

STORM WATER MANAGEMENT BRIEF
FOR
15867 AIRPORT ROAD
CALEDON, ONTARIO

DECEMBER 6, 2023

Prepared by:

Jain

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1. INTRODUCTION

The purpose of this report is to present the storm water management, storm drainage and appropriate measures to mitigate the impact of runoff with the proposed development.

The subject site is located on east side of Airport Road, between Larry Street & Marion Street in the Town of Caledon as shown in Figure 1.



Figure 1 - Site Location Plan

2. EXISTING SITE CONDITIONS AND TOPOGRAPHY

The existing lot contains a single dwelling residential unit. A legal and topographic survey has been prepared by ALTIMAP LAND SURVEYORS INC. dated February 09, 2021, which identifies the site as PIN 14335-0046 (LT) PART OF LOT 20, CONCESSION 1 ALBION, Town of Caledon, Regional Municipality of Peel.

3. PROPOSED DEVELOPMENT

The owner intends to convert the residential unit into a day care centre by repurposing the existing building. An additional open play area is being proposed in the backyard. Moreover, the front driveway is proposed to be widened to accommodate 7 parking spaces. The proposed pavement grades match the existing drainage pattern. Proposed site servicing, grading and erosion control plans are submitted separately as full-size drawings with this report.

4. EXISTING SITE SERVICES

Existing record drawings show that stormwater, sanitary & watermain networks are available along the airport road in front of the project site. The Proposed development shall be re-using the existing connections for stormwater, sanitary and water. The details of existing site services are shown in drawing C101.

5. STORM WATER MANAGEMENT CRITERIA AND METHODOLOGY

The following SWM criteria is applicable for the site;

Quantity Control

The quantity control is pre to post development flows for all storms (2,5,10,25,50 & 100) year.

Erosion and Sediment Control

Adequate measures are to be implemented to minimize the transportation of sediments out of the construction area.

5.1 QUANTITY CONTROL

Catchment area “A1” (0.19 ha) contains building, parking and landscape areas.

The pre and post development land use with drainage catchment is shown in Figure DR1 and DR2 , Appendix A.

5.1.1 PRE AND POST DEVELOPMENT COEFFICIENTS

The Pre and post development land use and runoff coefficients are calculated as shown in Table B1 & B2, Appendix B and summarized below in Table-1.

Table 1- PRE & POST DEVELOPMENT LAND USE & RUNOFF COEFFICIENT

Proposed Land Use	A, Area (hectares)	R, Runoff Coefficient
Pre-Development Conditions	0.19	0.48
Post-Development Conditions	0.19	0.55

5.1.2 PRE & POST DEVELOPMENT FLOW CALCULATIONS & ONSITE STORAGE

The Rainfall intensities shall be calculated in accordance with City of Caledon IDF curves. The “Modified Rational Method” is used to estimate flows from the drainage areas.

The pre and post development flows are calculated in Table B3 & B4, Appendix B respectively.

The pre and post development flows with onsite storage requirements for 2-100 year storms are calculated and summarized in Table 2 below.

Table 2- PRE/POST DEVELOPMENT FLOWS & REQUIRED STORAGE

Return Period (yrs.)	Pre-Development (liters/sec)	Post-Development (liters/sec)	Storage Required (m ³)
2	22.1	25.3	1.81
5	28.3	32.4	2.32
10	34.6	39.6	2.84
25	40.3	46.2	3.31
50	45.4	52.0	3.73
100	50.6	58.0	4.16*

* Maximum Storage Required

The maximum onsite storage volume of 4.16m³ is required to control 100 year pre to post development flows.

5.1.3 INFILTRATION TRENCH

An infiltration trench with storage capacity of 4.20m³ is provided in the rear yard. Drawing C102, Appendix “C” shows the location and cross-sectional details of the proposed infiltration trench. The size of the infiltration trench is given below in Table-3.

Table 3- INFILTRATION TRENCH SIZING

Length (m)	Width (m)	Depth (m)	Void Ratio (%)	Storage (m ³)
5.00	2.80	0.75	40	4.20

5.2 MINOR STORM DRAINAGE

The storm sewer network is proposed to convey the site drainage and connect to the existing catchbasin (Ex.CB2). The drawing C101 shows the existing and proposed site storm network. The existing catchbasin (Ex.CB2) is already connected to the city storm main along airport road.

5.3 MAJOR SYSTEM DRAINAGE

The overland flow will not affect the existing building since the grading of the site ensures storm flows greater than 100 years will be able to flow overland through the site. The overland flow arrows are shown on site grading drawing C102.

6 EROSION AND SEDIMENT CONTROL

An erosion and sediment control strategy will be implemented during the construction to mitigate the transportation of silt from the site. Drawing C103 shows silt fence and sediment control measures.

To prevent construction-generated sediments from entering the storm sewer or leaving the site by overland flow, the following measures should be implemented with regular inspection and maintenance.

- Management of construction activities in a manner to minimize disturbed area and duration of soil

disturbance.

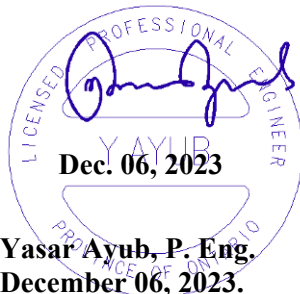
- Installation of drain inlet protection at each catch basin and storm manhole cover within the construction site and downstream of the construction access on the adjacent municipal road.
- Installation and maintenance of silt fences (OPSD 219.130 or equivalent) around the perimeter of any construction/disturbed areas.
- Periodically removal of sediments accumulated behind silt fences or sediment protection when 50% of its individual design capacity has been reached.
- Dust control measures should be followed during construction.
- Erosion and sediment control practices to be decommissioned after paving, landscaping or other stabilization measures and restoration of disturbed areas have been completed.

7 CONCLUSIONS

- Post development flows have been controlled to the predevelopment levels using infiltration trench as a storage for excess flow.
- The overland flow route through the site ensures that major overland flows are safely carried through the site towards Airport Road.
- The proposed development shall be using the existing service connections for stormwater, sanitary and watermain.
- Sediment and erosion control measures shall be implemented, such as the temporary silt fence and filter fabric at the existing catch basins.

We trust you will find this submission complete and in order. Should you have any questions, please contact the undersigned.

Respectfully Submitted,
Jain Infrastructure Consultants Ltd.



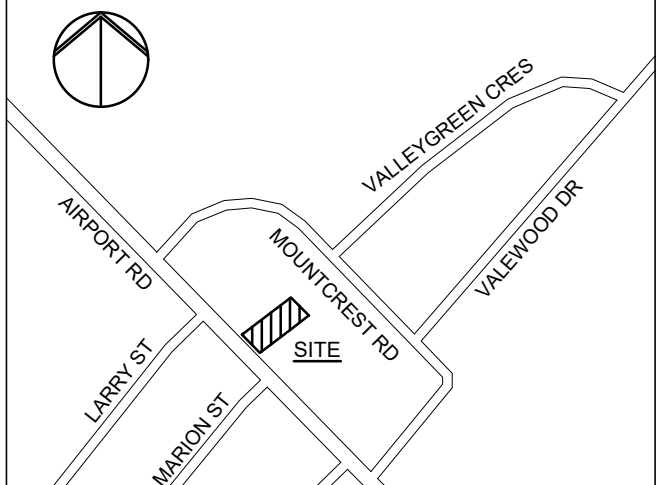
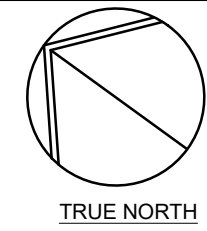
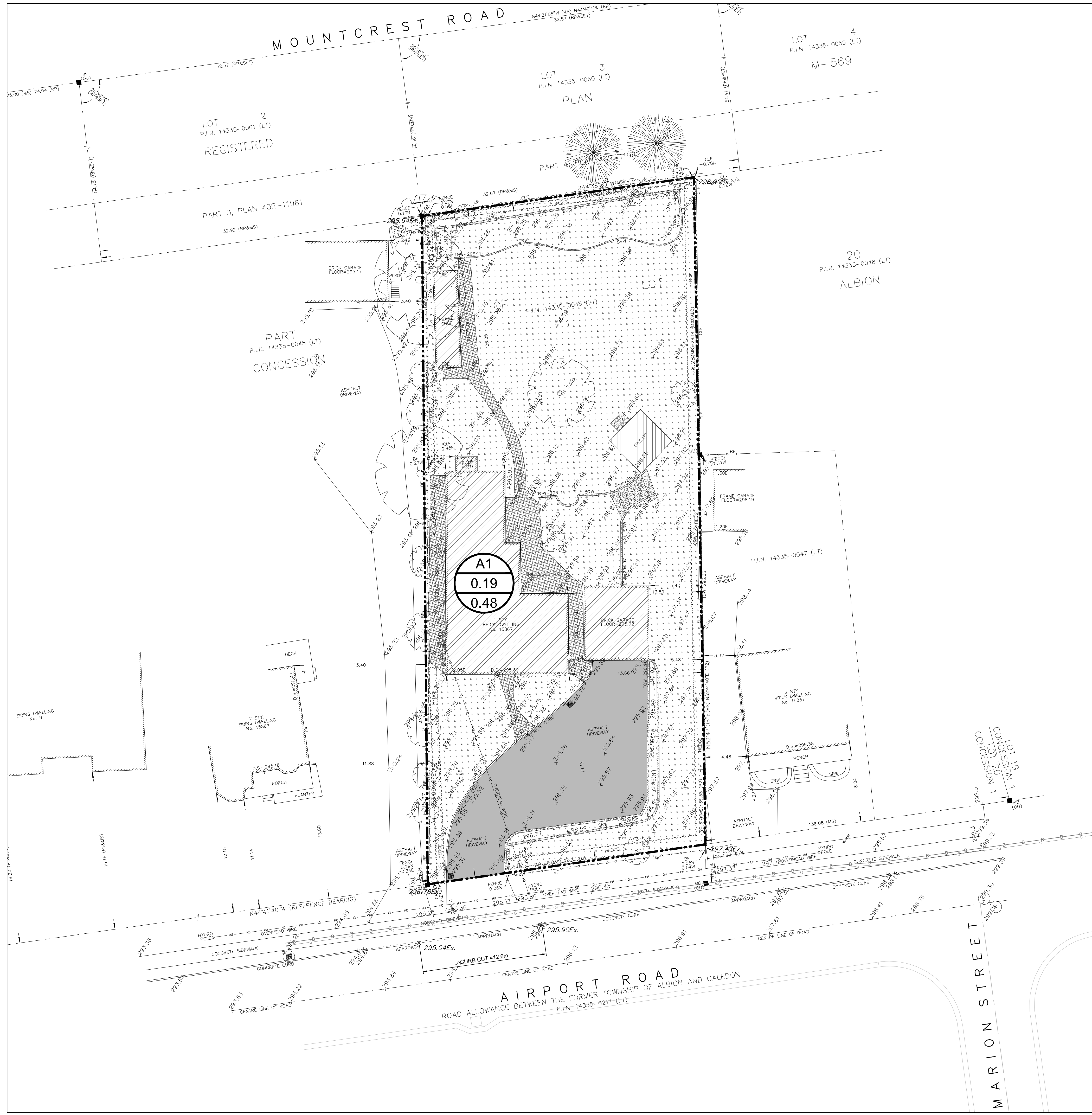
Rasheed Ahmad
Project Designer
December 06, 2023.

Appendix A

Figures

DR1 Pre Development Drainage Areas

DR2 Post Development Drainage Areas



LEGAL DESCRIPTION:
 PART 1 PLAN OF
 PART OF LOT 20
 CONCESSION 1 ALBION
 IN THE TOWN OF CALEDON
 (REGIONAL MUNICIPALITY OF PEEL)

INFORMATION TAKEN FROM A SURVEY PERFORMED BY
 ALTIMAP LAND SURVEYORS INC.
 222 FINCH AVE. W. UNIT 212, TORONTO, ON M2R 1M6 TEL.
 416 990 3001 INFO@ALTIMAP.CA

BEARING NOTE:
 BEARINGS ARE ASTROMOMIC AND ARE REFERRED TO THE
 NORTHERLY LIMIT OF AIRPORT ROAD AS SHOWN ON PLAN
 BY T. VAN LANKVELD O.L.S. HAVING A BEARING OF
 N44°41'40"W.

ELEVATIONS NOTE:
 ELEVATIONS ARE REFERRED TO THE CANADIAN GEODETIC
 VERTICAL DATUM (CGVD-1928:1978) AND ARE DERIVED
 FROM TOWN OF CALEDON BENCHMARK No. 00819758057
 HAVING AN ELEVATION OF 251.929m.

LEGEND:

	CATCHMENT AREA BOUNDARY		ASPHALT/BRICK DRIVEWAY
	CATCHMENT AREA No. CATCHMENT AREA IN HECTARES. WEIGHTED RUN-OFF COEFFICIENT		LANDSCAPE
	BUILDING		CONCRETE/WOOD DECK
	OVERLAND FLOW ROUTE		CONCRETE/WOOD DECK

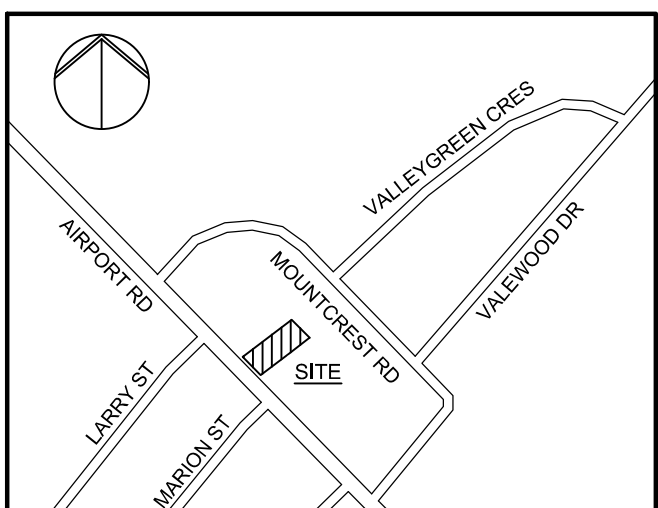
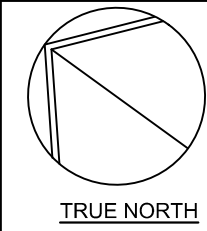
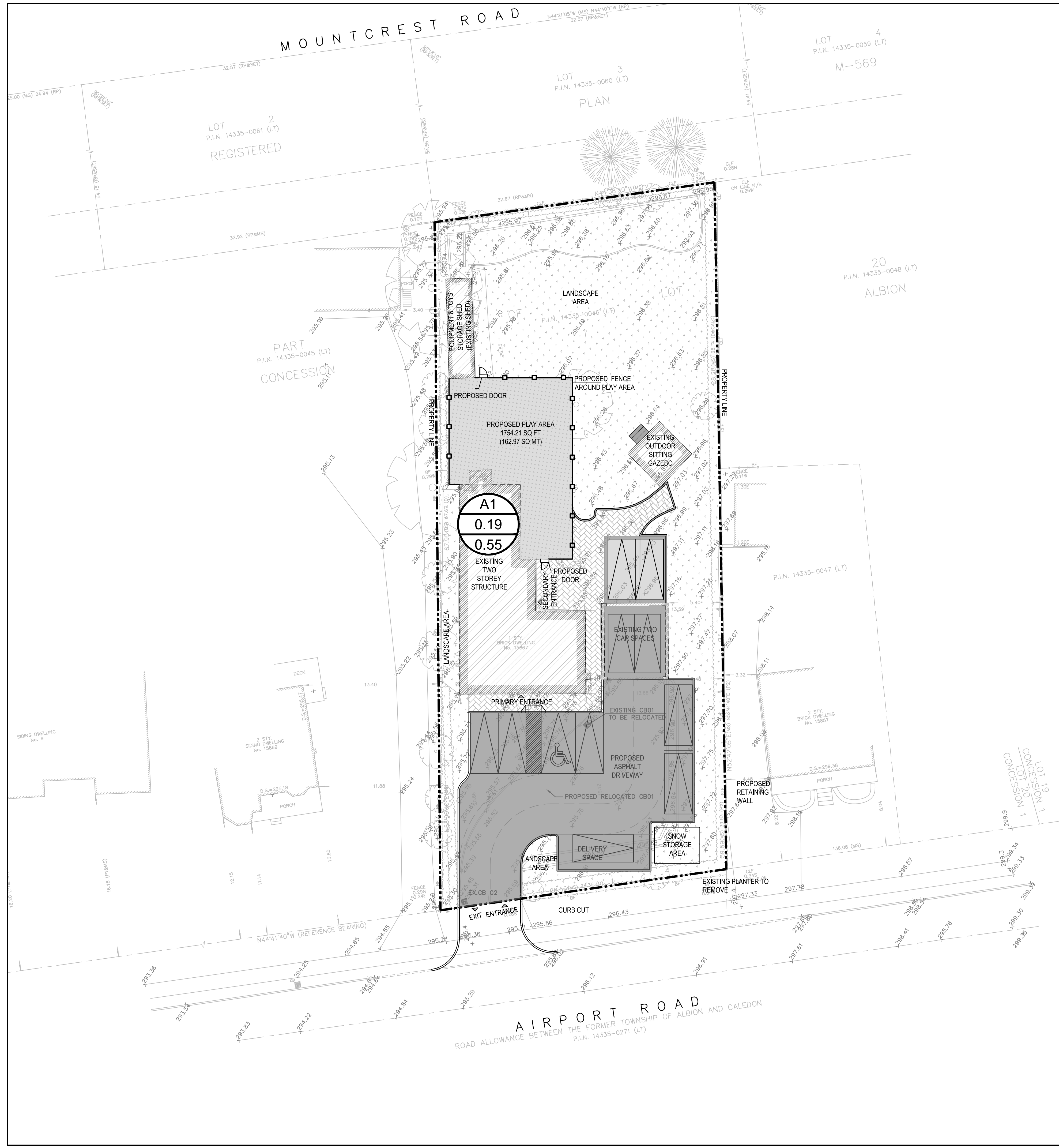
REVISION		
No.	DESCRIPTION	DATE
1	ISSUED FOR SITE PLAN APPROVAL	SEP 27/23

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 Email: yayub@jainconsultants.com

PROJECT NAME & ADDRESS
**15867 AIRPORT ROAD,
 CALEDON, ON**

DRAWING TITLE
**PRE DEVELOPMENT
 DRAINAGE PLAN**

SCALE: (ARCH 36"x24") 1:200 DWG No.
 DATE: SEP 27, 23
 DRAWN BY: NP
 CHECKED BY: YA
DR1
 REV No. 1



LEGAL DESCRIPTION:
 PART 1 PLAN OF
 CONCESSION 1 ALBION
 IN THE TOWN OF CALEDON
 (REGIONAL MUNICIPALITY OF PEEL)

INFORMATION TAKEN FROM A SURVEY PERFORMED BY
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 HAVING AN ELEVATION OF 251.929m.

LEGEND:

	CATCHMENT AREA BOUNDARY		ASPHALT/BRICK DRIVEWAY
	CATCHMENT AREA No. CATCHMENT AREA IN HECTARES. WEIGHTED RUN-OFF COEFFICIENT		LANDSCAPE
	BUILDING		CONCRETE/WOOD DECK
	OVERLAND FLOW ROUTE		CONCRETE/WOOD DECK



REVISION		
No.	DESCRIPTION	DATE
1	ISSUED FOR SITE PLAN APPROVAL	SEPT 27/22

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 Email: yayub@jainconsultants.com

PROJECT NAME & ADDRESS
**15867 AIRPORT ROAD,
 CALEDON, ON**

DRAWING TITLE
**POST DEVELOPMENT
 DEVELOPMENT PLAN**

SCALE: (ARCH 36"x24")	1: 200	DWG No.
DATE:	DEC 05-23	DR02
DRAWN BY:	NP	
CHECKED BY:	YA	

Appendix B

B1 - Pre Development Land Use & Runoff Coefficients

B2 - Post Development Land Use & Runoff Coefficients

B3 – Pre Development Flows Calculations

B4 – Post Development Flows Calculations

B5 - Onsite Storage Calculations

Calculation Sheet: B1
PRE DEVELOPMENT RUNOFF COEFFICIENT
15867 Airport Road, Caledon, ON

Site Area (m ²)	1907.72
<i>Site Area (Ha)</i>	<i>0.19</i>
<i>"c"</i>	<i>0.48</i>

Land use	Area (m ²)	R	AxR
Landscape	1225.77	0.25	306.44
Concrete/Brick	34.30	0.90	30.87
Asphalt	243.52	0.90	219.17
Existing Building	284.84	0.90	256.35
Interlock	119.30	0.90	107.37
	1907.72	0.48	920.20

Calculation Sheet: B2
POST DEVELOPMENT RUNOFF COEFFICIENT
15867 Airport Road, Caledon, ON

Site Area (m ²)	1907.72
<i>Site Area (Ha)</i>	<i>0.19</i>
<i>"c"</i>	<i>0.55</i>

Land use	Area (m ²)	R	AxR
Landscape	919.17	0.25	229.79
Concrete/Brick	12.24	0.9	11.01
Asphalt	405.65	0.9	365.09
Existing Building	284.84	0.9	256.35
Interlock	122.80	0.9	110.52
Play Area	163.02	0.5	81.51
	1907.72	0.55	1054.28

Calculation Sheet: B3

PRE DEVELOPMENT FLOW CALCULATIONS

Project:	15867 Airport Road, Caledon, ON
Project No.	23-570
Date:	2023-10-04

PRE DEVELOPMENT RUNOFF COEFFICIENT

AREA TYPE	AREA (M ²)	RUNOFF COEFFICIENT "R"	AREA x R
Landscape	1225.77	0.25	306.44
Concrete/Brick	34.30	0.90	30.87
Asphalt	243.52	0.90	219.17
Existing Building	284.84	0.90	256.35
Interlock	119.30	0.90	107.37
	1907.72	ΣAREA X R	920.20

WEIGHTED AVERAGE "R" **0.48**

AREA "A" (Hectares) 0.19

Rational Method

$$Q=0.0028CIA(m^3/sec)$$

Where:

$$Q= \text{Design Flow } (m^3/sec)$$

C = Site specific runoff coefficient

A = Contributing drainage Area (ha)

I = Rainfall intensity (mm/hr)

TABLE B3.1 Intensity-Duration-Frequency Parameters, Caledon
 $i = A/(t+C)^B$

Return Period	A	B	C
2 year	1070	0.8759	7.85
5 year	1593	0.8789	11
10 year	2221	0.908	12
25 year	3158	0.9335	15
50 year	3886	0.9495	16
100 year	4688	0.9624	17

Return Period (Years)	2 -Years	5 -Years	10 -Years	25 -Years	50 -Years	100 -Years
T (mins)	10	10	10	10	10	10
I (mm/hr)	85.72	109.68	134.16	156.47	176.19	196.54
Q (m ³ /sec)	0.022	0.028	0.035	0.040	0.045	0.051
Q (l/sec)	22.1	28.3	34.6	40.3	45.4	50.6

Calculation Sheet: B4
POST DEVELOPMENT FLOW CALCULATIONS

Project:	15867 Airport Road, Caledon, ON
Project No.	23-570
Date:	2023-10-04

POST DEVELOPMENT RUNOFF COEFFICIENT

AREA TYPE	AREA (M ²)	RUNOFF COEFFICIENT "R"	AREA x R
Landscape	919.17	0.25	229.79
Concrete/Brick	12.24	0.90	11.01
Asphalt	405.65	0.90	365.09
Existing Building	284.84	0.90	256.35
Interlock	122.80	0.90	110.52
Play Area	163.02	0.50	81.51
	1907.72	ΣAREA X R	1054.28
		WEIGHTED AVERAGE "R"	0.55
		AREA "A" (Hectares)	0.19

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 $i = A/(t+C)^B$

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100 year	4688	0.9624	17

Return Period (Years)	2 -Years	5 -Years	10 -Years	25 -Years	50 -Years	100 -Years
T (mins)	10	10	10	10	10	10
I (mm/hr)	85.72	109.68	134.16	156.47	176.19	196.54
Q (m ³ /sec)	0.025	0.032	0.040	0.046	0.052	0.058
Q (l/sec)	25.3	32.4	39.6	46.2	52.0	58.0

On-Site Storage

Calculator

Caledon

Table B5 - Complete Site

Project: 15867 Airport Rd

Project No.: 23-570

By: YA

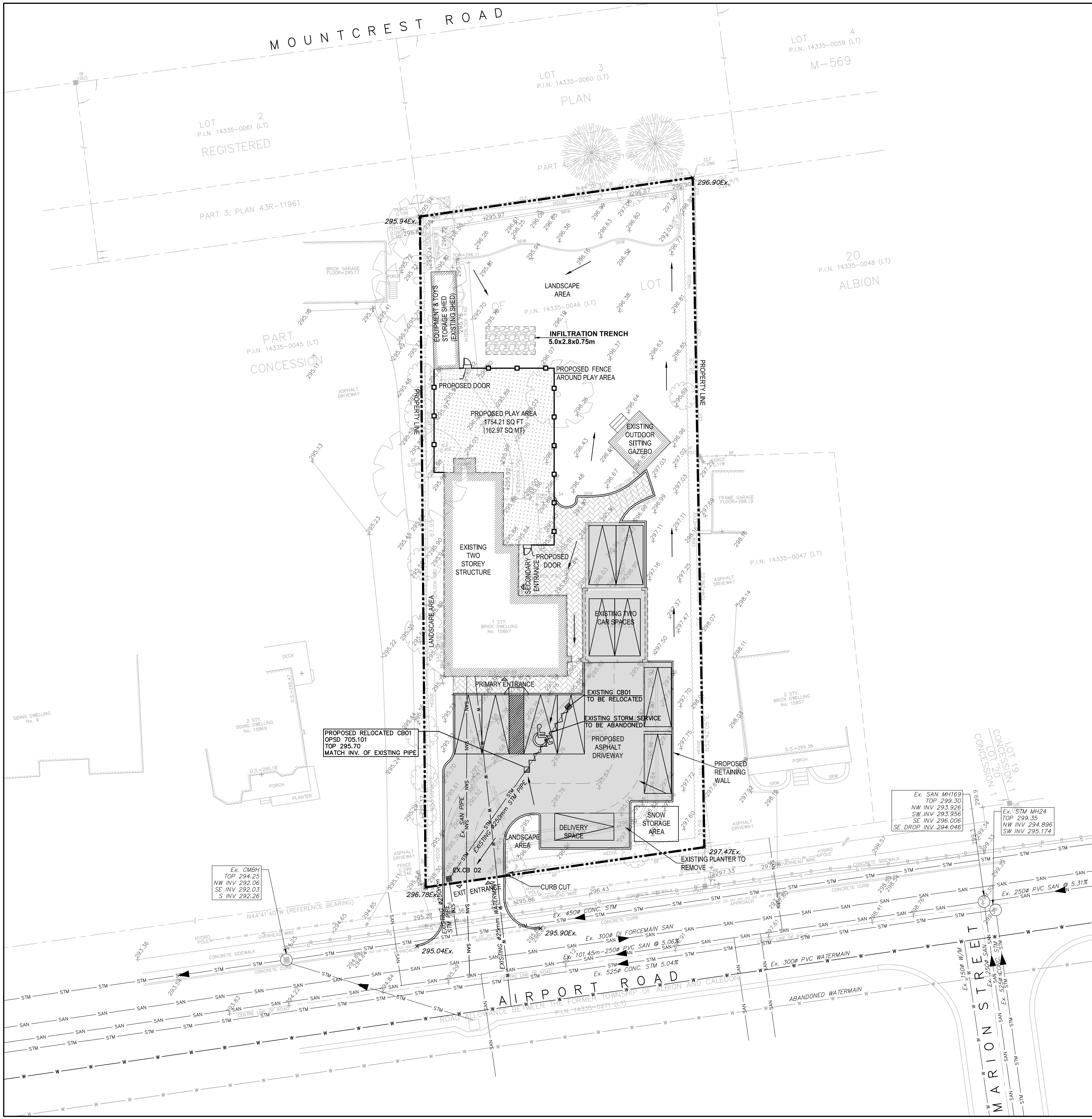
Date: 04-Oct-23

$R = 0.55$
 $A = 0.19 \text{ ha}$
 $Q_{\text{release}} = 0.051 \text{ m}^3/\text{s}$
 50.64 L/s

t_c (min)	i_{100} (mm/hr)	Q_{100} (m^3/s)	Q_{stored} (m^3/s)	Peak Volume (m^3)
10	196.536	0.058	0.007	4.156 ***
11	189.777	0.056	0.005	3.265
12	183.475	0.054	0.003	2.233
13	177.585	0.052	0.001	1.073
14	172.068	0.050	-	-
15	166.890	0.049	-	-
16	162.020	0.047	-	-
17	157.432	0.046	-	-
18	153.100	0.045	-	-
19	149.005	0.044	-	-
20	145.128	0.043	-	-
21	141.450	0.041	-	-
22	137.958	0.040	-	-
23	134.637	0.039	-	-
24	131.475	0.039	-	-
25	128.461	0.038	-	-
26	125.585	0.037	-	-
27	122.837	0.036	-	-
28	120.209	0.035	-	-
29	117.693	0.034	-	-
30	115.282	0.034	-	-
31	112.969	0.033	-	-
32	110.750	0.032	-	-
33	108.617	0.032	-	-
34	106.567	0.031	-	-
35	104.594	0.031	-	-
36	102.694	0.030	-	-
37	100.863	0.030	-	-
38	99.097	0.029	-	-
39	97.394	0.029	-	-
40	95.749	0.028	-	-
41	94.160	0.028	-	-
42	92.623	0.027	-	-
43	91.137	0.027	-	-
44	89.699	0.026	-	-
45	88.306	0.026	-	-

Appendix C
Drawings

Site Servicing Plan
Site Grading Plan
Erosion & Sediment Control Plan



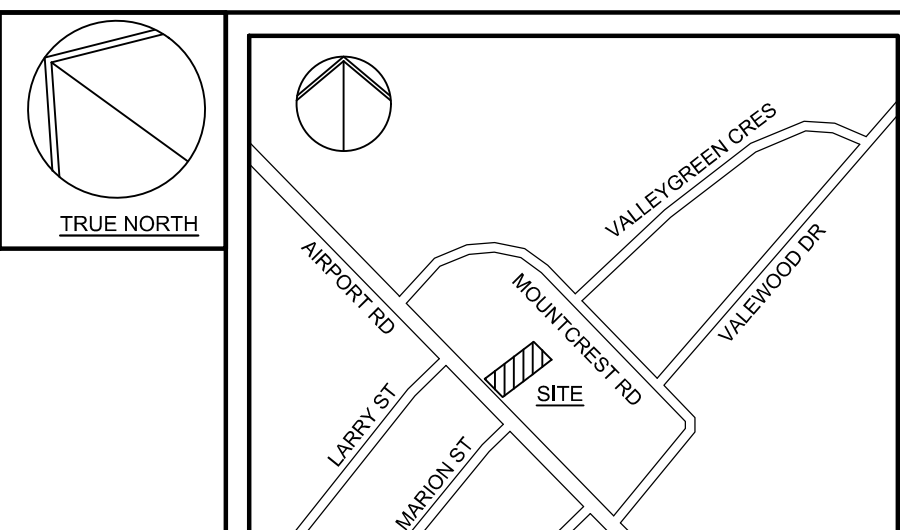
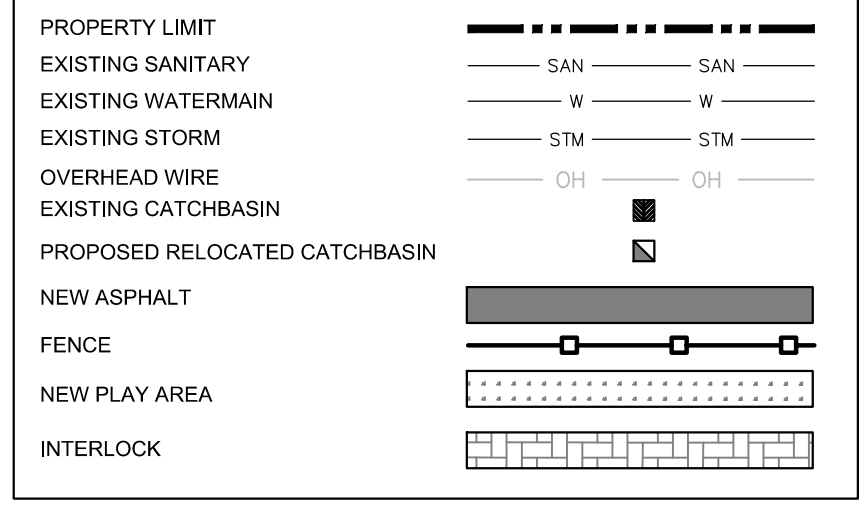
TOWN OF CALEDON GENERAL NOTES - SITE PLAN SUBMISSIONS

- THE FOLLOWING STANDARD NOTES ARE TO APPEAR ON THE SITE GRADING AND SERVICING PLANS FOR SITE PLAN SUBMISSIONS:
- CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES AND GUIDELINES, PREPARED BY THE TOWN OF CALEDON AND THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
 - ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
 - A MINIMUM OF FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT OF WAY THE CONTRACTOR MUST CONTACT THE FOLLOWING:
THE TOWN OF CALEDON
905-584-2272
THE REGION OF PEEL ENBRIDGE CONSUMERS GAS
HYDRO ONE BELL CANADA
ROGERS CABLE FIRE AND EMERGENCY SERVICES
 - A RIGHT OF WAY OCCUPANCY PERMIT MUST BE OBTAINED FROM THE TOWN OF CALEDON A MINIMUM 48 HOURS PRIOR TO COMMENCING ANY WORKS WITHIN THE MUNICIPAL ROAD ALLOWANCE.
 - ALL DRAINAGE TO BE SELF-CONTAINED AND DISCHARGED TO A LOCATION APPROVED BY THE TOWN OF CALEDON AND CONSERVATION AUTHORITY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
 - SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN AND THE APPLICABLE CONSERVATION AUTHORITY.
 - ANY CHANGES TO GRADES OR SERVICING FROM THE ORIGINAL APPROVED SITE PLAN MUST BE SUBMITTED BY THE ENGINEER TO THE TOWN FOR APPROVAL PRIOR TO CONSTRUCTION.
 - A MINIMUM OF 1.5M CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL SIDEWALKS AND DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT OF WAY. IF THIS CLEARANCE IS NOT MAINTAINED, THEY SHALL BE RELOCATED AT THE APPLICANT'S EXPENSE.
 - STREET CURBS ARE TO BE CONTINUOUS THROUGH THE PROPOSED ENTRANCE.
 - MUNICIPAL SIDEWALKS SHALL BE CONTINUOUS THROUGH ALL ENTRANCES TO THE SITE AND THE CURB SHALL BE TAPERED BACK 600MM. SIDEWALKS SHALL BE COMPLETELY REMOVED AND REPLACED WITH A 200MM MINIMUM CONCRETE THICKNESS, 32MPA AND 5% TO 7% AIR ENTRAINMENT AT ALL PROPOSED INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL ENTRANCES.
 - ALL SCULPTURE IS TO BE RESTORED WITH 300MM MINIMUM OF TOPSOIL AND SOD TO THE SATISFACTION OF THE TOWN.
 - THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:
40MM HL3 ASPHALT
50MM HL8 ASPHALT
150MM GRANULAR 'A'
300MM GRANULAR 'B'
THE CONSULTANT SHOULD REVIEW THE ABOVE WITH RESPECT TO THE EXPECTED USAGE.
 - STRUCTURAL DESIGN OF THE FIRE ROUTE IS REQUIRED TO SUPPORT AN 18 TON VEHICLE.
 - SERVICE CONNECTION BACKFILL TO BE DISCUSSED WITH THE TOWN.

STORM AND SANITARY SEWERS

- FOR CONSTRUCTION DETAILS NOT SHOWN ON PLANS, REFERENCE SHALL BE MADE TO THE ONTARIO PROVINCIAL STANDARDS DRAWINGS, AND THE TOWN OF CALEDON AND REGION OF PEEL STANDARDS.
- ALL STORM MANHOLES TO BE PER OPSD 701.010-701.014 (SIZES AS INDICATED ON PLANS) WITH FRAME AND COVER PER OPSD 401.010. TYPE 'A' SAFETY PLATFORMS TO BE INSTALLED IN ALL MANHOLES WHERE DEPTH EXCEEDS 5.0m AS PER OPSD 404.020.
- ALL STORM SEWERS UP TO 450mm DIA. SHALL BE PVC PIPE AS PER SDR-35 CSA B182-206 CERTIFIED ASTM D3034-04A, F679-03. ALL STORM SEWERS 525mm OR LARGER SHALL BE REINFORCED CONCRETE IN ACCORDANCE WITH C.S.A. SPECIFICATION A257.2-03, REINFORCED CLASS 65-D UNLESS OTHERWISE NOTED.
- PVC STORM SEWER BEDDING SHALL BE CONSTRUCTED WITH BEDDING AS PER OPSD 802.030 FOR RIGID PIPE OR OPSD 802.010 WITH GRANULAR 'A' FOR FLEXIBLE PIPE TO TOP OF PIPE WITH A MINIMUM 300mm SAND COVER OVER THE PIPE. CONCRETE STORM SEWER BEDDING SHALL BE IN ACCORDANCE WITH OPSD 802.030 - CLASS B, OPSS 1010 GRANULAR 'A' TO SPRINGLINE. ALL BEDDING AND COVER MATERIAL ARE TO BE COMPACTED TO MINIMUM 98% SPMD. WITHIN 0.5m OF SUBGRADE ELEVATION. BACKFILL TO BE COMPACTED TO 100% SPMD.
- MAINTENANCE HOLE TOPS (FRAMES) AND CATCHBASIN (FRAMES) ARE TO BE SET TO BASE COURSE ASPHALT AND THEN ADJUSTED TO FINAL GRADE WHEN TOP LIFT OF ASPHALT IS PLACED.
- ALL CONNECTIONS TO THE STORM MAIN SHALL BE MADE WITH A STORM MANHOLE OR APPROVED FACTORY TEE CONNECTION AS PER OPSD 706.01 OR 708.03.
- STORM SEWER TO BE MINIMUM 300mm DIA. WITH JOINTS CONFORMING TO CSA STANDARD A257.3
- ALL PIPE BEDDING MUST CONFORM TO OPSD MAXIMUM COVER TABLE. NO FLEXIBLE STORM SEWER WILL BE INSTALLED WITH A DEPTH COVER GREATER THAN 6m UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING.
- ALL PIPE HANDLING INSTRUCTIONS MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE OCPA OR UNIBELL GUIDELINES.
- PIPE MATERIAL TO BE REINFORCED CONCRETE WITH STRENGTH OF 50N/mm² (CERTIFIED CLASS B) OR PVC CERTIFIED TO CSA STANDARDS 182.2 AND 182.4 MAX. PVC PIPE DIA. IS 600mm BIG O BOSS 2000 POLYETHYLENE PIPE WITH GASKETED BELL AND SPIGOT JOINTS CERTIFIED CSA B182.6 FOR STORM SEWER UPTO 900mm dia. WHERE ONLY CONNECTION STD CATCHBASINS ARE CONSIDERED.
- ALL SINGLE CATCH BASINS TO BE PRECAST AS PER OPSD 705.010, WITH FRAME AND GRATE AS PER OPSD 400.010.
- ALL DOUBLE CATCH BASINS TO BE PRECAST AS PER OPSD 705.020, WITH FRAME AND GRATE PER OPSD 400.010.
- ALL SITE CATCH BASINS TO HAVE 0.3M SUMP.
- ALL SINGLE CATCHBASIN LEADS TO BE 250mm² PVC ULTRA RIB OR APPROVED EQUIVALENT UNLESS OTHERWISE SPECIFIED. ALL DOUBLE CATCHBASIN LEADS TO BE 300mm² PVC ULTRA RIB OR APPROVED EQUIVALENT UNLESS OTHERWISE SPECIFIED.
- ALL CATCHBASIN LEAD INVERTS TO BE 1.5m BELOW FINISHED GRADE UNLESS OTHERWISE SPECIFIED. CATCHBASIN LEADS TO HAVE MINIMUM 1.0% AND MAXIMUM 5.0% SLOPE UNLESS OTHERWISE SPECIFIED.
- ALL SANITARY MANHOLES SHALL BE MIN. 1200mm² UNLESS OTHERWISE SPECIFIED AND IN ACCORDANCE WITH OPSD 701.010, WITH FRAME AND COVER AS PER OPSD 401.010, TYPE 'A'. FRAME AND COVER AS PER OPSD 401.030 (WATERTIGHT COVERS SHALL BE USED IN STORMWATER PONDING AREAS).
- ALL SANITARY AND STORM MAINS TO HAVE MINIMUM COVER OF 1.5m BELOW FINISHED GRADES UNLESS OTHERWISE INDICATED.
- ALL SANITARY SEWERS SHALL BE PVC (DR 35) MEETING CSA SPECIFICATION B182.2-02. FITTINGS FOR PVC SANITARY SEWER PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH A.S.T.M. SPECIFICATION D 3034 AND JOINTS SHALL BE BELL AND SPIGOT WITH RUBBER GASKETS.
- ALL MANHOLE AND CATCHBASIN EXCAVATIONS TO BE BACKFILLED WITH OPSS 1010 GRANULAR 'B', TYPE C COMPACTED TO 98% SPMD. WITHIN 0.5m OF SUBGRADE ELEVATION BACKFILL TO BE COMPACTED TO 100% SPMD.
- STORM MANHOLES TO BE BENCHMARKED TO SPRINGLINE AND SANITARY TO OVERT UNLESS OTHERWISE SPECIFIED. MINIMUM WIDTH OF BENCHMARKING TO BE 0.230m OR AS SPECIFIED ON DRAWINGS.
- MODULOC OR APPROVED PRE-CAST MANHOLE AND CATCH BASIN ADJUSTERS TO BE USED FOR ELEVATION ADJUSTMENT. PARGE ADJUSTING UNITS ON THE OUTSIDE ONLY.
- SERVICES TO BUILDINGS SHALL BE TERMINATED 1.5m FROM THE BUILDING ENVELOPE UNLESS OTHERWISE NOTED.
- ALL BUILDING SERVICES SHALL BE CAPPED AND MARKED WITH A 4X4 PAINTED GREEN (SANITARY), YELLOW (STORM). THE 4X4 SHALL EXTEND 0.6m ABOVE GRADE.
- THE CONTRACTOR IS TO FLUSH AND PROVIDE CCTV CAMERA INSPECTIONS OF ALL SEWERS, INCLUDING PICTORIAL REPORT, AND TWO (2) CD'S IN A FORMAT ACCEPTABLE TO THE ENGINEER, PRIOR TO TOPCOAT ASPHALT.
- ALL SEWER WORK ON PRIVATE PROPERTY IS TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.
- LASER ALIGNMENT TO BE USED ON ALL SEWER INSTALLATIONS.

LEGEND

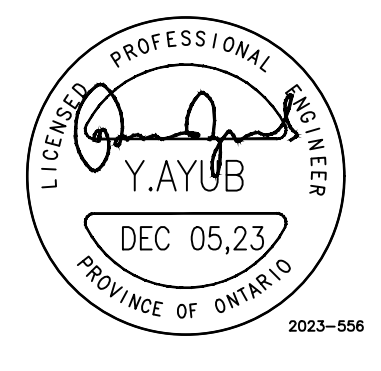


LEGAL DESCRIPTION:
PART 1 PLAN OF
PART OF LOT 20
CONCESSION 1 ALBION
IN THE TOWN OF CALEDON
(REGIONAL MUNICIPALITY OF PEEL)

INFORMATION TAKEN FROM A SURVEY PERFORMED BY
ALTIMAP LAND SURVEYORS INC.
222 FINCH AVE W, UNIT 212, TORONTO, ON M2R 1M6 TEL
416 990 3001 INFO@ALTIMAP.CA

BEARING NOTE:
BEARINGS ARE ASTROMONIC AND ARE REFERRED TO THE
NORTHERLY LIMIT OF AIRPORT ROAD AS SHOWN ON PLAN
BY T. VAN LANKVELD O.L.S. HAVING A BEARING OF
N44°41'40"W.

ELEVATIONS NOTE:
ELEVATIONS ARE REFERRED TO THE CANADIAN GEODETIC
VERTICAL DATUM (CGVD-1928:1978) AND ARE DERIVED
FROM TOWN OF CALEDON BENCHMARK NO. 00819758057
HAVING AN ELEVATION OF 251.929m.



REVISION		
No.	DESCRIPTION	DATE
2	ISSUED FOR SITE PLAN APPROVAL	DEC 05/23
1	ISSUED FOR SITE PLAN APPROVAL	OCT 07/23

JAIN
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Email: yayub@jainconsultants.com

PROJECT NAME & ADDRESS
**15867 AIRPORT ROAD,
CALEDON, ON**

DRAWING TITLE
SITE SERVICING PLAN

SCALE: (ARCH 36"x24") 1:200 DWG No.
DATE: DEC 05-23
DRAWN BY: NP
CHECKED BY: YA
C101
REV No. 1

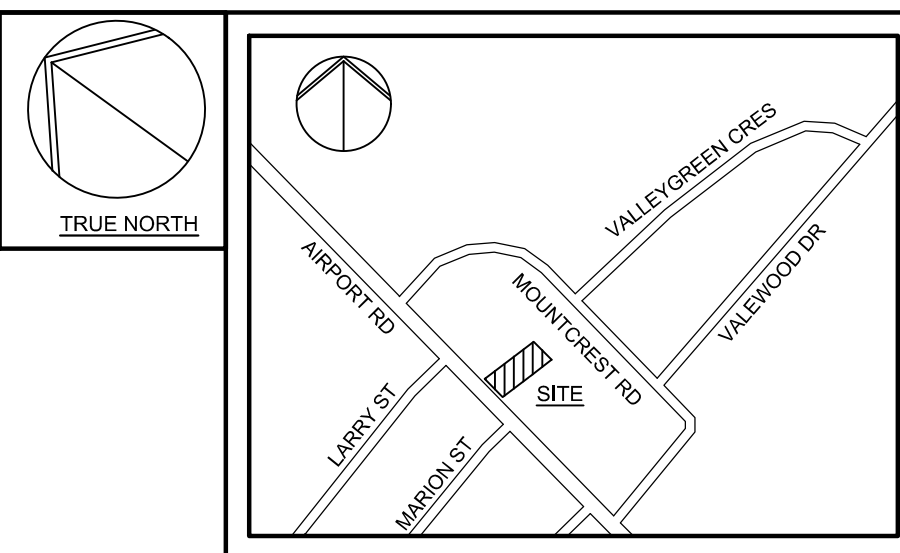
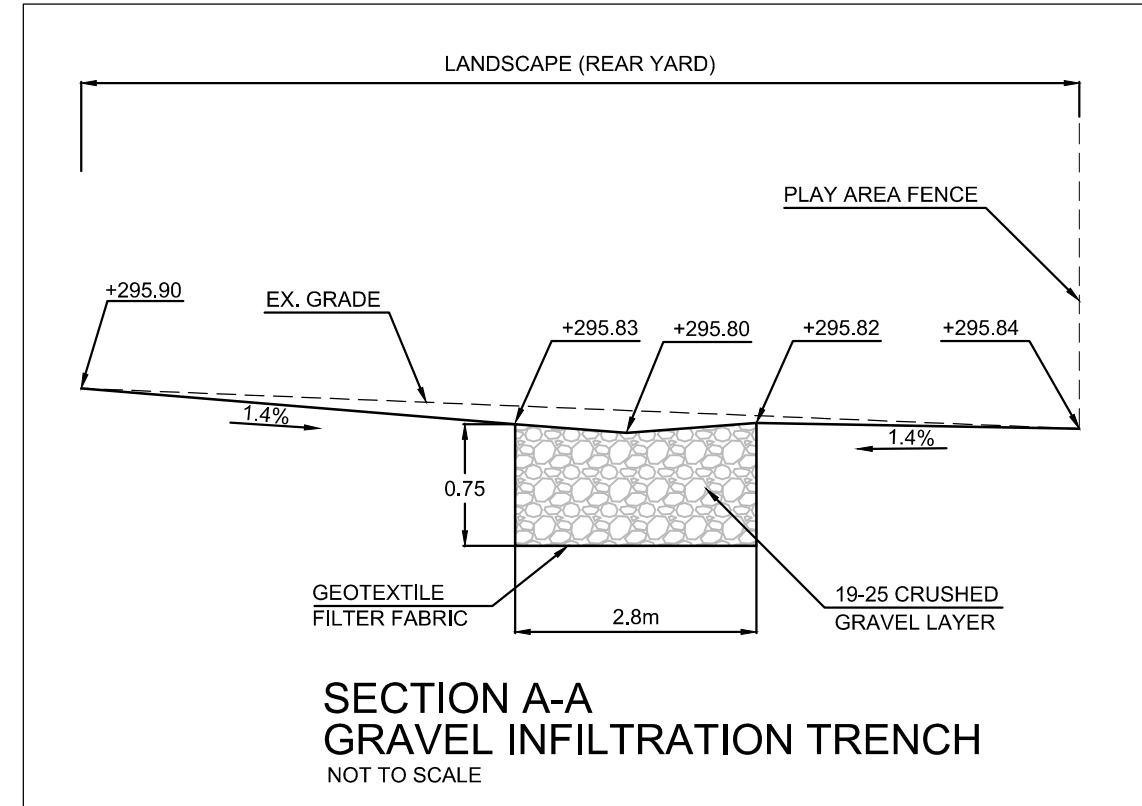


TOWN OF CALEDON GRADING & DRAINAGE NOTES :

- CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES AND GUIDELINES, PREPARED BY THE TOWN OF CALEDON, PUBLIC WORKS DEPARTMENT AND THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
- ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- WITHIN A MINIMUM OF FORTY-EIGHT HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT-OF-WAY, THE CONTRACTOR MUST CONTACT THE FOLLOWING: THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT 905-584-2272 THE REGION OF PEEL 905-791-7800 ENBRIDGE CONSUMERS GAS 905-768-7924 HYDRO ONE 919-941-1211 BELL CANADA 416-296-6929 ROGERS CABLE 905-897-3914
- ALL DRAINAGE TO BE SELF-CONTAINED AND DISCHARGED TO A LOCATION APPROVED BY THE PUBLIC WORKS AND ENGINEERING DEPARTMENT.
- SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE INSPECTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN OF CALEDON AND THE APPLICABLE CONSERVATION AUTHORITY.
- A MINIMUM OF 1.5M CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL SIDEWALKS AND DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT-OF-WAY. IF THIS CLEARANCE IS NOT MAINTAINED, THE STRUCTURES SHALL BE RELOCATED AT THE APPLICANT'S EXPENSE.
- STREET CURBS ARE TO BE CONTINUOUS WITHIN THE PROPOSED ENTRANCE.
- ANY CHANGES TO GRADES OR SERVICING FROM THE ORIGINALLY APPROVED SITE PLAN MUST BE APPROVED BY THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT.
- STRUCTURAL DESIGN OF THE FIRE ROUTE IS REQUIRED TO SUPPORT AN 18-TON VEHICLE, AS SUCH THE DRAWING IS TO SHOW AREAS OF HEAVY ASPHALT AND LIGHT ASPHALT AND IS TO PROVIDE DESIGN INFORMATION.
- ALL BOULEVARDS TO BE RESTORED WITH 150MM MINIMUM OF TOPSOIL AND SOD TO THE SATISFACTION OF THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT.
- THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:
40MM HL3 ASPHALT
50MM HL8 ASPHALT
150MM GRANULAR 'A'
300MM GRANULAR 'B'
- SERVICE CONNECTION BACKFILL TO BE DISCUSSED WITH THE TOWN OF CALEDON

LEGEND

PROPERTY LIMIT	---
EXISTING CATCHBASIN	■
PROPOSED RELOCATED CATCHBASIN	□
NEW ASPHALT	▬
PLAY AREA FENCE	—○—
NEW PLAY AREA	▨
INTERLOCK	▧
INFILTRATION TRENCH	▩
PROPOSED GRADING LEVEL	+297.75
EXISTING GRADING LEVEL	296.64
OVERLAND FLOW DIRECTION	→
TOP OF WALL	TW
BOTTOM OF WALL	BW

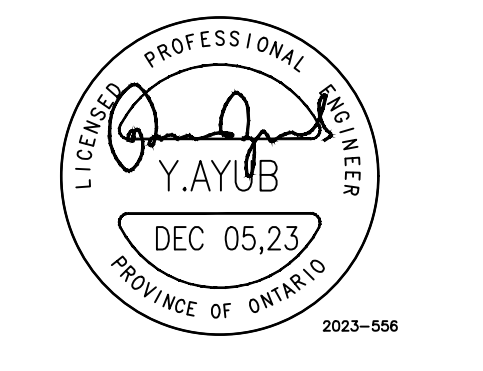


LEGAL DESCRIPTION:
PART 1 PLAN OF
CONCESSION 1 ALBION
IN THE TOWN OF CALEDON
(REGIONAL MUNICIPALITY OF PEEL)

INFORMATION TAKEN FROM A SURVEY PERFORMED BY
ALTIMAP LAND SURVEYORS INC.
222 FINCH AVE W, UNIT 212, TORONTO, ON M2R 1M6 TEL
416 990 3001 INFO@ALTIMAP.CA

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BY T. VAN LANKVELD O.L.S. HAVING A BEARING OF
N44°41'40"W.

ELEVATIONS NOTE:
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HAVING AN ELEVATION OF 251.929m.



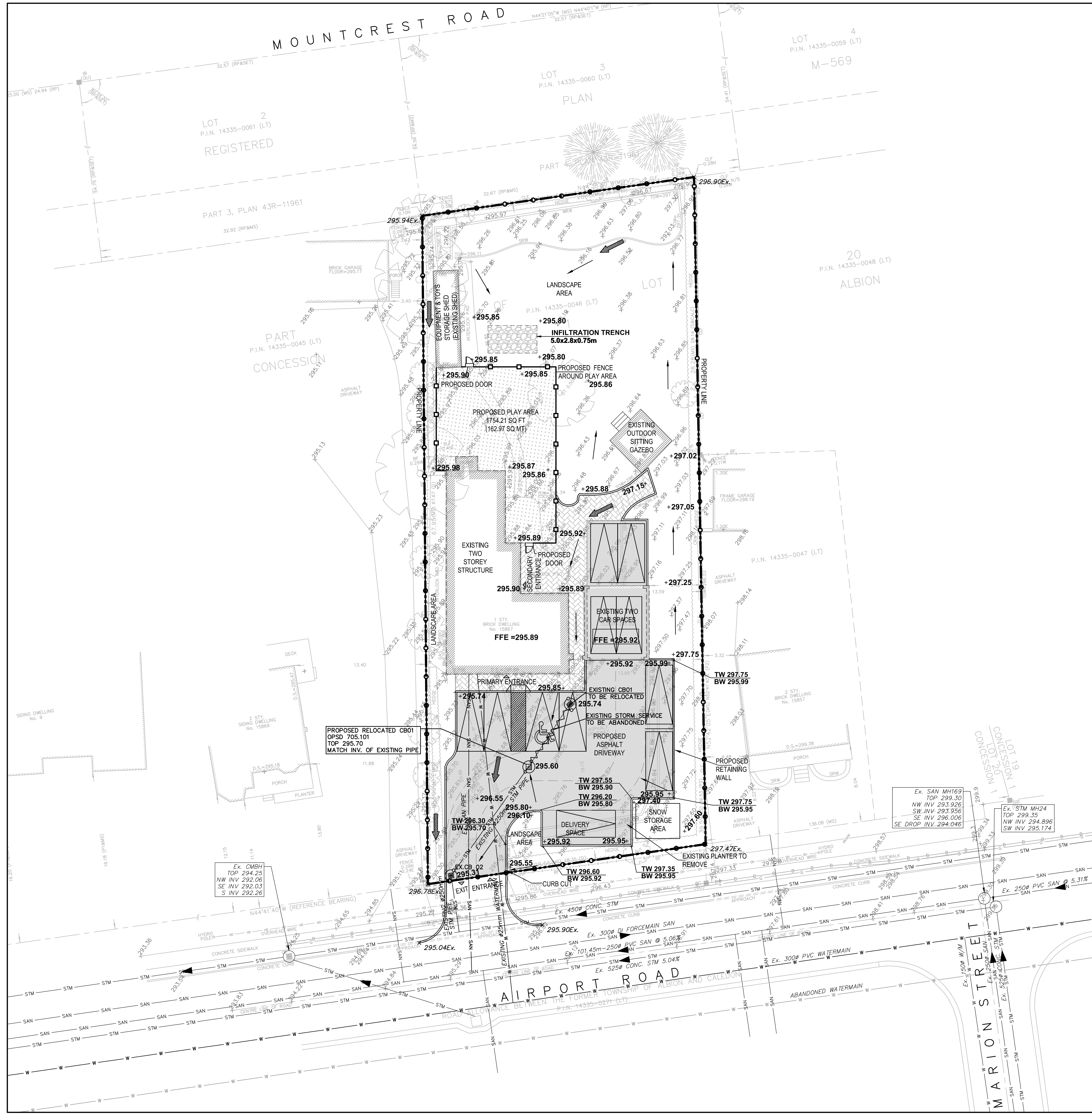
REVISION		
No.	DESCRIPTION	DATE
2	ISSUED FOR SITE PLAN APPROVAL	DEC 05/23
1	ISSUED FOR SITE PLAN APPROVAL	OCT 07/23

JAIN
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Email: yayub@jainconsultants.com

PROJECT NAME & ADDRESS
**15867 AIRPORT ROAD,
CALEDON, ON**

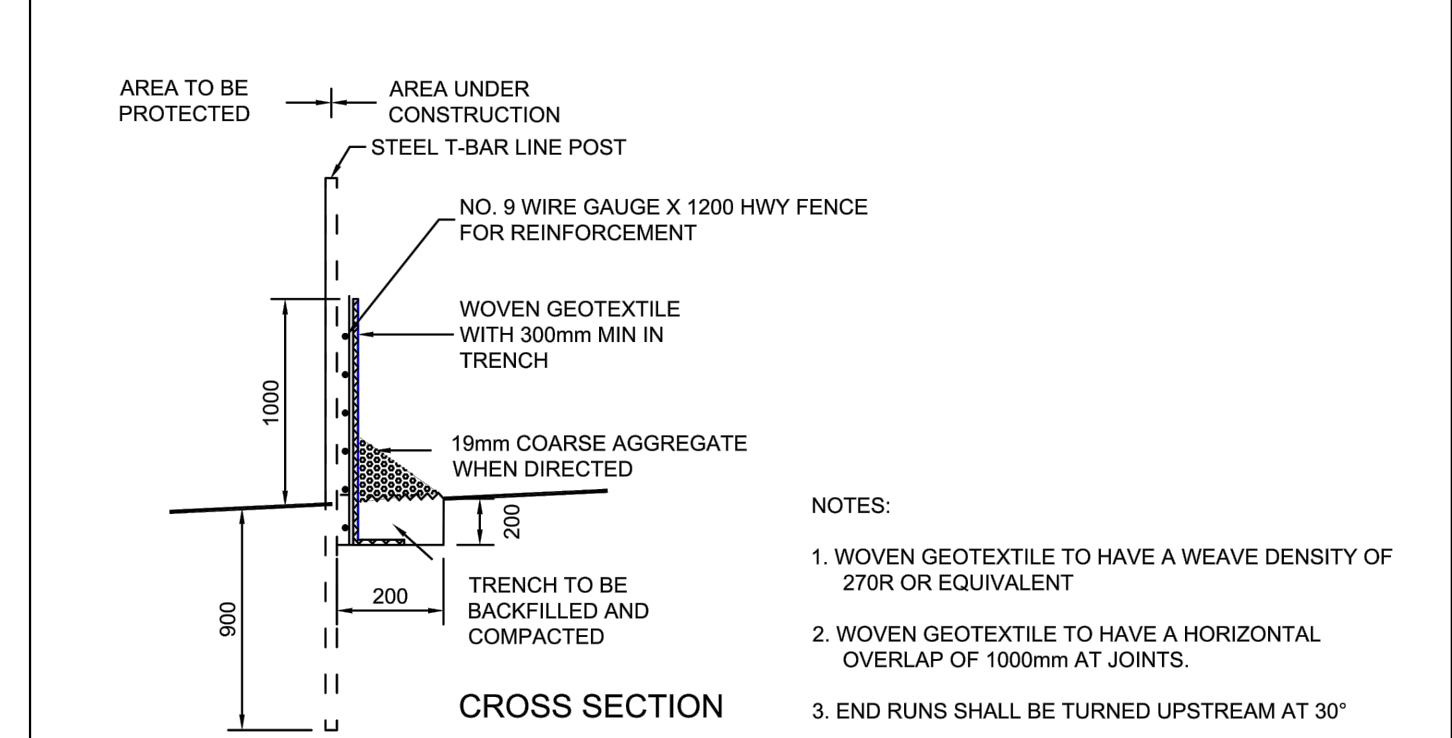
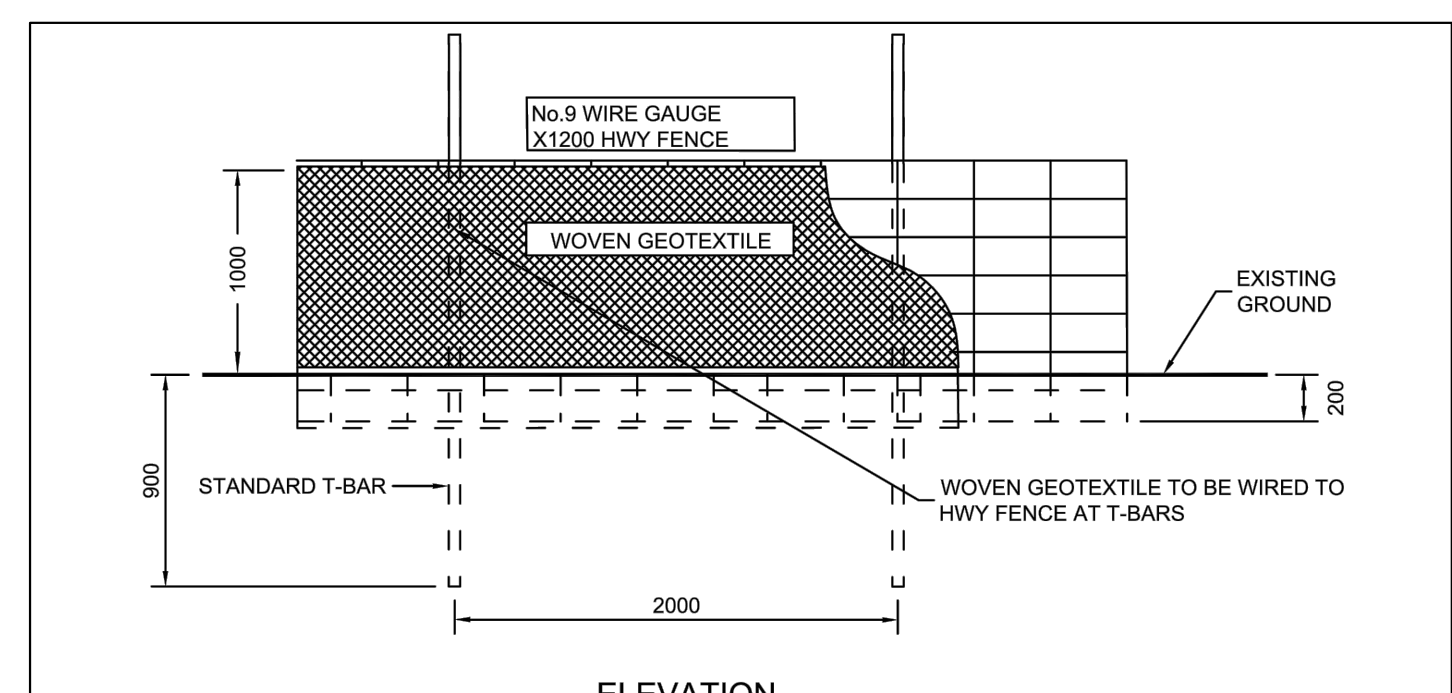
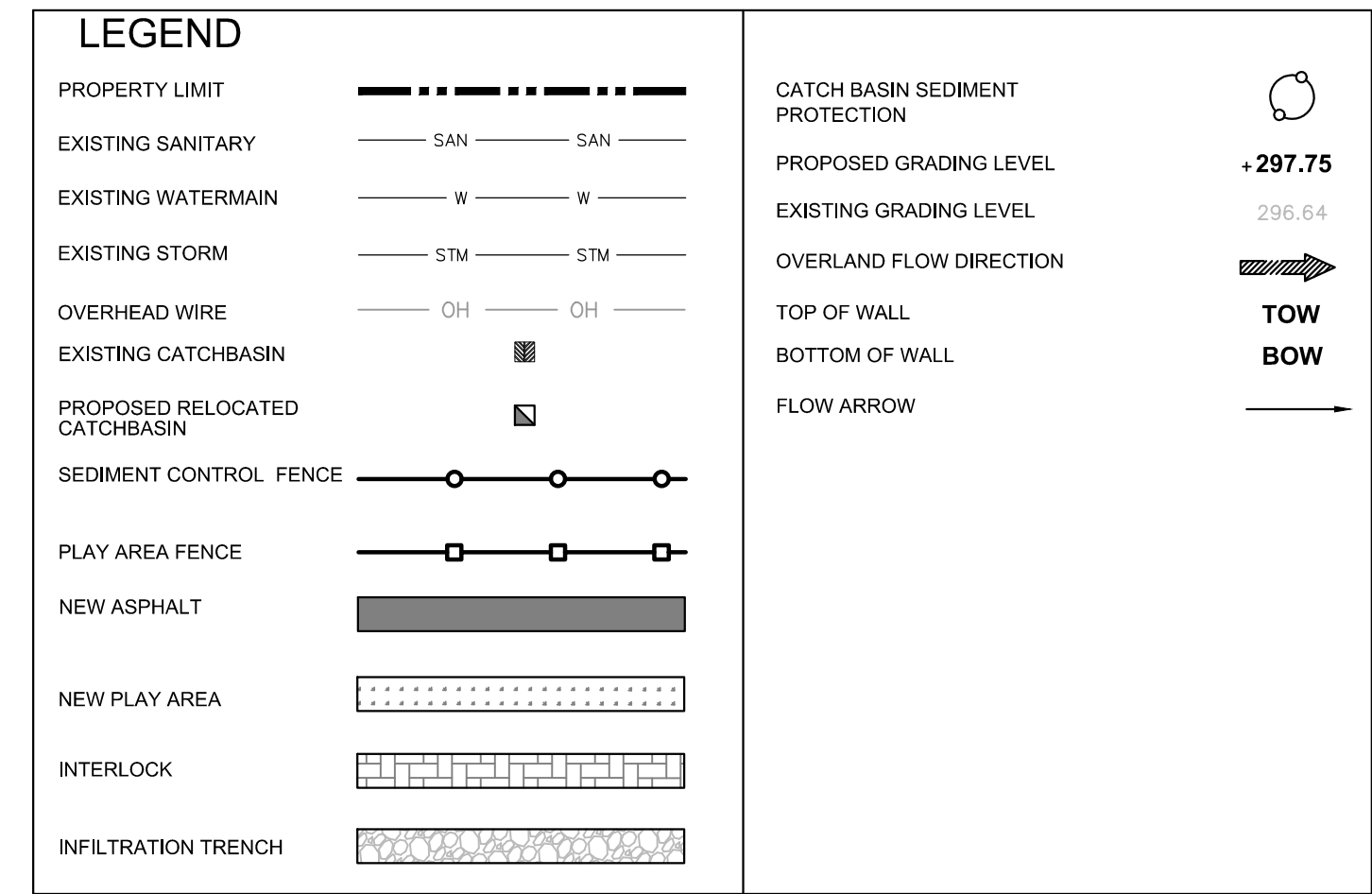
DRAWING TITLE
SITE GRADING PLAN

SCALE: (ARCH 36"x24")	1: 200	DWG No.
DATE:	DEC 05-23	C102
DRAWN BY:	NP	
CHECKED BY:	YA	



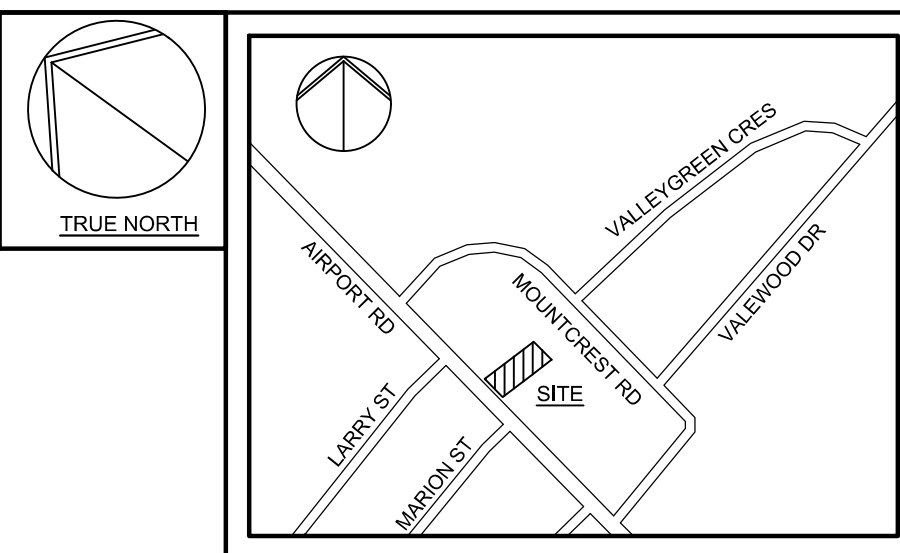
TOWN OF CALEDON EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES MUST BE INSTALLED PRIOR TO THE COMMENCEMENT OF WORKS ON SITE AND SHALL BE MAINTAINED DURING ALL CONSTRUCTION PHASES OF THE WORKS.
2. THE ESC STRATEGIES OUTLINED ON THIS PLAN ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO PREVENT SEDIMENT RELEASE OUTSIDE THE WORK AREA. THE TOWN IS TO BE ADVISED OF ANY CHANGES TO ESC MEASURES, AND AT THE DISCRETION OF THE TOWN, UPDATED PLANS MAY BE REQUIRED.
3. THE CONTRACTOR IS TO ASSIGN AN ENVIRONMENTAL MONITOR (EM) TO ASSURE CONSTRUCTION ACTIVITIES COMPLY WITH THE ENVIRONMENTAL PROVISIONS AND AGENCY PERMITS. THE EM WILL BE A QUALIFIED PERSON AS DETERMINED BY THE TOWN AND/OR CONSERVATION AUTHORITY. THE EM SHOULD SUBMIT INSPECTION FORMS ELECTRONICALLY TO THE TOWN AND CONSERVATION AUTHORITY UPON REQUEST.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ESC MEASURES IN WORKING CONDITION AT ALL TIMES TO THE SATISFACTION OF THE TOWN AND/OR CONSERVATION AUTHORITY. ALL DAMAGED ESC MEASURES SHOULD BE REPAIRED AND/OR REPLACED WITHIN 48 HOURS OF THE INSPECTION.
5. THE CONTRACTOR SHALL ROUTINELY INSPECT ALL ESC DEVICES TO ENSURE PROPERTY WORKING ORDER. FREQUENCY OF INSPECTIONS OF ESC MEASURES IS AS FOLLOWS: DURING EARTHWORKS ACTIVITIES:
 - ON A WEEKLY BASIS;
 - PRIOR TO PREDICTED RAINFALL EVENTS;
 - AFTER EVERY RAINFALL EVENT;
 - AFTER SIGNIFICANT SNOWMELT EVENT; AND
 - DAILY DURING EXTENDED RAIN OR SNOWMELT PERIODS.
6. ALL CONSTRUCTION VEHICLES MUST ENTER AND EXIT THE SITE ONLY FROM THE APPROVED ACCESS ROUTE(S) AS SHOWN ON THE PLANS. CONSTRUCTION ACCESS WILL BE MAINTAINED TO THE SATISFACTION OF THE TOWN/REGION. STREET SWEEPING IS REQUIRED AS NEEDED.
7. NO CONSTRUCTION ACTIVITY OR MACHINERY SHALL BE ALLOWED BEYOND THE SILT FENCE OR LIMITS OF THE SITE WORKS.
8. THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT DUST CONTROL MEASURES AND CONSTRUCTION BEST PRACTICE GUIDELINES AS APPROVED BY THE TOWN AND/OR CONSERVATION AUTHORITY.
9. ALL DISTURBED GROUND LEFT INACTIVE FOR 30 DAYS SHALL BE VEGETATED, SUBJECT TO WEATHER CONDITIONS. DISTURBED AREAS ARE TO BE HYDROSEEDING (OR APPROVED EQUIVALENT) TO THE SATISFACTION OF THE TOWN.
10. ALL TOPSOIL STOCKPILES SHALL BE SURROUNDED WITH SEDIMENT CONTROL FENCE. THE MAXIMUM SIDE SLOPE SHALL BE 2:1 (H:V). ONCE TOPSOIL STRIPPING IS COMPLETED THE STOCKPILE SHALL BE VEGETATED, OR AN APPROVED EQUIVALENT, TO WEATHER CONDITIONS, BY HYDROSEEDING, OR AN APPROVED EQUIVALENT, TO THE SATISFACTION OF THE TOWN.
11. CONTRACTOR SHALL TAKE CARE AND CONTROL SPILLS, FLUIDS AND MATERIALS DURING CONSTRUCTION TO MINIMIZE RISK TO THE ENVIRONMENT.



NO.	REVISION	APRD	DATE
2	NAME CHANGED STANDARD No. 325.01 NOW 304		JUNE 08
1	SUPPORT FENCING CHANGED TO HWY FENCE		OCT 02

TOWN OF CALEDON		APRD: C.C.	DATE: APRIL 2000
SEDIMENT CONTROL FENCE		DRAWN: BJM	SCALE: N.T.S.
		STANDARD No. 304	

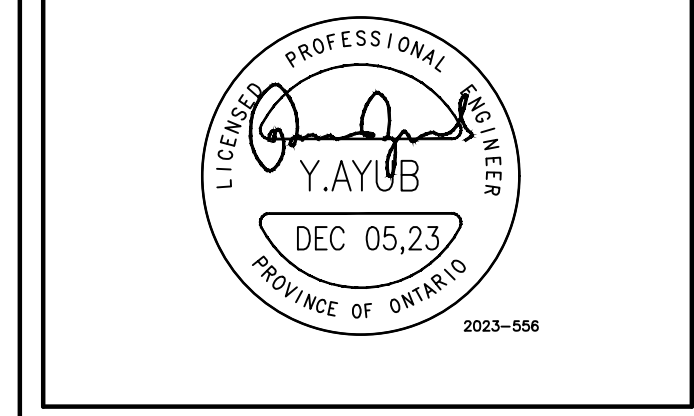


LEGAL DESCRIPTION:
 PART 1 PLAN OF
 CONVESSION 1 ALBION
 IN THE TOWN OF CALEDON
 (REGIONAL MUNICIPALITY OF PEELE)

INFORMATION TAKEN FROM A SURVEY PERFORMED BY
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 TEL: (905) 285-9900, FAX: (905) 567-5246
 Email: yayub@jainconsultants.com

PROJECT NAME & ADDRESS
**15867 AIRPORT ROAD,
 CALEDON, ON**

DRAWING TITLE
**EROSION CONTROL
 PLAN, NOTES, AND
 DETAILS**

SCALE: (ARCH 36"x24")	1: 200	DWG No.
DATE:	DEC 05-23	C103
DRAWN BY:	NP	
CHECKED BY:	YA	