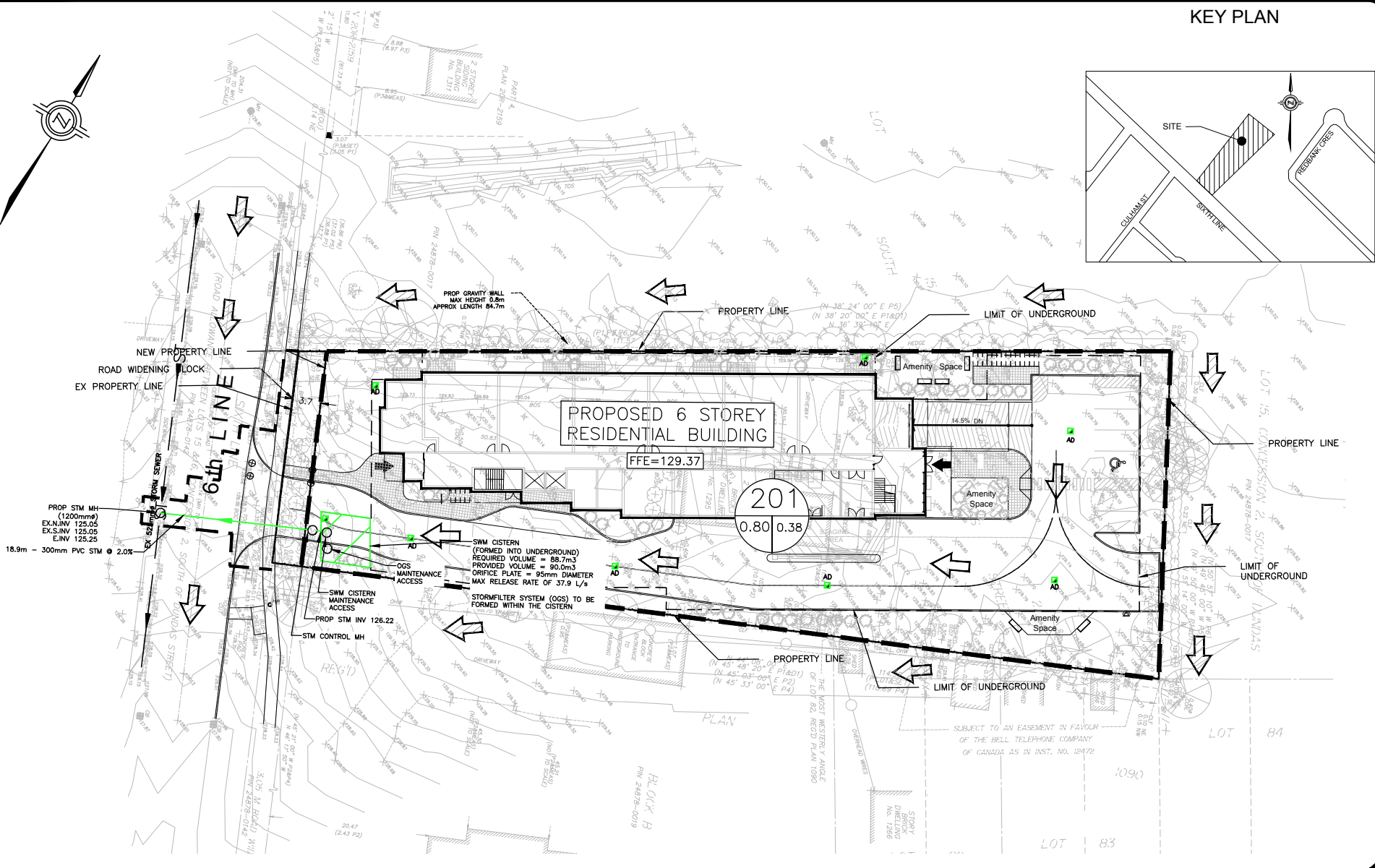
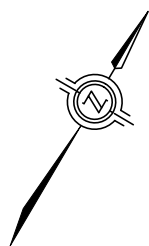
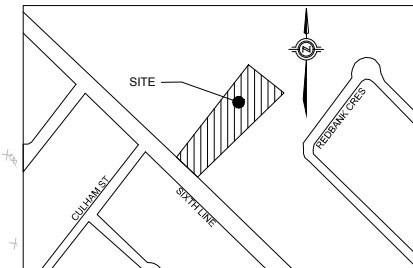
The theoretical peak flow runoff rates were then calculated for each year storm event using the conservatively estimated runoff coefficients and a time of concentration of 10 min, where the results are summarized in Table 2 below:

Table 2: Peak Flow Summary (Proposed Conditions – no SWM Controls)

Contributing Area	ID#	Area (ha)	Peak Flow -5 Year (L/sec)	Peak Flow -25 Year (L/sec)	Peak Flow -100 Year (L/sec)
Controlled Area	201	0.38	97.2	138.0	170.9
Total =		0.38	97.2	138.0	170.9

The above peak flows under proposed conditions were then reviewed to determine the SWM storage measures to attenuate flows to meet the maximum allowable release rate for the site. The peak flow runoff calculations can be found in Appendix C.

KEY PLAN



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR (0.5m / 1.0m)
- EXISTING GRADE
- OVERLAND FLOW DIRECTION
- EXTERNAL FLOW DIRECTION
- STORM DRAINAGE ID NUMBER
- AREA (ha)
- RUNOFF COEFFICIENT
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Project:		1295 SIXTH LINE OAKVILLE, ON	
Title: PROPOSED CONDITIONS DRAINAGE PLAN			
Approved by:	S.P	Date:	JAN. 2024
Drawn by:	N.M	Scale:	N.T.S.
		Project No.:	ALL-23015173-A0
		Figure no.:	FIG-03

4.5 Proposed SWM Quantity Controls

As previously mentioned, the proposed SWM design for the site requires all flows up to an including the 100-year storm event are to be controlled to the maximum allowable release rate of the pre-development 5-year flow ($C=0.34$) for all storm events. Therefore, in order to determine required the required SWM quantity controls for the site, the required SWM Cistern volume was calculated using the total controlled area.

Therefore, the 100-year peak flow for the controlled area was calculated using an orifice diameter of 95 mm which provides an actual release rate of 37.9 L/s resulting in a minimum required storage volume of 88.7 m³. A summary of the SWM Cistern requirement is summarized in Table 3 below:

Table 3: SWM Cistern Summary

Phase	Area (ha)	100-year Flows to be Controlled (L/sec)	Net Release Rate for SWM Cistern (L/sec)	Groundwater Pumping Rate (L/sec)	SWM Cistern Max Release Rate (L/sec)	SWM Cistern Required Storage (m ³)	SWM Cistern Provided Storage (m ³)
Total	0.38	170.9	41.3	0.0	37.9	88.7	90.0

The resultant storm runoff flows from the site with the proposed SWM quantity controls were calculated which can be summarized in Table 4 below:

Table 4: Peak Flow Summary (Proposed Conditions – with SWM Controls)

Contributing Area	ID#	Area (ha)	Peak Flow -5 Year (L/sec)	Peak Flow -25 Year (L/sec)	Peak Flow -100 Year (L/sec)
Controlled Area	201	0.38	37.9	37.9	37.9
Total =		0.38	37.9	37.9	37.9

Therefore, site area will be captured and conveyed to the SWM cistern with an outlet sewer of 300 mm diameter before outletting to the existing 525 mm diameter storm service and sewer on Sixth Line. The SWM storage calculations and additional servicing details have been provided in Appendix C.

4.6 Proposed SWM Quality Controls

The Town of Oakville requires that all developments fall into accordance with the applicable approved subwatershed Plan or the established criteria for the receiving body. This site falls within the Sixteen Mile Creek subwatershed. The stormwater quality control strategy for this site will include on site quality control measures including Best Management techniques which include promoting infiltration within grassed areas and directing roof leaders to available softscape areas. All flows captured by the sites inlet system will be directed to the underground SWM Cistern where an Oil-grit Separator (OGS) has been proposed to provide SWM quality control prior to the

flows being discharged to the municipal system. The proposed OGS system will be sized using the ETV particle size distribution by the manufacturer as part of the detailed design process.

4.7 Water Balance

The objective of the providing water balance measures are to provide best efforts to preserve pre-development hydrology after development. This can be achieved through a combination of various stormwater management and Low Impact Development (LID) practices such as rainwater harvesting/reuse or promoting infiltration. EXP staff carefully assessed the site conditions and the proposed preliminary site plan to review the possible measures to optimize water balance for the site. However, based on the Owner's site plan any proposed measures intended to promote infiltration within the building and underground parking structure envelope are not deemed to be possible. Therefore, EXP staff came up with two alternative methods that will be implemented within the site to promote water reuse and infiltration. The first being a rainwater harvester being incorporated into the underground SWM cistern where the collected water can be reused within the buildings internal plumbing. The second method would be incorporating LID swales within the proposed landscape areas outside of the underground parking structure envelope where applicable to promote infiltration. In summary, any proposed rainwater re-use and LID methods are to be considered as part of the future detailed design process.

5. Erosion and Sediment Controls during Construction

During construction it is imperative that the contractor installs and maintains all the necessary erosion and sediment control (ESC) measures to ensure there is no negative impact to surrounding properties and the local municipal sewer systems.

Outside the site, sediment control measures such as catchbasin silt sacks are to be installed inside the existing catchbasins along Sixth Line immediately adjacent to the site. These silt sacks are to be monitored and maintained after all rainfall events. Within the site, silt fencing is required to be installed around the perimeter of the sediment to ensure during grading and building activity, that sediment is not transported overland during a rainfall event to neighbouring properties. Similar to the required silt sacks within the catchbasins along Sixth Line, the silt fence is to be monitored after every rainfall event and repaired as necessary. Mud tracking from construction truck transport is to be mitigated through the use of a proposed mud mat and any other maintenance requirements necessary by the contractor before driving back on municipal roads.

6. Conclusions

Overall, our findings outlined in this SWM report demonstrate that the proposed SWM strategy can meet the requirements of the proposed development and the Town of Oakville and Halton Region Drainage criteria, where the results can be summarized as follows:

- Based on the Town of Oakville's current SWM criteria, a pre-development runoff coefficient of $C=0.34$ will result in a maximum allowable release rate of approximately 41.3 L/s for the site under the 5-year storm event
- Based on the proposed grading and servicing design for the site, all post development runoff up to and including the 100-year storm event will be captured and controlled within a proposed underground SWM cistern before releasing flows to the existing 525 mm diameter storm sewer on Sixth Line
- The required SWM quantity controls can meet with a minimum SWM cistern storage volume of 88.7 m³ designed to attenuate all storm events up to and including the 100-year storm to allowable release rates
- The required SWM quality controls can be met with a proposed oil and grit filtration system positioned within the proposed SWM cistern
- Groundwater can be adequately managed in accordance to Town of Oakville standards where a hydrogeological investigation is recommended as part of the detailed process
- Emergency overland flow can be safely conveyed through the site to Sixth Line based on the proposed preliminary grading for the site

Sincerely,

EXP Services Inc.



Scott W. Passmore, P.Eng.
Vice President, Land Development

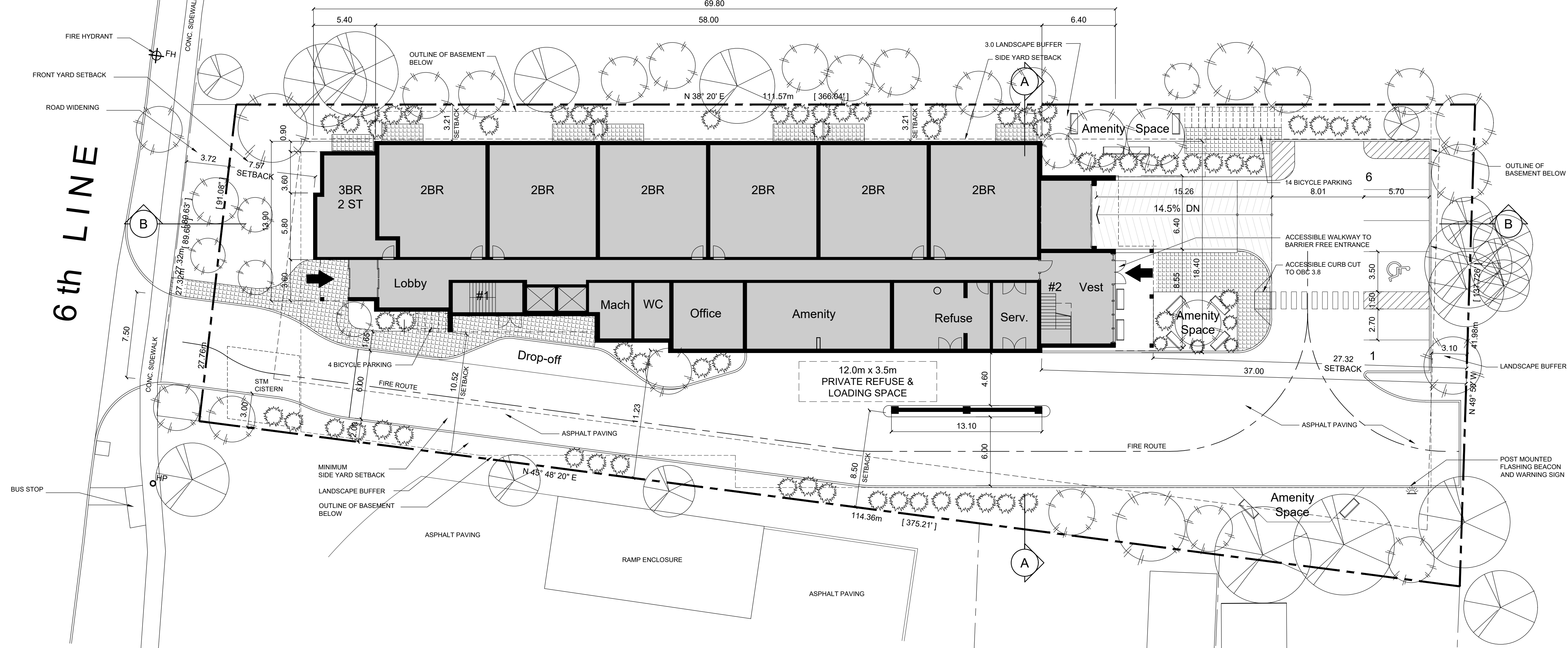
A handwritten signature in black ink, appearing to read "N. Melatti".

Nicholas Melatti, B.Eng.
Project Coordinator, Land Development

Appendix A – Site Plan and Topographic Survey

6th LINE

Open Green Space to
White Oaks Secondary School



SITE PLAN

UNIT MIX							
FLOOR	GFA	1 BR	2 BR	3 BR	TOTAL	NRA	PKG
GROUND	1151.9 m ²	0	6	-	6	636.7 m ²	9
SECOND	1096.6 m ²	0	10	1	11	890.8 m ²	15.5
THIRD	1025.0 m ²	11	2	1	14	803.1 m ²	14.5
FOURTH	1025.0 m ²	11	2	1	14	803.1 m ²	14.5
FIFTH	1025.0 m ²	11	2	1	14	803.1 m ²	14.5
SIXTH	842.6 m ²	9	2	0	11	624.0 m ²	11.5
TOTAL	6166.1 m²	42	24	4	70	4560.8 m²	80

AREA CALCULATION		
TOTAL Site Area	3,820.2 m ²	0.38 ha
Building foot-print	1,151.9 m ²	
Landscape Area	±28 %	
TOTAL Floor Area (GFA)	6,166.1 m ²	
No. of Units	70 units	
Building Height	6 storeys	
TOTAL Parking required	80 spaces	
TOTAL Parking provided	80 spaces	
Bicycle Parking required	70 spaces	
Bicycle Parking provided	52 + 18V = 70 spaces	
Units / hectare - proposed	184.2 units/ha	
Floor Space Index	1.61	
TOTAL Unit Area	4,560.8 m ²	

#	ISSUED FOR	DATE
1	ISSUED FOR PRELIMINARY REVIEW	07 /03/23
2	APARTMENT DESIGN REVIEW	14 /02/23
3	REVISED DRIVEWAY ENTRANCE	17 /03/23
4	ISSUED FOR PRELIMINARY REVIEW	11 /04/23
5	ISSUED FOR PRELIMINARY REVIEW	24 /11/23
6	ISSUED FOR O.P.A.	15 /12/23
7	ISSUED FOR O.P.A.	06 /02/24
8	UPDATED FOR MUNICIPAL COMMENTS	19 /08/24
9	ISSUED FOR COORDINATION	22 /11/24

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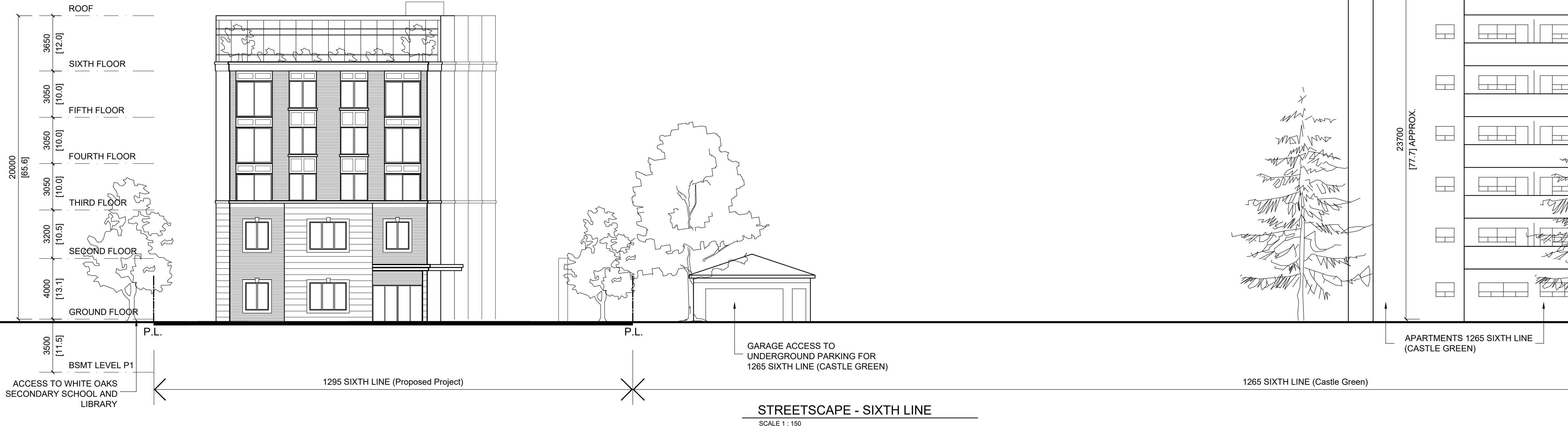
RICK BROWN & ASSOCIATES INC.
1100 CENTRAL PARKWAY WEST
SUITE 30, 2ND FLOOR
MISSISSAUGA, ON, L5C 4E5
T: 905 897-0388
C: 905 510-2579
rick@RBAdesign.ca



PROJECT NAME & ADDRESS:
PROPOSED RESIDENTIAL INFILL DEVELOPMENT
1295 SIXTH LINE,
OAKVILLE, ON

SCALE: 1:200
DATE: JUNE 27, 2022
DRAWN BY: RB / MS
JOB No.: 202212

SITE PLAN
DRAWING No.: SP1



#	ISSUED FOR	DD/MM/YY
1	ISSUED FOR PRELIMINARY REVIEW	07 /03/23
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7	ISSUED FOR O.P.A.	06 /02/24
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9	ISSUED FOR COORDINATION	22 /11/24

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SCALE: AS NOTED	DATE: JUNE 27, 2022	DRAWN BY: RB / MS	JOB No.: 202212
STREETSCAPE ELEVATION			DRAWING No.: P-05

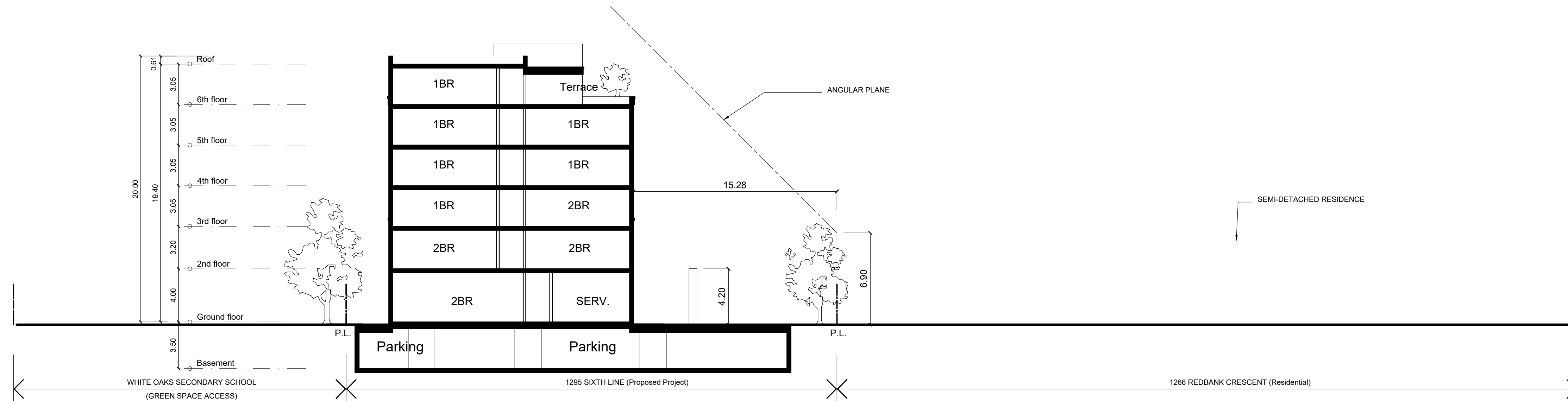
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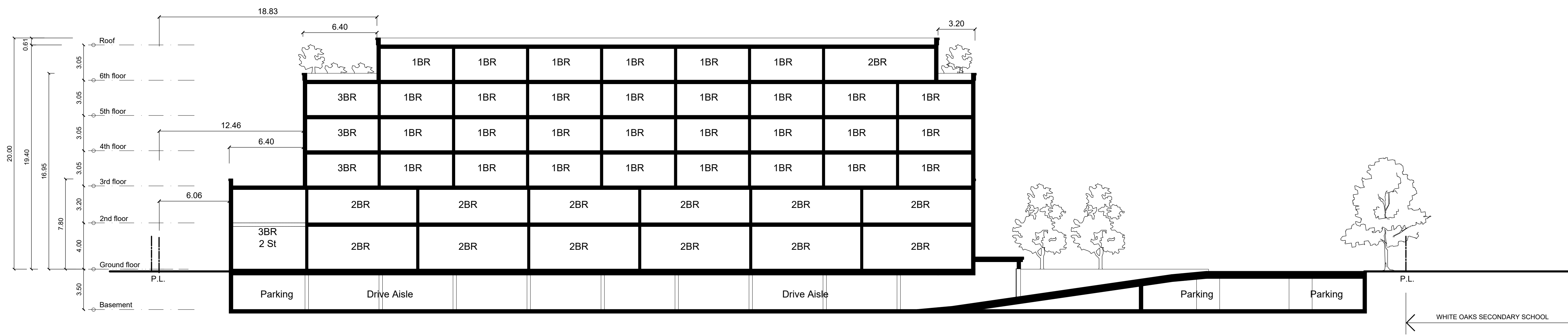
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SITE SECTION A - A

SCALE 1 : 200



SITE SECTION B - B

SCALE 1 : 200

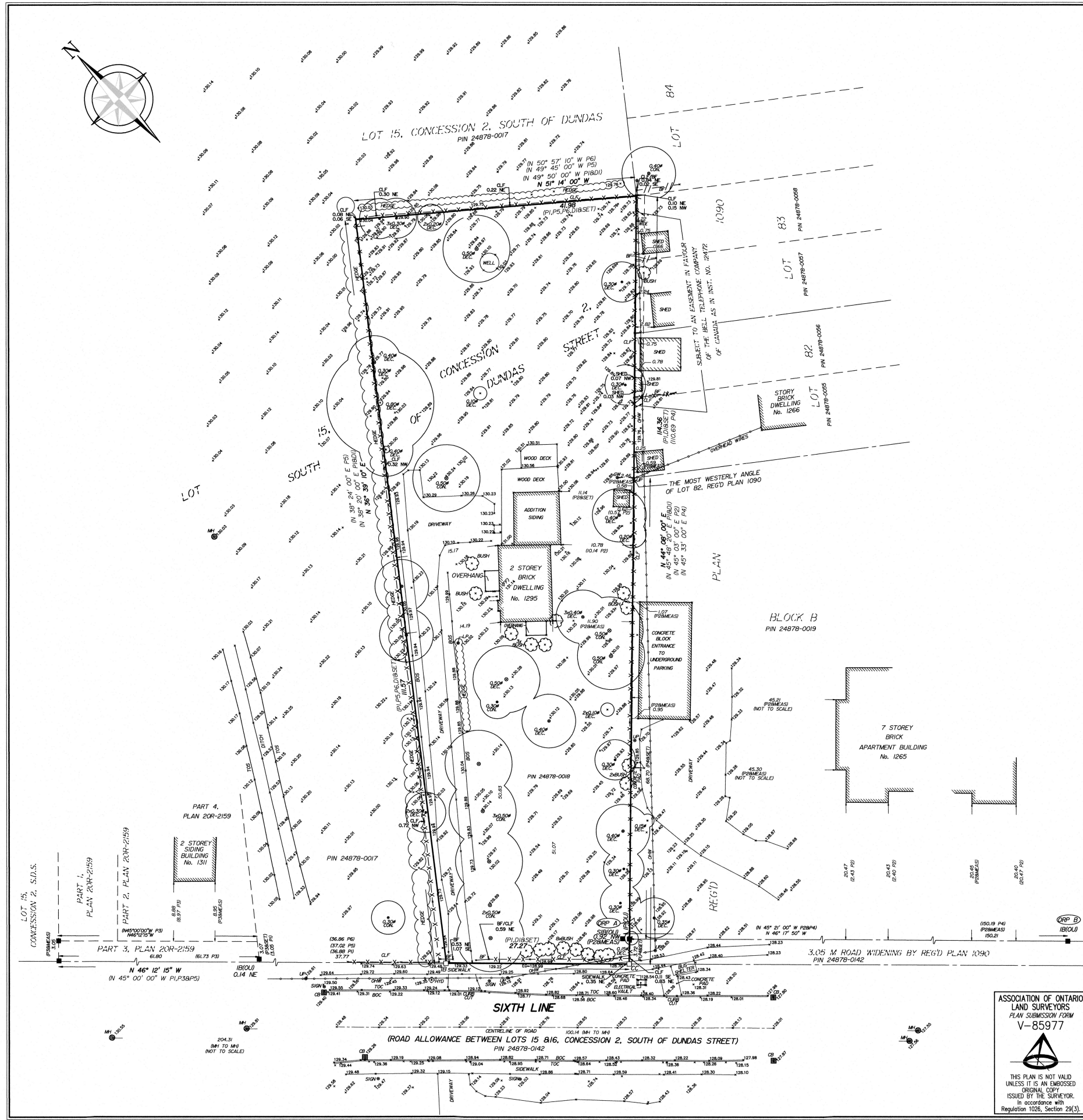
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PROJECT NAME & ADDRESS:
**PROPOSED RESIDENTIAL
 INFILL DEVELOPMENT**
 1295 SIXTH LINE,
 OAKVILLE, ON

SCALE: AS NOTED	DATE: JUNE 27, 2022	DRAWN BY: RB / MS	JOB No.: 202212
--------------------	------------------------	----------------------	---------------------------

SITE SECTION
 DRAWING No.:
P-06



SURVEYOR'S REAL PROPERTY REPORT - PART 1
 PLAN OF SURVEY AND TOPOGRAPHY OF
**PART OF LOT 15, CONCESSION 2,
 SOUTH OF DUNDAS STREET**
 (GEOGRAPHIC TOWNSHIP OF FRASERBURGH, COUNTY OF HALTON)
 TOWN OF OAKVILLE
 REGIONAL MUNICIPALITY OF HALTON

SCALE 1 : 300
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 Ontario Land Surveyor 2024
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SURVEYOR'S REAL PROPERTY REPORT - PART 2
 REGISTERED EASEMENTS AND/OR RIGHT-OF-WAY
 None

NOTABLES
 Note the location of the Fence around the Subject Property.
 Note the location of the Utility Pole and Guy Wire along the Southeasterly Limit of the Subject Property.
 Note the location of the Shed along the Southeasterly Limit of the Subject Property.
 Note the location of the Sidewalk along the Southerly corner of the Subject Property.

LEGEND
 Survey Monument Found N Denotes North
 Survey Monument Set S Denotes South
 Standard Iron Bar E Denotes East
 Iron Bar W Denotes West
 IP Iron Pipe
 RIB Round Iron Bar
 CC Cut Cross
 (OU) Origin Unknown
 P1 Plan of Survey by C. Peat O.L.S. dated April 11th, 1983
 P2 Plan of Survey by David Harwood Limited O.L.S. dated April 22th, 2003
 P3 Plan 20R-2159 February 1st, 1974
 P4 Reg'd Plan 1090
 P5 Plan of Survey by Sewell and Sewell O.L.S. dated November 18th, 1963
 P6 Plan of Survey by Cunningham McConnell Limited O.L.S. dated July 07th, 2009
 DI Inst. No. 574545
 FF Finished Floor
 EG Established Grade
 BF Board Fence
 UP Utility Pole
 DEC. Deciduous
 CON. Coniferous
 TCP Top of Curb
 BOC Bottom of Curb
 TOS Top of Slag
 BOS Bottom of Slag
 CB Catch Basin
 MH Maintenance Hole
 CLF Chain Link Fence
 BF Board Fence
 LP Light Pole
 GW Guy Wire
 OHW Overhead wires

BENCHMARK
 Elevations are Elevations are Referred to the Town of Oakville Benchmark No. 227, having an Elevation of 131.8305 m.

NOTE
 This REPORT can be updated by this office, however NO ADDITIONAL PRINTS of this ORIGINAL REPORT will be issued, subsequent to the DATE of CERTIFICATION.
 All building lines are from the foundations are perpendicular to property lines unless otherwise noted.

NOTE
 This REPORT was prepared for Creditville Development Group and the undersigned accepts no responsibility for use by other parties.

Distances shown on this plan are in metres and can be converted to feet by dividing by 0.3048.

BEARING NOTE
 BEARINGS ARE GRID, DERIVED FROM SPECIFIED CONTROL POINTS LISTED IN THE FOLLOWING TABLE, AND ARE REFERENCED TO THE CENTRAL MERIDIAN OF 6° UTM ZONE 17 (81° WEST LONGITUDE) NAD83 (CSRS12010).

SPECIFIED CONTROL POINTS: UTM ZONE 17, NAD83 (CSRS12010). COORDINATES TO URBAN ACCURACY PER SEC. 14(2) OF O.R.G. 216/10

POINT ID	NORTHING	EASTING
ORP A	4 812 745.38	604 960.76
ORP B	4 812 641.60	605 069.36

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.
 Distances shown on this plan are Ground Distances and can be converted to Grid Distances by Multiplying the Combined Scale Factor of 0.999666

SURVEYOR'S CERTIFICATE
 I certify that:
 1. This survey and plan are correct and in accordance with the Surveys Act, the Surveyors Act, and the Regulations made under them.
 2. The survey was completed on the 11th day of October, 2024.

ASSOCIATION OF ONTARIO
 LAND SURVEYORS
 PLAN SUBMISSION FORM
 V-85977

October 22, 2024
 Date
 Andrew Masilj O.L.S.
 Party Chief: R.E. Drawn By: A.M. Checked By: A.M. Project: 24-178

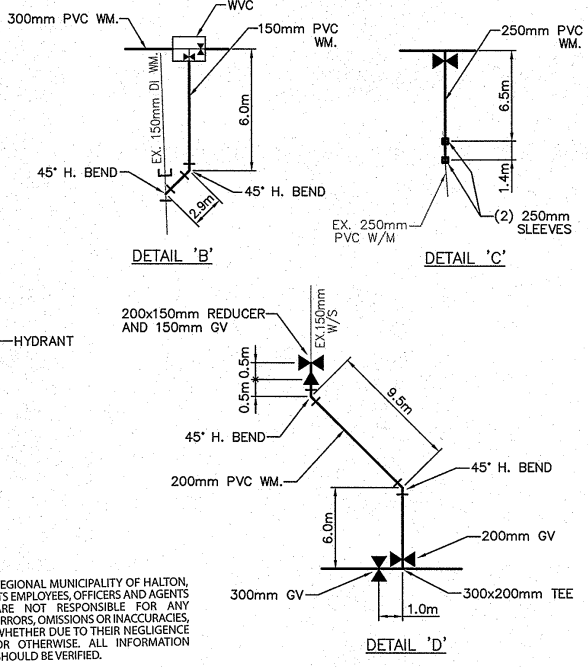
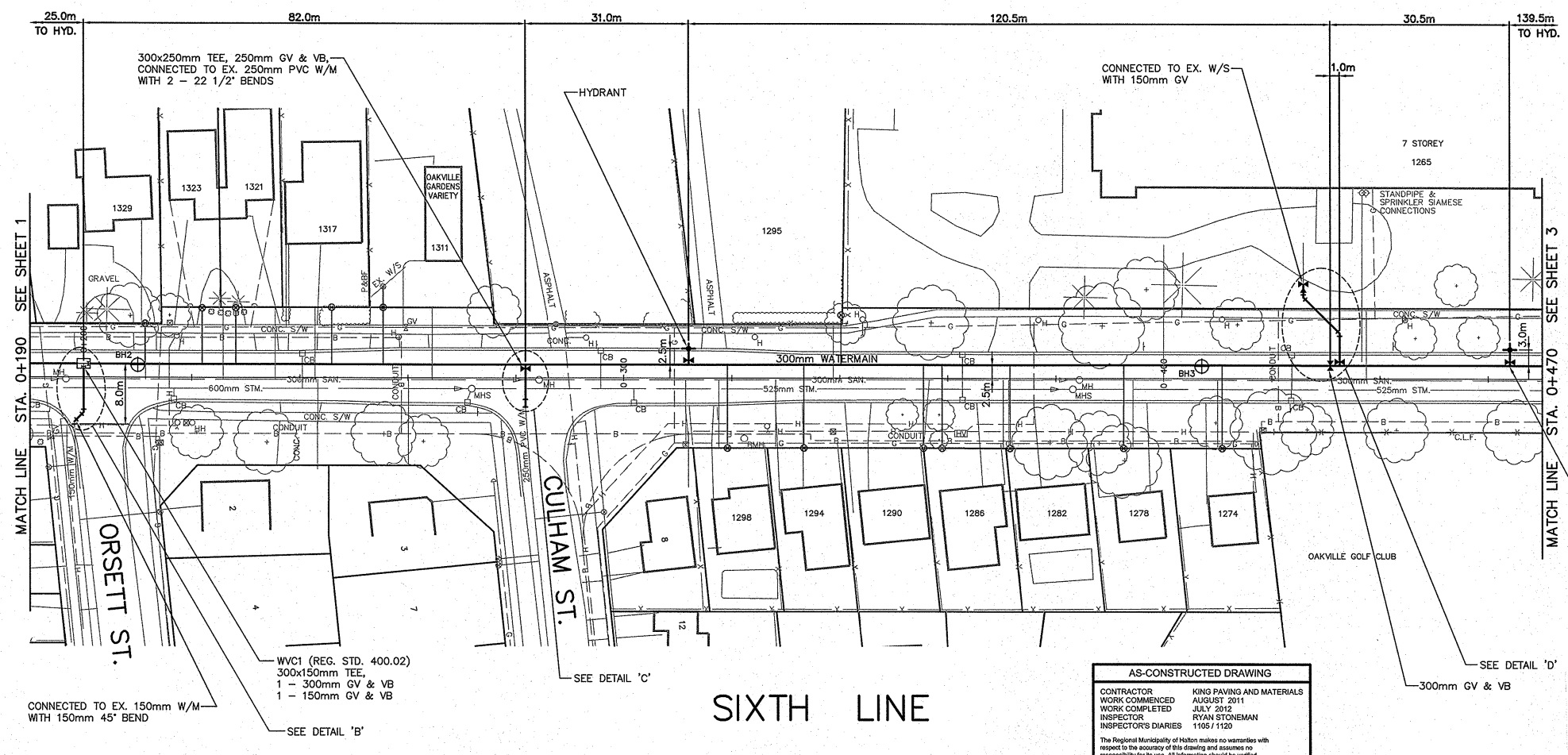
J. H. Gelbloom Surveying Limited
 Ontario Land Surveyor
 478 Morden Road, Unit 102, Oakville, Ont, L6K 3W4
 office@jhsurveying.ca
 Phone (905) 338-8210

Records: 260,087

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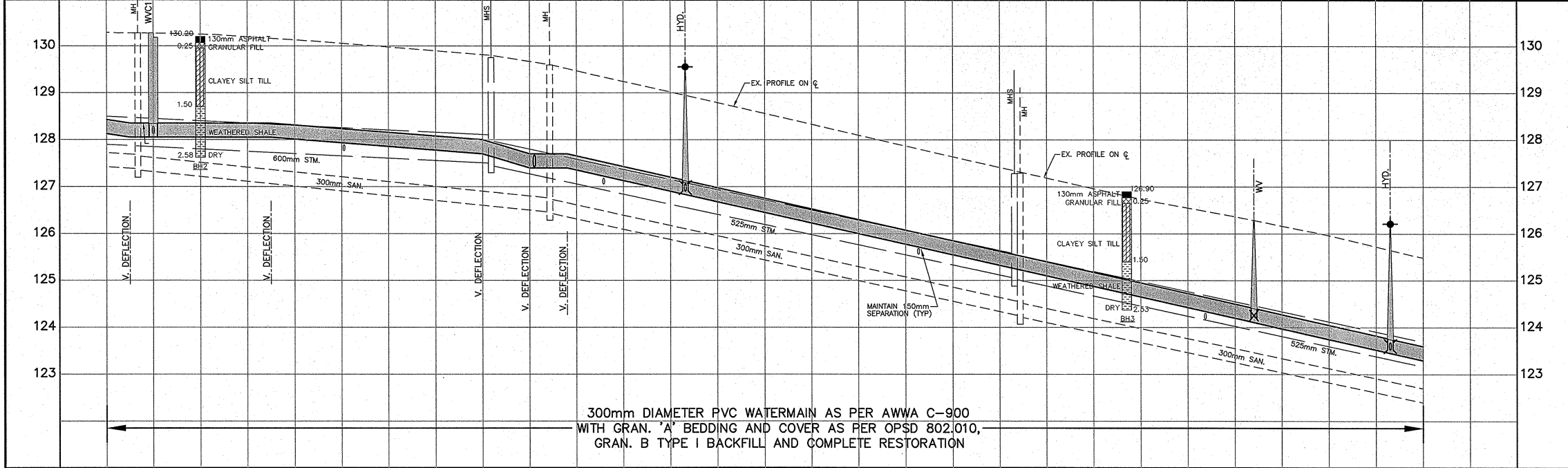




AS-CONSTRUCTED DRAWING
 CONTRACTOR KING PAVING AND MATERIALS
 WORK COMMENCED AUGUST 2011
 WORK COMPLETED JULY 2012
 INSPECTOR RYAN STONEMAN
 INSPECTOR'S DIARIES 1105/1120
 The Regional Municipality of Halton makes no warranties with respect to the accuracy of this drawing and assumes no responsibility for its use. All information should be verified.

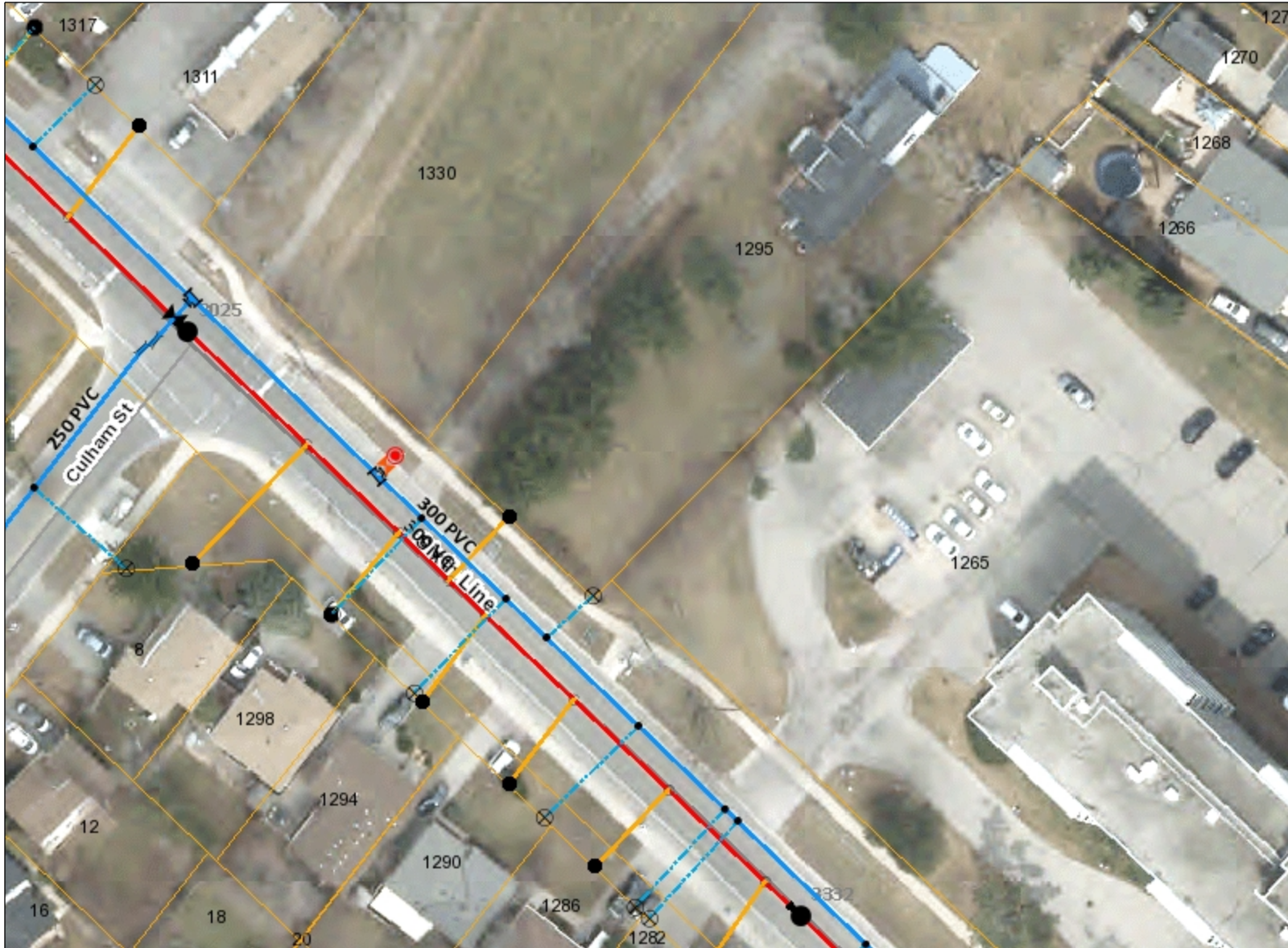
REGIONAL MUNICIPALITY OF HALTON,
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 ERRORS, OMISSIONS OR INACCURACIES,
 WHETHER DUE TO THEIR NEGLIGENCE
 OR OTHERWISE. ALL INFORMATION
 SHOULD BE VERIFIED.

FOR GENERAL NOTES AND ROAD RESTORATION DETAIL SEE SHEET 1.



1	FEB 2013	RWB	AS CONSTRUCTED		X
NO	Date	By	REVISIONS		MANU CAD
Design	R.R.	Ch'kd		Date	
Drawn	EWS/RWB	Ch'kd		JUNE 2011	
Scale	1:500 Horiz.	10 5 0 10	References		
	1:50 Vert.	0.5 0 1			
APPROVALS					Field Notes
Municipal					Stamp
Regional					
SEE SHEET W1 FOR ORIGINAL SIGNATURE					
Director					
SEE SHEET W1 FOR ORIGINAL SIGNATURE					
Manager					
WATERMAIN REPLACEMENT ON SIXTH LINE IN THE TOWN OF OAKVILLE FROM 15m N. OF ORSETT DR. TO 185m S. OF CULHAM DR.					
Consultant File NO				O-18657	
CONTRACT NO (PR2432-11)				Drawing NO	
R-465-10				SHEET W2 OF W7	

1295 Sixth Line, Oakville



Legend

Water Control Valve

System

SystemDP

Zone

ZoneDP

Water Service Valve

CurbStop

PropertyLine

Secondary

TappingValve

Water Hydrant

Water Fitting

Cap

Cross

HBend

MainStop

Reducer

Sleeve

TappingSleeve

Tee

VBend

Water Chamber

Chamber

Notes:



THIS MAP IS NOT TO BE USED FOR NAVIGATION

Information Valid as of:
12/12/2023

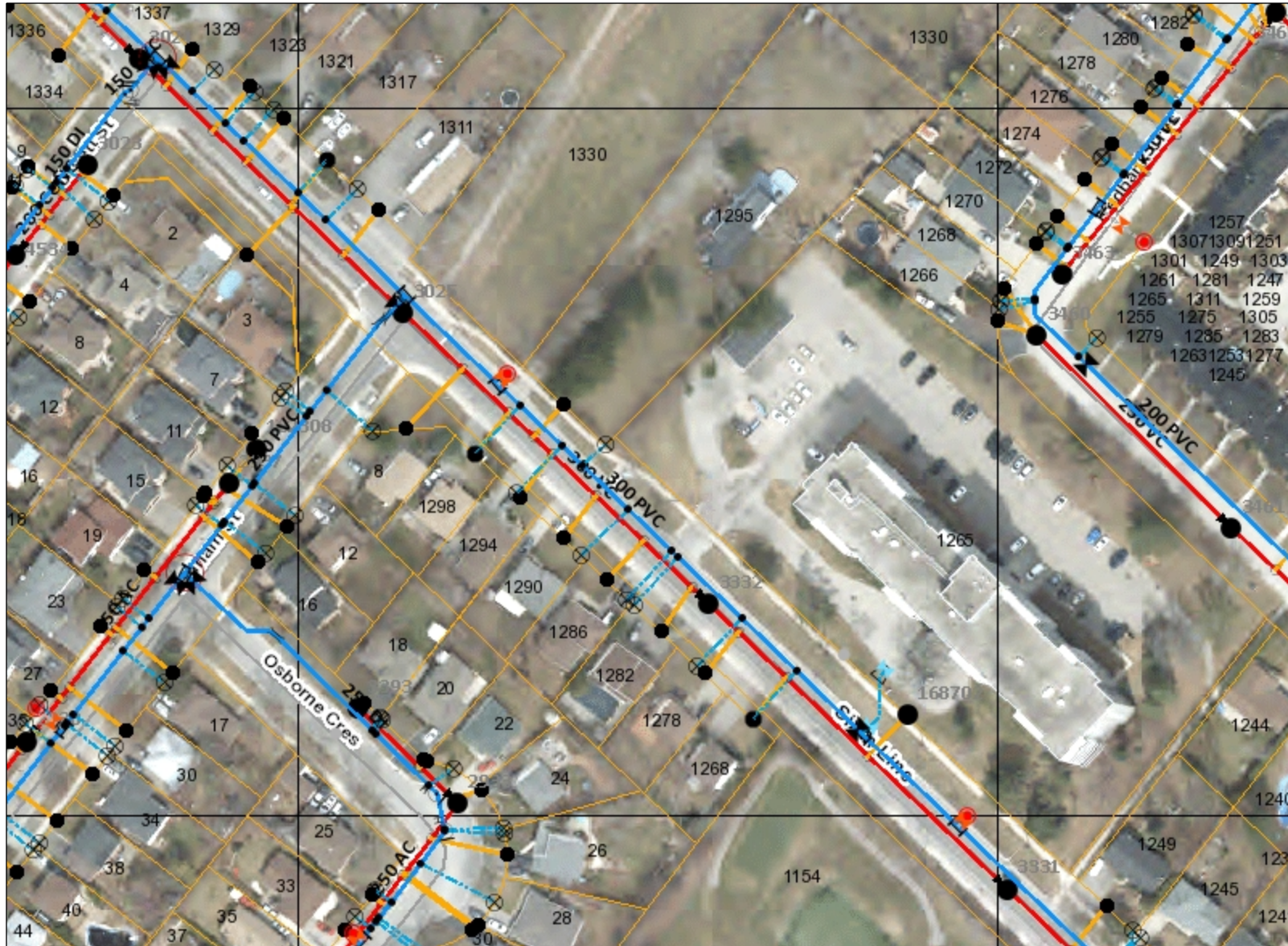
36.2 0 18.10 36.2 Metres

1: 724

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1295 Sixth Line, Oakville



Legend

- Water Control Valve**
 - System
 - SystemDP
 - Zone
 - ZoneDP
- Water Service Valve**
 - CurbStop
- Water Hydrant**
- Water Fitting**
 - Cap
 - Cross
 - HBend
 - MainStop
 - Reducer
 - Sleeve
 - TappingSleeve
 - Tee
 - VBend
- Water Chamber**
 - Chamber

Notes:

 THIS MAP IS NOT TO BE USED FOR NAVIGATION

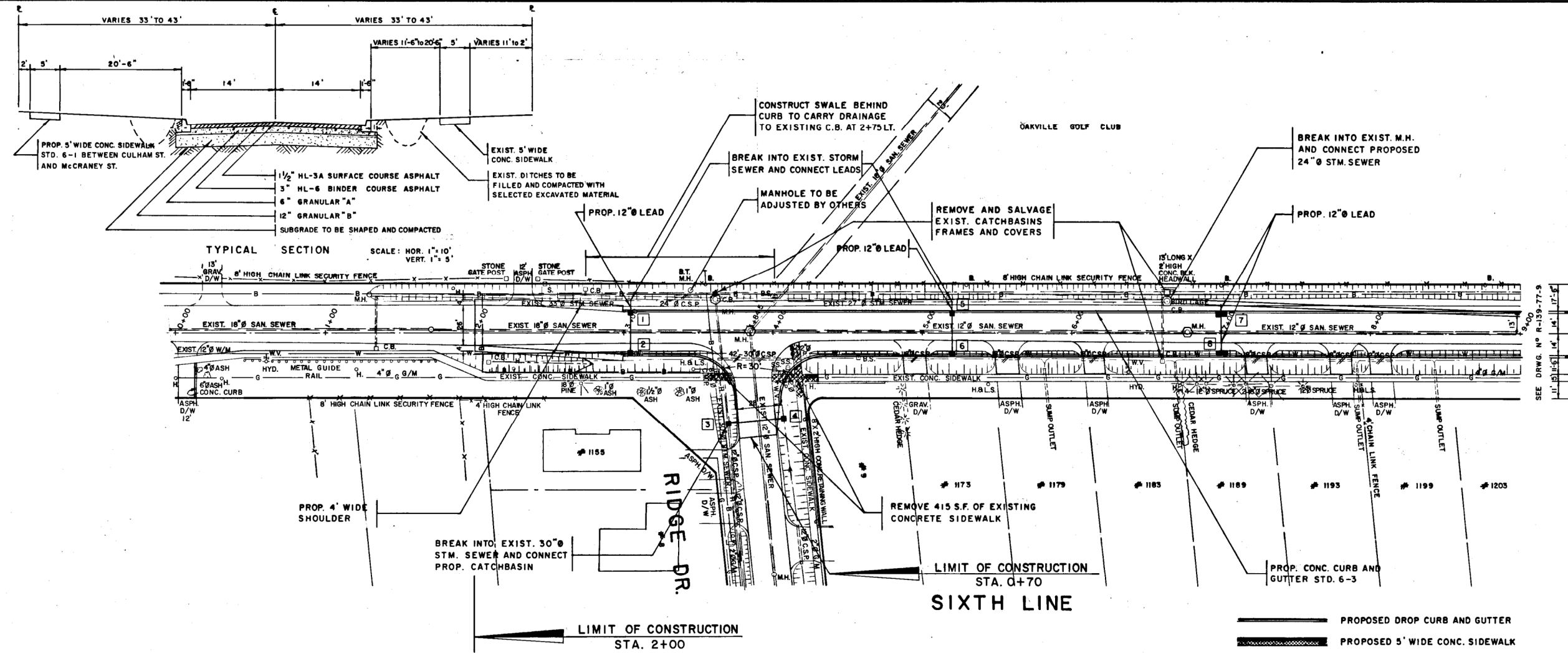
Information Valid as of:
12/12/2023

72.4 0 36.19 72.4 Metres

1:1,448

REGIONAL MUNICIPALITY OF HALTON, ITS EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES, WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.

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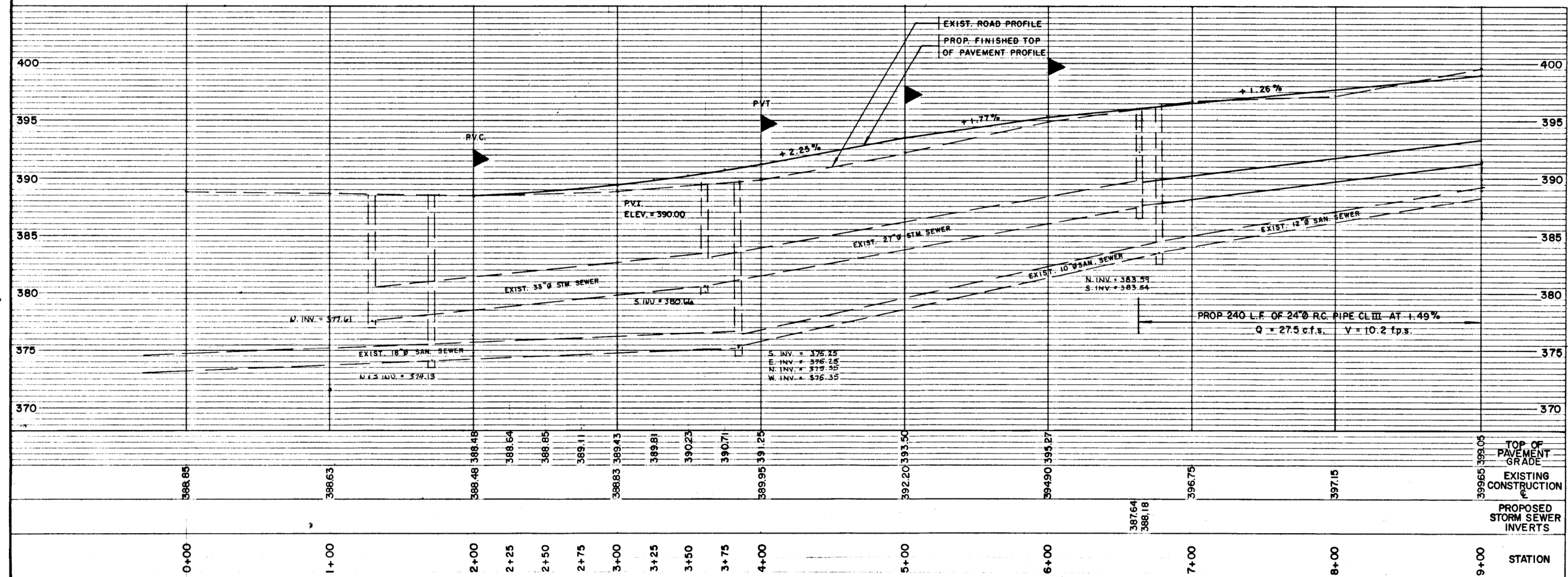


CATCHBASIN DATA - SYMBOL					
NO.	STATION	OFFSET FROM	STRUCTURE	COVER	COMMENTS
1	3+05	IN CURB	3-1	5-4	
2	3+05	IN CURB	3-1	5-4	
3		DITCH	3-1	5-2	RIDGE DR.
4		DITCH	3-1	5-2	RIDGE DR.
5	5+20	IN CURB	3-1	5-4	
6	5+20	IN CURB	3-1	5-4	
7	7+00	IN CURB	3-2	5-4	
8	7+00	IN CURB	3-2	5-4	

- NOTES:**
- 1) ALL CATCHBASIN LEADS TO BE 10" Ø E.S. CONCRETE PIPE AT 1% UNLESS OTHERWISE SHOWN.
 - 2) ALL SIGNS TO BE RELOCATED BY OTHERS.
 - 3) ADJUST EXISTING MANHOLE FRAMES AND COVERS, AND WATER VALVES TO SUIT FINISHED GRADE. SYMBOL ○
 - 4) ALL DRIVEWAYS TO BE PAVED BETWEEN SIDEWALK AND CURB OR BETWEEN CURB AND PROPERTY LINE.

CONSTRUCTION BENCH MARKS

- 1) TOP OF NORTH STONE PILLAR AT OAKVILLE GOLF CLUB ENTRANCE ELEV'N 389.65



GENERAL NOTES

- ALL DRIVEWAYS GRAVEL UNLESS OTHERWISE NOTED.
- ALL SERVICE LOCATIONS ARE APPROXIMATE AND MUST BE LOCATED ACCURATELY IN THE FIELD.
- U/G HYDRO AS SHOWN - WATER AS SHOWN
- U/G BELL AS SHOWN
- SAN. SEWERS AS SHOWN
- STM. SEWERS AS SHOWN
- GAS AS SHOWN

LEGEND

- STN. M.H. - DENOTES BENCH MARK ELEVATION
- SAN. M.H. - STORM SEWER & MANHOLE
- W.V. - SANITARY SEWER & MANHOLE
- W-W-W-W - WATERMAIN & VALVE
- G-G-G-G - GASMAIN & VALVE
- B-B-B-B - BELL TELEPHONE BURIED CABLE
- H.P. - HYDRO POLE & GUY ANCHOR
- HYD. - HYDRANT

TOWN OF OAKVILLE
DEPARTMENT OF PUBLIC WORKS

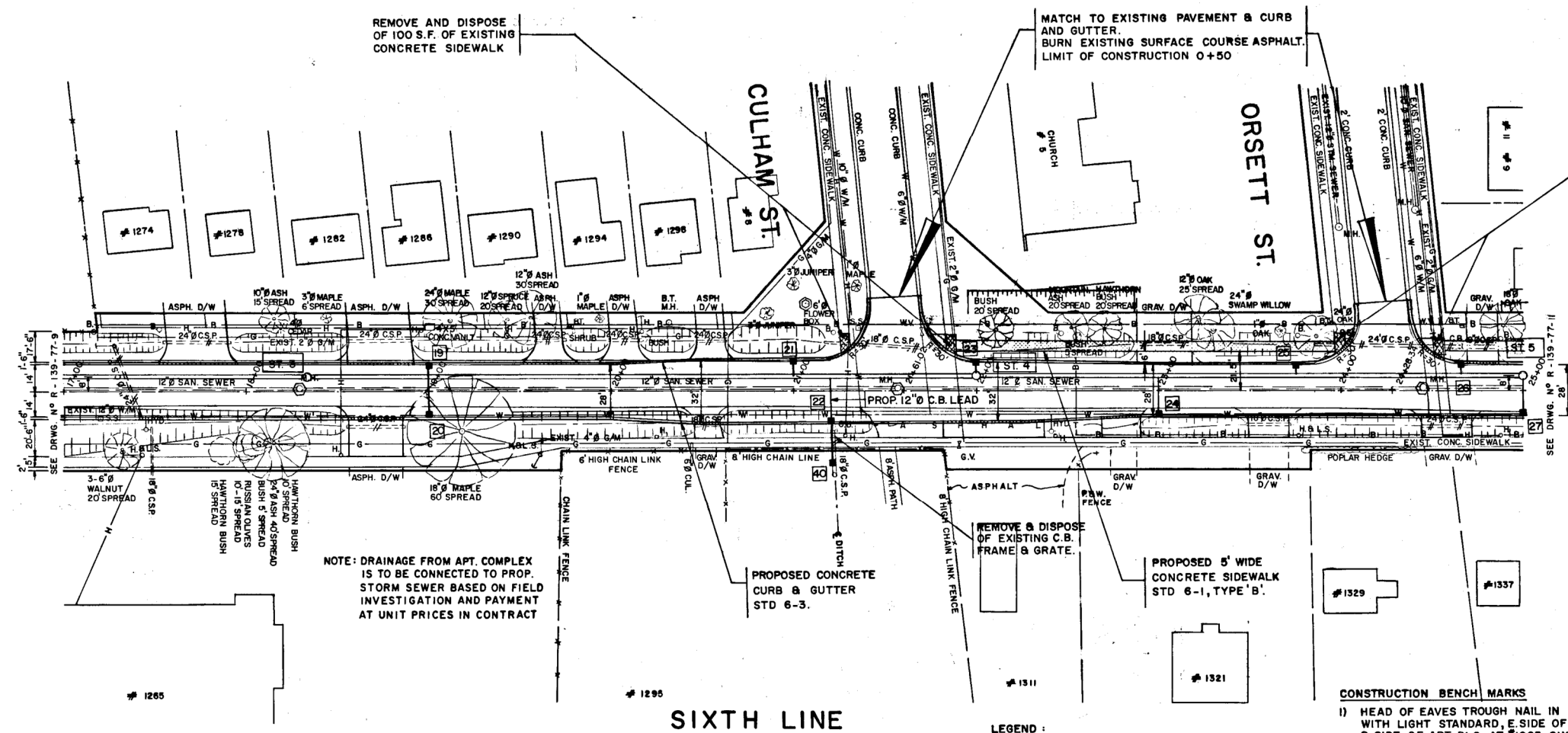
PROPOSED ROAD RECONSTRUCTION ON SIXTH LINE FROM STATION 0+00 TO STATION 9+00

FILE NO: R-139-77

DATE: MAY, 1977
DESIGN BY: R.G.G.
DRAWN BY: D.A.
SURVEY BY: J.A./M.D.
CH'KD BY: L.D.M.L.
INSPECTOR:
FILE NO: R-139-77
CONTRACTOR:

PLAN NO: R-139-77-5
SHEET 5 OF 26

DATE: JAN. 4 1978
REVISIONS: STM. INVERTS AS CONSTRUCTED
BY: B.W.



NO	STATION	OFFSET FROM E	STRUCTURE	COVER	COMMENTS
3	18+35	8' L	2-1	5-1	
4	22+00	8' L	2-1	5-1	
5	25+00	8' L	2-1	5-1	

NO	STATION	OFFSET FROM E	STRUCTURE	COVER	COMMENTS
19	19+00	IN CURB	3-1	5-4	
20	19+00	IN CURB	3-1	5-4	
21	21+00	IN CURB	3-1	5-4	
22	21+20	IN CURB	3-1	5-4	
23	22+00	IN CURB	3-1	5-4	
24	23+00	IN CURB	3-1	5-4	
25	23+75	IN CURB	3-1	5-4	
26	24+85	IN CURB	3-1	5-4	
27	25+00	IN CURB	3-1	5-4	
40	21+20	40' R	3-1	5-2	

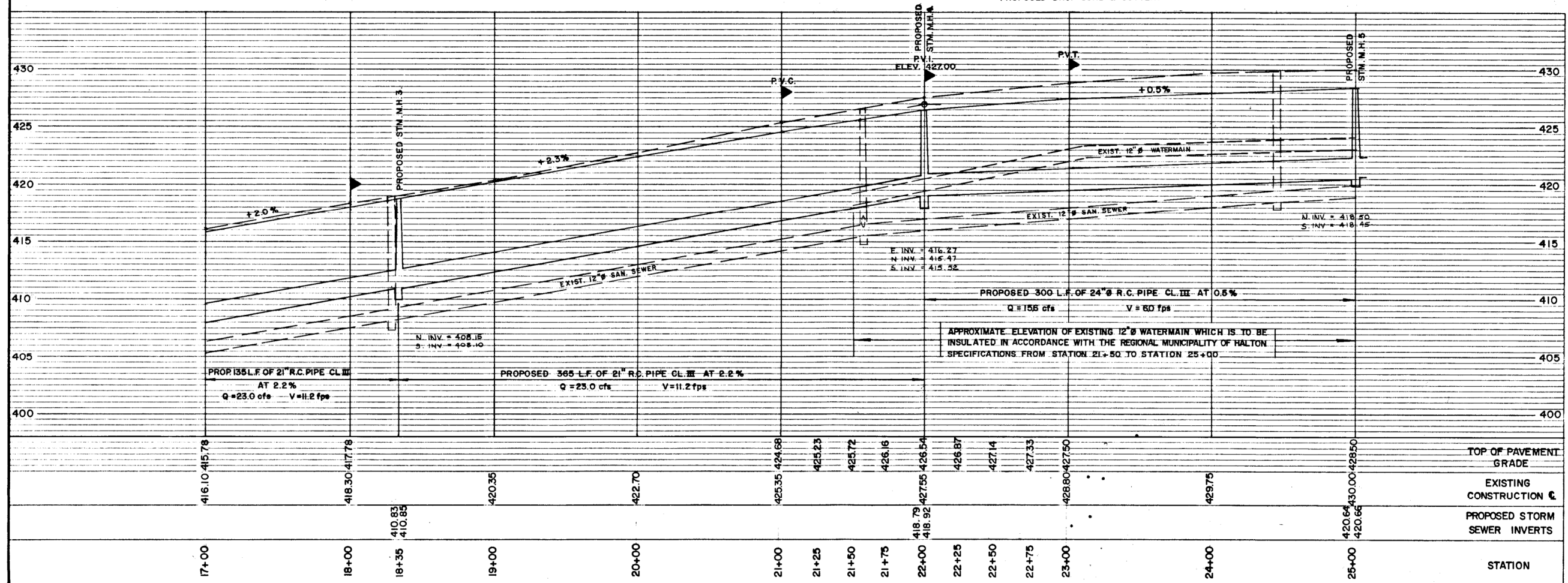
- NOTES:**
- 1) ALL CATCHBASIN LEADS TO BE 10" Ø E.S. CONCRETE PIPE AT 1% SLOPE, UNLESS OTHERWISE SHOWN.
 - 2) ADJUST EXISTING MANHOLE FRAMES & COVERS AND WATERVALVES TO SUIT FINISHED GRADE - SYMBOL.
 - 3) ALL DRIVEWAYS TO BE PAVED BETWEEN SIDEWALK AND CURB OR BETWEEN CURB AND PROPERTY LINE.
 - 4) ALL SIGNS TO BE RELOCATED BY OTHERS.
 - 5) EXISTING BELL POLES TO BE REMOVED BY OTHERS.

- CONSTRUCTION BENCH MARKS**
- 1) HEAD OF EAVES TROUGH NAIL IN HYDRO POLE WITH LIGHT STANDARD, E. SIDE OF SIXTH LINE, S. SIDE OF APT. BLDG. AT #1265 SIXTH LINE.
 - 2) N.E. CORNER OF CONCRETE FOOTING AT ST. SIMONS CHURCH ON SIXTH LINE, JUST NORTH OF CULHAM ST.

- LEGEND:**
- PROPOSED 5' WIDE CONCRETE SIDEWALK.
 - PROPOSED DROP CURB & GUTTER.

NOTE: DRAINAGE FROM APT. COMPLEX IS TO BE CONNECTED TO PROP. STORM SEWER BASED ON FIELD INVESTIGATION AND PAYMENT AT UNIT PRICES IN CONTRACT

SIXTH LINE



GENERAL NOTES

- ALL DRIVEWAYS GRAVEL UNLESS OTHERWISE NOTED.
- ALL SERVICE LOCATIONS ARE APPROXIMATE AND MUST BE LOCATED ACCURATELY IN THE FIELD.
- U/G HYDRO AS SHOWN - WATER AS SHOWN
- U/G BELL AS SHOWN - GASMAIN & VALVE
- SAN. SEWER AS SHOWN - SAN. SEWER AS SHOWN
- GAS AS SHOWN - GAS AS SHOWN

LEGEND

- STW. M.H. - DENOTES BENCH MARK ELEVATION
- SAN. M.H. - STORM SEWER & MANHOLE
- W-W-W-W - SANITARY SEWER & MANHOLE
- W-W-W-W - WATERMAIN & VALVE
- G-G-G-G - GASMAIN & VALVE
- B-B-B-B - BELL TELEPHONE BURIED CABLE
- H.C. - HYDRO POLE & GUY ANCHOR
- HYD. - HYDRANT

TOWN OF OAKVILLE
DEPARTMENT OF PUBLIC WORKS

PROPOSED ROAD RECONSTRUCTION ON SIXTH LINE FROM STATION 17+00 TO STATION 25+00

FLD. BK. No. J.A. -
SCALES - HOR: 1" = 40'
VERT: 1" = 5'

DATE: MAY, 1977 DESIGN BY: R.G.G.
DRAWN BY: D.A. SURVEY BY: J.A./M.D.
CHK'D BY: L.D. McL. INSPECTOR:
FILE NO: R-139-77 CONTRACTOR:

PLAN NO: R-139-77-7
SHEET 7 OF 11

DATE: AUG. 10, 1977 REVISIONS: BY:
- PROPOSED SIDEWALK LOCATION REVISED BETWEEN CULHAM ST. AND STA. 25+00.
- NOTE 5 ADDED.
- TREE AT STA. 22+10 TO BE SAVED.
- STW. SEWER INVERTS AS CONSTRUCTED

O. H. ELLIS
REGISTERED PROFESSIONAL ENGINEER
CIVIL
PROVINCE OF ONTARIO

R.G.G.
B.W.

Appendix B – Existing Conditions Storm Runoff Calculations

Pre-Development Runoff Coefficients and Peak Flows (Existing Conditions) Town of Oakville

Contributing Area	ID#	Runoff Coefficient	AREA (ha)
The Site	101	0.34	0.38

Pre-Development Flows for the Site

Time of Concentration	10 minutes		
5 Year Intensity	114.21 mm/hr	$Q_{(5 \text{ Year})} = C * I * A * 0.0028$	41.3 l/s
25 Year Intensity	162.17 mm/hr	$Q_{(25 \text{ Year})} = C * I * A * 0.0028$	58.7 l/s
100 Year Intensity	200.80 mm/hr	$Q_{(100 \text{ Year})} = C * I * A * 0.0028$	72.6 l/s

Runoff Coefficient Town of Oakville

Contributing Area	Runoff Coefficient	AREA (ha)
Grass	0.25	0.33
Hardscape	0.9	0.05
Total	0.34	0.38

Appendix C – Proposed Conditions SWM Calcs & Background Information

**Post-Development Runoff Coefficients and Peak Flows
 Town of Oakville**

Contributing Area	ID#	Runoff Coefficient	AREA (Ha)
Site area	201	0.80	0.38
Total Controlled Area		0.80	0.38
		Total	0.38

Post-Development Controlled Flows (201)

Time of Concentration	10 minutes		
5 Year Intensity	114.21 mm/hr	$Q_{(5 \text{ Year})} = C * I * A * 0.0028$	97.2 l/s
25 Year Intensity	162.17 mm/hr	$Q_{(25 \text{ Year})} = C * I * A * 0.0028$	138.0 l/s
100 Year Intensity	200.80 mm/hr	$Q_{(100 \text{ Year})} = C * I * A * 0.0028$	170.9 l/s

Required Storage Volume - SWM Cistern

Town of Oakville

Control 100 year Post Development to 5 Year Pre Development

Controlled Site Area	0.38 Ha
Allowable Release From Site	41.3 l/s
Uncontrolled Runoff From Site (100year)	0 l/s
Groundwater Pumping Rate	0.0 l/s
Net Allowable Release From Site	41.3 l/s
Orifice Release Rate	37.9 l/s
Composite Runoff Coefficient (Controlled Area)	0.8
Time of Concentration	10 minutes
100 Year Storm I = 1114.2/(t+5)^0.761	

Storm Duration (minutes)	Rainfall Intensity (mm/hr)	Total Runoff Q (l/s)	Required Storage Volume (m ³)
2	370.826	315.6	33.3
4	303.968	258.7	53.0
6	258.661	220.2	65.6
8	225.799	192.2	74.1
10	200.802	170.9	79.8
12	181.106	154.2	83.7
14	165.159	140.6	86.3
16	151.966	129.4	87.8
18	140.858	119.9	88.6
20	131.367	111.8	88.7
22	123.158	104.8	88.4
24	115.983	98.7	87.6
26	109.654	93.3	86.5
28	104.028	88.5	85.1
30	98.990	84.3	83.4
32	94.451	80.4	81.6
34	90.340	76.9	79.6
36	86.597	73.7	77.4
38	83.173	70.8	75.0
88.7 m³ of Storage is required			

1295 Sixth Line
SWM Cistern

INPUT

Required Discharge (l/s) =	170.90
Max. Water Surface Elev. (m) =	128.240
Discharge Pipe Invert (m) =	125.910
Discharge Pipe Diameter (mm) =	300
Orifice Diameter (mm) =	95
Orifice Flow Loss (C) =	0.8

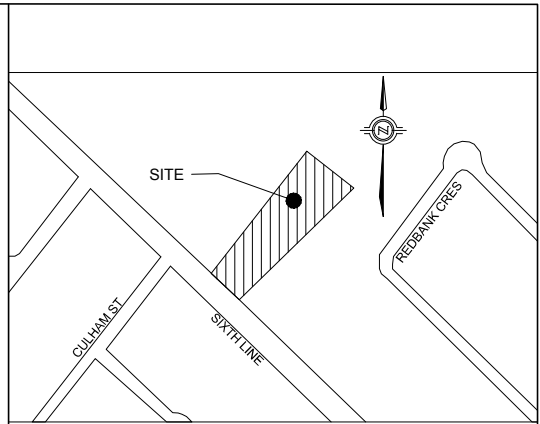
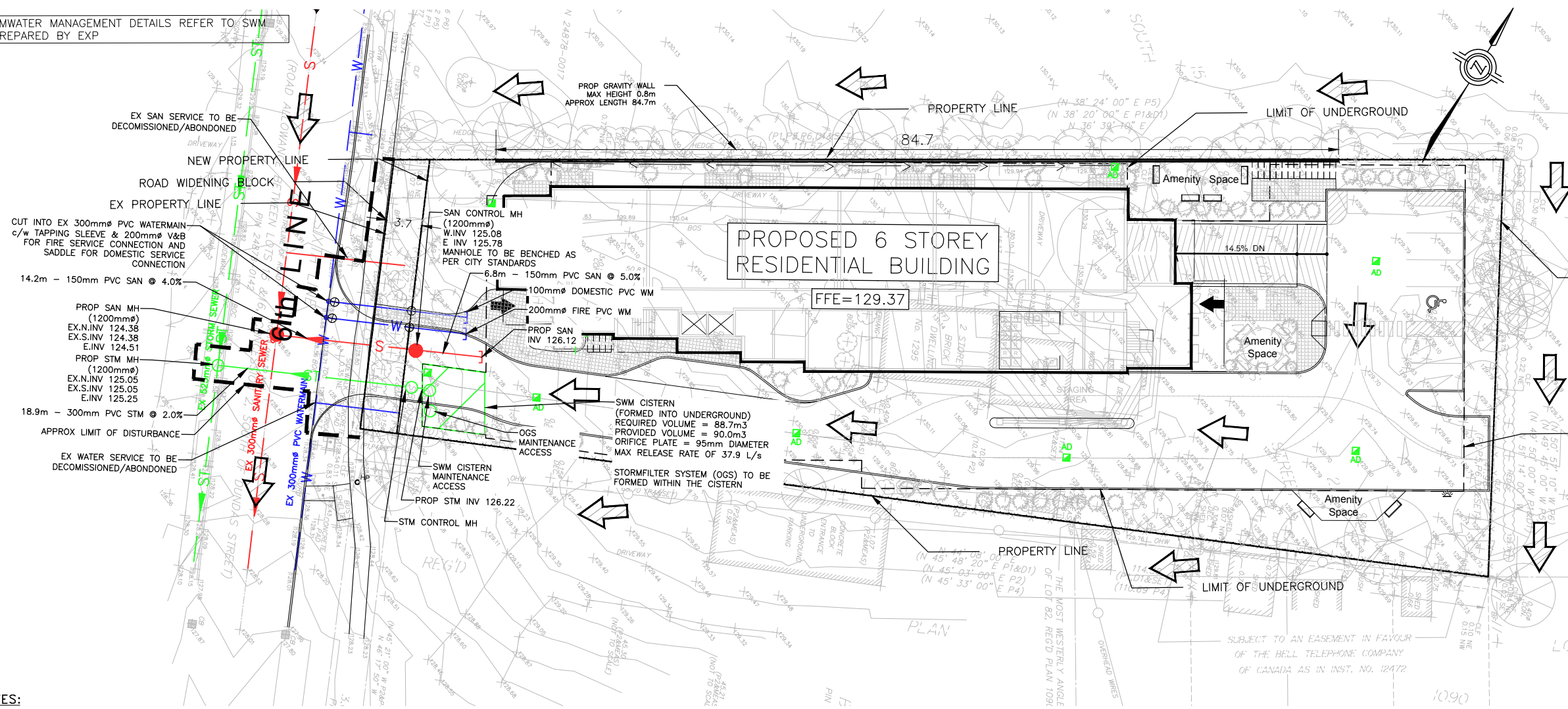
OUTPUT

H =	2.2825	m
g =	9.806	
$V = (2 * g * H)^{0.5} =$	6.691	m/s
A = X-section Area =	0.0071	m ²

Orifice Flow = $Q = C * A * V * 1000 =$	37.9	l/s
-----------------------------------------------------------	-------------	------------

Appendix D – Preliminary Site Servicing and Grading Plan

FOR STORMWATER MANAGEMENT DETAILS REFER TO SWM REPORT PREPARED BY EXP



LEGEND:

	PROPERTY LINE
	EXISTING WATER VALVE
	EXISTING HYDRO POLE
	EXISTING TREE
	EXISTING TREE DRILINE
	EXISTING OVERHEAD HYDRO WIRES
	EXISTING FENCELINE
	EXISTING CURBS
	EX. STORM M.H.
	EX. SANITARY M.H.
	EX. CATCH BASIN
	PROP. STORM M.H.
	PROP. SANITARY M.H.
	PROP. AREA DRAIN
	PROPOSED CURBS
	PROP. STORM SEWER
	PROP. WATERMAIN
	PROP. SANITARY SEWER
	EX. SANITARY SEWER
	EX. STORM SEWER
	EX. WATERMAIN
	EX. HIGH VOLTAGE CONDUIT
	EX. BELL AND FIBEROPTIC CONDUIT
	EX. GAS
	NEW / EXISTING WATER VALVE AND BOX
	PROPOSED / EXISTING HYDRANT
	MAJOR OVERLAND FLOW
	EXTERNAL OVERLAND FLOW

GENERAL NOTES:

- UNLESS OTHERWISE NOTED ON THIS DRAWING THE FOLLOWING REQUIREMENTS SHALL APPLY.
- GENERAL**
- CONSTRUCTION OF SEWERS, AND RELATED APPURTENANCES SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE CURRENT STANDARD DRAWINGS OF THE TOWN OF OAKVILLE, THE REGIONAL MUNICIPALITY OF HALTON, AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
 - ONTARIO PROVINCIAL STANDARD DRAWINGS TO BE READ IN CONJUNCTION WITH THE REGION OF HALTON REVISIONS.
 - ALL DIMENSIONS ARE IN METRES AND ALL DIAMETERS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 - ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH "THE OCCUPATIONAL HEALTH & SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONTRACTOR AS DEFINED IN THE ACT.
 - THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR CONSTRUCTION.
 - ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION, PERMANENT SIGNS AND LANE MARKINGS SHALL BE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL FOR TEMPORARY CONDITIONS AND MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 - FOR ALL SEWERS AND WATERMAIN IN FILL SECTIONS, THE COMPACTION SHALL BE VERIFIED PRIOR TO LAYING OF PIPE.
 - ALL EXCAVATIONS TO BE BACKFILLED WITH NATIVE MATERIAL, APPROVED BY THE ENGINEER, TO 95% SPD.
 - ALL UNDERGROUND SERVICE CONNECTIONS AND TRENCHES WITHIN PAVED PORTION OF AN EXISTING ROAD ARE TO BE BACKFILLED WITH UNSHRINKABLE MATERIAL.
 - ALTERNATIVE CONSTRUCTION MATERIALS MAY BE ACCEPTABLE, PROVIDED THAT APPROVAL HAS BEEN OBTAINED FROM THE REGIONAL ENGINEER, TOWN OF OAKVILLE AND THE ENGINEER.
 - MUNICIPAL APPROVAL OF THESE DRAWINGS IS FOR MATERIAL AND COMPLIANCE WITH TOWN OF OAKVILLE AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION OF THE WORKS BY THE TOWN OF OAKVILLE STAFF DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS NOR RELIEVE THE CONTRACTOR OF CERTIFICATION OF ALL WORKS BY THE OWNER'S ENGINEER.
 - ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR FOR ACCURACY PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES REPORTED TO THE ENGINEER.
 - ALL SERVICES TO MEET ALL REQUIREMENTS OF THE ONTARIO BUILDING CODE PART 7 CURRENT EDITION.
- LOCATES AND LIABILITY**
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
 - THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S) THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTORS SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.
 - THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH EXISTING SERVICES.
 - ANY UTILITY WHICH CONFLICTS WITH THE CONSTRUCTION IS TO BE RELOCATED BY THE PROPER AUTHORITY AT THE OWNER'S EXPENSE.
- CONSTRUCTION RESPONSIBILITIES**
- LOCATION OF EXISTING UTILITIES SHOWN AND ALL OTHER EXISTING UTILITIES TO BE ESTABLISHED BY CONTRACTOR IN THE FIELD. THE CONTRACTOR HAVING UNCOVERED ANY UTILITIES THAT ARE NOT SHOWN ON THE PLAN OR STAKED OUT BY BELL, HYDRO, CABLE & GAS UTILITY COMPANIES WILL IMMEDIATELY ADVISE THE ENGINEER FOR APPROPRIATE ACTION. THE CONTRACTOR IS RESPONSIBLE FOR TRACING AND IDENTIFYING ALL EXISTING PRIVATE UTILITIES WITHIN THE WORK AREAS.
 - THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
 - TWO LANES OF TRAFFIC ARE TO BE MAINTAINED AT ALL TIMES DURING THE PERFORMANCE OF THE WORK ON SIXTH LINE. THE CONTRACTOR SHALL ADVISE THE TOWN OF OAKVILLE IN WRITING NOT LESS THAN 48 HRS IN ADVANCE OF START OF CONSTRUCTION AND SHALL ACQUIRE THE APPROPRIATE PARTIAL ROAD CLOSURE PERMITS AS NECESSARY.
 - ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS AND SODDED BOULEVARD AREAS DISTURBED BY THE WORK ARE TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTION OF THE TOWN OF OAKVILLE.
 - NEW MANHOLES AND VALVE BOXES, EXISTING VALVE AND CHAMBERS, HYDRANT AND BELL PEDESTALS AND UTILITIES TO BE SET TO FINAL BOULEVARD AND PAVEMENT GRADES.

- THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF THE APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC MAINTENANCE, DIVERSION, ETC) FROM THE AUTHORITY.
 - THE CONTRACTOR SHALL SUPPLY AND PLACE TRAFFIC SIGNAGE IN CONFORMANCE WITH THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PRIOR TO COMMENCING ANY WITHIN THE MUNICIPAL ROAD/LANE ALLOWANCE.
- SANITARY SEWERS**
- SANITARY SEWERS SHALL BE PVC. PVC PIPE IS TO BE BELL AND SPIGOT AND COMPLY TO ASTM D-3034 WITH MINIMUM SDR 35.
 - MINIMUM BEDDING REQUIREMENTS FOR ALL SANITARY SEWER MAINS AND RELATED CONNECTIONS IN A SINGLE TRENCH SHALL BE CLASS B GRANULAR BEDDING AS PER OPSD 802.010 UNLESS OTHERWISE NOTED.
 - SANITARY SEWER MANHOLES FRAME AND COVER AS PER OPSD 401.01.
 - ALL PVC LATERALS TO BE SDR 28 AND SHALL BE ANY COLOUR EXCEPT WHITE. MINIMUM SLOPE OF LATERAL TO BE 2.0%.
 - SINGLE SERVICE CONNECTIONS TO BE MINIMUM 150mm DIA PIPE.
 - TAPPING AT EXISTING SANITARY SEWERS SHALL BE UNDERTAKEN IN ACCORDANCE WITH REGION OF HALTON REQUIREMENTS.
 - ALL SEWERS TO BE VIDEO INSPECTED.
 - ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
 - ALL PVC SEWERS ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. SANITARY SEWERS SHALL ALSO BE TESTED FOR LEAKAGE (LOW AIR PRESSURE). PRIOR TO ASSUMPTION BY THE TOWN, PIPE DEFLECTION TESTING SHALL BE REPEATED.
- STORM SEWERS**
- ALL PIPES GREATER THAN 375mm DIA SHALL BE STEEL REINFORCED CONCRETE AND SHALL CONFORM TO OPSS 1820 MATERIAL SPECIFICATION.
 - ALL SEWER PIPE UP TO AND INCLUDING 375mm DIA SHALL BE PVC, BELL AND SPIGOT AND SHALL COMPLY TO ASTM D-3034 WITH MINIMUM SDR 35.
 - MINIMUM BEDDING REQUIREMENTS FOR ALL SINGLE STORM SEWER MAINS AND ALL RELATED CONNECTIONS SHALL BE HIGH PERFORMANCE CLEAR STONE (HL-8 GRADED) AS PER TOWN OF OAKVILLE STANDARD DRAWING S-188.
 - STORM SEWER MANHOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010 AND 703.010. FRAME AND COVER AS PER OPSD 401.01 TYPE A. FRAMES TO BE STAMPED "DANGER" AND "STORM".
 - MANHOLE TOPS SHALL BE INITIALLY SET TO BASE COURSE ASPHALT ELEVATION AND ADJUSTED TO GRADE PRIOR TO PLACEMENT OF TOP LIFT OF ASPHALT.
 - ALL TRENCH EXCAVATIONS ARE TO BE BACKFILLED WITH SELECT NATIVE MATERIAL PLACED IN MAXIMUM 200mm LIFT THICKNESS WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% SPD, UNLESS OTHERWISE SPECIFIED.
 - ALL SEWERS TO BE VIDEO INSPECTED.
 - ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
 - ALL PVC SEWERS ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. PRIOR TO ASSUMPTION BY THE CITY, PIPE DEFLECTION TESTING SHALL BE REPEATED.
- WATERMAINS**
- FLEXIBLE WATERMAIN PIPE UP TO 300mm DIAMETER TO BE PVC DR-18 AND CONFORM TO A.W.W.A. C-900 WITH MECHANICAL JOINTS AS PER A.W.W.A. C-110, AND TO BE INSTALLED WITH A 10 GAUGE TRACER WIRE.
 - FLEXIBLE PIPE BEDDING TO BE OPSD 802.010 WITH COMPACTED GRANULAR B MATERIAL.
 - MINIMUM COVER TO BE 1.7m TO TOP OF PIPE.
 - DEFLECTION AT JOINTS NOT TO EXCEED 2.5 DEGREES AND SHALL BE EQUAL AT ALL JOINTS.
 - GATE VALVES AND BOXES FOR 150mm DIAMETER WATERMAINS AS PER A.W.W.A. STANDARD C-500 AND ARE TO OPEN TO THE LEFT (COUNTER CLOCKWISE).
 - HYDRANTS SHALL MEET THE REQUIREMENTS OF A.W.W.A. STANDARD C-502 AND SHALL BE SET IN ACCORDANCE WITH REGION OF HALTON, AND TOWN OF OAKVILLE BUILDING DEPARTMENT STANDARDS, COMPLETE WITH STEAMER CONNECTIONS. THE 100mm STEAMER PORT SHALL FACE THE FIRE ROUTE AND SHALL BE UNOBSTRUCTED BY ANY PROPOSED LANDSCAPING.
 - ALL FITTINGS TO HAVE MECHANICAL RESTRAINTS THAT MEET UNI-B-13-92.
 - ALL TEMPORARY AND PERMANENT WATERMAIN PLUGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH OPSD 1103.01.
 - TAPPING AT EXISTING WATERMAINS SHALL BE UNDERTAKEN IN ACCORDANCE WITH REGION OF HALTON REQUIREMENTS.
 - ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON SPECIFICATIONS. NOTIFICATION SHALL TAKE PLACE UNDER THE ENGINEER'S DIRECTION.
 - MINIMUM HORIZONTAL SEPARATION BETWEEN WATERMAINS (INCLUDING PRIVATE SERVICES) AND STORM AND SANITARY SEWERS SHALL BE 2.5m. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 150mm OVER AND 500mm UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.

NOTE:

- SITE PLAN PREPARED BY RICK BROWN & ASSOCIATES INC.
- EXISTING SERVICING INFORMATION TAKEN FROM TOWN RECORD DRAWINGS AND REGION RECORD DRAWINGS
- BACKGROUND TOPOGRAPHIC INFORMATION PROVIDED BY J.H. GELBLOOM SURVEYING LIMITED DATED OCT 22, 2024

SCALE: 1:750

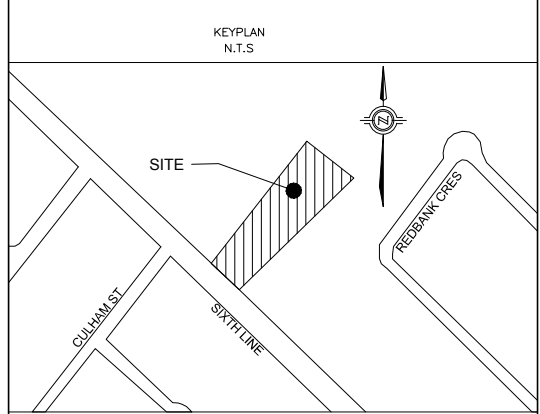
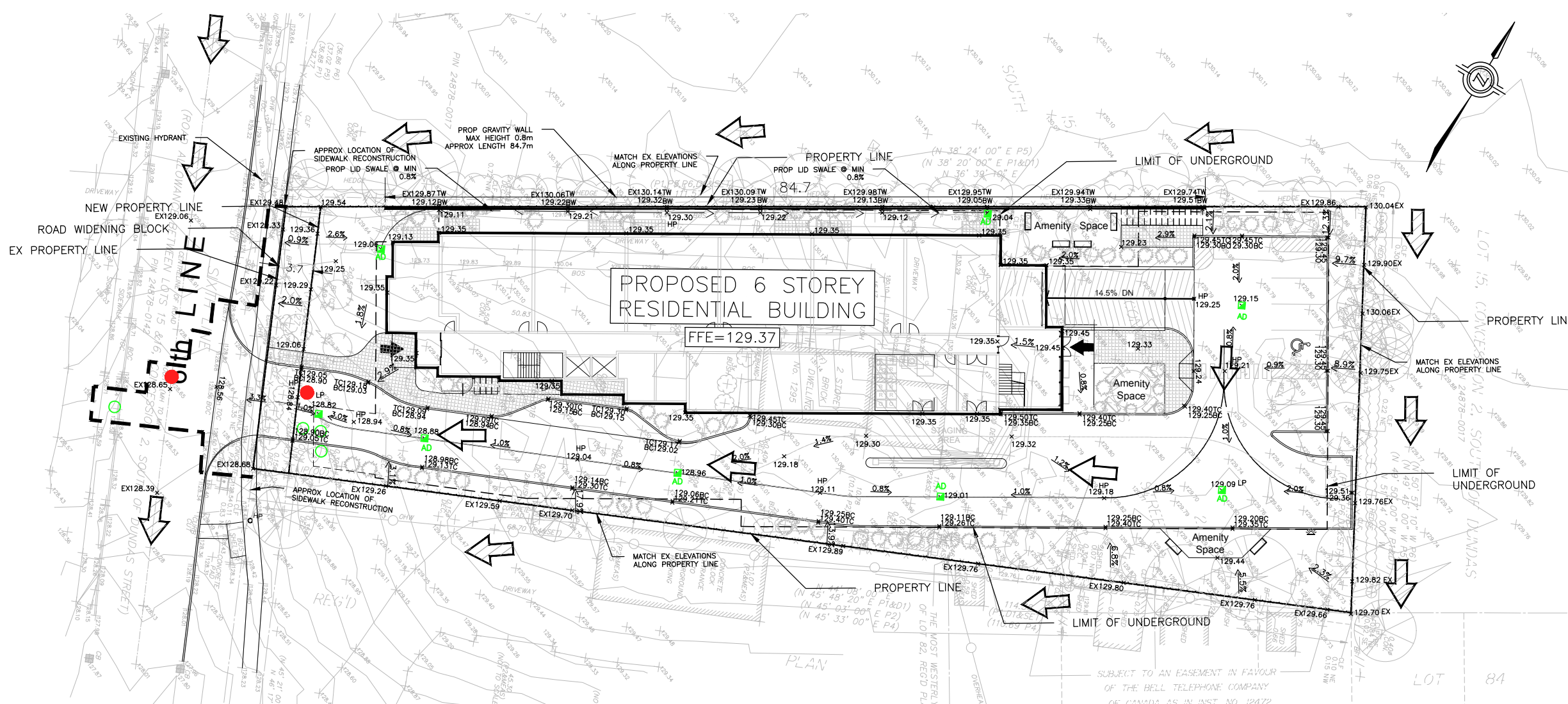
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PRELIMINARY SITE SERVICING PLAN

1295 SIXTH LINE
TOWN OF OAKVILLE

FIGURE
2

PROJECT NUMBER: ALL-23015173-A0 DATE: JANUARY 2024



LEGEND:

	PROPERTY LINE
	NEW / EXISTING WATER VALVE AND BOX
	EXISTING HYDRANT
	PROPOSED ELEVATION
	EXISTING ELEVATION
	DRAINAGE ARROW / SLOPE (MAX 3:1)
	MAJOR OVERLAND FLOW
	DISTURBED AREA WITHIN CITY RIGHT-OF-WAY
	EX. STORM/SANITARY M.H.
	EX. CATCH BASIN
	LIMIT OF UNDERGROUND PARKING
	PROP. AREA DRAIN
	PROP. CATCHBASIN
	PROP. STORM M.H.
	PROP. SANITARY M.H.
	EXTERNAL MAJOR OVERLAND FLOW

GENERAL NOTES:

UNLESS OTHERWISE NOTED ON THIS DRAWING THE FOLLOWING REQUIREMENTS SHALL APPLY.

- GENERAL**
- CONSTRUCTION OF SEWERS, AND RELATED APPURTENANCES SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE CURRENT STANDARD DRAWINGS OF THE TOWN OF OAKVILLE, THE REGIONAL MUNICIPALITY OF HALTON, AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
 - ONTARIO PROVINCIAL STANDARD DRAWINGS TO BE READ IN CONJUNCTION WITH THE REGION OF HALTON REVISIONS.
 - ALL DIMENSIONS ARE IN METRES AND ALL DIAMETERS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 - ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH "THE OCCUPATIONAL HEALTH & SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONTRACTOR AS DEFINED IN THE ACT.
 - THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR CONSTRUCTION.
 - ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION, PERMANENT SIGNS AND LANE MARKINGS SHALL BE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL FOR TEMPORARY CONDITIONS AND MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 - FOR ALL SEWERS AND WATERMAIN IN FILL SECTIONS, THE COMPACTION SHALL BE VERIFIED PRIOR TO LAYING OF PIPE.
 - ALL EXCAVATIONS TO BE BACKFILLED WITH NATIVE MATERIAL, APPROVED BY THE ENGINEER, TO 95% SPD.
 - ALL UNDERGROUND SERVICE CONNECTIONS AND TRENCHES WITHIN PAVED PORTION OF AN EXISTING ROAD ARE TO BE BACKFILLED WITH UNSHRINKABLE MATERIAL.
 - ALTERNATIVE CONSTRUCTION MATERIALS MAY BE ACCEPTABLE, PROVIDED THAT APPROVAL HAS BEEN OBTAINED FROM THE REGIONAL ENGINEER, TOWN OF OAKVILLE AND THE ENGINEER.
 - MUNICIPAL APPROVAL OF THESE DRAWINGS IS FOR MATERIAL AND COMPLIANCE WITH TOWN OF OAKVILLE AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION OF THE WORKS BY THE TOWN OF OAKVILLE STAFF DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS NOR RELIEVE THE CONTRACTOR OF CERTIFICATION OF ALL WORKS BY THE OWNER'S ENGINEER.
 - DIMENSIONS TO BE CHECKED BY THE CONTRACTOR FOR ACCURACY PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES REPORTED TO THE ENGINEER.
 - ALL SERVICES TO MEET ALL REQUIREMENTS OF THE ONTARIO BUILDING CODE PART 7 CURRENT EDITION.

- THE CONTRACTOR SHALL NOTIFY IN ADVANCE, AS REQUIRED, THE APPROPRIATE AUTHORITY HAVING JURISDICTION FOR THE ROAD PRIOR TO COMMENCING ANY WORK AND SHALL ACQUIRE AND SATISFY THE REQUIREMENTS OF THE APPROPRIATE PERMITS (FEES, INSPECTIONS, SIGNAGE, TRAFFIC MAINTENANCE, DIVERSION, ETC) FROM THE AUTHORITY.
- THE CONTRACTOR SHALL SUPPLY AND PLACE TRAFFIC SIGNAGE IN CONFORMANCE WITH THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PRIOR TO COMMENCING ANY WITHIN THE MUNICIPAL ROAD/LANE ALLOWANCE.

FOR STORMWATER MANAGEMENT DETAILS REFER TO SWM REPORT PREPARED BY EXP

FOR ADDITIONAL SERVICING DETAILS REFER TO THE PRELIMINARY SITE SERVICING PLAN PREPARED BY EXP

FOR SERVICING CONSTRUCTION IN VICINITY OF TREES TO BE MAINTAINED, CONTRACTOR TO LOCATE ROOTS BY HAND, HAND PRUNE BACK TO FENCING OR FINAL EXCAVATION FACE, USE TRENCH BOX TO LIMIT WIDTH OF EXCAVATION

- LOCATES AND LIABILITY**
- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE TOWN.
 - THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES ARE APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S) THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTORS SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.
 - THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH EXISTING SERVICES.
 - ANY UTILITY WHICH CONFLICTS WITH THE CONSTRUCTION IS TO BE RELOCATED BY THE PROPER AUTHORITY AT THE OWNER'S EXPENSE.

- CONSTRUCTION RESPONSIBILITIES**
- LOCATION OF EXISTING UTILITIES SHOWN AND ALL OTHER EXISTING UTILITIES TO BE ESTABLISHED BY CONTRACTOR IN THE FIELD. THE CONTRACTOR HAVING UNCOVERED ANY UTILITIES THAT ARE NOT SHOWN ON THE PLAN OR STAKED OUT BY BELL, HYDRO, CABLE & GAS UTILITY COMPANIES WILL IMMEDIATELY ADVISE THE ENGINEER FOR APPROPRIATE ACTION. THE CONTRACTOR IS RESPONSIBLE FOR TRACING AND IDENTIFYING ALL EXISTING PRIVATE UTILITIES WITHIN THE WORK AREAS.
 - THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT, AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
 - TWO LANES OF TRAFFIC ARE TO BE MAINTAINED AT ALL TIMES DURING THE PERFORMANCE OF THE WORK ON SIXTH LINE. THE CONTRACTOR SHALL ADVISE THE TOWN OF OAKVILLE IN WRITING NOT LESS THAN 48 HRS IN ADVANCE OF START OF CONSTRUCTION AND SHALL ACQUIRE THE APPROPRIATE PARTIAL ROAD CLOSURE PERMITS AS NECESSARY.
 - ALL EXISTING PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS AND SODDED BOULEVARD AREAS DISTURBED BY THE WORK ARE TO BE REINSTATED EQUAL TO EXISTING AND TO THE SATISFACTORY OF THE TOWN OF OAKVILLE.
 - NEW MANHOLES AND VALVE BOXES, EXISTING VALVE AND CHAMBERS, HYDRANT AND BELL PEDESTALS AND UTILITIES TO BE SET TO FINAL BOULEVARD AND PAVEMENT GRADES.

NOTE:

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- EXISTING SERVICING INFORMATION TAKEN FROM TOWN RECORD DRAWINGS AND REGION RECORD DRAWINGS
- BACKGROUND TOPOGRAPHIC INFORMATION PROVIDED BY J.H. GELBLOOM SURVEYING LIMITED DATED OCT 22, 2024

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PRELIMINARY SITE GRADING PLAN		FIGURE 1
1295 SIXTH LINE TOWN OF OAKVILLE		
PROJECT NUMBER: ALL-23015173-A0	DATE: JANUARY 2024	

End Document