Planning Department Development Application Form

Complete Application

A complete development application consists of the following:

1. A completed, signed, and notarized application form
2. Supporting information adequate to illustrate your proposal as indicated in **Section H** of this application form
3. Written authorization from the registered owner of the subject lands where the applicant is not the owner as per Section N
4. Cash, debit, credit or cheque payable to Norfolk County in the amount set out in the user fees By-Law that will be accepted and deposited once the application has been deemed complete.

Pre-Submission Consultation:

Norfolk County requires a Pre-Consultation Meeting for all applications; however, minor applications may be exempted depending on the nature of the proposal. The purpose of a Pre-Consultation Meeting is to provide the applicant with an opportunity to present the proposed application, discuss potential issues, and for the Norfolk County and Agency staff to identify the application requirements. Application requirements, as detailed in the Pre-Consultation Meeting Comments, are valid for one year after the meeting date.

Development Application Process

Once an application has been deemed complete by a Planner, Norfolk County staff will circulate the application to adjacent landowners, public agencies, and internal departments for comment. The time involved in application processing varies depending on its complexity, acceptability to the other agencies, and statutory Planning Act decision time-frames.

Payment is required once your application is deemed complete. Pre-payments will not be accepted.

Norfolk County collects personal information submitted through this form under the Municipal Freedom of Information and Protection Act's authority. Norfolk County will use this information for the purposes indicated or implied by this form. You can direct questions about collecting personal information to Norfolk GIS Services at NorfolkGIS@norfolkcounty.ca.

Additional studies required for the complete application shall be at the applicant's sole expense. Sometimes, peer reviews may be necessary to review particular studies at the applicant's expense. In these caseds, Norfolk County staff will select the company to complete the peer review.

Norfolk County will refund the original fee if applicants withdraw their applications before circulation. If Norfolk County must recirculate your drawings, there will be an additional fee. If Norfolk County must do more than three reviews of engineering drawings due to revisions by the owner or failure to revise engineering drawings as requested, Norfolk County will charge an additional fee. Full refunds are only available before Norfolk County has circulated the application.

Notification Sign Requirements

For public notification, Norfolk County will provide you with a sign to indicate the intent and purpose of your development application. It is your responsibility to:

1. Post one sign per frontage in a conspicuous location on the subject lands.
2. Ensure one sign is posted at the front of the subject lands at least three feet above ground level and not on a tree.
3. Notify the Planner when the sign is in place.
4. Maintain the sign until the development application is finalized and, after that, remove it.

Contact Us

For additional information or assistance completing this application, please contact a Planner at 519-426-5870 or 519-875-4485 extension 1842 or planning@norfolkcounty.ca. Please submit the completed application and fees to the attention of the Planning Department at 185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6.

For Office Use Only:

File Number	_____	Public Notice Sign	_____
Related File Number	_____	Application Fee	_____
Pre-consultation Meeting	_____	Conservation Authority Fee	_____
Application Submitted	_____	Well & Septic Info Provided	_____
Complete Application	_____	Planner	_____

Check the type of planning application(s) you are submitting.

- ☐ Official Plan Amendment
- ☐ Zoning By-Law Amendment
- ☐ Temporary Use By-law
- ☐ Draft Plan of Subdivision/Vacant Land Condominium
- ☐ Condominium Exemption
- ☑ Site Plan Application
- ☐ Extension of a Temporary Use By-law
- ☐ Part Lot Control
- ☐ Cash-in-Lieu of Parking
- ☐ Renewable Energy Project or Radio Communication Tower

Please summarize the desired result of this application (for example, a special zoning provision on the subject lands to include additional use(s), changing the zone or official plan designation of the subject lands, creating a certain number of lots, or similar)

Site plan approval required for addition to existing school and associated site modifications.

Property Assessment Roll Number: 3310401007015000000

A. Applicant Information

Name of Owner	Grand Erie District School Board (Frank Mesicek)
Address	349 Erie Avenue
Town and Postal Code	Brantford N3T 5V3
Phone Number	519-756-6301 ext. 281301
Cell Number	519-770-2948
Email	frank.mesicek@granderie.ca
Name of Applicant	Salter Pilon Architecture Inc.
Address	151 Ferris Lane, Suite 400
Town and Postal Code	Barrie L4M 6C1
Phone Number	705-737-3530
Cell Number	
Email	
Name of Agent	Salter Pilon Architecture Inc. (James Jeffery)
Address	151 Ferris Lane, Suite 400
Town and Postal Code	Barrie L4M 6C1
Phone Number	705-737-3530
Cell Number	249-989-2892
Email	jjeffery@salterpilon.com

Unless otherwise directed, Norfolk County will forward all correspondence and notices regarding this application to both owner and agent noted above.

☐ Owner ☐ Agent ☐ Applicant

Names and addresses of any holder of any mortgagees, charges or other encumbrances on the subject lands:

B. Location, Legal Description and Property Information

1. Legal Description (include Geographic Township, Concession Number, Lot Number, Block Number and Urban Area or Hamlet):

   Part of Lot 2, Block 59 and All of Lot 70, Block 59A and Part of Lot 71, 72 & 73, Block 59A, Registered plan 182 (Town of Simcoe) Norfolk County

   Municipal Civic Address: 80 Elvin Avenue, Simcoe, Ontario

   Present Official Plan Designation(s): Major institutional

   Present Zoning: IN

2. Is there a special provision or site specific zone on the subject lands?

   ☐ Yes ☐ No If yes, please specify corresponding number:

3. Present use of the subject lands:

   Existing school

4. Please describe **all existing** buildings or structures on the subject lands and whether they will be retained, demolished or removed. If retaining the buildings or structures, please describe the type of buildings or structures, and illustrate the setback, in metric units, from the front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, and height on your attached sketch which must be included with your application:

   Existing school building to be renovated and added onto, for childcare and kindergarten rooms.

   Site plan drawings and site data matrix on architectural site plan include dimensions, areas, setback requirements, etc.

5. If an addition to an existing building is being proposed, please explain what it will be used for (for example: bedroom, kitchen, or bathroom). If new fixtures are proposed, please describe.

   Existing school building to be renovated. Addition to existing school includes three childcare and four kindergarten rooms with their own washrooms.

   Addition also includes elevator to provide greater accessibility to existing school, new exit stair to replace existing,

   new universal barrier free washroom and new main entrance at grade, near parking areas.

6. Please describe **all proposed** buildings or structures/additions on the subject lands. Describe the type of buildings or structures/additions, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, and height on your attached sketch which must be included with your application:

   Addition will be separated by a 2 hour firewall, and thus considered as a separate building for the purposes of the OBC.

   Site plan drawings and site data matrix on architectural site plan include dimensions, areas, setback requirements, etc.

7. Are any existing buildings on the subject lands designated under the *Ontario Heritage Act* as being architecturally and/or historically significant? Yes ☐ No ☐

   If yes, identify and provide details of the building:

8. If known, the length of time the existing uses have continued on the subject lands:

   Existing school building was constructed in 1955.

9. Existing use of abutting properties:

   The property is surrounded by residential on 3 sides and neighbours Norfolk General Hospital to the South.

10. Are there any easements or restrictive covenants affecting the subject lands?

    ☒ Yes ☐ No If yes, describe the easement or restrictive covenant and its effect:

    There is a road allowance at the front of the building along Elgin Ave and an easement along the South property line that extends north along the west property line to a walkway to Bellevue Ave at the intersection to Charles Street. Shown on site plan

C. Purpose of Development Application

Note: Please complete all that apply.

1. Please explain what you propose to do on the subject lands/premises which makes this development application necessary:

   Addition to existing school and associated site and civil works, including parking, sidewalks, etc.

2. Please explain why it is not possible to comply with the provision(s) of the Zoning By-law/and or Official Plan:

   We believe the proposal complies with the provisions and we are not seeking any variances or changes of use, etc.

3. Does the requested amendment alter all or any part of the boundary of an area of settlement in the municipality or implement a new area of settlement in the municipality? ☐ Yes ☒ No If yes, describe its effect:

4. Does the requested amendment remove the subject land from an area of employment? ☐ Yes ☒ No If yes, describe its effect:

5. Does the requested amendment alter, replace, or delete a policy of the Official Plan? ☐ Yes ■ No If yes, identify the policy, and also include a proposed text of the policy amendment (if additional space is required, please attach a separate sheet):

_____

_____

_____

6. Description of land intended to be severed in metric units:

Frontage: N/A - no land intended to be severed.

Depth: _____

Width: _____

Lot Area: _____

Present Use: _____

Proposed Use: _____

Proposed final lot size (if boundary adjustment): _____

If a boundary adjustment, identify the assessment roll number and property owner of the lands to which the parcel will be added: _____

_____

Description of land intended to be retained in metric units:

Frontage: _____

Depth: _____

Width: _____

Lot Area: _____

Present Use: _____

Proposed Use: _____

Buildings on retained land: _____

7. Description of proposed right-of-way/easement:

Frontage: N/A - no ROW or easements required.

Depth: _____

Width: _____

Area: _____

Proposed use: _____

8. Name of person(s), if known, to whom lands or interest in lands to be transferred, leased or charged (if known): N/A

_____

9. **Site Information**	**Zoning**	**Proposed**
Please indicate unit of measurement, for example: m, m^2 or %		
Lot frontage	15m	131.55m (existing)
Lot depth	N/A	169.19m (existing)
Lot width		131.55m (existing)
Lot area	450m²	31,039m² (existing)
Lot coverage		9.68%
Front yard	6m	4.89m (existing)
Rear yard	7.5m	67.61m
Left Interior side yard	3m	16.51m (north)
Right Interior side yard	3m	12.25m (south)
Exterior side yard (corner lot)	n/a	n/a
Landscaped open space		28,030m² (approx)
Entrance access width		7.3m (+18m for turning radii)
Exit access width		7.3m (+18m for turning radii)
Size of fencing or screening		Perimeter is existing
Type of fencing		Existing board & chain link.
10. Building Size		
Number of storeys		3
Building height		13.335m
Total ground floor area		3006.16m²
Total gross floor area		5,286.7m²
Total useable floor area		
11. Off Street Parking and Loading Facilities		
Number of off street parking spaces		73 (exceeds bylaw by 13)
Number of visitor parking spaces		
Number of accessible parking spaces		4 (exceeds req. per bylaw by 1)
Number of off street loading facilities		0 (can use kiss-n-ride)

12. Residential (if applicable)

Number of buildings existing: n/a

Number of buildings proposed: n/a

Is this a conversion or addition to an existing building? ☐ Yes ☐ No

If yes, describe: n/a

Type	Number of Units	Floor Area per Unit in m2
Single Detached	n/a	
Semi-Detached	n/a	
Duplex	n/a	
Triplex	n/a	
Four-plex	n/a	
Street Townhouse	n/a	
Stacked Townhouse	n/a	
Apartment - Bachelor	n/a	
Apartment - One bedroom	n/a	
Apartment - Two bedroom	n/a	
Apartment - Three bedroom	n/a	

Other facilities provided (for example: play facilities, underground parking, games room, or swimming pool):

13. Commercial/Industrial Uses (if applicable)

Number of buildings existing: n/a

Number of buildings proposed: n/a

Is this a conversion or addition to an existing building? ☐ Yes ☐ No

If yes, describe:
n/a

Indicate the gross floor area by the type of use (for example: office, retail, or storage):
n/a

Seating Capacity (for assembly halls or similar): n/a

Total number of fixed seats: n/a

Describe the type of business(es) proposed: n/a

Total number of staff proposed initially: n/a

Total number of staff proposed in five years: n/a

Maximum number of staff on the largest shift: n/a

Is open storage required: ☐ Yes ☐ No

Is a residential use proposed as part of, or accessory to commercial/industrial use?

☐ Yes ☐ No If yes please describe:

n/a

14. Institutional (if applicable)

Describe the type of use proposed: School & childcare

Seating capacity (if applicable): n/a

Number of beds (if applicable): n/a

Total number of staff proposed initially:

Total number of staff proposed in five years:

Maximum number of staff on the largest shift:

Indicate the gross floor area by the type of use (for example: office, retail, or storage):

15. Describe Recreational or Other Use(s) (if applicable)

n/a

D. Previous Use of the Property

1. Has there been an industrial or commercial use on the subject lands or adjacent lands? ☐ Yes ☐ No ☐ Unknown
   If yes, specify the uses (for example: gas station or petroleum storage):

2. Is there reason to believe the subject lands may have been contaminated by former uses on the site or adjacent sites? ☐ Yes ☐ No ☐ Unknown
3. Provide the information you used to determine the answers to the above questions:
   Phase 1 ESA completed by GEI, August 2024.
4. If you answered yes to any of the above questions in Section D, a previous use inventory showing all known former uses of the subject lands, or if appropriate, the adjacent lands, is needed. Is the previous use inventory attached? ☐ Yes ☐ No

E. Provincial Policy

1. Is the requested amendment consistent with the provincial policy statements issued under subsection 3(1) of the *Planning Act, R.S.O. 1990, c. P. 13*? ■ Yes ☐ No

   If no, please explain:

   n/a
2. It is owner's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals, including the Endangered Species Act, 2007. Have the subject lands been screened to ensure that development or site alteration will not have any impact on the habitat for endangered or threatened species further to the provincial policy statement subsection 2.1.7? ■ Yes ☐ No

   If no, please explain:

   n/a

3. Have the subject lands been screened to ensure that development or site alteration will not have any impact on source water protection? ☒ Yes ☐ No

   If no, please explain:
   n/a

   Note: If in an area of source water Wellhead Protection Area (WHPA) A, B or C please attach relevant information and approved mitigation measures from the Risk Manager Official.

4. Are any of the following uses or features on the subject lands or within 500 metres of the subject lands, unless otherwise specified? Please check boxes, if applicable.

   Livestock facility or stockyard (submit MDS Calculation with application)

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Wooded area

   ☒ On the subject lands or ☐ within 500 meters – distance _____

   Municipal Landfill

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Sewage treatment plant or waste stabilization plant

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Provincially significant wetland (class 1, 2 or 3) or other environmental feature

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Floodplain

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Rehabilitated mine site

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Non-operating mine site within one kilometre

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Active mine site within one kilometre

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Industrial or commercial use (specify the use(s))

   ☐ On the subject lands or ☒ within 500 meters – distance +/- 450m

   Active railway line

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Seasonal wetness of lands

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Erosion

   ☐ On the subject lands or ☐ within 500 meters – distance _____

   Abandoned gas wells

   ☐ On the subject lands or ☐ within 500 meters – distance _____

F. Servicing and Access

1. Indicate what services are available or proposed:

Water Supply

- ☒ Municipal piped water
- ☐ Communal wells
- ☐ Individual wells
- ☐ Other (describe below)

_____

Sewage Treatment

- ☒ Municipal sewers
- ☐ Communal system
- ☐ Septic tank and tile bed in good working order
- ☐ Other (describe below)

_____

Storm Drainage

- ☒ Storm sewers
- ☐ Open ditches
- ☐ Other (describe below)

_____

2. Existing or proposed access to subject lands:

- ☒ Municipal road
- ☐ Provincial highway
- ☐ Unopened road
- ☐ Other (describe below)

Name of road/street: Elgin Avenue

G. Other Information

1. Does the application involve a local business? ☐ Yes ☐ No
   If yes, how many people are employed on the subject lands?

   _____

2. Is there any other information that you think may be useful in the review of this application? If so, explain below or attach on a separate page.

   _____
   _____
   _____
   _____

H. Supporting Material to be submitted by Applicant

In order for your application to be considered complete, **folded** hard copies (number of paper copies as directed by the planner) and an **electronic version (PDF) of the properly named site plan drawings, additional plans, studies and reports** will be required, including but not limited to the following details:

1. Concept/Layout Plan
2. All measurements in metric
3. Key map
4. Scale, legend and north arrow
5. Legal description and municipal address
6. Development name
7. Drawing title, number, original date and revision dates
8. Owner's name, address and telephone number
9. Engineer's name, address and telephone number
10. Professional engineer's stamp
11. Existing and proposed easements and right of ways
12. Zoning compliance table – required versus proposed
13. Parking space totals – required and proposed
14. All entrances to parking areas marked with directional arrows
15. Loading spaces, facilities and routes (for commercial developments)
16. All dimensions of the subject lands
17. Dimensions and setbacks of all buildings and structures
18. Location and setbacks of septic system and well from all existing and proposed lot lines, and all existing and proposed structures
19. Gross, ground and useable floor area
20. Lot coverage
21. Floor area ratio
22. Building entrances, building type, height, grades and extent of overhangs
23. Names, dimensions and location of adjacent streets including daylighting triangles
24. Driveways, curbs, drop curbs, pavement markings, widths, radii and traffic directional signs
25. All exterior stairways and ramps with dimensions and setbacks
26. Retaining walls including materials proposed
27. Fire access and routes
28. Location, dimensions and number of parking spaces (including visitor and accessible) and drive aisles
29. Location of mechanical room, and other building services (e.g. A/C, HRV)
30. Refuse disposal and storage areas including any related screening (if indoors, need notation on site plan)
31. Winter snow storage location

32. Landscape areas with dimensions
33. Natural features, watercourses and trees
34. Fire hydrants and utilities location
35. Fencing, screening and buffering – size, type and location
36. All hard surface materials
37. Light standards and wall mounted lights (plus a note on the site plan that all outdoor lighting is to be dark sky compliant)
38. Business signs (make sure they are not in sight lines)
39. Sidewalks and walkways with dimensions
40. Pedestrian access routes into site and around site
41. Bicycle parking
42. Architectural elevations of all building sides
43. All other requirements as per the pre-consultation meeting

In addition, the following additional plans, studies and reports, including but not limited to, **may** also be required as part of the complete application submission:

☐ Zoning Deficiency Form

☐ On-Site Sewage Disposal System Evaluation Form (to verify location and condition)

▣ Architectural Plan

▣ Buildings Elevation Plan

☐ Cut and Fill Plan

▣ Erosion and Sediment Control Plan

▣ Grading and Drainage Control Plan (around perimeter and within site) (existing and proposed)

▣ Landscape Plan

▣ Photometric (Lighting) Plan

☐ Plan and Profile Drawings

▣ Site Servicing Plan

☐ Storm water Management Plan

▣ Street Sign and Traffic Plan

▣ Street Tree Planting Plan

▣ Tree Preservation Plan

☐ Archaeological Assessment

☐ Environmental Impact Study

- ☒ Functional Servicing Report
- ☒ Geotechnical Study / Hydrogeological Review
- ☐ Minimum Distance Separation Schedule
- ☐ Noise or Vibration Study
- ☐ Record of Site Condition
- ☒ Storm water Management Report
- ☐ Traffic Impact Study – please contact the Planner to verify the scope required

Site Plan applications will require the following supporting materials:

1. Two (2) complete sets of the site plan drawings folded to 8½ x 11 and an electronic version in PDF format
2. Letter requesting that the Holding be removed (if applicable)
3. A cost estimate prepared by the applicant's engineer
4. An estimate for Parkland dedication by a certified land appraiser
5. Property Identification Number (PIN) printout

Standard condominium exemptions will require the following supporting materials:

- ☐ Plan of standard condominium (2 paper copies and 1 electronic copy)
- ☐ Draft condominium declaration
- ☐ Property Identification Number (PIN) printout

Your development approval might also be dependent on other relevant federal or provincial legislation, municipal by-laws or other agency approvals.

All final plans must include the owner's signature as well as the engineer's signature and seal.

I. Development Agreements

A development agreement may be required prior to site plan approval, subdivision and condominium applications. Should this be necessary for your development, you will be contacted by the agreement administrator with further details of the requirements including but not limited to insurance coverage, professional liability for your engineer, additional fees and securities.

J. Transfers, Easements and Postponement of Interest

The owner acknowledges and agrees that if required, it is their solicitor's responsibility on behalf of the owner, to disclose the registration of all transfer(s) of land and/or easement in favour of the County and/or utilities. Also, the owner further acknowledges and agrees that it is their solicitor's responsibility on behalf of the owner for the registration of postponements of any charges in favour of the County.

K. Permission to Enter Subject Lands

Permission is hereby granted to Norfolk County officers, employees or agents, to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

L. Freedom of Information

For the purposes of the *Municipal Freedom of Information and Protection of Privacy Act*, I authorize and consent to the use by or the disclosure to any person or public body any information that is collected under the authority of the *Planning Act, R.S.O. 1990, c. P. 13* for the purposes of processing this application.

	November 14, 2024
Owner/Applicant Signature	Date

M. Owner's Authorization

If the applicant/agent is not the registered owner of the lands that is the subject of this application, the owner(s) must complete the authorization set out below.

I/We Rafal Wyszynski am/are the registered owner(s) of the lands that is the subject of this application.

I/We authorize Salter Pilon Architecture Inc. to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

Rafal Wyszynski	November 14, 2024
Owner	Date
Owner	Date

N. Declaration

I, Frank Mesicek of Ancaster ON

solemnly declare that:

all of the above statements and the statements contained in all of the exhibits transmitted herewith are true and I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of *The Canada Evidence Act.*

Declared before me at:

SIMCOE

In NORFOLK COUNTY

This 20 day of NOVEMBER

A.D., 20 24

A Commissioner, etc.

John Andrew Wallace, a Commissioner, etc., Province of Ontario, for the Corporation of Norfolk County. Expires January 16, 2027.

Owner/Applicant Signature

TOPOGRAPHIC SITE PLAN

PART OF LOT 2, BLOCK 59 and ALL OF LOT 70, BLOCK 59A and PART OF LOT 71, 72 & 73, BLOCK 59A

REGISTERED PLAN 182
(TOWN OF SIMCOE)
NORFOLK COUNTY

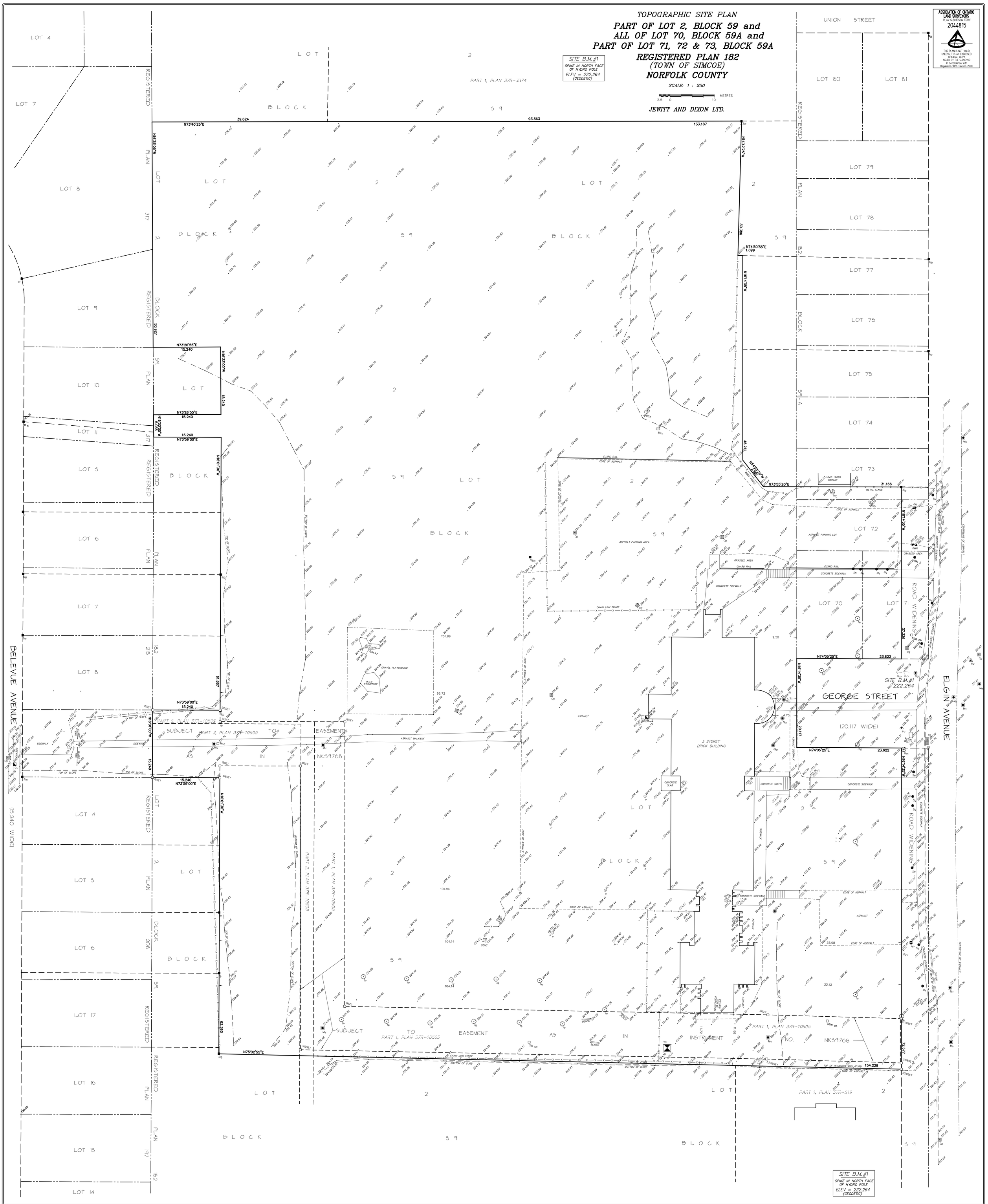
SCALE: 1 : 250

2.5 0 10 METRES

JEWITT AND DIXON LTD.

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2044815
THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29(3)

SITE B.M.#1
SPIKE IN NORTH FACE OF HYDRO POLE
ELEV = 222.264
(GEODETIC)



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 LAND TITLES ACT, AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 5TH DAY OF APRIL, 2018

DATED: APRIL 7, 2018

KIM HUSTED, O.L.S.
FOR JEWITT & DIXON LTD.

LEGEND

2.5cm X 2.5cm X 1.2m STANDARD	IRON BARS	SHOWN	SIB
2.5cm X 2.5cm X 0.6m STANDARD	IRON BARS	SHOWN	SSIB
1.6cm X 1.6cm X 0.6m	IRON BARS	SHOWN	IB
1.6cm ROUND X 0.6m	IRON BARS	SHOWN	RIB
LOT LINES	SHOWN		
DEED LINES	SHOWN		
FENCE LINES	SHOWN		
CENTRE LINES	SHOWN		
ROAD LINES	SHOWN		

FOUND IRON BARS	SHOWN		
PLANTED IRON BARS	SHOWN		
CONTROL POINT	SHOWN	CP	
CUT CROSS	SHOWN	CC	
JEWITT AND DIXON LTD.	SHOWN	(700)	
WITNESS MONUMENT	SHOWN	(WIT)	
MAGNETIC NAIL	SHOWN	MAG	
PLAN 37R–	SHOWN	(P1)	
PLAN 37R–	SHOWN	(P2)	
PLAN 37R–	SHOWN	(P3)	

JEWITT AND DIXON LTD.	SHOWN	(700)	
JEWITT AND DIXON LTD.	SHOWN	(1478)	
J. B. DODD, O.L.S.	SHOWN	(996)	
K.S. HUSTED, O.L.S.	SHOWN	(1582)	
WITNESS MONUMENT	SHOWN	(WIT)	
ORIGIN UNKNOWN	SHOWN	(OU)	
PLAN 37R–	SHOWN	(P1)	
PLAN 37R–	SHOWN	(P2)	
PLAN 37R–	SHOWN	(P3)	

BELL BOX	SHOWN	BBX	
BENCHMARK	SHOWN	BM	
CATCH BASIN	SHOWN	CB	
DRAIN	SHOWN	DR	
FLAG POLE	SHOWN	FP	
GAS METER	SHOWN	GM	
GOAL POST	SHOWN	GP	
GUY WIRE	SHOWN	GUY	
GAS VALVE	SHOWN	GV	
HYDRO POLE	SHOWN	HP	

HYDRO VAULT	SHOWN	HV	
MAN HOLE	SHOWN	MH	
POST	SHOWN	P	
SIGN	SHOWN	SN	
DOOR SILL	SHOWN	SILL	
TREE	SHOWN	TR	
DECIDUOUS TREE	SHOWN	TRD	
CONIFEROUS TREE	SHOWN	TRC	
WATER VALVE	SHOWN	WV	

JEWITT AND DIXON LTD.
ONTARIO LAND SURVEYORS
R.R.1, SIMCOE, ONTARIO, N3Y 4J9
(51 PARK ROAD)
PHONE: (519) 426-0842 FAX: (519) 426-1034
E-mail: surveyors@amtelecom.net

F.W.	– J.P.H.
BOOK	– LL–FILE
CALC.	– J.L.M.
PLAN	– J.L.M.
CHECK	– K.H.
CLIENT	– SALTER PILON
JOB No.	– 18–1794

P18 06 A9939

REQUIRED INFORMATION

Name of Owner: Grand Erie District School Board

Property Legal Description: Part of Lot 2, Block 59 and All of Lot 70, Block 59A and Part of Lot 71, 72 & 73, Block 59A, Registered Plan 182 (Town of Simcoe), Norfolk County

Roll Number: 3310401007015000000

PIN Number:

Type and Number of Units

Single Detached: n/a

Semi-Detached: n/a

Duplex: n/a

Triplex: n/a

Four-plex: n/a

Street Townhouse: n/a

Stacked Townhouse: n/a

Apartment: n/a

Transfer Easements Block Number and Purpose:

Transfer Block Number and Purpose:

Geotechnical Report prepared for Lands	(●) YES	( ) NO	( ) UNKNOWN
Lands are Within the Source Water Protection Area	( ) YES	( ) NO	( ) UNKNOWN
Lands Contain any Contaminated or Impacted Soil	( ) YES	( ) NO	( ) UNKNOWN
Lands Contain any Natural Watercourse	( ) YES	( ) NO	( ) UNKNOWN
Lands Contain any Wetlands	( ) YES	( ) NO	( ) UNKNOWN
Lands Contain any Archaeological Sites	( ) YES	( ) NO	( ) UNKNOWN
Lands Contain an Existing Well and or Septic Field	( ) YES	( ) NO	( ) UNKNOWN
Species at Risk Branch MECP Screening	( ) YES	( ) NO	( ) UNKNOWN
Lands Contain any Endangered Species	( ) YES	( ) NO	( ) UNKNOWN

OWNER INFORMATION

NAME AND CONTACT: Rafal Wyszynski (GEDSB)

ADDRESS WITH POSTAL CODE: Education Centre | 349 Erie Avenue, Brantford, Ontario, N3T 5V3

PHONE NUMBER: 519-756-6301, ext. 281142

EMAIL: Rafal.Wyszynski@granderie.ca

AGENT INFORMATION

NAME AND CONTACT: James Jeffery (Salter Pilon Architecture Inc.)

ADDRESS WITH POSTAL CODE: 151 Ferris Lane, Suite 400, Barrie, ON L4M 6C1

PHONE NUMBER: 705.737.3530 x 246

EMAIL: jjeffery@salterpilon.com

ENGINEER INFORMATION

NAME AND CONTACT MTE Consulting (Rosie Calogero)

ADDRESS WITH POSTAL CODE 1016 Sutton Drive, Unit A, Burlington, Ontario L7L 6B8

PHONE NUMBER 905-639-2552 x2425

EMAIL RCalogero@mte85.com

LAWYER INFORMATION

NAME AND CONTACT MHN Lawyers LLP, Maria Kinkel

ADDRESS WITH POSTAL CODE 39 Colborne St N. Simcoe, ON N3Y 3T8

PHONE NUMBER 519 426 6763

EMAIL kinkel@mhnlaywers.com

INSURANCE PROVIDER INFORMATION

NAME AND CONTACT Ontario School Boards' Insurance Exchange

ADDRESS WITH POSTAL CODE 91 Westmount Road, Guelph, ON N1H 5J2

PHONE NUMBER 519 767 2182

EMAIL info@osbie.ca

FINANCIAL INSTITUTION INFORMATION (IF APPLICABLE)

NAME AND CONTACT

ADDRESS WITH POSTAL CODE

PHONE NUMBER

EMAIL

MORTGAGEE INFORMATION (IF APPLICABLE)

NAME AND CONTACT

ADDRESS WITH POSTAL CODE

PHONE NUMBER

EMAIL

SPECIES AT RISK SCREENING

The Ontario Endangered Species Act inquiries and Species at Risk screening are now handled by the Ministry of the Environment, Conservation and Parks, specifically the "Species at Risk Branch" and the new e-mail address for handling these inquiries is now SAROntario@ontario.ca.

TRANSFERS, EASEMENTS AND POSTPONEMENT OF INTEREST

The owner acknowledges and agrees that, it is their solicitor's responsibility on behalf of the owner for the registration of all transfer(s) of land to the County, free and clear of any charges or encumbrances, and/or transfer(s) of easement in favour of the County and/or utilities at no cost to the County. In addition, the owner further acknowledges and agrees that it is their solicitor's responsibility on behalf of the owner for the registration of postponements of any charges to the County's agreements.

INSURANCE CERTIFICATES

Prior to the execution of the development agreement, the owner shall at their expense obtain and keep in force, during the term of this development agreement, commercial general liability insurance coverage satisfactory to the County. The owner further acknowledges and agrees that he/she has authorized the County to discuss with their insurance provider the specific insurance requirements of the County for agreement purposes. In addition, the County will require any professionals hired to carry professional liability insurance to provide coverage for acts, errors and omissions arising from their professional services performed.

OWNER'S AUTHORIZATION

I/We Grand Erie District School Board am/are the registered owner(s) of the lands that is the subject of this site plan agreement.

I/We authorize our Agent Salter Pilon Architecture Inc. to provide information on my/our behalf and to provide any of my/our personal information necessary for the processing of this site plan agreement. Moreover, this shall be your good and sufficient authorization for so doing.

I/We authorize the Agreement Administrator to provide and receive information on my/our behalf in connection to the insurance coverage, letter of credit and agreement registration of my/our development.

I/We acknowledge that if there are any new charges or mortgage holders on the property they will be added to the development agreement and will be required to postpone their interest on the property to the County's development conformity interest.

November 14, 2024

Owner Signature Date

To start your agreement, please return the required supporting information and fees along with the first three pages of this document completed and signed. Provide your payments by the mail or courier to the address below or drop off at ServiceNorfolk customer service desk on the first floor 185 Robinson Street, Simcoe ON N3Y 5L6 Monday to Friday from 9 am to 4 pm. Please make your cheque payable to the Corporation of Norfolk County. If paying by credit card please contact ServiceNorfolk at 519 426-5870 Ext. 4636.

CONTACT FOR FURTHER INFORMATION AND QUESTIONS

Annette Helmig, Agreement and Development Coordinator
Norfolk County, Community Development Division, Planning Department, Agreement Services
185 Robinson Street Suite 200, Simcoe ON N3Y 5L6
226.777.1445
annette.helmig@norfolkcounty.ca

The information submitted on this form is collected under the authority of the *Freedom of Information and Protection of Privacy Act* (FIPPA) and *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA) for Norfolk County employees to use for the purpose of preparing and registering a development agreement. Questions about the collection of personal information through this form may be directed to the Agreement and Development Coordinator or Information and Privacy Coordinator, Corporation of Norfolk County, 50 Colborne Street South, Simcoe ON N3Y 4H3.

DOCUMENTATION AND FEES REQUIRED

- [x] Owner's agreement authorization
- [ ] Postponement of interest from mortgagee / chargee (if applicable)
- [ ] Current parcel register (property identifier or PIN printout)
- [ ] Owner's commercial general liability certificate of insurance
- [x] Construction estimates (100% for external works and landscaping with 10% of internal works)
- [ ] Professional liability insurance for surveyor and / or engineer
- [ ] Final reference plan for any easements and lands to be conveyed
- [ ] Letter from owner requesting holding (H) symbol be removed from the subject lands
- [ ] Letter of credit or certified cheque for performance securities
- [ ] Current property taxes paid
- [ ] User fees (according to the By-Law in effect at the time that payment is made). If time is of the essence, a certified cheque is requested otherwise it will take three weeks for the cheque to clear our financial institution.

  $2,919 for preparation of the site plan agreement
  $971 to remove the holding from the zoning on the property (if applicable)
  $470 for financial administration of this agreement
  $570 per tree cash-in-lieu of trees (if applicable)
  2% or 5% land appraisal cash-in-lieu of parkland as per consolidated by-law 2016-126 (if applicable)

APPLICABLE LAW CHECKLIST

The Building Code Act prohibits the issuance of a building permit if the proposed construction or demolition will contravene an applicable law as defined by the Building Code. The questions below will help you to determine if an applicable law applies to your project. No timeframe for building permit review can be established until all required applicable law approvals are completed and the approval documents are submitted to the Building Division.

If the answer is **YES** to any question, the relevant approval documents must be submitted with this permit application. Where any required approval has **NOT** been obtained, the agencies listed on the back of this form must be contacted to obtain approval, and the declaration on the bottom of this form must state accordingly.

Property Address: 80 Elgin Ave, Simcoe, ON **Permit Number** (office use)_____

Zoning By-Laws – *Norfolk County Planning Department*	YES	NO
Is/was relief required to permit a minor zoning variance in your proposal?		X
Is/was rezoning required to permit the proposed building or land use?		X
Is a land division or subdivision required and not yet fully completed?		X
Are municipal services required but not yet completed or available?		X

Planning Approval - *Norfolk County Planning Department*	YES	NO
Is this property regulated by Site Plan Control under Section 41 of the Planning Act?	X	

Heritage - N*orfolk County Heritage and Culture Department*	YES	NO
Are you demolishing a building that is listed on the County's heritage inventory?		X
Is the building designated or in the process of being designated?		X
Is the property located in a heritage district or study area?		X

Construction and Fill Permits – *Long Point Regional or Grand River Conservation Authority*	YES	NO
Is the property located within a regulated area (i.e. abutting a ravine, watercourse, wetland, or shoreline)?		X

Building and Land Use Permits - *Ontario Ministry of Transportation*	YES	NO
Is the property within 45m of a highway or 180 m from any highway intersection?		X
Is the property within 395m of a controlled highway intersection? (applies to Sign Permits)		X
Is this a major traffic generating project located within 800m of a highway?		X

Clean Water Act – *Public Works*	YES	NO
Is the property located within a Source Water Protection regulated area?	X	
If yes: does a Water Source Protection Plan restrict the land use you are proposing? (s.59 screening form may be required)	X	

Community Development Division- Building Department
185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6 • 519-426-5870 Ext. 6016

Agriculture and Farms - *Ontario Ministry of Agriculture and Food*	YES	NO
Is this a farm building that will house animals or manure?		X
Is this a milk processing plant?		X

Crown Lands Work Permit – *Ministry of Natural Resources*	YES	NO
Are you proposing to construct or place a structure or combination of structures that are in physical contact with more than 15 square meters of shore lands?		X
Are you proposing to build on Crown Land?		X

Electrical Conductor Clearances - *Electrical Safety Authority*	YES	NO
Are any overhead power lines located above or within 5.5 metres of the proposed building?		X

Environmental Approvals - *Ministry of Environment, Conservation, Parks*	YES	NO
Is a Record of Site Condition required to be filed because of a change to more sensitive land use? Is the property a former waste disposal site?		X
Is this project a major industrial, commercial, or government project?		X
Is this a renewable energy project?		X
Does this property have a Certificate of Property Use under the Environmental Protection Act?		X

Child Care Centres - *Ministry of Education*	YES	NO
Is a daycare proposed in any part of the building?	X	

Seniors Centres - Ministry of Children, Community and Social Services	YES	NO
Is this a seniors project where Ontario Government funding is being sought?		X

Long Term Care Centres – *Ministry of Health & Long Term Care*	YES	NO
Construction, alteration or conversion of building used for a nursing home?		X

Education Act - *Ministry of Education*	YES	NO
Is the project being carried out on the property of an educational facility?	X	
If so, is any or all building on the property being fully or partially demolished?	X	

DELCARATION – I have considered the list of applicable laws in the Ontario Building Code as described above, and do hereby declare that:

	None of these applicable law approvals apply to this project
X	Applicable laws check 'yes' apply to this project, and approval documents are submitted with this application.
	Applicable laws checked 'yes' apply to this project; however, all approval documents have not yet been obtained

The information provided on this form is true to the best of my knowledge. I have authority to act on behalf of the owner, corporation, or partnership with respect to this application (if applicable).

Name: James Jeffery (Salter Pilon Architecture) Signature: _____ Date: November 14, 2024

Clean Water Act - S.59: Restricted Land Use

Pre-Consultation Screening Form

The information on this form will help Norfolk County determine if a development or building application is subject to any Part IV policies under the Long Point Region Source Protection Plan. These policies include Prohibitions and the requirement for a Risk Management Plan. A Risk Management Plan must be agreed to or established by the Risk Management Official prior to Development or Building Approvals.

PROPERTY INFORMATION

80 Elgin Ave, Simcoe, ON	N3Y 4A8
Street Address	*Postal Code*
3310401007015000000	
Property Roll Number	

CONTACT INFORMATION

James Jeffery (Salter Pilon Architecture)	151 Ferris Lane, Suite 400, Barrie ON L4M 6C1	
Name of Applicant	*Mailing Address*	
705-737-3530		jjeffery@salterpilon.com
Tel.	*Fax.*	*Email*

TYPE OF APPLICATION (CHECK ALL THAT APPLY)

- ☐ Building Permit
- ☐ Consent/Severance
- ☐ Zoning By-Law Amendment
- ☐ Subdivision
- ☐ Minor Variance
- ☑ Site Plan Approval
- ☐ Condominium
- ☐ Official Plan Amendment

SOURCE PROTECTION VULNERABLE AREA

Mapping is available from Norfolk County or on-line at https://maps.grandriver.ca/swp-policymapping/

SELECT ONE:

- ☐ Delhi-Courtland
- ☑ Simcoe
- ☐ Waterford
- ☐ Tillsonburg
- ☐ Port Rowan

SELECT ALL THAT APPLY

- ☐ WHPA-A (10)
- ☐ WHPA-B (10)
- ☐ WHPA-B (8)
- ☐ WHPA-C (8)
- ☑ WHPA-D (indicated on Norfolk Maps GIS)
- ☐ IPZ-2 (9)
- ☐ ICA (NITRATE)

Clean Water Act - S.59: Restricted Land Use

Pre-Consultation Screening Form

CURRENT AND PROPOSED PROPERTY USE

Are there any active or inactive wells on the property?	☐ Yes	☑ No
Is the proposed use of the property solely Residential? *If yes, respondent can continue to the Signature of Applicant section.*	☐ Yes	☑ No
Does the proposed use of the property include commercial, industrial, or agricultural uses? *If yes, respondent must complete the rest of this screening form.*	☐ Yes	☑ No

Describe the current land use at the property

Existing Elementary School

Describe the proposed land use at the property. Attach a Site Plan or sketch of the property.

Existing Elementary School and Childcare.
Site plan provided with submission.

Clean Water Act - S.59: Restricted Land Use

Pre-Consultation Screening Form

PROPOSED ACTIVITIES ON THE PROPERTY

Please check all activities that may be associated with the proposed land use.

Fuel Handling and Storage

☐ Liquid Fuel Storage (gasoline, diesel, etc.) *Indicate maximum quantity* _____

☐ Fuel Oil Storage, including home heating oil (or waste oil if used as a fuel)

Location ☐ Entirely Above Grade,or ☐ Below Grade (any portion of tank below ground level)

Indicate maximum quantity _____

Chemical Handling and Storage

Please check any liquid products that will be used, stored, or sold in ANY quantity.

☑ Paints and other coatings (stains, enamels, lacquers, rust paint, etc.)

☐ Solvent-based degreasers or metal parts washing liquids

☐ Automotive aerosol products

☐ Dry cleaning chemicals

☐ Furniture strippers

☐ Liquid adhesives (solvent cement, craft adhesive, industrial adhesives, etc.)

☐ Organic or chlorinated solvents

☐ Vinyl chloride monomer

☐ Other (please list) _____

Waste Disposal

☐ Any lands or buildings where waste is deposited, disposed of, handled, stored, transferred, treated, or processed.

Snow Storage and Road Salt Application, Handling, and Storage

☑ Road salt applied to parking areas, driveways, or walkways

☐ Road salt stored indoors

☐ Road salt stored outdoors

☐ Road salt stored in quantities greater than 5 tonnes

☑ Snow storage area with a maximum footprint larger than 0.01 hectares (10m x 10m)

Nutrients and Pesticides

☐ Application of Agricultural Source Material (ASM) to Land (e.g. manure)

☐ Application of Non-agricultural Source Material (NASM) to Land (e.g. unprocessed plant material)

☐ Storage of ASM or NASM

☐ Use of land as livestock grazing, pasturing, outdoor confinement area, or farm-animal yard

☐ Storage of Commercial Fertilizer *Indicate maximum quantity* _____

☐ Storage of Pesticides *Indicate maximum quantity* _____

Clean Water Act - S.59: Restricted Land Use

Pre-Consultation Screening Form

SIGNATURE OF APPLICANT

Please sign below to certify that the information provided above is accurate and complete to the best of your knowledge. Understand that incomplete or inaccurate information may result in future involvement of the Risk Management Official to ensure compliance with applicable Provincial legislation.

October 21, 2024

Signature of Applicant *Date*

Please submit this form to the Risk Management Official or email a copy to email. For further information, call Mike Bingham, Risk Management Official, at 705-957-5974.

FOR OFFICE USE ONLY (TO BE COMPLETED BY THE RISK MANAGEMENT OFFICIAL)

ACTION REQUIRED

- ☐ Application can proceed as written. S.59(2)(a) Notice to be issued by RMO
- ☐ Risk Management Plan to be negotiated before current application can be processed by the County
- ☐ Risk Management Plan to be negotiated at future stage (specify)
  - ☐ Building Permit
  - ☐ Consent/Severance
  - ☐ Zone Change
  - ☐ Subdivision
  - ☐ Minor Variance
  - ☐ Site Plan Approval
  - ☐ Condominium
  - ☐ Official Plan Amendment
- ☐ Activity is Prohibited. Application cannot proceed as written

Mike Bingham, Risk Management Official *Date*

- ☐ RMO has informed the Development Services Department of required action
- ☐ RMO has informed applicant of required action

Application number:		notice number (if different):	
Date Received:		reviewed by:	

APPENDIX A

Agricultural Source Material

1 Manure produced by farm animals, including associated bedding materials.
2 Runoff from farm-animal yards and manure storages.
3 Washwaters from agricultural operations that have not been mixed with human body waste.
4 Organic materials produced by intermediate operations that process materials described in paragraph 1, 2 or 3.
5 Anaerobic digestion output, if,
i. the anaerobic digestion materials were treated in a mixed anaerobic digestion facility,
ii. at least 50 per cent, by volume, of the total amount of anaerobic digestion materials were on-farm anaerobic digestion materials, and
iii. the anaerobic digestion materials did not contain sewage biosolids or human body waste.
6 Regulated compost as defined in subsection 1 (1) of Ontario Regulation 106/09 (Disposal of Dead Farm Animals) made under the Act.

Non-Agricultural Source Material

Category 1: e.g. Leaf and yard waste that has not been composted.
Category 2: e.g. organic waste matter that contains no meat or fish, food processing at a bakery.
Category 3: e.g. pulp and paper biosolids, paunch manure and sewage biosolids.

Organic Solvents

1 Carbon tetrachloride - production and consumption are controlled. It was commonly used as component for domestic cleaning fluids and degreaser in industry. It may also be found in solvents and dry cleaning agents.
2 Chloroform – May be found in pesticides, solvents and cleaning agents.
3 Dichloromethane – May be found in paint strippers and degreasers.
4 Pentachlorophenol – May be found in pesticides and disinfectants.

Dense Non-Aqueous Phase Liquids (DNAPL)

Common uses include, but are not limited to:

1 Acetone
2 Paint Thinner
3 Turpentine
4 Dry cleaning solvents
5 Cleaners, degreasers and lubricants for engine parts, tires, brakes, etc.
6 Paint and furniture strippers
7 Wood finish, stains and coatings
8 Adhesives and sealants

LEGEND

EXISTING INVENTORIED TREES TO REMAIN

EXISTING INVENTORIED TREES TO BE REMOVED

TPF TREE PROTECTION FENCE

NOTES:

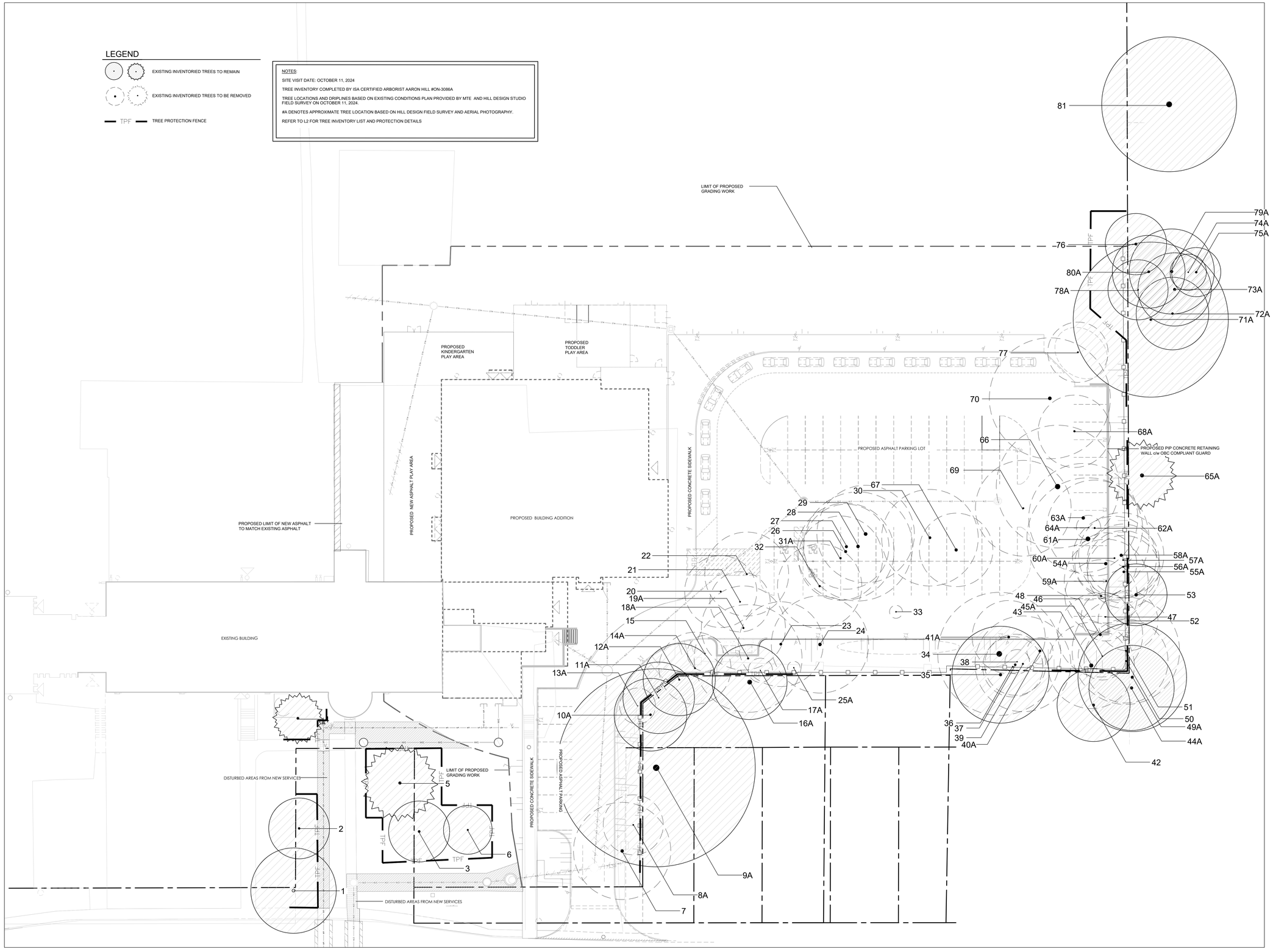
SITE VISIT DATE: OCTOBER 11, 2024

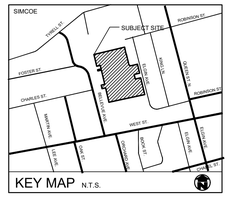
TREE INVENTORY COMPLETED BY ISA CERTIFIED ARBORIST AARON HILL #ON-3086A

TREE LOCATIONS AND DRIPLINES BASED ON EXISTING CONDITIONS PLAN PROVIDED BY MTE AND HILL DESIGN STUDIO FIELD SURVEY ON OCTOBER 11, 2024.

#A DENOTES APPROXIMATE TREE LOCATION BASED ON HILL DESIGN FIELD SURVEY AND AERIAL PHOTOGRAPHY.

REFER TO L2 FOR TREE INVENTORY LIST AND PROTECTION DETAILS





GENERAL NOTES

1. ALL WORKMANSHIP WILL BE TO THE STANDARDS OF LANDSCAPE ONTARIO.
2. CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES.
3. SITE PLAN INFORMATION AS PER SALTER PILON ARCHITECTURE.
4. EXISTING CONDITIONS AS PER TOPOGRAPHICAL PLAN OF SURVEY PREPARED BY MTE.
5. SITE LIGHTING BY OTHERS

No.	Revision	Date
1	Issued for Approval	Oct. 24, 2024

Orientation

PROJECT NORTH

Seal

All dimensions to be checked and verified on the job by the Contractor. Any discrepancies are to be reported to the Consultant prior to action. Only the latest approved drawings to be used for construction in conformance with all applicable codes, by-laws and regulations. All drawings remain the property of the Consultant.

© Copyright Reserved:
These drawings and all that is represented herein are the exclusive property of Salter Pilon Architecture Inc.
They may not be used or reproduced without written permission from Salter Pilon Architecture Inc.

Hill Design Studio Inc.
226-686-0700 www.hilldesign.ca

Project Information

Elgin Avenue Public School

80 Elgin Ave, Simcoe Ontatio

For Owner

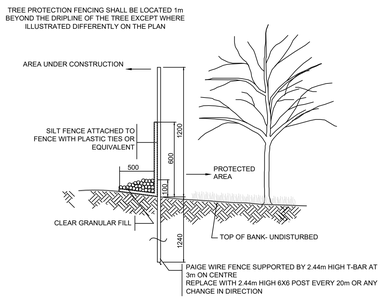
Drawing Title

Existing Conditions & Tree Management Plan

Date	Project No	Drawing No
Oct. 24, 2024	2024-17	L1
Drawn by EH		
Scale 1 : 250		

TREE INVENTORY LIST

ID #	Tree Species (Latin Name)	Tree Species (Common Name)	D.B.H (cm)	Dripline (m)	Condition	Ownership	Status	Comments
1	Acer platanoides	Norway Maple	50	7	Poor	Subject Property	To Remain	Top knocked off
2	Malus sylvestris	Crab Apple	32	5	Poor	Subject Property	To Remain	Rot at the base. Griddled roots
3	Malus sylvestris	Crab Apple	36	5	Fair	Subject Property	To Remain	Significant rott at the base. Dead limbs
4	Picea glauca	White Spruce	38	4	Fair	Subject Property	To Remain	Dead Interior
5	Pinus strobus	Eastern White Pine	45	6	Fair	Subject Property	To Remain	
6	Acer platanoides	Norway Maple	26	4	Good	Subject Property	To Remain	
7	Acer platanoides	Norway Maple	53	8	Fair	Subject Property	To be removed (New Grading)	Dead Limbs
8A	Morus alba	Mulberry	19	5	Fair	Subject Property	To be removed (New Grading)	Multi-stem, 5 stems
9A	Acer saccharinum	Silver Maple	100	11	Fair	Adjacent Property	To Remain	Poor Structure
10A	Acer negundo	Manitoba Maple	35	6	Fair	Adjacent Property	To Remain	
11A	Gleditsia triacanthos	Honey Locust	30	6	Fair	Adjacent Property	To Remain	
12A	Gleditsia triacanthos	Honey Locust	35	6	Fair	Adjacent Property	To Remain	
13A	Juglans regia	Walnut	14	3	Fair	Subject Property	To Remain	
14A	Gleditsia triacanthos	Honey Locust	25	6	Fair	Subject Property	To be removed (New Grading)	
15	Acer platanoides	Norway Maple	10	3	Fair	Subject Property	To be removed (New Grading)	
16A	Acer saccharinum	Silver Maple	75	6	Poor	Adjacent Property	To Remain	Multi-stems, 2 stems
17A	Acer negundo	Manitoba Maple	12	2	Poor	Subject Property	To be removed (New Grading)	
18A	Acer platanoides	Norway Maple	31	9	Fair	Subject Property	To be removed (New Grading)	
19A	Acer platanoides	Norway Maple	28	7	Fair	Subject Property	To be removed (New Grading)	Suppressed
20	Juglans regia	Walnut	24	6	Fair-Poor	Subject Property	To be removed (New Grading)	
21	Tilia sp.	Linden	23	5	Poor-Dead	Subject Property	To be removed (New Grading)	
22	Acer platanoides	Norway Maple	27	7	Fair	Subject Property	To be removed (New Grading)	
23	Fraxinus sp.	Ash Species	40	7	Poor	Subject Property	To be removed (New Grading)	
24	Juglans regia	Walnut	57	8	Good	Subject Property	To be removed (New Grading)	
25A	Thuja occidentalis	Cedar	10-12	1	Poor	Subject Property	To be removed (New Grading)	Poor- dead
26	Acer negundo	Manitoba Maple	44	8	Fair	Subject Property	To be removed (New Grading)	Lean minor
27	Acer platanoides	Norway Maple	45	7	Fair	Subject Property	To be removed (New Grading)	
28	Acer platanoides	Norway Maple	53	9	Good	Subject Property	To be removed (New Grading)	
29	Acer platanoides	Norway Maple	57	8	Good	Subject Property	To be removed (New Grading)	
30	Acer platanoides	Norway Maple	41	8	Fair	Subject Property	To be removed (New Grading)	Lean minor
31A	Acer platanoides	Norway Maple	32	7	Fair	Subject Property	To be removed (New Grading)	
32	Robinia pseudoacacia	Black Locust	33	7	Fair	Subject Property	To be removed (New Grading)	
33	Robinia pseudoacacia	Black Locust	20	1	Poor	Subject Property	To be removed (New Grading)	Structural Issues
34	Juglans regia	Walnut	90	10	Fair	Subject Property	To be removed (New Grading)	
35	Juglans regia	Walnut	47	8	Fair	Adjacent Property	To Remain	
36A	Ulmus sp.	Elm Species	36	5	Dead	Subject Property	To be removed (New Grading)	Significant trunk damage, bark separating.
37	Ulmus sp.	Elm Species	24	5	Fair	Subject Property	To be removed (New Grading)	
38	Ulmus americana	American Elm	17	2	Good	Subject Property	To be removed (New Grading)	Multi-stem, 2 stems
39	Acer negundo	Manitoba Maple	26	8	Fair	Subject Property	To be removed (New Grading)	
40A	Robinia pseudoacacia	Black Locust	42	2	Poor	Subject Property	To be removed (New Grading)	Multi-stem, rotten stem.
41A	Acer nigrum	Black Maple	40	6	Fair	Subject Property	To be removed (New Grading)	Peter out top, woodpecker holes
42	Robinia pseudoacacia	Black Locust	40	6	Fair	Adjacent Property	To Remain	
43	Robinia pseudoacacia	Black Locust	65	7	Fair	Subject Property	To be removed (New Grading)	
44A	Acer platanoides	Norway Maple	46	7	Fair	Adjacent Property	To Remain	Rot at the base. Structural issues
45A	Ulmus sp.	Elm Species	16	4	Fair	Subject Property	To be removed (New Grading)	
46	Robinia pseudoacacia	Black Locust	39	7	Fair	Subject Property	To be removed (New Grading)	
47	Acer platanoides	Norway Maple	20	4	Good	Subject Property	To be removed (New Grading)	
48	Acer platanoides	Norway Maple	29	6	Good	Subject Property	To be removed (New Grading)	
49A	Acer platanoides	Norway Maple	45	9	Good	Adjacent Property	To Remain	
50	Acer platanoides	Norway Maple	27	7	Fair	Presumed Boundary Tree	To be removed (New Grading)	Debris around the ground
51	Acer platanoides	Norway Maple	25	9	Fair	Presumed Boundary Tree	To be removed (New Grading)	Coppice
52	Cercis canadensis	Redbud	16	5	Fair	Presumed Boundary Tree	To be removed (New Grading)	
53	Robinia pseudoacacia	Black Locust	49	5	Fair	Adjacent Property	To Remain	Rot at the base
54A	Robinia pseudoacacia	Black Locust	50	5	Fair	Subject Property	To be removed (New Grading)	
55A	Robinia pseudoacacia	Black Locust	36	6	Fair	Subject Property	To be removed (New Grading)	
56A	Acer platanoides	Norway Maple	29	6	Poor	Subject Property	To be removed (New Grading)	
57A	Acer platanoides	Norway Maple	22	6	Fair	Subject Property	To be removed (New Grading)	
58A	Robinia pseudoacacia	Black Locust	48	7	Fair	Subject Property	To be removed (New Grading)	
59A	Acer platanoides	Norway Maple	23	7	Fair	Subject Property	To be removed (New Grading)	
60A	Acer platanoides	Norway Maple	24	7	Fair	Subject Property	To be removed (New Grading)	
61A	Juglans regia	Walnut	75	10	Fair	Subject Property	To be removed (New Grading)	
62A	Acer platanoides	Norway Maple	27	8	Fair	Subject Property	To be removed (New Grading)	
63A	Juglans regia	Walnut	53	9	Fair	Subject Property	To be removed (New Grading)	
64A	Cercis canadensis	Redbud	14	2	Fair	Subject Property	To be removed (New Grading)	Butt rot
65A	Picea abies	Norway Spruce	60	5	Fair	Adjacent Property	To Remain	
66	Juglans regia	Walnut	85	10	Fair	Subject Property	To be removed (New Grading)	
67	Acer saccharum	Sugar Maple	47	6	Fair	Subject Property	To be removed (New Grading)	Die Back
68A	Acer platanoides	Norway Maple	29	6	fair	Subject Property	To be removed (New Grading)	
69	Juglans regia	Walnut	27	8	Fair	Subject Property	To be removed (New Grading)	
70	Juglans regia	Walnut	55	10	Fair	Subject Property	To be removed (New Grading)	
71A	Juglans regia	Walnut	35	13	Fair	Adjacent Property	To Remain	Concrete poured around the base
72A	Acer platanoides	Norway Maple	32	6	Fair	Adjacent Property	To Remain	
73A	Ulmus pumila	Siberian Elm	45	6	Fair	Adjacent Property	To Remain	Coppice
74A	Ulmus pumila	Siberian Elm	16	3	Poor	Adjacent Property	To Remain	
75A	Ulmus pumila	Siberian Elm	34	4	Poor	Adjacent Property	To Remain	
76	Pinus strobus	White Spruce	41	5	Poor	Adjacent Property	To Remain	
77	Pyrus sp.	Pear species	25	5	Poor	Subject Property	To be removed (New Grading)	
78A	Ulmus pumila	Siberian Elm	21	5	Fair	Adjacent Property	To Remain	
79A	Ulmus pumila	Siberian Elm	45	7	Fair	Adjacent Property	To Remain	
80A	Ulmus pumila	Siberian Elm	36	6	Fair	Adjacent Property	To Remain	Multi-stem, rott at the base
81	Juglans regia	Walnut	90	11	Fair	Adjacent Property	To Remain	Major trunk wound, rotten in the middle



1 TREE PROTECTION FENCING DETAIL

NTS

TREE PROTECTION NOTES

1. AS PART OF ANY TREE REMOVAL OPERATION ALL STEMS, LIMBS AND STUMPS SHOULD BE REMOVED FROM THE SITE.

2. UPON COMPLETION OF ANY TREE REMOVAL OPERATIONS, TREE PROTECTION FENCING SHOULD BE INSTALLED AS ILLUSTRATED. THIS PROTECTION FENCING SHOULD BE MAINTAINED UNTIL ALL EXCAVATION AND B1UILDING CONSTRUCTION WORK IS COMPLETED.

3. ANY ROOTS DISTURBED DURING CONSTRUCTION SHOULD BE CUT CLEANLY AND BURIED IMMEDIATELY.

4. NO HEAVY EQUIPMENT OR STOCKING OF MATERIAL SHALL OCCUR WITHIN THE DRIPLINES OF ANY TREES THAT ARE TO BE PRESERVED.

5. TREE PROTECTION MEASURES TO BE INSPECTED BY LANDSCAPE ARCHITECT AND CITY STAFF PRIOR TO START OF CONSTRUCTION.

6. IF CONSTRUCTION OR ANY WORK OCCURS WITHIN THE TREE PRESERVATION ZONE, INSIDE THE LIMITS OF THE TREE PROTECTION FENCE, IT IS NECESSARY TO ONLY USE HAND TOOLS. NO MACHINERY WILL BE PERMITTED IN THIS ZONE.

STATUS DEFINITIONS:

GOOD - LESS THAN 10% DEAD BRANCHES, SIGNS OF GOOD COMPARTMENTALIZATION ON ANY WOUNDS, NO STRUCTURAL DEFECTS.
FAIR - 10-30% DEAD BRANCHES, SIZE OR OCCURRENCE OF WOUNDS PRESENT SOME CONCERNS, MINOR STRUCTURAL DEFECTS.
POOR - MORE THAN 30% DEAD BRANCHES, WEAK COMPARTMENTALIZATION, EARLY LEAF DROP, PRESENCE OF INSECTS OR DISEASE, MAJOR STRUCTURAL DEFECTS.
DEAD - TREE SHOWS NO SIGNS OF LIFE.

TREE PRESERVATION AND REMOVAL NOTES:

TREE PROTECTION FENCE TO BE INSTALLED AS SHOWN ON TREE MANAGEMENT PLAN.

LETTER OF UNDERSTANDING ADDRESSING ADJACENT TREES TO BE IMPACTED, BOUNDARY TREES, AND POTENTIAL BOUNDARY TREES.

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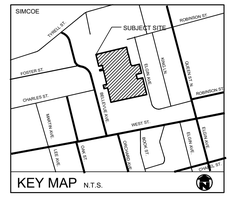
architecture



GENERAL NOTES

1. ALL WORKMANSHIP WILL BE TO THE STANDARDS OF LANDSCAPE ONTARIO.

2. CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES.

3. SITE PLAN INFORMATION AS PER SALTER PILON ARCHITECTURE.

4. EXISTING CONDITIONS AS PER TOPOGRAPHICAL PLAN OF SURVEY PREPARED BY xx

5. SITE LIGHTING BY OTHERS

No.	Revision	Date
1	Issued for Approval	Oct. 24, 2024

Orientation

Seal

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Hill Design Studio Inc
226-686-0700 www.hilldesign.ca

Project Information

Elgin Avenue Public School

80 Elgin Ave, Simcoe Ontatio

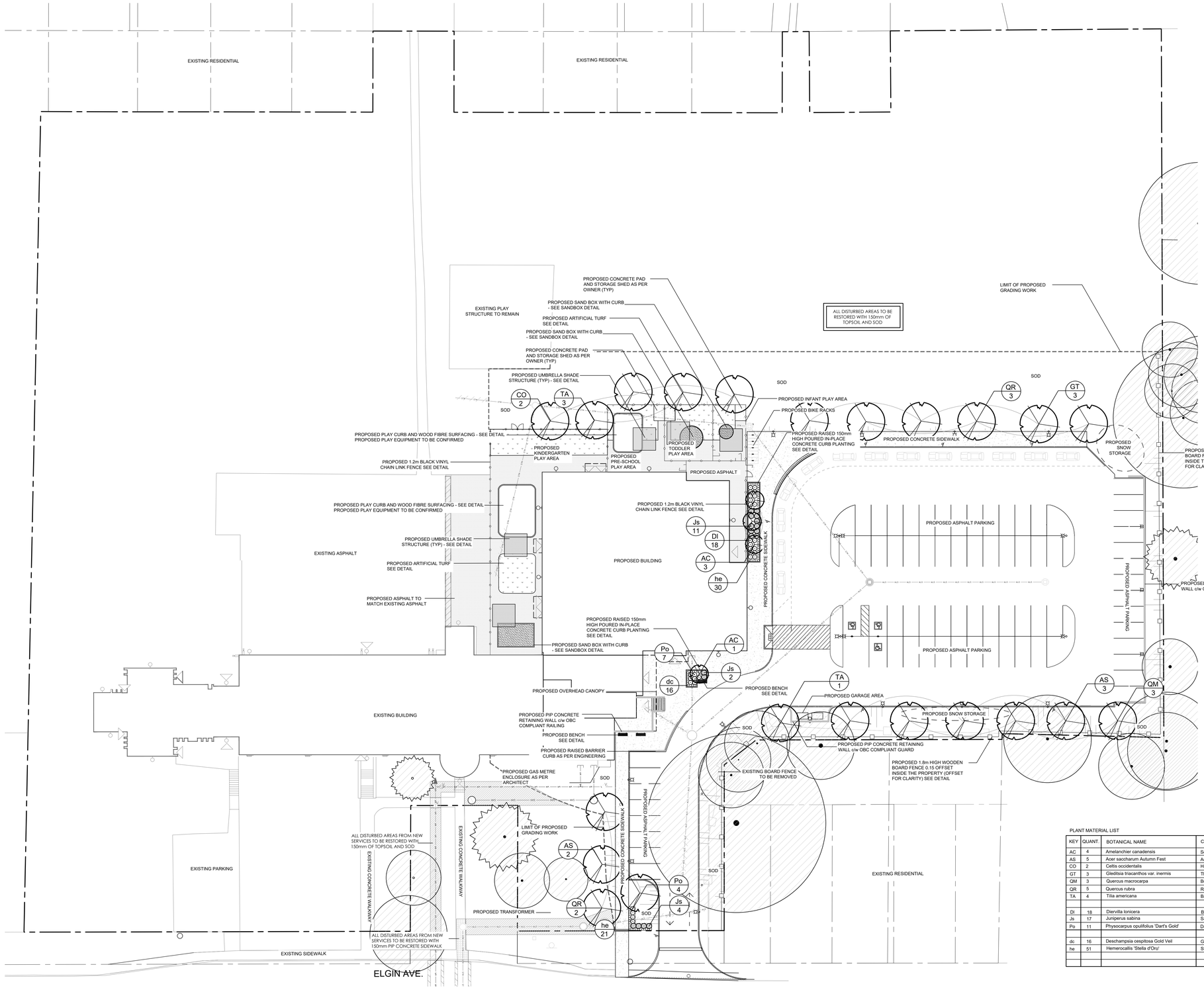
For

Owner

Drawing Title

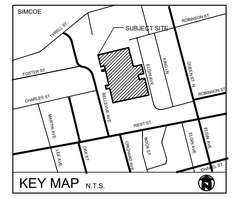
Existing Conditions &
Tree Management Plan

Date	Project No	Drawing No
Oct. 24, 2024	2024-17	L2
Drawn by EH		
Scale 1 : 300		



LEGEND

- PROPOSED TREES
- PROPOSED 1.8m WOODEN BOARD PRIVACY FENCE
- PROPOSED 1.2m BLACK VINYL COATED CHAIN LINK FENCE
- PROPOSED ASPHALT
- PROPOSED ARTIFICIAL TURF AREA SEE DETAIL
- PROPOSED PIP CONCRETE
- EXISTING INVENTORIED TREES TO REMAIN



GENERAL NOTES

1. ALL WORKMANSHIP WILL BE TO THE STANDARDS OF LANDSCAPE ONTARIO.

2. ALL PLANT MATERIAL TO BE NO.1 GRADE NURSERY GROWN IN ACCORDANCE WITH THE CANADIAN STANDARDS FOR NURSERY STOCK, 9TH EDITION, 2017, BY THE CANADIAN NURSERY TRADES ASSOCIATION.

3. BACKFILL WILL CONSIST OF SOIL NATIVE TO THE SITE OR GENERAL SOIL TYPE/CLASS NATIVE TO THE SITE. TOPSOIL TO BE TESTED FOR NUTRIENT VALUE, AND AMENDED FOR OPTIMAL GROWTH AS PER THE RECOMMENDATIONS OF THE SOIL TEST.

4. CONTRACTOR SHALL MAINTAIN ALL LANDSCAPE AREAS UNTIL OWNER'S ACCEPTANCE OF PROJECT.

5. CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES.

6. PLANTING MAY BE ADJUSTED TO SUIT LOCATIONS OF SITE UTILITY STRUCTURES/SERVICES.

7. ALL MATERIALS MUST BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

8. SPREAD MULCH TO A MINIMUM OF 100mm COMPACTED DEPTH ON ALL TREE PITS AND PLANTING BEDS.

9. CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES ARE TO BE REPORTED IN WRITING TO THE LANDSCAPE ARCHITECT. QUANTITIES NOTED WITHIN THE PLAN SUPERCEDE THOSE IN THE PLANT LIST. ANY SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.

10. SOD AS MARKED WITH NURSERY SOD ON A MINIMUM OF 150mm OF CLEAN TOPSOIL. FINE GRADE AND SOD ALL BOULEVARD AREAS TO MUNICIPAL SPECIFICATIONS AND REPAIR DAMAGE TO ADJACENT PROPERTIES, AS REQUIRED.

11. FINAL INSPECTION AND ACCEPTANCE OF PLANTING WORK SHALL COINCIDE WITH THE FINAL INSPECTION AND ACCEPTANCE OF ALL WORK INCLUDED IN THE CONTRACT.

12. ALL SEEDED SLOPES 3:1 AND GREATER TO RECEIVE EROSION CONTROL MATTING. PIN SOD ON ALL SLOPES OF 3:1 OR GREATER.

13. SUBMIT A WRITTEN GUARANTEE TO THE EFFECT THAT ALL PLANTS ACCEPTED DURING THE PERIOD OF JANUARY 1st TO JULY 15th SHALL BE GUARANTEED UNTIL JULY 15th THE FOLLOWING YEAR. PLANTS ACCEPTED DURING THE PERIOD OF JULY 15th TO DECEMBER 31st SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF ACCEPTANCE. THE GUARANTEE PERIODS LISTED ABOVE SHALL APPLY TO ALL "NURSERY GROWN" PLANTS.

14. AT THE TIME OF FINAL INSPECTION ALL PLANTS SHALL BE IN A HEALTHY, VIGOUROUS GROWING CONDITION, PLANTED IN FULL ACCORDANCE WITH DRAWINGS AND CONDITIONS.

15. SITE PLAN INFORMATION AS PER SALTER PILON ARCHITECTURE.

16. SITE GRADING AND SERVICING AS PER MTE, AND IS PROVIDED FOR INFORMATION ONLY.

17. SITE LIGHTING BY OTHERS

PLANT MATERIAL LIST

KEY	QUANT.	BOTANICAL NAME	COMMON NAME	SIZE	COND.
AC	4	Amelanchier canadensis	Serviceberry	70mm cal.	W.B.
AS	5	Acer saccharum Autumn Fest	Autumn Fest Sugar Maple	70mm cal.	W.B.
CO	2	Celtis occidentalis	Hackberry	50mm cal.	W.B.
GT	3	Gleditsia triacanthos var. inermis	Thornless honeylocust	70mm cal.	W.B.
QM	3	Quercus macrocarpa	Bur Oak	70mm cal.	W.B.
QR	5	Quercus rubra	Red Oak	70mm cal.	W.B.
TA	4	Tilia americana	Basswood	70mm cal.	W.B.
Dl	18	Diervilla lonicera	Bush Honeysuckle	60cm, 3 gal.	Pot
Js	17	Juniperus sabina	Savin Juniper	60cm, 3 gal.	Pot
Po	11	Physocarpus opulifolius 'Dart's Gold'	Dart's Gold Ninebark	60cm, 3 gal.	Pot
dc	16	Deschampsia cespitosa Gold Veil	Gold Veil Tufted Hair Grass	1 gal.	Pot
he	51	Hemerocallis 'Stella d'Oro'	Stella d'Oro Daylily	1 gal.	Pot

No.	Revision	Date
2	Issued for Approval	Oct. 24, 2024
1	Issued for 85% Costing	Jul. 29, 2024

Orientation

PROJECT NORTH

Seal

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Hill Design Studio Inc
226-686-0700 www.hilldesign.ca

Project Information

Elgin Avenue Public School

80 Elgin Ave, Simcoe Ontatio

For

Owner

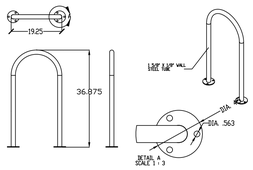
Drawing Title

Landscape Plan

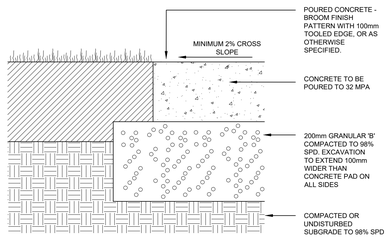
Date	Project No	Drawing No
Oct. 24, 2024	2024-17	L3
Drawn by EH		
Scale 1 : 300		

BIKE RACK BY MAGLIN
(OR APPROVED EQUAL)
T 1-800-716-5506
F 1-877-260-9393
WWW.MAGLIN.COM
SALES@MAGLIN.COM

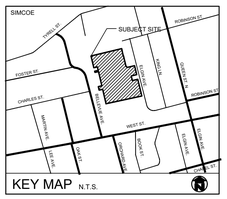
SPECIFICATIONS:
MODEL: MBR-0500-00003
FINISH: BLACK POWDER COAT
OPTIONS: NONE
INSTALLATION: SURFACE MOUNT



1 BIKE RACK DETAIL
NTS

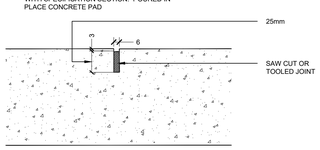


2 TYPICAL PIP CONCRETE PAD DETAIL
NTS



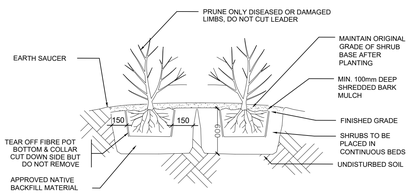
NOTES:

1. ALL DIMENSIONS SHOWN IN MILLIMETRES
2. THIS DETAIL IS TO BE USED IN CONJUNCTION WITH SPECIFICATION SECTION: POURED IN PLACE CONCRETE PAD



CONTROL JOINT @ 2000mm O.C., UNLESS OTHERWISE DESCRIBED ON LANDSCAPE PLAN

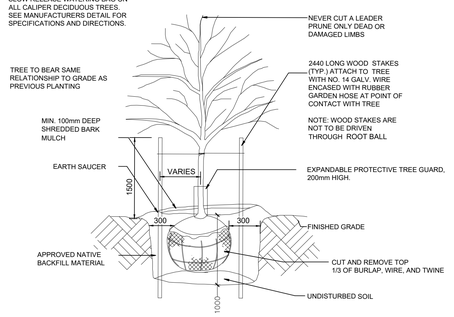
3 TYPICAL CONTROL CONCRETE JOINT DETAIL
NTS



4 SHRUB PLANTING DETAIL
NTS

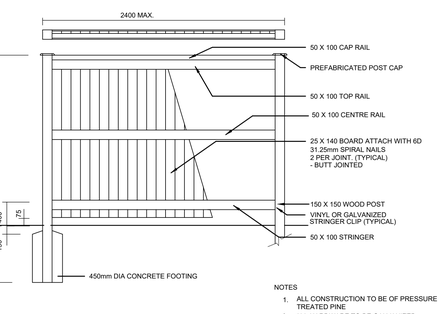
TREEGATOR:

INSTALL TREEGATOR ORIGINAL SLOW RELEASE WATERING BAG ON ALL CALIPER DECIDUOUS TREES. SEE MANUFACTURERS DETAIL FOR SPECIFICATIONS AND DIRECTIONS.



5 DECIDUOUS TREE PLANTING DETAIL
NTS

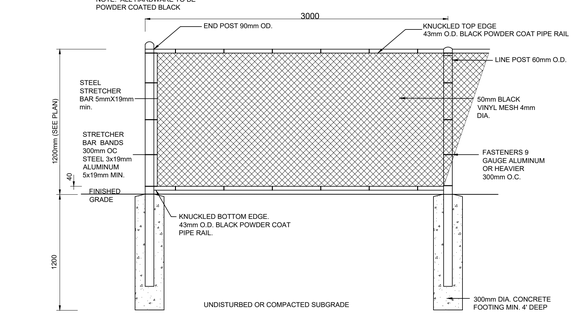
NOTE: ALL HARDWARE TO BE POWDER COATED BLACK



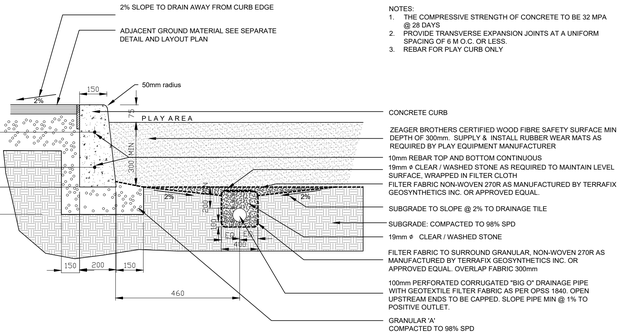
NOTES

1. ALL CONSTRUCTION TO BE OF PRESSURE TREATED PINE
2. ALL HARDWARE TO BE GALVANIZED
3. ALL DIMENSIONS IN MILLIMETRES
4. ALL PRESSURE TREATED CUTS TO BE DRESSED WITH COPPER NAPHANATE

6 1.8m HIGH WOOD BOARD FENCE DETAIL
NTS

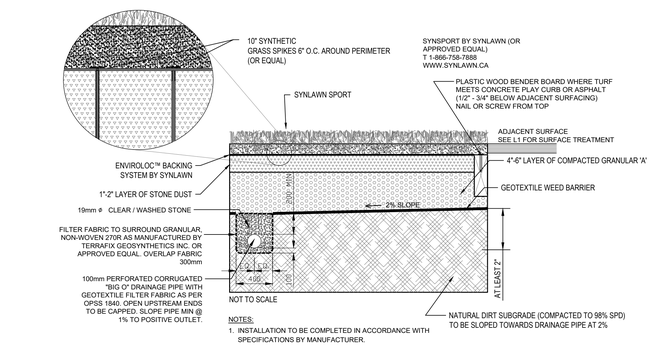


7 BLACK VINYL CHAIN LINK FENCE
NTS



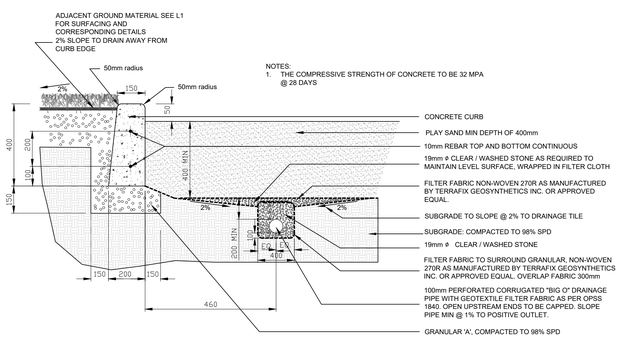
NOTES:
1. THE COMPRESSIVE STRENGTH OF CONCRETE TO BE 32 MPA @ 28 DAYS
2. PROVIDE TRANSVERSE EXPANSION JOINTS AT A UNIFORM SPACING OF 6 M O.C. OR LESS.
3. REBAR FOR PLAY CURB ONLY

8 CONCRETE CURB PLAY EDGE WITH DRAINAGE TILE AND ENGINEERED WOOD FIBER DETAIL
NTS



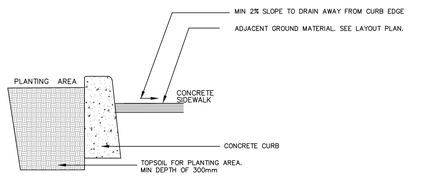
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH SPECIFICATIONS BY MANUFACTURER.

9 TYPICAL SYNLAWN ARTIFICIAL TURF INSTALLATION DETAIL
NTS



NOTES:
1. THE COMPRESSIVE STRENGTH OF CONCRETE TO BE 32 MPA @ 28 DAYS

10 SANDBOX DETAIL
NTS



NOTES:
1. CONCRETE BARRIER CURB AS PER OPSD 600.110
2. THIS DETAIL IS TO BE USED IN CONJUNCTION WITH SPECIFICATION SECTIONS: 026530 – POURED IN PLACE CONCRETE PAVING

11 CONCRETE CURB DETAIL
NTS

No.	Revision	Date
2	Issued for Approval	Oct. 24, 2024
1	Issued for 85% Costing	Jul. 29, 2024

Orientation

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Hill Design Studio INC
226-686-0700 www.hilldesign.ca

Project Information

Elgin Avenue Public School

80 Elgin Ave, Simcoe Ontatio

For

Owner

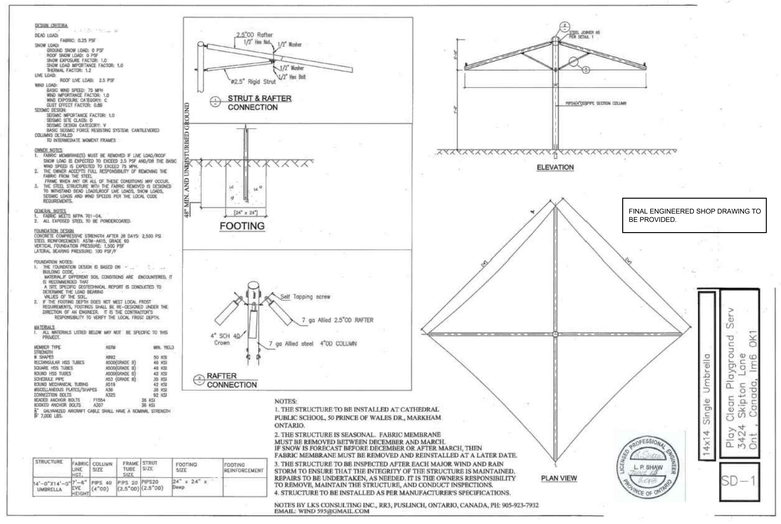
Drawing Title

Landscape Details

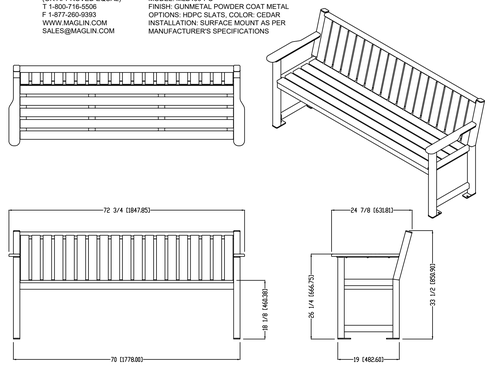
Date	Project No	Drawing No
Oct. 24, 2024	2024-17	L4

Drawn by EH

Scale



12 UMBRELLA SHADE STRUCTURE DETAIL
NTS



13 BENCH DETAIL
NTS

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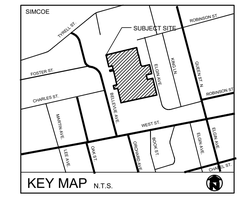

2	Issued for Approval	Oct. 24, 2024
1	Issued for 95% Costing	Jul. 29, 2024

No.	Revision	Date

Orientation

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Project Information

Elgin Avenue Public School

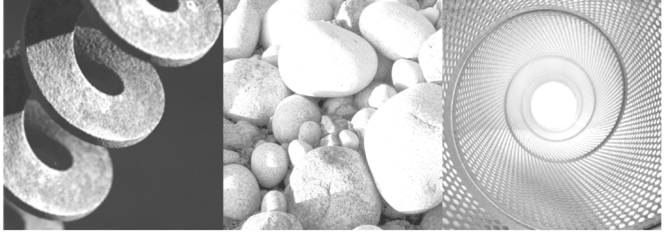
80 Elgin Ave, Simcoe Ontatio

For
Owner

Drawing Title

Landscape Details

Date	Project No	Drawing No
Oct. 24, 2024	2024-17	L5
Drawn by: EH		
Scale		



GEI Consultants

Geotechnical Investigation and Report

Proposed Addition and Renovations to Elgin Avenue Public School

80 Elgin Avenue, Simcoe, Ontario

Submitted to:
Grand Erie District School Board
349 Erie Avenue
Brantford, Ontario
N3T 5V3

Submitted by:
GEI Consultants Canada Ltd.
647 Welham Road, Unit 14
Barrie, Ontario, L4N 0B7
800-810-3281

August 14, 2024
Project No. 2404404

Mohammed Razeen
Geotechnical E.I.T

Geoffrey R. White, P.Eng.
Barrie Office Branch Manager and
Senior Geotechnical Engineer

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Figure 2B. Borehole Location Plan (Concept Plan)

Appendices

Appendix A Borehole Logs
Appendix B Geotechnical Laboratory Data
Appendix C Certificate of Chemical Analyses
Appendix D Typical Details

Certification

PREPARED BY:
GEI Consultants Canada Ltd.

Mohammed Razeen
Geotechnical E.I.T.

CHECKED BY:
GEI Consultants Canada Ltd.

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Acronyms and Abbreviations

ASTM	American Society for Testing and Materials
BH	Borehole
EASR	Environmental Activity and Sector Registry
Elev.	Elevation
GEI	GEI Consultants Canada Ltd.
km	kilometres
kN	Kilo Newton
ha	hectares
hr	hours
LID	Low Impact Development
m	metres
mm	millimetres
MW	Monitoring Well
MECP	Ministry of Environment, Conservation and Parks
OBC	Ontario Building Code
OHSA	Occupational Health and Safety Act
OPSS	Ontario Provincial Standard Specifications
OPSD	Ontario Provincial Standard Drawing
O.Reg.	Ontario Regulation
PTTW	Permit-to-Take-Water
PVC	Polyvinyl Chloride
SCS	Site Condition Standards
SLS	Serviceability Limit State
SS	Split Spoon
SPT	Standard Penetration Test
SPmdd	Standard Proctor maximum dry density
SWM	Storm Water Management
ULS	Ultimate Limit State
USCS	Unified Soil Classification System

It is noted that all elevations in this report are metric/geodetic and expressed in metres (m). All measurements are also in metric and expressed in millimetres (mm), metres (m) or kilometers (km), unless otherwise specified.

1. Introduction

GEI was retained by the Grand Erie District School Board (Client) to complete a subsurface investigation and geotechnical report for the proposed addition and renovations to Elgin Avenue Public School located at 80 Elgin Avenue, in Simcoe, Ontario. A site location plan is enclosed as Figure 1.

The project site is located on the west side of Elgin Avenue. The existing property is approximately 150 m (east/west) and 230 m (north/south) with a general rectangular shape. A treed area is present in the north part of the site. The existing school has three main floors, with the lowest floor being partially buried in some areas. There are also some local areas where there is an intermittent level at an entrance to permit at-grade entry - including the area where the addition is proposed. Parking is to the north of the school and vehicle access is from Elgin Avenue. The grades in the addition and new parking area rise gently about 2 m from the existing building to the north edge of the site. An aerial image of the site is provided on Figure 2A.

Detailed drawings were not available for review, but the following borehole plan was provided to GEI as part of the RFQ:

- "Site Plan" Drawing No. A101, Project No. 22017, by Salter Pilon Architecture.

It is understood that the proposed design includes a slab-on-grade addition to the north/northwest of the existing building with an overall footprint of 1,523 m^2. The majority of the addition will be a single storey, with smaller sections that have two-storeys or three-storeys to connect to the existing three-storey school building. The ground floor addition slab elevation will match the existing elevation at the entrance to the existing parking area (an existing intermittent level to permit at grade access). The addition will be located primarily in the existing parking area and a new parking area is proposed north of the addition with 74 new parking spaces and kiss and ride/bus access. The current proposed concept plan is included as Figure 2B.

The purpose of the geotechnical investigation was to assess the subsurface soil conditions at the site, and based on this information, provide geotechnical engineering recommendations in support of the proposed school addition. This report summarizes the borehole findings, provides geotechnical engineering recommendations regarding earthworks/engineered fill, available bearing capacities for foundations, slabs-on-grade, and pavement design. Considerations for constructability such as soil excavation, compaction, on-site backfill suitability and temporary groundwater control are also provided.

A Phase One ESA was also part to the scope of work and the report is provided under separate cover.

2. Procedures and Methodology

Prior to the commencement of drilling activities, the borehole locations were staked in the field by GEI. Ground surface elevations of the boreholes and horizontal coordinates (referencing NAD 83 geodetic datum) were surveyed by GEI with a Topcon FC – 5000 GPS Survey unit. Underground utilities including natural gas, electrical, telephone, water, etc. were marked out by public and private utility locating companies, prior to the boreholes.

The fieldwork for the drilling program was carried out from June 10 to 14, 2024. Boreholes 1 to 3 and 5 to 13 were drilled to 9.8 m depth below existing grade (Elev. 214.6 to 215.1) in the proposed building area. Boreholes 14 was advanced to 3.5 m depth below existing grade in the play area and Boreholes 4, 15, 16, 18, 19, 21, 23, 24, 26, 28, 29, 31 and 33 were advanced to 3.5 m depth below existing grade (Elev. 220.7 to 225.2) in the new paved parking area. Boreholes 17, 20, 25, 27 and 30 were not drilled due to access issues in treed area at the north end of the site. Borehole logs are provided in Appendix A and the borehole locations are shown on Figures 2A and 2B.

The boreholes were advanced by a drilling subcontractor retained and supervised by GEI using a track-mounted drill rig, solid stem augers, and standard soil sampling equipment. Sampling was conducted using a 51 mm O.D. Split Spoon (SS) sampler. Standard Penetration Test (SPT) “N” Values (N values) were recorded for the sampled intervals as the number of blows required to drive an SS sampler 305 mm into the soil using a 63.5 kg drop hammer falling 750 mm, in accordance with ASTM D1586. In each borehole soil sampling was conducted at 0.75 m intervals to 3.0 m depth then at 1.5 m intervals thereafter.

Monitoring wells were installed in Boreholes 1, 7, 13, 14, 18 and 26 by GEI to facilitate long-term groundwater monitoring, each consisting of 50 mm diameter PVC pipe with a 1.5 m long screen and protective casing. Monitoring well construction is shown on the borehole logs in Appendix A. Boreholes without wells were backfilled in accordance with O.Reg. 903 and patched with cold mix asphalt as required.

The GEI field staff examined, and classified characteristics of the soils encountered in the boreholes, including the presence of fill materials, groundwater observations during and upon completion of the drilling, recorded observations of borehole construction, and processed the recovered samples. All recovered soil samples were logged in the field, carefully packaged, and transported to GEI’s laboratory for more detailed examination and classification.

In GEI’s laboratory, the samples were classified as to their visual and textural characteristics. All samples were submitted for moisture content determination in accordance with ASTM D2216. Seven (7) representative samples of the subgrade soils were selected and submitted to our laboratory for grain size analysis. Two (2) of the samples were also submitted for Atterberg Limits tests. Grain size results are provided in Figures B1 to B4 in Appendix B.

3. Subsurface Conditions

3.1. General Overview

The detailed soil profiles encountered in the boreholes are indicated in the attached borehole logs in Appendix A. The geotechnical laboratory results are included in Appendix B. The borehole locations are shown on Figures 2A and 2B.

It should be noted that the conditions indicated on the borehole logs are for specific locations only and can vary between and beyond the locations. It should be noted that the soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. The boundaries are intended to reflect approximate transition zones and should not be interpreted as exact planes of geological change.

In addition, the descriptions provided in the borehole logs are inferred from a variety of factors, including visual observations of the soil samples retrieved, laboratory testing, measurements prior to and after drilling, and the drilling process itself (speed of drilling, shaking/grinding of the augers, etc.). The passage of time also may result in changes in conditions to exist at locations where sampling was conducted.

3.2. Stratigraphy

3.2.1. Asphalt

Boreholes 2 to 10 were drilled through the existing pavements at the site. Pavement component thicknesses are below.

Borehole	Asphalt Thickness (mm)	Granular Thickness (mm)	Total Thickness (mm)
2	50	460	510
3	50	610	660
4	50	550	600
5	50	550	600
6	50	600	650
7	50	460	510
8	50	460	510
9	50	550	600
10	50	600	650

3.2.2. Topsoil

The topsoil was at the surface in the remaining boreholes and the topsoil thicknesses are provided below.

Borehole	Topsoil Thickness (mm)
1	150

Borehole	Topsoil Thickness (mm)
11	150
12	300
13	250
14	250
15	300
16	300
18	300
19	250
21	250
23	200
24	280
26	200
28	120
29	300
31	100
33	170

3.2.3. Fill

A fill unit was encountered beneath the pavement structure and topsoil in most boreholes, except boreholes in the treed area (Boreholes 23, 28, 31 and 33). The fill was penetrated at 0.8 to 3.0 m depth (Elev. 221.8 to 224.1). The fill typically consisted of silt some clay or clayey silt. Trace to some organics and rootlets were also observed in some boreholes. One (1) sample of the material was submitted to the laboratory for grain size analysis and the results are presented in Appendix B1. The fill was moist to very moist with moisture contents of 7 to 29 %. The fill had N values ranging from 2 to 16, indicating very loose to compact / soft to stiff conditions.

3.2.4. Native Soils

Underneath the fill soil, the native soil predominantly consisted of silt with some clay and trace sand in majority of the boreholes and extended to the 3.5 to 9.8 m depth of exploration (Elev. 214.6 to 221.5), locally being penetrated at 7.6 m depth (Elev. 217.2) in Borehole 11. Five (5) samples of the material were submitted to the laboratory for grain size analysis and the results are presented in Appendix B2. Two (2) of the samples were submitted for Atterberg Limits tests and the results showed the soil to be non-plastic, as noted in Figure B4. The soil was moist to wet with moisture contents ranging from 13 to 31%. N values in the soil were 4 to 27 blows indicating loose to compact density, typically compact in the upper portion and loose in the lower portion.

In Boreholes 18, 23, 26, 28, 31 and 33, a clayey silt unit was encountered below the fill and/or topsoil that extended to the 1.5 to 3.5 m depth of exploration (Elev. 221.3 to 225.2). The lower portion of Borehole 11 also consisted of clayey from 7.6 m to 9.8 m depth of the borehole (Elev. 215.1 to 217.2). One (1) sample of the material was submitted to the laboratory for grain size analysis and the results are presented in

Appendix B3. The clayey silt was moist to wet typically wet with moisture contest of 23 to 29%. The N values were 2 to 11 blows and the unit was soft to stiff.

3.3. Groundwater

Unstabilized groundwater level measurements and cave measurements were taken upon the completion of drilling of each borehole as shown on the borehole logs in Appendix A. These measurements were taken to provide a rough estimate of the possible excavation and temporary groundwater control constructability considerations that may arise. Six (6) boreholes were outfitted with a monitoring well with 50 mm diameter pipe and 1.5 m long screen. Monitoring well configuration and groundwater observations are noted on the borehole logs in Appendix A and summarized in the table below.

Table 3-1. Groundwater Levels

Borehole	Depth of Cave (m) / Elev. (m)	Unstabilized Groundwater Level Depth (m) / Elev. (m)	Depth (m) / Elev. (m) of Groundwater Table, July 03, 2024
1	Open	No Water	4.9 / 219.6
2	6.2 / 218.5	No Water	N/A
3	4.5 / 219.9	No Water	N/A
4	Open	No Water	N/A
5	4.5 / 220.0	No Water	N/A
6	6.1 / 218.4	No Water	N/A
7	Open	No Water	3.9 / 220.6
8	4.3 / 220.3	No Water	N/A
9	6.2 / 218.4	No Water	N/A
10	6.2 / 218.4	5.5 / 219.1	N/A
11	4.3 / 220.8	No Water	N/A
12	Open	No Water	N/A
13	Open	No Water	3.6 / 221.2
14	Open	No Water	1.6 / 223.2
15	Open	No Water	N/A
16	Open	No Water	N/A
18	Open	No Water	2.4 / 222.7
19	Open	No Water	N/A
21	Open	No Water	N/A
23	Open	No Water	N/A
24	Open	No Water	N/A
26	Open	No Water	3.1 / 221.7
28	Open	No Water	N/A
29	Open	No Water	N/A
31	Open	No Water	N/A
33	Open	No Water	N/A

Groundwater was only observed in one borehole upon completion. The stabilized groundwater levels were measured at 1.6 to 4.9 m (Elev. 219.6 to 223.2) on July 3, 2024.

The existing fill and native silt (with some clay) are less than semi-permeable and may allow some minor seepage when wet. The Clayey silt is generally not permeable.

Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions.

3.4. Soil Corrosivity and Sulphate Attack of Concrete

Two (2) soil samples obtained from the boreholes were submitted to Caduceon Environmental Laboratories for testing to determine the potential for soil corrosivity and sulphate attack on concrete:

Borehole / Sample	Sample Depth (m)	Soil Type
BH2/SS4	2.3 – 2.7	Silt
BH13/SS4	2.3 – 2.7	Silt

The American Water Works Association (AWWA) has developed a scoring system in their C-105 Standard to determine the potential for soil to corrode cast iron alloys. The scoring system assigns points based on several soil parameters, including resistivity, pH, redox potential, sulfides, and moisture content. A rank of 10 or more indicates a potential for corrosion and suggests that corrosion protection measures should be considered. The results from the testing at this site is summarized below and the laboratory Certificate of Analysis is included as Appendix C.

Borehole / Sample	AWWA Score	
	BH2/SS4	BH13/SS4
Resistivity (ohm·cm)	0	0
pH	0	0
Redox Potential (mV)	0	0
Sulfides (µg/g)	2	3.5
Moisture	2	2
TOTAL SCORE	**4**	**5.5**

Based on the AWWA scoring system, the soil samples tested scored less than 10 points which indicates a low potential for the soil corrosivity to affect cast iron alloys and corrosion protection measures are not considered necessary.

It should be noted that this ranking system provides a general indication of soil corrosivity potential only. Other external factors may increase corrosivity potential, such as stray electrical currents or the application of de-icing salts in the winter that can leach into the ground.

The samples were also tested for water-soluble sulphate content and compared to *Table 3: Additional Requirements for Concrete Subjected to Sulphate Attack as found in CSA A23.1 Concrete Materials and Methods of Construction*. Table 3 is used to determine the cementing materials required in concrete based on degree of exposure to sulphate attack. The testing shows the samples have less than 0.1% water-soluble sulphate, and therefore there will be negligible exposure to sulphate attack. The cementing materials listed in CSA A23.1 Table 3 are not required at this site based on sulphate attack potential.

4. Engineering Design Parameters & Analysis

The project site is located on the west side of Elgin Avenue. The existing property is approximately 150 m (east/west) and 230 m (north/south) with a general rectangular shape. A treed area is present in the north part of the site. The existing school has three main floors, with the lowest floor being partially buried in some areas. There are also some local areas where there is an intermittent level at an entrance to permit at-grade entry - including the area where the addition is proposed. Parking is to the north of the school and vehicle access is from Elgin Avenue. The grades in the addition and new parking area rise gently about 2 m from the existing building to the north edge of the site. An aerial image of the site is provided on Figure 2A.

Detailed drawings were not available for review, but the following borehole plan was provided to GEI as part of the RFQ:

- "Site Plan" Drawing No. A101, Project No. 22017, by Salter Pilon Architecture.

It is understood that the proposed design includes a slab-on-grade addition to the north/northwest of the existing building with an overall footprint of 1,523 m^2. The majority of the addition will be a single storey, with smaller sections that have two-storeys or three-storeys to connect to the existing three-storey school building. The ground floor addition slab elevation will match the existing elevation at the entrance to the existing parking area (an existing intermittent level to permit at grade access). The addition will be located primarily in the existing parking area and a new parking area is proposed north of the addition with 74 new parking spaces and kiss and ride/bus access. The current proposed concept plan is included as Figure 2B.

4.1. Site Grading

Grading plans were not available for review at the time of this report, however, it is understood that the ground floor addition slab elevation will match the existing elevation at the entrance to the existing parking area (an existing intermittent level to permit at grade access) near Elev. 225.0 +/-.

The pavement, fill, topsoil, existing fill and loose native soil (Borehole 2) are not suitable to support building foundations and slabs. In this regard, it is recommended to strip the topsoil and pavement and stockpile separately, then sub-excavate the existing fill and loose loose native soil down to competent native soil. The exposed native soil surface should be thoroughly compacted and then engineered fill placement can commence to the desired grade. Footings would be supported by native soil and/or the engineered fill and the ground floor slab by the engineered fill.

When grading is established, GEI should review the drawings for geotechnical requirements.

4.1.1. Engineered Fill

GEI defines "engineered fill" as material that will support foundations, and which is placed and compacted in a specified and controlled manner under full-time supervision of geotechnical engineering staff.

Engineered fill will be placed to raise grades, or replace poor/weak soil, the topsoil, pavement, or existing earth fill and must be fully removed down to competent soil. The exposed subgrade soil must be proof-rolled and inspected by the geotechnical engineer to ensure all unsuitable material (e.g., organics, weak or soft soil, weathered / disturbed soil, deleterious materials, existing fill) is removed from the engineered fill footprint. Any unsuitable areas must be further sub-excavated and replaced with approved material and compacted to a targeted 100% SPmdd, in building areas and 95% SPmdd in servicing areas.

Once the subgrade is approved, engineered fill can be placed. Engineered fill must be placed under the full-time supervision of a geotechnical engineer as required in the Ontario Building Code. The engineered fill may consist of excavated on-site inorganic cohesionless soils provided they have been moisture conditioned to a moisture content within 2% of optimum moisture content and do not contain organics, topsoil or deleterious material. it is recommended that imported soil consist of Granular B (OPSS.MUNI 1010). Engineered fill must be placed in loose lifts of 200 mm or less and compacted to a targeted 100% SPmdd, in building areas and 95% SPmdd in servicing areas.

The exposed subgrade may be wet, and in wet areas the first lift of engineered fill shall consist of 400 mm of Granular B Type II (OPSS.MUNI 1010). This will help to bridge the weaker subgrade and improve the ability to achieve the compaction specifications for subsequent engineered fill lifts.

The engineered fill must extend a minimum of 1 m out from all sides of the foundations and extend at a 1 horizontal to 1 vertical slope (1H:1V) down to the exposed subgrade. A typical detail for engineered fill pad dimensioning is included in Appendix D.

4.2. Foundation Design

4.2.1. Foundations on Native Soil

As noted above, the topsoil, pavement, fill and loose native soil with organics are not suitable to support the building foundations.

Foundations at this site may be constructed as conventional shallow spread and strip footings. Footings founded on the compact native silt encountered at 0.8 to 1.5 m below existing grade (Elev. 222.9 to 224.1), locally 2.3 m depth (Elev. 22.5 at Borehole 11) can be designed for a geotechnical bearing resistance at Serviceability Limit State (SLS) of 100 kPa and a factored bearing resistance at Ultimate Limit State (ULS) of 150 kPa. The geotechnical resistance at SLS is for 25 mm or less of total settlement.

Final footing elevations must be reviewed by geotechnical personnel from GEI to confirm bearing capacity values. The final site configuration must also be reviewed by GEI to assess the potential for footings to be founded on different soil subgrades, and to assess the potential for differential settlement. It is recommended that all foundations be set on the same soil subgrade wherever possible, to reduce the potential for differential settlement.

4.2.2. Foundations on Engineered Fill

Foundations at this site may be constructed as conventional shallow spread and strip footings that bear on the engineered fill and can designed for a geotechnical reaction of 100 kPa (for 25 mm or less of total settlement) and a factored geotechnical reaction at ULS of up to 150 kPa.

It is recommended that nominal reinforcing steel for stiffening of the foundation walls made on engineered fill be provided to help mitigate minor cracking due to minor differential settlement. The reinforcing steel in the poured concrete foundation walls may consist of 2-15M bars continuous at the top of the foundation wall, and 2-15M bars continuous at the bottom of the foundation walls. Typically, these bars are placed 100 to 200 mm from the top or bottom of the foundation wall, respectively. The reinforcing steel should extend a minimum of 3 m past any transition zones between engineered fill and native soil. A typical reinforcing steel detail for foundation walls placed on engineered fill is provided within Appendix D. The recommended nominal reinforcing steel should not be considered a structural design. The need for different or additional reinforcement should be reviewed by a structural engineer to ensure the original structural design intent of the structure is maintained.

4.2.3. General Foundation Considerations

All footings exposed to ambient air temperature throughout the year must be provided with a minimum of 1.2 m of earth cover or equivalent insulation for frost protection (25 mm of polystyrene insulation is equivalent to 300 mm of soil cover). The minimum strip and spread footing widths to be used shall be dictated as per the Ontario Building Code, regardless of loading considerations. Footings stepped from one level to another must be at a slope not exceeding 7V:10H. Where new footings are adjacent to the existing footings, the footings must be founded at the same level, then stepped up or down as required.

The foundation design parameters provided above are predicated on the assumption that the foundation subgrade surface is undisturbed, and that all deleterious, existing fill/peat, softened, disturbed, organic, and caved material is removed. The foundation excavation must be done in such a way that groundwater is controlled to prevent any disturbance to the foundation base. Temporary groundwater control during construction is discussed in Section 5.2.

The foundation subgrade must be reviewed by the geotechnical engineer prior to concrete placement to ensure the foundation design parameters described above are applicable, and to provide remedial recommendations if necessary. If the foundation excavation will be open for a prolonged period of time, the foundation subgrade should be protected with a skim coat of lean mix concrete (after inspection by the geotechnical engineer), to ensure that no deterioration will occur due to weather effects.

4.3. Seismic Site Classification

Section 4.1.8.4 of the Ontario Building Code provides values of the acceleration and velocity-based site coefficients (Fa and Fv) for various time periods, associated with specific Site Classes. These Site Classes are based on the energy-corrected Average Standard Penetration Resistance values and undrained shear strength within the upper 30 m of soil underlying the foundations of the proposed structure. As the boreholes were advanced less than this depth at the site, the site classification recommendation provided below assumes that the soil conditions are similar below the drilled depth.

Underneath the proposed foundations, the subsoil will consist of typically compact silt native soil. Based on the average standard penetration resistance values, the Site Classification for Seismic Site Response is "E".

4.4. Floor Slabs

The ground floor slab can be constructed at this site on the engineered fill.

The engineered fill may become disturbed, and the exposed soil must be proof-rolled and inspected by the geotechnical engineer. If any soft or weak subgrade areas are identified, or if there are areas containing excessive amounts of deleterious/organic material, they must be locally sub-excavated and backfilled with approved imported granular material and compacted to a minimum of 98% SPmdd within 2% optimum moisture content.

It is necessary that the floor slabs must be provided with a capillary moisture barrier and drainage layer. This is made by placing the concrete slab on a minimum 200 mm layer of 19 mm clear stone (OPSS.MUNI 1004) compacted by vibration to a dense state. The upper 50 mm of clear stone can be replaced with 19 mm crusher run limestone for a working surface. The clear stone the native subgrade must be separated by a geotextile such as Terrafix 270R (or approved equivalent) to prevent the migration of fines into the clear stone layer which could result in loss of support for the slab. Alternatively, Granular A (OPSS.MUNI 1010) compacted to 100% SPmdd can be utilized without filter cloth.

4.5. Drainage

The proposed structure will be slab-on-grade with no basement levels, perimeter and under-slab drainage at the foundation level is not required, provided that the underside of the concrete slab is at least 200 mm above the prevailing grade of the site and the surrounding surfaces slope away from the building at a gradient of at least 2% to promote surface water run-off and to reduce groundwater infiltration adjacent to foundations. To minimize infiltration of surface water, the upper 150 mm of backfill should comprise relatively impervious/cohesive compacted soil material.

4.6. Pavement Design

It is understood that the proposed addition will have new parking area located north of the addition with 74 new parking spaces and kiss and ride/bus access.

4.6.1. Subgrade Preparation

As noted earlier the grading has not been established yet, however with typically higher grades in the north, minor cut and some fill, of less than 1 m is anticipated. As such, the pavement subgrade is expected to comprise the fill and native silt and clayey silt, both of which are highly frost susceptible.

The pavement subgrade must be inspected and approved by the geotechnical engineer at the time of construction. The exposed pavement subgrade should be compacted to a minimum of 95% SPmdd. If any soft or weak subgrade areas are identified, or if there are areas containing excessive amounts of moisture

or deleterious/organic material, they must be locally sub-excavated and backfilled with approved clean earth fill or imported granular material and compacted to a minimum of 95% SPmdd.

The long-term performance of the pavement structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures must be maintained to ensure that uniform subgrade moisture and density conditions are achieved as much as possible when fill is placed, and the subgrade is not disturbed or weakened after it is exposed.

4.6.2. Drainage

Control of surface water is an important factor in achieving a good pavement life. The need for adequate subgrade drainage cannot be over-emphasized. The subgrade must be free of depressions and sloped (at a minimum grade of 2 percent) to provide effective drainage toward subgrade drains. Grading adjacent to pavement areas should be designed to ensure that water is not allowed to pond adjacent to the outside edges of the pavement.

Continuous pavement subdrains should be provided along the edges of the pavement and drained into respective catch basins to facilitate drainage of the subgrade and the granular materials. The subdrain invert should be maintained at least 0.3 m below subgrade level. To minimize the problems of differential movement between the pavement and catch basins/manhole due to frost action, the backfill around the structures should consist of free draining OPSS Granular B. Typical pavement drainage details are provided in Appendix D.

4.6.3. Pavement Structure

The industry pavement design methods are based on a design life of 15 to 20 years for typical weather conditions depending on actual traffic volumes. The following pavement thickness designs are provided on the above noted considerations and anticipating the subgrade will comprise the highly frost susceptible soil.

Table 4-1. Pavement Design

Pavement Layer	Compaction Requirement	Min. Component Thickness (mm)	
		Light Duty	Heavy Duty
Surface Course Asphaltic Concrete: HL3 (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)	92% MRD (OPSS.MUNI 310)	40 mm	40 mm
Binder Course Asphaltic Concrete: HL8 (OPSS 1150) with PG 58-28 Asphalt Cement (OPSS.MUNI 1101)		50 mm	80 mm
Base Course: Granular A (OPSS.MUNI 1010)	100% SPmdd (OPSS.MUNI 501)	150 mm	150 mm
Subbase Course: Granular B Type I (OPSS.MUNI 1010)		400 mm	550 mm

The granular materials should be placed in lifts 200 mm thick or less and be compacted to a minimum of 100% SPmdd for both granular base and subbase. Asphalt materials should be rolled and compacted as per OPSS 310. The granular and asphalt pavement materials and their placement should conform to OPSS 310, 501, 1010 and 1150.

If the pavement construction occurs in wet, winter or inclement weather, it may be necessary to provide additional subgrade support for heavy construction traffic by increasing the thickness of the granular subbase, base or both. Further, traffic areas for construction equipment may experience unstable subgrade conditions. These areas may be stabilized utilizing additional thickness of granular materials.

It should be noted that in addition to adherence of the above pavement design recommendations, a close control on the pavement construction process will also be required in order to obtain the desired pavement life. Therefore, it is recommended that regular inspection and testing should be conducted during the pavement construction to confirm material quality, thickness, and to ensure adequate compaction.

Frost tapers of 10H:1V shall be incorporated at the transition areas between pavement of differing thickness.

Smooth transitions are required in all areas where the new pavement meets the existing asphalt surface. Asphalt joints shall follow OPSS.MUNI 310. Longitudinal asphalt joints should be milled into the existing asphalt a minimum 0.5 m for each lift. Transvers joint shall be milled into the existing asphalt a minimum 0.5 m for each lift. Successive joints should be staggered.

5. Constructability Considerations

5.1. Excavations

Excavations for the project site are anticipated to be 2.5 m or less below existing grade to remove the existing fill and loose native soil in the addition footprint and permit engineered fill placement, or for pavement subgrade preparation. Below the surficial topsoil/asphalt, and existing fill excavations are anticipated to encounter the native silt, locally the native clayey silt.

Excavations must be carried out in accordance with the Occupational Health and Safety Act, Ontario Regulation 213/91 (as amended), Construction Projects, Part III - Excavations, Section 222 through 242. Where workers must enter a trench or excavation the soil must be suitably sloped and/or braced in accordance with the OHSA. These regulations designate four (4) broad classifications of soils to stipulate appropriate measures for excavation safety. If more than one soil type is encountered in an excavation, the most conservative soil type must be followed for sloping the sidewalls of the excavation. Excavations for the site should be completed considering a Type 3 soil geometry, 1H:1V from the base of the excavation, assuming the groundwater is controlled as noted in the sext section.

Excavation sidewalls will need to be continuously reviewed for evidence of instability and ground water seepage, particularly following periods of heavy rain or thawing. When required, remedial action must be taken to ensure the continued stability of excavation slopes and the safety of the workers.

Minimum support system requirements for steeper excavations are stipulated in Sections 235 through 238 and 241 of the OHSA and include provisions for timbering, shoring and moveable trench boxes. To reduce the potential for instability of the trench excavations, materials excavated from the service trenches and/or other fill materials, or heavy equipment should not be placed near the crest of the trench excavations.

It is important to note that soils encountered in the construction excavations may vary significantly across the site. Our preliminary soil classifications are based solely on the materials encountered in the boreholes advanced on site. The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are encountered at the time of construction, we recommend that GEI be contacted immediately to evaluate the conditions encountered.

5.2. Temporary Construction Groundwater Control

As noted above, excavation is envisioned to extend to 2.5 m depth below existing grades for the project.

Groundwater was only observed in one borehole upon completion at 5.5 m depth below existing grade (Elev. 219.1). The stabilized groundwater levels were measured at 1.6 to 4.9 m (Elev. 219.6 to 223.2) on July 3, 2024.

The excavation will extend through the surficial materials, the existing fill and into the native silt, locally the clayey silt. The silt was wet for the most part and perched water may be present in the fill above the native soil, however the seepage volume from the native soil and/or the perched water are not expected to be large. Conventional sump pumping should suffice to control groundwater seepage from the

excavation. Excavation much deeper may encounter more seepage and locally may require multiple sumps.

The exact scenario where certain groundwater control techniques will work are directly correlated to how coarse/fine the native soils are in an excavation, and both the lateral and vertical extent of the wet cohesionless deposits. If the groundwater table is not controlled during construction, the base of the excavations will be unstable, leading to difficulties in excavating and placement of services, footings or engineered fill, and providing safety for the workers.

It is recommended to carry out the work during the dry time of the year when the ground water table is lowest, to mitigate groundwater control measures. Also reducing the size of the excavation that is open at any one time will aid in reducing groundwater control requirements.

Based on the above, a Permit-to-Take-Water (PTTW) is not required, registry on the Environmental Activity and Sector Registry (EASR) system is also not anticipated based on the depth of excavation discussed above.

5.3. Compaction Specifications

SPmdd is the specification to indicate the degree to which soil or aggregate is compacted. To achieve the specified SPmdd as indicated in this report, all soils or aggregates must be placed in lift thicknesses no greater than 200 mm. If this is not the case, only the upper portion of the lift will be adequately compacted, and the lower portion of the lift has a high probability of not meeting compaction specifications. In addition, industry standard equipment used to determine the degree of compaction consists of nuclear densometers. These devices have an inherent limitation in that they cannot test beyond 300 mm in depth, and so the degree of compaction beyond this depth cannot be quantitatively determined.

Along with lift thickness, ensuring that the soil or aggregate is within 2% of its optimum moisture content ensures that the specified compaction can be reached. If the soil or aggregate is too dry/wet, it is either very difficult or impossible to reach the specified compaction. This is especially true for when higher compaction specifications such as 98% and 100% SPMDD are required.

Moisture can be increased by adding water and mixing the soil prior to re-use, blending the soil with wetter material, or by importing soil to the site that is at optimum and can be readily compacted.

Moisture can be reduced by tilling or spreading out the soil to dry or blending it with drier material. In-situ moisture contents can change based on the season and local groundwater levels and can also change for stockpiled material due to precipitation. The fine-grained soil at the site with very high moisture contents may find moisture conditioning to be difficult to accomplish or impractical.

In addition to the above compaction specifications, in any areas where compacted fill will be placed over the exposed native soil subgrade, any loose, soft, wet, organic or unstable areas should be sub-excavated, and backfilled with clean earth fill or Granular ‘B’ (OPSS.MUNI 1010) compacted to a minimum of 98% SPmdd. This recommendation applies to site servicing and pavement subgrades. Where structures/buildings require upfilling beneath the structure the fill should be compacted to 100% SPmdd.

5.4. Quality Verification Services

On-site quality verification services are an integral part of the geotechnical design function, and for foundations, engineered fill and retaining walls, are required under the Ontario Building Code. Quality verification services are used to confirm that construction is being conducted in general conformance with the requirements as outlined in the drawings, reports and specifications prepared for the proposed development.

GEI can provide all the on-site quality verification services outlined below:

- The subgrade for shallow foundations for the proposed buildings will need to be field reviewed by the geotechnical engineer.
- Installation of retaining structures over 1.0 m high and related backfilling operations must be field reviewed on a continuous basis by the geotechnical engineer as required in the OBC.
- Full-time monitoring, testing and inspection of engineered fill placement is required by the geotechnical engineer per the OBC.
- Part-time monitoring of the subgrade support capabilities, material quality, lift thickness, moisture content, degree of compaction, etc. is recommended for the following areas to ensure the recommendations within this report are followed and they perform adequately in the long-term;
    - Slab-on-grades;
    - Pavement structure (granular and asphalt);
    - Pipe bedding and cover;
- Testing of the concrete (compressive strength, slump, air content, etc.) and testing of the asphalt (asphalt content and gradation) are recommended to ensure that the quality of the materials being brought to site meet the requirements of the project.

5.5. Site Work

The soils found at this site will become weakened when subjected to traffic, particularly when wet. If there is site work carried out during periods of wet weather, then it can be expected that the subgrade will be disturbed unless an adequate granular working surface is provided to protect the integrity of the subgrade soils from construction traffic. Subgrade preparation works cannot be adequately accomplished during wet weather and the project must be scheduled accordingly. The disturbance caused by the traffic can result in the removal of disturbed soil and use of granular fill material for site restoration or underfloor fill that is not intrinsic to the project requirements.

The most severe loading conditions on the subgrade may occur during construction. Consequently, special provisions such as end dumping and forward spreading of earth and aggregate fills, restricted construction lanes, and half-loads during paving and other work may be required, especially if construction is carried out during unfavourable weather.

If construction proceeds during freezing weather conditions, adequate temporary frost protection for the founding subgrade and concrete must be provided. The soil at this site is susceptible to frost damage.

Consideration must be given to frost effects, such as heave or softening, on exposed soil surfaces in the context of this project development.

6. Limitations and Conclusions

6.1. Limitations

The recommendations and comments provided are necessarily on-going as new information of underground conditions becomes available. More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during excavation operations. Consequently, conditions not observed during this investigation may become apparent. Should this occur, GEI should be contacted to assess the situation and additional testing and reporting may be required.

GEI should be retained for a general review of the final design drawings and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, GEI will assume no responsibility for interpretation of the recommendations in the report.

The comments given in this report are intended only for the guidance of the design engineers. The number of boreholes required to determine the localized underground conditions between boreholes affecting construction costs, techniques, sequencing, equipment, scheduling, etc. could be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigations, as well as their own interpretations of the factual borehole results, so that they may draw their own conclusions as to how the subsurface conditions may affect them.

This report was authorized by, and prepared by GEI for, the account of Grand Erie District School Board. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. GEI accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

6.2. Conclusions

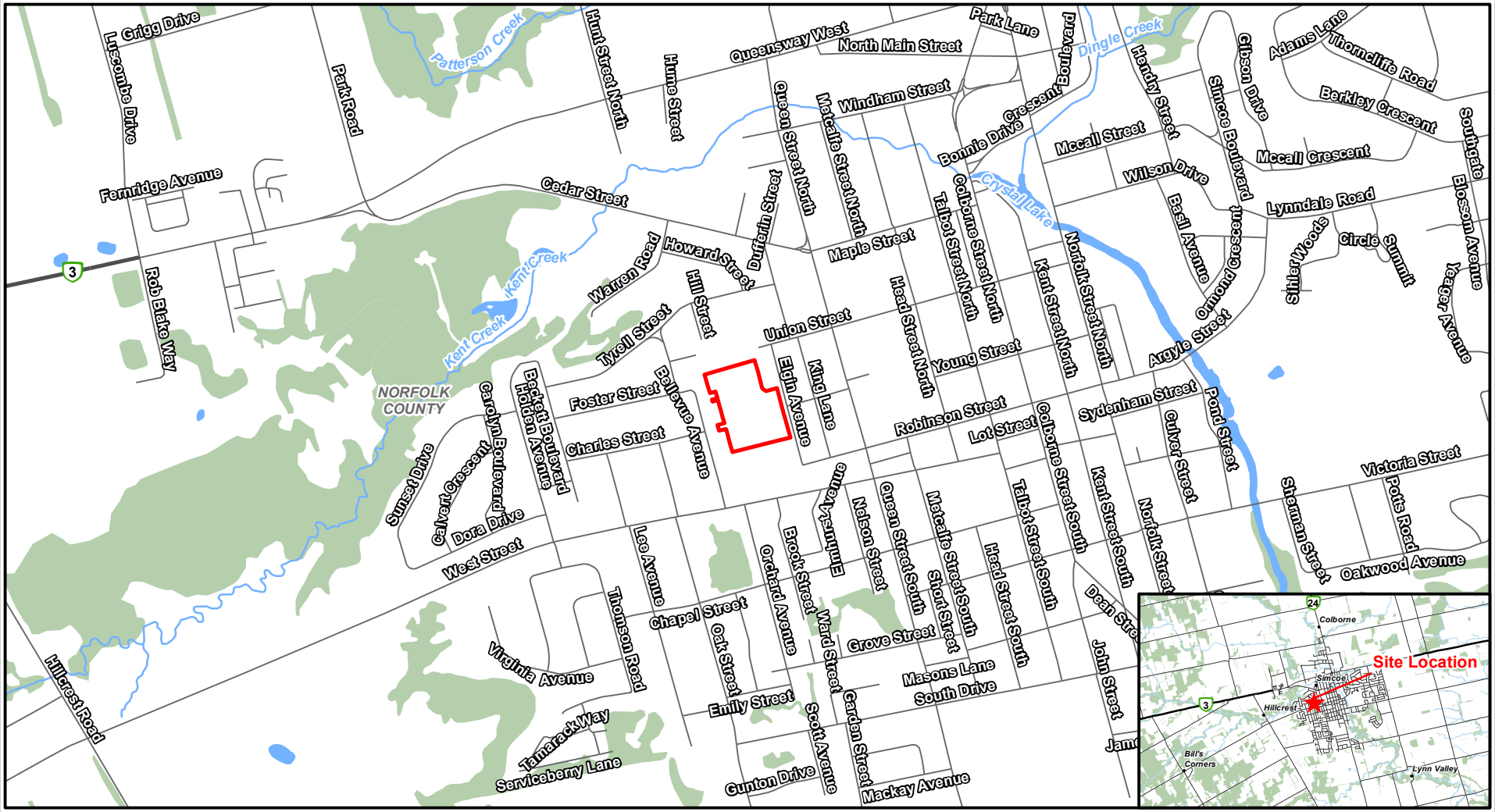
It is recognized that municipal/regional governing bodies, in their capacity as the planning and building authority under Provincial statues, will make use of and rely upon this report, cognizant of the limitations thereof, both as are expressed and implied.

We trust this report is complete within our terms of reference, and the information presented is sufficient for your present purposes. If you have any questions, or when we may be of further assistance, please do not hesitate to contact our office.

Figures

Site Location Plan

Borehole Location Plans



Legend

- Site Boundary
- Highway
- Road
- Watercourse
- Waterbody
- Wooded Area

NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2024.

0 190 380 m

1:15,000

N

Proposed Additional and Renovation to
Elgin Avenue PS
80 Elgin Avenue,
Simcoe, Ontario

Grand Erie District School Board

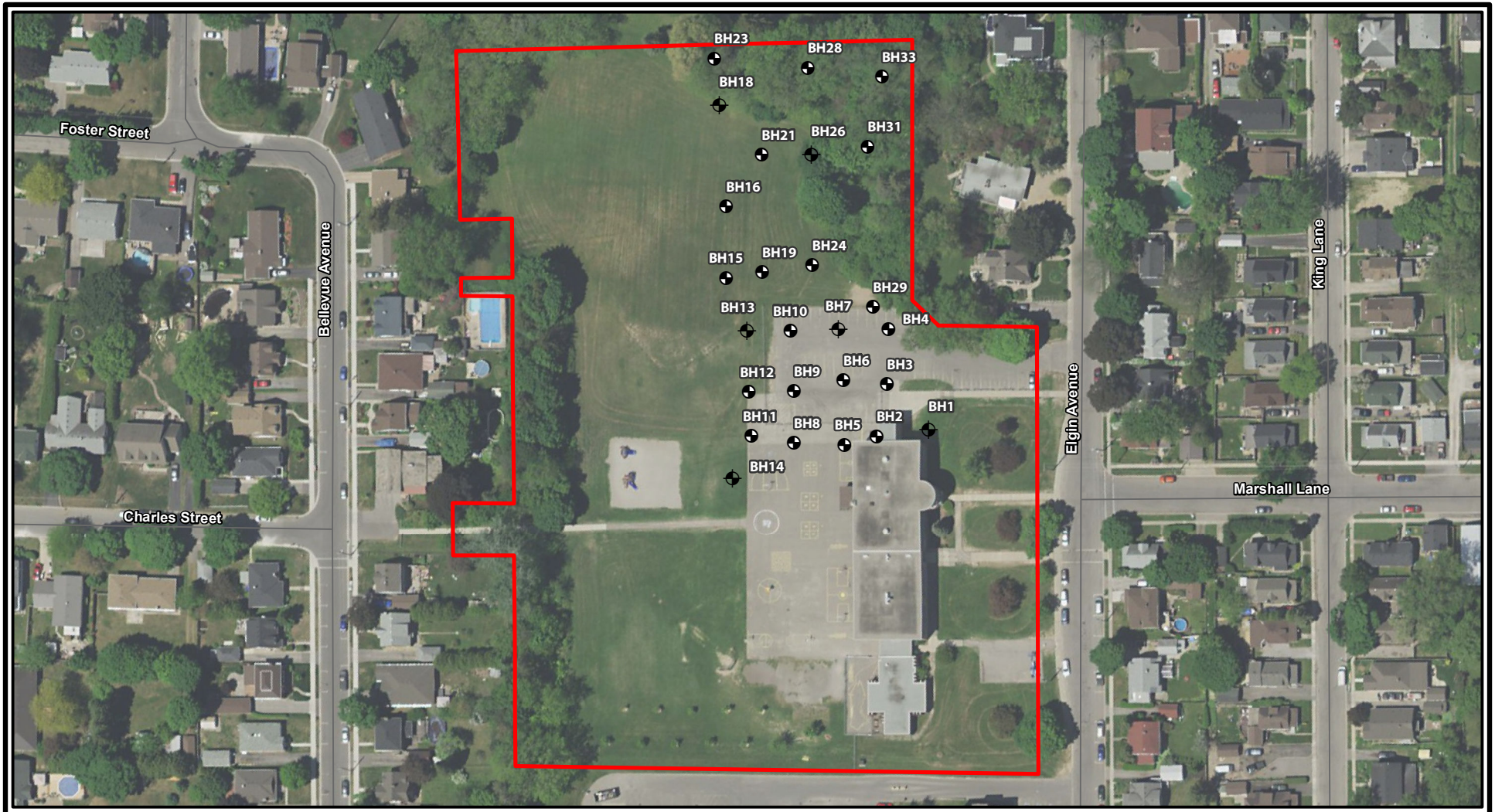
GEI Consultants

Project 2404404

SITE LOCATION PLAN

Aug 2024 Fig. 1

Path: \\bos-pzcc-1\data_storage\Working\GRAND ERIE DIST SCH BOARD\2404404 Addition to Elgin Ave_PS_Simcoe_On\05_GIS\figures\report_figures\2024-07 bh location plan\2404404_rpt_fig01_site_location_plan.mxd Date Saved: Friday, July 26, 2024 Last Modified by: Feltan3789



Legend

Site Boundary
Road
Approximate Borehole Location
Approximate Borehole/Monitoring Well Location

NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2024.
3. Orthoimagery © First Base Solutions, 2024. Imagery taken in 2023.

0 20 40 m
1:1,700

N

Proposed Additional and Renovation to Elgin Avenue PS
80 Elgin Avenue,
Simcoe, Ontario

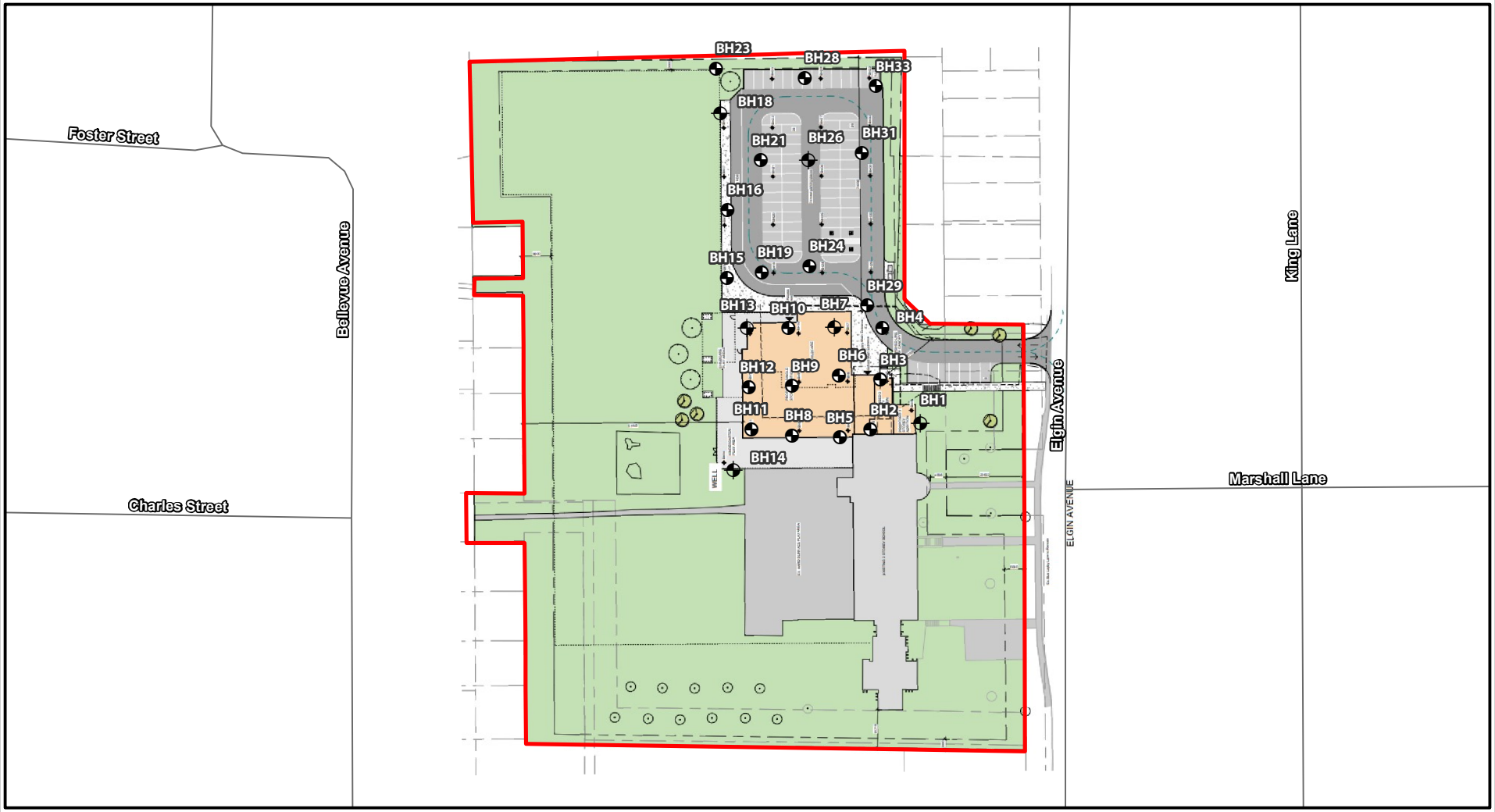
Grand Erie District School Board

GEI Consultants

BOREHOLE LOCATION PLAN (AERIAL)

Project 2404404 | Aug 2024 | Fig. 2A

Path: \\bos-pzcc-1\data_storage\Working\GRAND ERIE DIST SCH BOARD\2404404 Addition to Elgin Ave_PS_Simcoe_On\05_GIS\figures\report_figures\2024-07 bh location plan\2404404_rpt_fig2a_bh_location_plan_aerial.mxd Date Saved: Friday, July 26, 2024 Last Modified by: Feltan3789



Legend

Site Boundary
Road
Approximate Borehole Location
Approximate Borehole/Monitoring Well Location

NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2024.

0 20 40 m
1:1,800

N

Proposed Additional and Renovation to
Elgin Avenue PS
80 Elgin Avenue,
Simcoe, Ontario

Grand Erie District School Board

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BOREHOLE LOCATION PLAN (SITEPLAN)

Project 2404404 | Aug 2024 | Fig. 2B

Path: \\bos-pzcc-1\data_storage\Working\GRAND ERIE DIST SCH BOARD\2404404 Addition to Elgin Ave_PS_Simcoe_On\05_GIS\figures\report_figures\2024-07 bh location plan\2404404_rpt_fig2b_bh_location_plan_siteplan.mxd Date Saved: Friday, July 26, 2024 Last Modified by: Feltan3789

Appendix A Borehole Logs

RECORD OF BOREHOLE No. 01

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **474291** Date Started: **Jun 12/24**
Reviewed By: **MR** Easting: **556027** Date Completed: **Jun 12/24**

Depth	Elevation	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value
0.0	224.5					
0.2	224.4	TOPSOIL: 150 mm				
		FILL: Silt, some clay, trace sand, some organics and rootlets, very loose, brown, moist to wet	SS	1	50	4
			SS	2	33	3
1.5	223.0					
		SILT: Trace to some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	75	15
			SS	4	83	15
			SS	5	83	18
			SS	6	75	8
		- - - Grey - - -	SS	7	83	9
			SS	8	75	9
9.8	214.8		SS	9	75	7
		Borehole Terminated at 9.8 m				

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160
Penetration Testing: SPT DCPT; 10 20 30 40
LAB TESTING: Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); 100 200 300 400
Atterberg Limits: PL LL; Water Content (%); 10 20 30 40

Depth (m)	Elevation (m)	SPT N	Total Organic Vapour (ppm)	Instrumentation Installation
0	223.5	4	22	
		3	24	
1.5	222	15	27	
		15	28	
3	220.5	18	28	
4.5	219	8	24	
6	217.5	9	27	
7.5	216	9	26	
9		7	26	

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	1	88	11

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jul 03/24 at depth of: 4.9 m. Groundwater Elevation: 219.6 m

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Borehole details presented do not constitute a thorough understanding of all potential conditions present and require interpretative assistance from a qualified geotechnical engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commissioned and the accompanying 'Explanation of Boring Log'.

Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 02

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742926** Date Started: **Jun 11/24**
Reviewed By: **MR** Easting: **556013** Date Completed: **Jun 11/24**

GEI Consultants

LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING		LAB TESTING			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT		Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); Atterberg Limits (PL, LL); Water Content (%)		Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 224.7												GR / SA / SI / CL
	ASPHALT: 50 mm GRANULAR: 460 mm 0.5 / 224.2	AS	1			0				4			
	FILL: Silty sand, loose, brown, moist 1.5 / 223.1	SS	2	67	4	1.5	223.5	4		7			
	SILT: Trace sand, trace clay, loose to compact, brown, very moist to wet	SS	3	67	6			6			29		
		SS	4	83	17	3	222	17			28		
		SS	5	83	16		220.5	16			28		
	- - - Some clay, grey - - -	SS	6	75	14	4.5	219	14			24		
		SS	7	75	8	6	217.5	8			22		
		SS	8	83	8	7.5	216	8			27		0 / 0 / 90 / 10
	9.8 / 214.9	SS	9	75	8	9		8			26		
	Borehole Terminated at 9.8 m												

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: 6.2 m.
Groundwater depth observed on:
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 03

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742941** Date Started: **Jun 11/24**
Reviewed By: **MR** Easting: **556012** Date Completed: **Jun 11/24**

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Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 224.4					0	
	ASPHALT: 50 mm GRANULAR: 610 mm 0.7 223.7	AS	1				
	FILL: Silt, trace clay, trace sand, compact, brown, moist	SS	2	75	14		223.5
	1.5 222.9					1.5	
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	83	13		222
		SS	4	83	14	3	
		SS	5	83	17		220.5
		SS	6	83	17	4.5	
	- - - Grey - - -	SS	7	83	6	6	219
		SS	8	100	7		217.5
		SS	9	100	8	7.5	
	9.8 214.6					9	216
	Borehole Terminated at 9.8 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour - Hex
▲ Combustible Organic Vapour - IBL
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: 4.5 m
Groundwater depth observed on:
Groundwater Elevation:

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Page: **1 of 1**

RECORD OF BOREHOLE No. 04

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742957** Date Started: **Jun 13/24**
Reviewed By: **MR** Easting: **556008** Date Completed: **Jun 13/24**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 / 224.2													
	ASPHALT: 50 mm GRANULAR: 550 mm 0.6 / 223.6	AS	1			0			6					
	0.8 / 223.5 FILL: Sand, some gravel, trace silt, compact, brown, very moist	SS	2	78	5		223.5	5	29					
	SILT: Some clay, trace sand, loose to compact, very moist to wet, brown	SS	3	89	9	1.5		9	31					
		SS	4	78	11		222	11	26		0	1	87	12
	3.5 / 220.7	SS	5	100	15	3		15	26					
	Borehole Terminated at 3.5 m													

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160. Penetration Testing — SPT; DCPT; 10 20 30 40.

LAB TESTING: Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); 100 200 300 400. Atterberg Limits — PL; LL; Water Content (%); 10 20 30 40.

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 05

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742921** Date Started: **Jun 13/24**
Reviewed By: **MR** Easting: **556005** Date Completed: **Jun 13/24**

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Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING: Penetration Testing (SPT / DCPT)	LAB TESTING: Water Content (%)	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 224.6					0					
	ASPHALT: 50 mm GRANULAR: 550 mm 0.6 224.0	AS	1						14		
	FILL: Silt, some clay, trace sand, loose, brown, very moist 1.5 223.1	SS	2	58	9	1.5	223.5	9	28		
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	75	11			11	28		
		SS	4	83	16	3	222	16	25		
		SS	5	83	16		220.5	16	26		
	- - - Grey - - -	SS	6	83	8	4.5		8	26		
		SS	7	75	8	6	219	8	24		
		SS	8	83	8	7.5	217.5	8	26		
		SS	9	75	9	9	216	9	26		
	9.8 214.8										
	Borehole Terminated at 9.8 m										

FIELD TESTING: Shear Strength Testing (kPa) — Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160
LAB TESTING: Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits PL LL; Water Content (%) 10 20 30 40
COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: 0.4 m.
Groundwater Elevation:

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Scale: **1 :75**

RECORD OF BOREHOLE No. 06

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742939** Date Started: **Jun 11/24**
Reviewed By: **MR** Easting: **555999** Date Completed: **Jun 11/24**

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LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT	Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); Atterberg Limits: PL, LL, Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 / 224.5												
	ASPHALT: 50 mm GRANULAR: 600 mm 0.6 / 223.9	AS	1			0 / 224.5		5					
	FILL: Silt, trace clay, trace sand, compact, brown, very moist 1.5 / 223.0	SS	2	83	11	1.5 / 223.5	11	28					
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	83	13		13	27					
		SS	4	83	18	3 / 222	18	26					
		SS	5	83	18		18	26					
	- - - Grey - - -	SS	6	83	17	4.5 / 220.5	17	13					
		SS	7	83	8	6 / 219	8	27					
		SS	8	83	8	7.5 / 217.5	8	25					
		SS	9	83	9	9 / 216	9	27					
	9.8 / 214.8												
	Borehole Terminated at 9.8 m												

Cave depth after auger removal: 6.1 m.

Groundwater depth encountered on completion of drilling: Dry

Groundwater depth observed on: Groundwater Elevation:

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Scale: **1 :75**

RECORD OF BOREHOLE No. 07

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742953** Date Started: **Jun 11/24**
Reviewed By: **MR** Easting: **555994** Date Completed: **Jun 11/24**

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Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING: Shear Strength (kPa) / Penetration Testing (SPT, DCPT)	LAB TESTING: Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm), Atterberg Limits, Water Content (%)	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 224.5					0					
	ASPHALT: 50 mm GRANULAR: 460 mm 0.5 224.0	AS	1								
	0.8 223.8 FILL: Sand, some gravel, trace silt, loose, brown, moist	SS	2	75	9	1.5	223.5	9	28		
	SILT: Some clay, trace sand, loose to compact, brown, very moist to wet	SS	3	100	10			10	27		
		SS	4	100	15	3	222	15	27		
		SS	5	100	12			12	27		
		SS	6	100	18	4.5	220.5	18	26		
	- - - Grey - - -	SS	7	75	17	6	219	17	28		
		SS	8	83	6	7.5	217.5	6	25		
		SS	9	83	9	9	216	9	25		
	9.8 214.8										
	Borehole Terminated at 9.8 m										

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jul 03/24 at depth of: 3.9 m. Groundwater Elevation: 220.6 m

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Scale: **1 :75**

RECORD OF BOREHOLE No. 08

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742918** Date Started: **Jun 10/24**
Reviewed By: **MR** Easting: **555990** Date Completed: **Jun 10/24**

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Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%)
	0.0 / 224.6							Shear Strength Testing (kPa): Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded) 40 80 120 160	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm) 100 200 300 400		GR SA SI CL
	ASPHALT: 50 mm GRANULAR: 460 mm 0.5 / 224.1	AS	1			0					
	FILL: Silt, trace clay, trace gravel, trace sand, loose, brown, very moist 1.5 / 223.1	SS	2	100	10	1.5	223.5	Penetration Testing SPT DCPT 10 20 30 40	Atterberg Limits PL LL; Water Content (%) 10 20 30 40		
	SILT: Some clay, trace sand, compact to loose, brownish grey to grey, very moist to wet	SS	3	75	15	3	222				
		SS	4	75	10	4.5	220.5				
		SS	5	67	10	6	219				
		SS	6	75	9	7.5	217.5				
		SS	7	75	8	9	216				
		SS	8	100	9						
	9.8 / 214.9	SS	9	100							
	Borehole Terminated at 9.8 m										

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: 4.3 m.
Groundwater depth observed on:
Groundwater Elevation:

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RECORD OF BOREHOLE No. 09

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742925** Date Started: **Jun 11/24**
Reviewed By: **MR** Easting: **555988** Date Completed: **Jun 11/24**

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LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 / 224.6												
	ASPHALT: 50 mm GRANULAR: 550 mm 0.6 / 224.0	AS	1			0 / 224.6							
	FILL: Silt, some clay, trace sand, compact, brown, very moist	SS	2	83	17	0.6 / 224.0	17	24, 26					
	1.5 / 223.1					1.5 / 223.5							
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	83	15		15	26					
		SS	4	83	13	3 / 222	13	26		0	2	82	16
	- - - Grey - - -	SS	5	83	13		13	25					
		SS	6	67	8	4.5 / 220.5	8	25					
		SS	7	83	6	6 / 219	6	21					
		SS	8	83	9	7.5 / 217.5	9	25					
		SS	9	83	8	9 / 216	8	25					
	9.8 / 214.8												
	Borehole Terminated at 9.8 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: 6.2 m.
Groundwater Elevation:

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RECORD OF BOREHOLE No. 10

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742949** Date Started: **Jun 13/24**
Reviewed By: **MR** Easting: **555981** Date Completed: **Jun 13/24**

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Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)
	0.0 224.6						
	ASPHALT: 50 mm GRANULAR: 600 mm 0.6 224.0	AS	1			0	
	FILL: Silt, some clay, trace sand, loose, brown, very moist 1.5 223.1	SS	2	83	8	1.5	223.5
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	75	12		
		SS	4	75	11	3	222
		SS	5	67	13		220.5
	- - - Grey - - -	SS	6	83	13	4.5	219
		SS	7	83	20	6	217.5
		SS	8	83	7	7.5	216
	9.8 214.9	SS	9	83	6	9	
	Borehole Terminated at 9.8 m						

FIELD TESTING
Shear Strength Testing (kPa)
× Other Test
+ Pocket Penetrometer
▲ Field Vane (Intact)
△ Field Vane (Remolded)
40 80 120 160
Penetration Testing
○ SPT ● DCPT
10 20 30 40

LAB TESTING
△ Combustible Organic Vapour - Hex
▲ Combustible Organic Vapour - IBL
◇ Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
○ Water Content (%)
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Groundwater depth encountered on completion of drilling: 5.5 m. C Cave depth after auger removal: 6.2 m.
Groundwater depth observed on: Groundwater Elevation:

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RECORD OF BOREHOLE No. 11

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742915** Date Started: **Jun 10/24**
Reviewed By: **MR** Easting: **555972** Date Completed: **Jun 10/24**

Depth	Description	Sample Type	Sample Number	Recovery (%)	SPT "N" Value
0.0 / 224.8					
0.2 / 224.7	TOPSOIL: 150 mm				
0.8 / 224.1	FILL: Clayey silt, trace organics, trace sand, firm, brown, moist	SS	1	75	7
	SILT: Some clay, trace sand, loose to compact, brown, moist	SS	2	75	15
	- - - Grey - - -	SS	3	75	8
		SS	4	75	9
		SS	5	75	12
		SS	6	75	18
		SS	7	75	12
7.6 / 217.2					
	CLAYEY SILT: Trace gravel, stiff, grey, wet	SS	8	75	11
		SS	9	75	11
9.8 / 215.1					
	Borehole Terminated at 9.8 m				

DEPTH (m): 0, 1.5, 3, 4.5, 6, 7.5, 9
ELEVATION (m): 224.5, 223.5, 222, 220.5, 219, 217.5, 216

FIELD TESTING
Shear Strength Testing (kPa)
Other Test
Pocket Penetrometer
Field Vane (Intact)
Field Vane (Remolded)
40 80 120 160
Penetration Testing
SPT DCPT
10 20 30 40

LAB TESTING
Combustible Organic Vapour - Hex
Combustible Organic Vapour - IBL
Total Organic Vapour (ppm)
100 200 300 400
Atterberg Limits
PL LL
Water Content (%)
10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: 4.3 m.
Groundwater Elevation:

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RECORD OF BOREHOLE No. 12

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742929** Date Started: **Jun 13/24**
Reviewed By: **MR** Easting: **555974** Date Completed: **Jun 13/24**

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LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT	Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); Atterberg Limits: PL, LL, Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 / 224.8												
	TOPSOIL: 300 mm (0.3 / 224.5)	SS	1	75	7	0 / 224.8	7	24					
	FILL: Clayey silt, trace organics, trace sand, firm, brown, moist	SS	2	50	6	1.5 / 223.5	6	26					
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	75	15	3 / 222	15	27					
		SS	4	75	11		11	26					
	- - - Grey - - -	SS	5	75	11	4.5 / 220.5	11	26					
		SS	6	67	13	6 / 219	13	25					
		SS	7	67	9	7.5 / 217.5	9	24					
		SS	8	67	7	9 / 216	7	27					
	9.8 / 215.0	SS	9	70	7		7	26					
	Borehole Terminated at 9.8 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**

RECORD OF BOREHOLE No. 13

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742946** Date Started: **Jun 12/24**
Reviewed By: **MR** Easting: **555969** Date Completed: **Jun 12/24**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	FIELD TESTING: Shear Strength (kPa) / Penetration Testing (SPT, DCPT)	LAB TESTING: Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); Atterberg Limits (PL, LL); Water Content (%)	Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR	SA	SI	CL
	0.0 224.8													
	0.2 TOPSOIL: 250 mm 224.5													
	FILL: Clayey silt, trace organics, trace rootlets, firm, brown, moist	SS	1	83	7									
		SS	2	75	8									
	1.5 223.2													
	SILT: Some clay, trace sand, compact to loose, brown, very moist to wet	SS	3	100	12						0	2	83	15
		SS	4	100	13									
		SS	5	83	19									
		SS	6	75	15									
	- - - Clay pockets, loose, grey - - -	SS	7	75	7									
		SS	8	75	9									
		SS	9	75	6									
	9.8 215.0													
	Borehole Terminated at 9.8 m													

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jul 03/24 at depth of: 3.6 m. Groundwater Elevation: 221.2 m

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RECORD OF BOREHOLE No. 14

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742901** Date Started: **Jun 12/24**
Reviewed By: **MR** Easting: **555969** Date Completed: **Jun 12/24**

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LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING		LAB TESTING			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT		Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); Atterberg Limits: PL, LL; Water Content (%)		Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%): GR, SA, SI, CL
	0.0 224.8												
	0.2 TOPSOIL: 250 mm 224.6	SS	1	100	4	0		4		27			
	FILL: Clayey silt, trace organics, trace rootlets, firm, brown, moist 0.8 224.1												
	SILT: Some clay, trace sand, compact, brown, very moist to wet	SS	2	100	14	1.5	223.5	14		26			
		SS	3	100	16			16		27			
		SS	4	100	24	3	222	24		24			
	3.5 221.3	SS	5	100	27			27		23			
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: Jul 03/24 at depth of: 1.6 m.
Cave depth after auger removal: Open
Groundwater Elevation: 223.2 m

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RECORD OF BOREHOLE No. 15

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742959** Date Started: **Jun 14/24**
Reviewed By: **MR** Easting: **555951** Date Completed: **Jun 14/24**

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT ○, DCPT ●)	Combustible Organic Vapour - Hex △; Combustible Organic Vapour - IBL ▲; Total Organic Vapour (ppm) ◇; Atterberg Limits PL–LL; Water Content (%) ○	Instrumentation Installation	GR	SA	SI	CL
	0.0 224.9												
	TOPSOIL: 300 mm 0.3 224.6	SS	1	56	5	0	5	16					
	FILL: Clayey silt, some orgnics, trace rootlets, firm to soft, brown, moist												
		SS	2	67	3		3	22					
	1.5 223.4					1.5 223.5							
	SILT: Some clay, trace sand, loose to compact, brown, very moist to wet	SS	3	100	7		7	25					
		SS	4	100	6		6	28					
						3 222							
	3.5 221.4	SS	5	100	12		12	27					
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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RECORD OF BOREHOLE No. 16

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742977** Date Started: **Jun 14/24**
Reviewed By: **MR** Easting: **555946** Date Completed: **Jun 14/24**

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LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT	Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 225.0												
	TOPSOIL: 300 mm 0.3 224.7	SS	1	56	5	0 225	5	20					
	FILL: Clayey silt, trace gravel, trace organics and rootlets, firm, brown, moist												
		SS	2	67	4		4	25					
	1.5 223.5					1.5 223.5							
	SILT: Some clay, trace sand, loose to compact, brown, very moist to wet	SS	3	100	8		8	19					
		SS	4	100	10		10	26					
						3 222							
	3.5 221.5	SS	5	100	12		12	29					
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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RECORD OF BOREHOLE No. 18

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4743009** Date Started:
Reviewed By: **MR** Easting: **555935** Date Completed:

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	GR	SA	SI	CL
	0.0 225.1										
	0.3 TOPSOIL: 300 mm 224.8	SS	1	44	6	0	225				
	FILL: Clayey silt, trace sand, trace organics and rootlets, firm to soft, brown, very moist	SS	2	67	3						
		SS	3	89	4	1.5	223.5				
	2.3 222.8										
	CLAYEY SILT: Trace sand, firm to stiff, brown, wet	SS	4	100	5			0	5	74	21
		SS	5	100	9	3	222				
	3.5 221.6 Borehole Terminated at 3.5 m										

FIELD TESTING: Shear Strength Testing (kPa); Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160; Penetration Testing; SPT DCPT; 10 20 30 40

LAB TESTING: Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits; PL LL; Water Content (%); 10 20 30 40

Instrumentation Installation

COMMENTS & GRAIN SIZE DISTRIBUTION (%)

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on: Jul 03/24 at depth of: 2.4 m.
Groundwater Elevation: 222.7 m

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RECORD OF BOREHOLE No. 19

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742963** Date Started: **Jun 12/24**
Reviewed By: **MR** Easting: **555969** Date Completed: **Jun 12/24**

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 / 224.7												
	TOPSOIL: 250 mm (0.2 / 224.5)	SS	1	67	7	0 / 224.7	7	18					
	FILL: Clayey silt, some organics, trace sand, firm to stiff, brown, moist	SS	2	89	9	223.5	9	17					
	(1.5 / 223.2)					1.5							
	SILT: Some clay, trace sand, loose, brown, wet	SS	3	89	6		6	23					
		SS	4	90	6	222	6	28					
	(3.5 / 221.2)	SS	5	90	4	3	4	30					
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 21

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742996** Date Started: **Jun 14/24**
Reviewed By: **MR** Easting: **555960** Date Completed: **Jun 14/24**

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 224.9												
	0.2 TOPSOIL: 250 mm 224.6	SS	1	44	4	0	4	21					
	FILL: Silt, some clay, trace sand, trace organics, loose to very loose, brown, very moist to wet	SS	2	44	5	223.5	5	21					
		SS	3	67	6	1.5	6	27		0	7	77	16
		SS	4	100	2	222	2	25					
	3.0 221.8					3							
	3.5 SILT: Some clay, trace sand, loose, brown, wet 221.3	SS	5	100	9		9	26					
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Cave depth after auger removal: Open
Groundwater depth observed on:
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 23

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hand Augers** Drilling Machine: **-**
Logged By: **MH** Northing: **4743028** Date Started: **Jul 03/24**
Reviewed By: **MR** Easting: **555953** Date Completed: **Jul 03/24**

LITHOLOGY PROFILE			SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION		Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); Penetration Testing: SPT, DCPT	Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); Atterberg Limits: PL, LL; Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0	226.6												
	0.2 TOPSOIL: 200 mm	226.4					0 / 226.5							
	CLAYEY SILT: Trace organics in upper 0.5 m, inferred stiff, brown, moist													
	1.5	225.1					1.5							
	Borehole Terminated at 1.5 m													

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 24

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742969** Date Started: **Jun 14/24**
Reviewed By: **MR** Easting: **555982** Date Completed: **Jun 14/24**

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LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); Atterberg Limits; Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 / 224.8												
	TOPSOIL: 280 mm 0.3 / 224.5	SS	1	78	4	0	4	19					
	FILL: Silt, some clay, trace sand, trace organics and rootlets, loose, brown, moist to wet	SS	2	78	5	1.5 / 223.5	5	20					
	2.3 / 222.5	SS	3	100	4		4	18					
	SILT: Some clay, trace sand, loose, brown, wet	SS	4	100	9	3 / 222	9	30					
	3.5 / 221.3	SS	5	75	6		6	27					
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**
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RECORD OF BOREHOLE No. 26

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Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742998** Date Started: **Jun 14/24**
Reviewed By: **MR** Easting: **555967** Date Completed: **Jun 14/24**

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)				
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT ○, DCPT ●)	Combustible Organic Vapour - Hex △; Combustible Organic Vapour - IBL ▲; Total Organic Vapour (ppm) ◇; Atterberg Limits PL / LL; Water Content (%) ○	Instrumentation Installation	GR	SA	SI	CL
0.0 / 224.8	TOPSOIL: 200 mm (0.3 / 224.5)					0								
	FILL: Clayey silt, trace sand, trace organics, firm to stiff, brown, moist	SS	1	44	5		5	20						
		SS	2	56	16	223.5	16	20						
						1.5								
		SS	3	67	6		6	16						
2.3 / 222.5														
	CLAYEY SILT: Trace sand, trace organics, soft to firm, brown, wet	SS	4	89	2	222	2	29						
						3								
3.5 / 221.3		SS	5	89	8		8	27						
	Borehole Terminated at 3.5 m													

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on: Jul 03/24 at depth of: 3.1 m.
Cave depth after auger removal: Open
Groundwater Elevation: 221.7 m

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 28

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hand Augers** Drilling Machine: **-**
Logged By: **MH** Northing: **4743024** Date Started: **Jul 03/24**
Reviewed By: **MR** Easting: **555979** Date Completed: **Jul 03/24**

LITHOLOGY PROFILE			SOIL SAMPLING						FIELD TESTING		LAB TESTING			
Lithology Plot	DESCRIPTION		Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); 40 80 120 160; Penetration Testing: SPT, DCPT; 10 20 30 40		Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits: PL, LL; Water Content (%); 10 20 30 40		Instrumentation Installation	COMMENTS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	0.0 226.7													
	0.1 226.6 TOPSOIL: 120 mm CLAYEY SILT: Trace sand, trace organics upper 0.5 m, inferred stiff, brown, moist						0 226.5							
	1.5 225.2						1.5							
	Borehole Terminated at 1.5 m													

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**

RECORD OF BOREHOLE No. 29

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hollow Stem Augers** Drilling Machine: **Track Mount**
Logged By: **MM** Northing: **4742962** Date Started: **Jun 14/24**
Reviewed By: **MR** Easting: **556002** Date Completed: **Jun 14/24**

LITHOLOGY PROFILE		SOIL SAMPLING					FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m) / ELEVATION (m)	Shear Strength Testing (kPa); Penetration Testing (SPT, DCPT)	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm); Atterberg Limits (PL, LL); Water Content (%)	Instrumentation Installation	GR	SA	SI	CL
	0.0 224.6												
	TOPSOIL: 300 mm 0.3 224.3	SS	1	44	4	0	4	8					
	FILL: Sand, trace silt, trace organics, loose, brown, moist												
	- - - Clayey silt, trace sand, soft to firm- - -	SS	2	67	6	223.5	6	17					
						1.5							
	2.3 222.4	SS	3	44	3		3	22					
	SILT: Some clay, trace sand, loose to compact, brown, very moist to wet	SS	4	100	6	222	6	29					
	3.5 221.1	SS	5	100	15	3	15	27					
	Borehole Terminated at 3.5 m												

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**
Page: **1 of 1**

RECORD OF BOREHOLE No. 31

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hand Augers** Drilling Machine: **-**
Logged By: **MH** Northing: **4743013** Date Started: **Jul 03/24**
Reviewed By: **MR** Easting: **555996** Date Completed: **Jul 03/24**

LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test, Pocket Penetrometer, Field Vane (Intact), Field Vane (Remolded); 40 80 120 160; Penetration Testing: SPT, DCPT; 10 20 30 40	Combustible Organic Vapour - Hex, Combustible Organic Vapour - IBL, Total Organic Vapour (ppm); 100 200 300 400; Atterberg Limits: PL, LL; Water Content (%); 10 20 30 40	Instrumentation Installation	GR	SA	SI	CL
	0.0 223.2 0.1 223.1 TOPSOIL: 100 mm CLAYEY SILT: Some sand, trace organics upper 0.5 m, inferred firm, brown, moist 1.5 221.7					0 1.5	222							
	Borehole Terminated at 1.5 m													

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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Scale: **1 :75**

RECORD OF BOREHOLE No. 33

Project Number: **2404404**
Project Client: **Grand Erie District School Board**
Project Name: **Addition to Elgin Ave Public School**
Project Location: **80 Elgin Avenue, Simcoe, Ontario**
Drilling Location: **See Borehole Location Plan**
Local Benchmark:

Drilling Method: **Hand Augers** Drilling Machine: **-**
Logged By: **MH** Northing: **4743027** Date Started: **Jul 03/24**
Reviewed By: **MR** Easting: **555983** Date Completed: **Jul 03/24**

LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING	LAB TESTING		COMMENTS & GRAIN SIZE DISTRIBUTION (%)			
Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT "N" Value	DEPTH (m)	ELEVATION (m)	Shear Strength Testing (kPa): Other Test; Pocket Penetrometer; Field Vane (Intact); Field Vane (Remolded); 40 80 120 160. Penetration Testing: SPT DCPT 10 20 30 40	Combustible Organic Vapour - Hex; Combustible Organic Vapour - IBL; Total Organic Vapour (ppm) 100 200 300 400. Atterberg Limits PL LL. Water Content (%) 10 20 30 40	Instrumentation Installation	GR	SA	SI	CL
0.0 224.7														
0.2 224.5	TOPSOIL: 170 mm					0								
	CLAYEY SILT: Some sand, trace organics in upper 0.5 m, inferred stiff, brown, moist						223.5							
1.5 223.2						1.5								
	Borehole Terminated at 1.5 m													

Groundwater depth encountered on completion of drilling: Dry
Groundwater depth observed on:
Cave depth after auger removal: Open
Groundwater Elevation:

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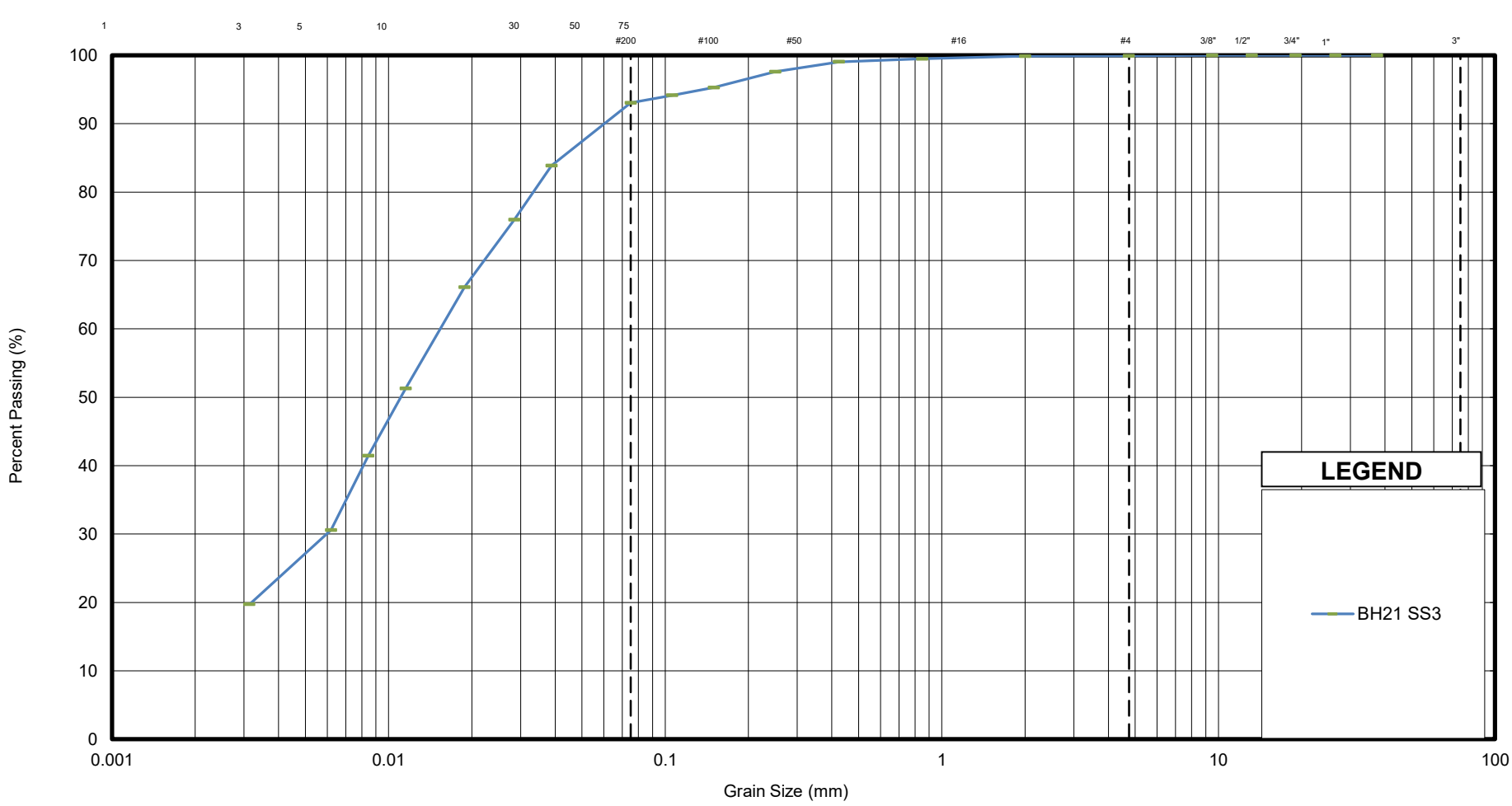
Appendix B Geotechnical Laboratory Data

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH21 SS3	SILT, Some Clay, Trace Sand	-	7	77	16	-	0.006	0.015	-	-

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GRAIN SIZE DISTRIBUTION - Addition to Elgin Avenue Public School

FILL

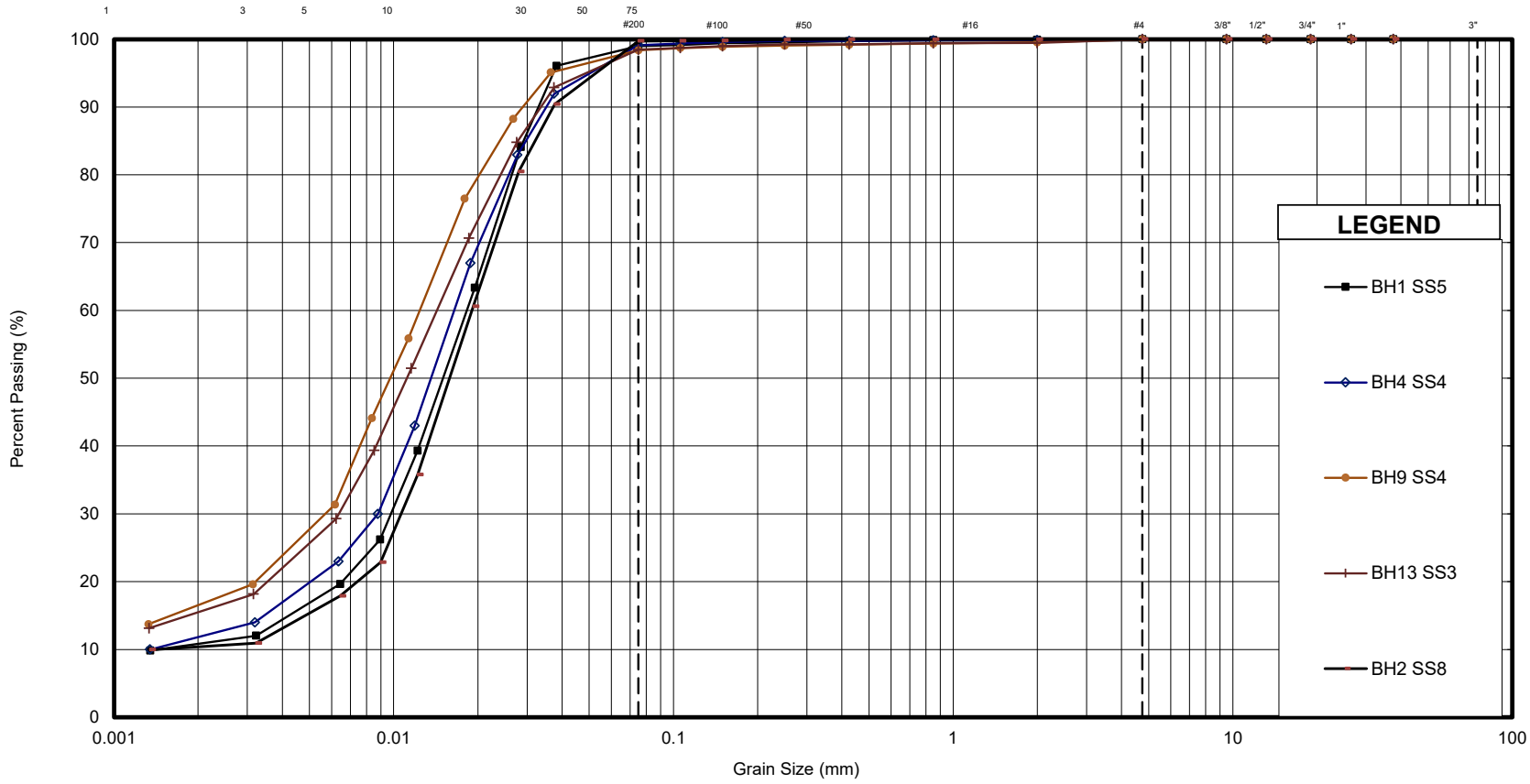
FIGURE No.	B1
REF. No.	2404404
DATE	Aug 2024

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse

GRAIN SIZE IN MICROMETERS

SIEVE DESIGNATION (IMPERIAL)



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH1 SS5	SILT, Some Clay, Trace Sand	-	1	88	11	0.001	0.010	0.018	12.6	3.6
BH4 SS4	SILT, Some Clay, Trace Sand	-	1	87	12	0.001	0.009	0.016	12.2	3.5
BH9 SS4	SILT, Some Clay, Trace Sand	-	2	82	16	-	0.006	0.012	-	-
BH13 SS3	SILT, Some Clay, Trace Sand	-	2	83	15	-	0.006	0.014	-	-
BH2 SS8	SILT, Some Clay	-	-	90	10	0.001	0.011	0.019	13.4	4.2

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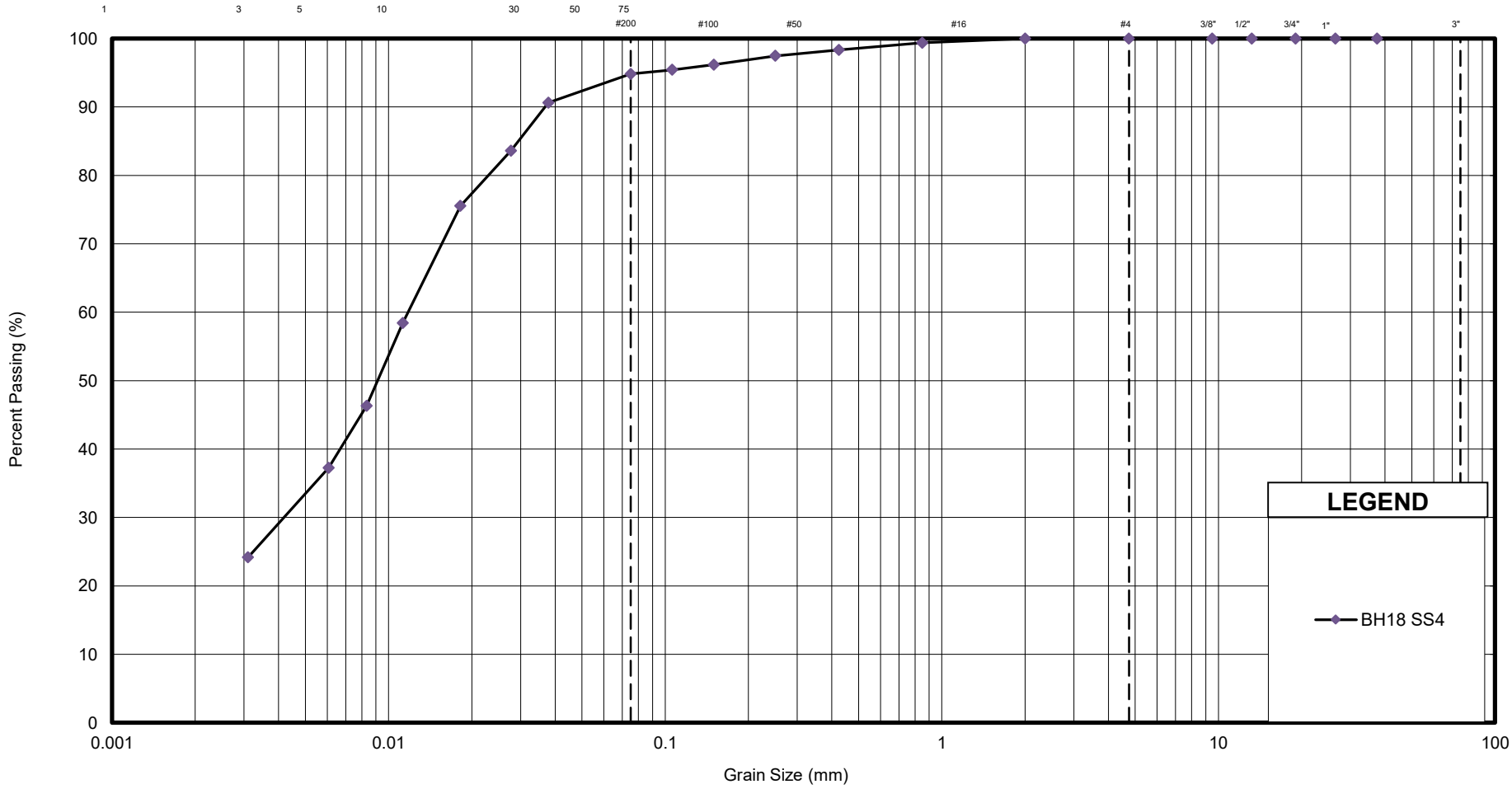
GRAIN SIZE DISTRIBUTION - Addition to Elgin Avenue Public School

SILT

FIGURE No.	B2
REF. No.	2404404
DATE	Aug 2024

UNIFIED SOIL CLASSIFICATION SYSTEM

CLAY AND SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



Sample	Description	Gr.	Sa.	Si.	Cl.	D_{10}	D_{30}	D_{60}	C_u	C_c
BH18 SS4	CLAYEY SILT, Trace Sand	-	5	74	21	-	0.004	0.012	-	-

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GRAIN SIZE DISTRIBUTION - Addition to Elgin Avenue Public School

CLAYEY SILT

FIGURE No.	B3
REF. No.	2404404
DATE	Aug 2024

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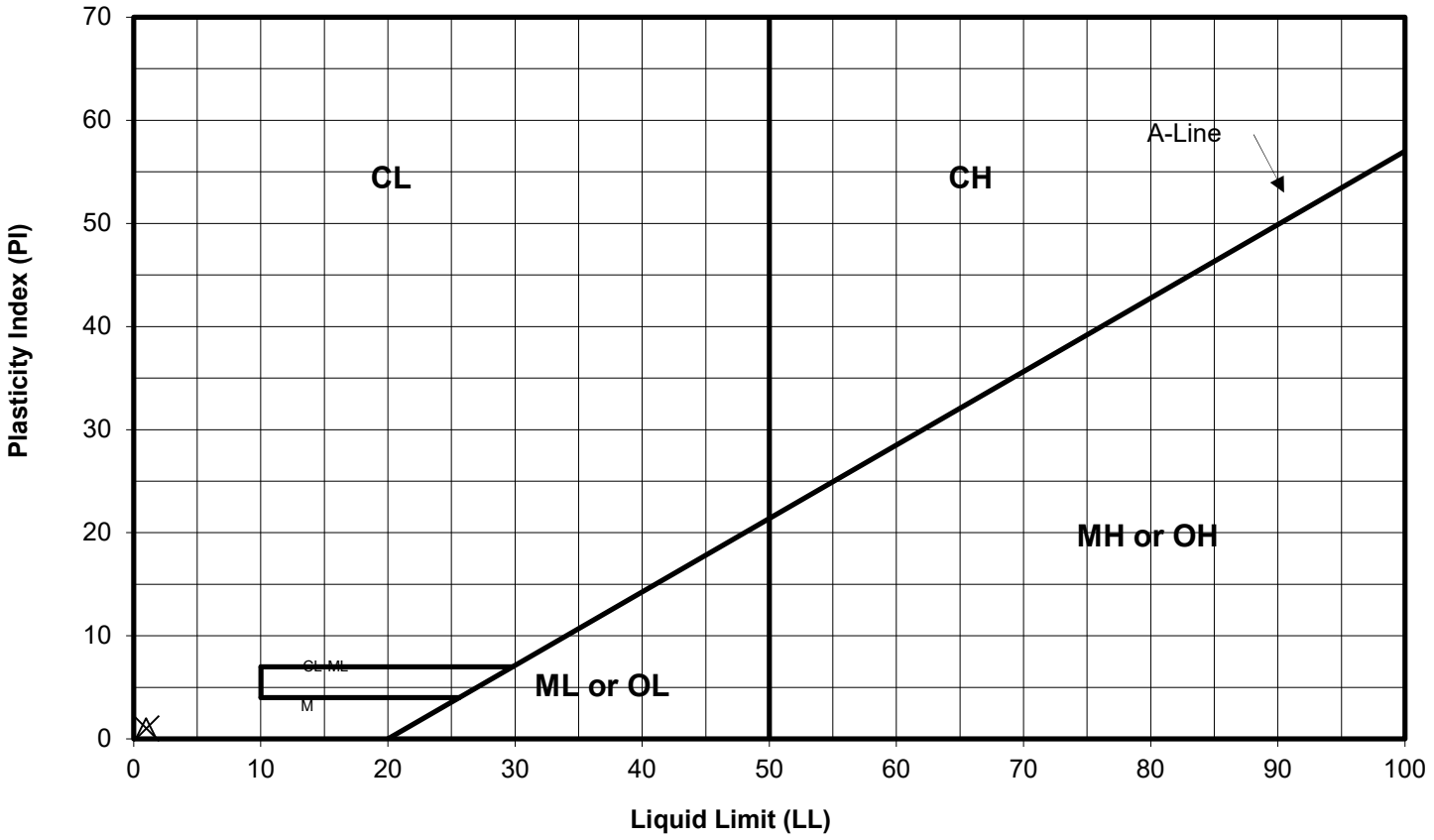
Atterberg Limits Report

Project Name: Addition to Elgin Avenue Public School
Project No.: 2404404
Client:

Figure No.: B4
Date Tested: July 16, 2024
Date Sampled: -

SAMPLE INFORMATION								
SAMPLE ID	BH1 SS5	LIQUID LIMIT (LL):	-	PLASTIC LIMIT (PL)	-	PLASTIC INDEX (PI)	Non-Plastic	
SAMPLE ID	BH2 SS8	LIQUID LIMIT (LL):	-	PLASTIC LIMIT (PL)	-	PLASTIC INDEX (PI)	Non-Plastic	

Plasticity Chart



DISTRIBUTION:	Prepared By: D. Gorry	Checked By:

Report No. _____

Appendix C Certificate of Chemical Analyses

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: -

REPORT No: 24-021591 - Rev. 0

Report To:
GEI Consultants
647 Welham Rd, Unit 14
Barrie, ON L4N 0B7

CADUCEON Environmental Laboratories
112 Commerce Park Dr Unit L
Barrie, ON L4N 8W8

Attention: Mohammad Razeen

DATE RECEIVED: 2024-Jul-16
DATE REPORTED: 2024-Jul-25
SAMPLE MATRIX: Soil

CUSTOMER PROJECT: 2404404
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Solid)	2	OTTAWA	PCURIEL	2024-Jul-19	A-IC-01	SM 4110B
Conductivity Meter (Solid)	2	OTTAWA	PLUSSIER	2024-Jul-22	A-COND-03	MECP E3530
pH Meter (Solid)	2	OTTAWA	PLUSSIER	2024-Jul-18	pH-03	MECP E3530
Redox Potential (Solid)	2	RICHMOND_HILL	JEVANS	2024-Jul-24	In House	SM 2580
Sulphide Solid (Subcontracted)	2	TESTMARK	CBURKE	2024-Jul-23		Subcontracted

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

			Client I.D.	BH2 SS4	BH13 SS4
			Sample I.D.	24-021591-1	24-021591-2
			Date Collected	2024-06-11	2024-06-12
Parameter	**Units**	**R.L.**		-	-
Conductivity @25°C	mS/cm	0.001		0.212	0.106
Resistivity (calculated)	Ohms*cm	-		4720	9410
pH @25°C	-	-		7.78	7.80
Redox Potential	mV	-		403	406
Chloride	µg/g	5		114	77
Sulphate	µg/g	10		67	43

Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

Subcontracted Analyses

Parameter	Units	R.L.	Client I.D.	BH2 SS4	BH13 SS4
			Sample I.D.	24-021591-1	24-021591-2
			Date Collected	2024-06-11	2024-06-12
			-	-	-
Sulphide	µg/g	-		<0.3	0.8

M. Dubien

Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

GENERAL SAMPLE SUBMISSION FORM

CADUCEON ENVIRONMENTAL LABORATORIES
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SAMPLES SUBMITTED TO:

Kingston	
Ottawa	
Richmond Hill	
Barrie	x
Windsor	

TESTING REQUIREMENTS

x	O'Reg 153/04	Table (1 - 9)	1	Record of Site	
x	O'Reg 406/19	Table (1 - 9.1)	1	SPLP Table (1-9.1)	1
x	RPI	x	ICC		Agricultural
	Coarse		Medium/Fine		O'Reg 558 TCLP
	MISA		PWQO		Landfill Monitoring
	Other:				

REPORT NUMBER (Lab Use)

24-021591

Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations? ☐ Yes ☒ No (If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)

Organization: GEI Consultants Ltd.	Address: 647 Welham Rd., Barrie, Unit 14	Invoicing Address (if different):
Contact: M.Razeen		
Tel: 705-350-1852	Fax:	
Email: mrazeen@geiconsultants.com	Quote #: Q3754	Project Name or #: 2404404
Additional Info (email, cell, etc): mhobson@geiconsultants.com	P.O. #:	Additional Info:

ANALYSES REQUESTED

Corrosivity | Suspected Highly Contaminated

TURNAROUND SERVICE REQUESTED (see back page)

*Must be arranged in advance

☐	Platinum*	200% Surcharge
☐	Gold*	100% Surcharge
☐	Silver	50% Surcharge
☐	Bronze	25% Surcharge
x	Standard	5-7 days
☐	Specific Date:	

* Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Sludge, SS=Solid Sludge, S=Soil, Sed=Sediment, PC=Paint Chips, F=Filter, Oil = Oil

Lab No.	Sample Source and/or Sample Identification	S.P.L. (Watertrax)	Sample Matrix *	Date Collected (yy-mm-dd)	Time Collected	Indicate Test For Each Sample By Using A Check Mark In The Box Provided	X	Field pH	Field Temp.	# Bottles/ Sample	Field Filtered Y/N
1	BH2 SS4		S	24-06-11	PM	x				1	
2	BH13 SS4		S	24-06-12	PM	x				1	
#1-1	Jar → O										
#1-2	Sm Jar (Split) → RH										
#1-3	P-CUP → testmark										

SAMPLE SUBMISSION INFORMATION

	Sampled by:	Submitted by:
Print:	M.Hobson	M. Hobson
Sign:		
	24-07-16	24-07-16
	Date (yy-mm-dd)/Time:	Date (yy-mm-dd)/Time:

SHIPPING INFORMATION

Courier (Client account)		Invoice	
Courier (Caduceon account)			
Drop Off	x	# of Pieces	
Caduceon (Pick-up)			

REPORTING / INVOICING

Report by Fax	
Report by Email	x
Invoice by Email	x
Invoice by Mail	

SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)

Received By (print):	Amanda	Signature:	
Date Received (yy-mm-dd):	24-07-16	Time Received:	1645
Laboratory Prepared Bottles:	☒ Yes	☐ No	
Sample Temperature °C:	21.8	Labeled by:	

Comments:

Page 1 of 1

G

TESTMARK Laboratories
Committed to Quality and Service

GENERAL CHAIN OF CUSTODY FORM

Please use our Drinking Water Chain of Custody Form for regulated drinking water samples

REPORT TO:		INVOICE TO: (if different from Report)		PROJECT INFORMATION:	
Client:	Caduceon Environmental Labs	Client:	Caduceon Environmental Labs	TM Quote #:	
Address:	112 Commerce Park Drive	Address:	285 Dalton Ave	Client P.O. #:	
	Barrie ON, L4N 8W8		Kingston ON, K7K 6Z1	Client Project #:	24-021591
Contact:	Christine Burke	Contact:	Maggie MacCormack		
Email:	cburke@caduceonlabs.com & tsexsmith@caduceonlabs.com	Email:	mmaccormack@caduceonlabs.com		
Phone:	289-475-5442 Fax: 866-562-1963	Phone:	613-544-2001 Fax: 613-544-2770		

REPORTING/INVOICING FORMAT
☐Fax ☑Email ☐Mail

QC DATA REPORTED
☐Yes ☑No

SAMPLE DISPOSAL
☐Hold ☑Dispose ☐Return

TURN AROUND TIME (TAT)*
☐1 Business Day ☐2 Business Days
☐3 Business Days ☑Standard

SPECIFIC DATE:
* Prior arrangements must be made for rush/weekend/holiday work

SAMPLING				NUMBER OF CONTAINERS	ANALYSIS REQUESTED													METALS FIELD FILTERED? (Y/N?)	LABORATORY USE ONLY			
DATE (mm-dd-yy)	TIME	MATRIX**	SAMPLE DESCRIPTION (This Will Appear On The Report)		Sulphide											FIELD pH (if applicable)	FIELD TEMP (if applicable)		CONTAINERS RECEIVED	WORK ORDER NUMBER: TEMP	Btl. Type	Lab ID
2024-06-11	PM	S	BH2 SS4 (21591-1)	1	X																	
2024-06-12	PM	S	BH13 SS4 (21591-2)	1	X																	

**Matrix: B=Biota, GW=Ground Water, O=Oil, P=Paint, S=Soil, SL=Sludge, SW=Surface Water, W=Water, WW=Wastewater, SD=Sediment

☐High Concentrations Expected

COMMENTS/FIELD NOTES:

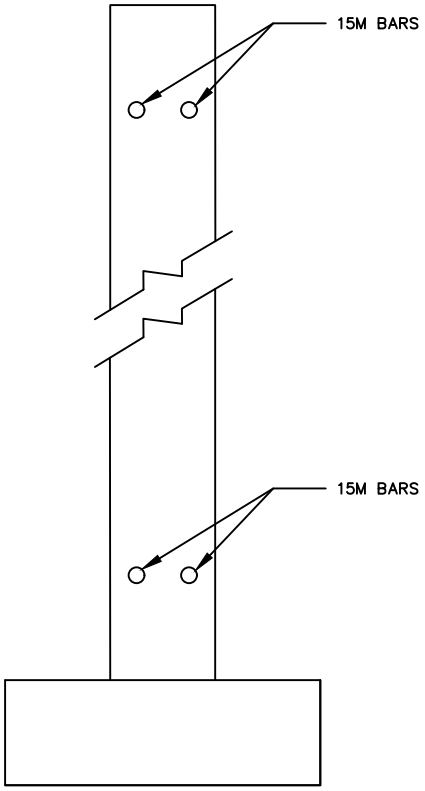
REGULATION

☐O.Reg. 153: (1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐)
☐Industrial / Commercial ☐Residential / Parkland ☐Agricultural
☐Coarse Soil ☐Fine Soil ☐Surface ☐Subsurface
☐O.Reg. 558 ☐PWQO ☐MISA ☐CofA ☐MDMER ☐ODWS ☐None
Sewer Use: ☐Sanitary ☐Storm Municipality:
☐Other:

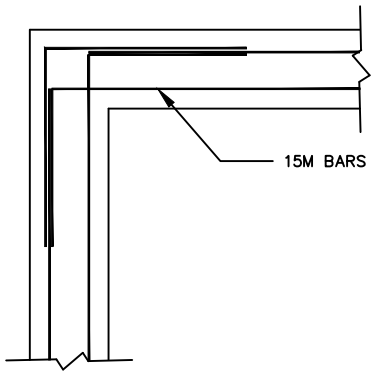
Relinquished to Testmark By (Signature) Nathalie M			Date 17-Jul-24	Time	
Sampled By client	Date 12-Jun-24	Time	Shipped By	Shipping Reference	
Received By Amanda M	Date 16-Jul-24	Time	Received at Testmark By	Date	Time

7 Margaret Street, Garson, ON, P3L 1E1 • 705-693-1121 (P) • 705-693-1124 (F) • customer.service@testmark.ca
1335 Riverside Drive, Timmins, ON, P4R 1A6 • 705-531-1121 (P) • 705-531-1125 (F) • timmins@testmark.ca
6820 Kitimat Road Unit #1, Mississauga, ON, L5N 5M3 • 905-821-1112 (P) • 905-821-2095 (F) • mississauga@testmark.ca
1470 Government Road, Kirkland Lake, ON P2N 3J1 • 705-642-3361 (P) • 705-642-3222 (F) • kirkland.lake@testmark.ca
1131 Central Ave., Unit 2 Thunder Bay, ON P7B 7C9 • 807-333-0921 (P) • 807-333-0924 (F) • thunder.bay@testmark.ca

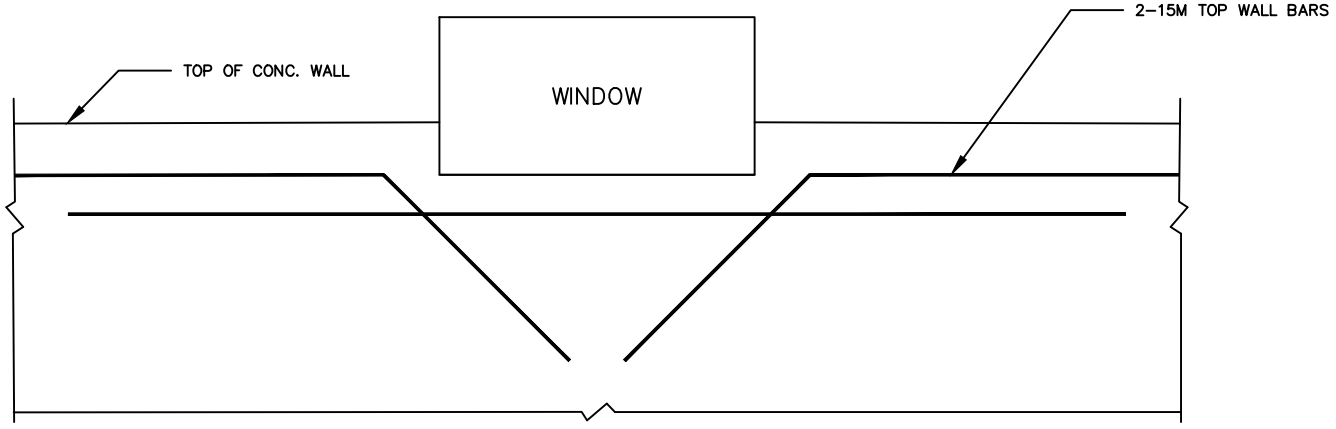
Appendix D Typical Details



TYPICAL REINFORCED WALL



TYPICAL SPLICING AT CORNERS



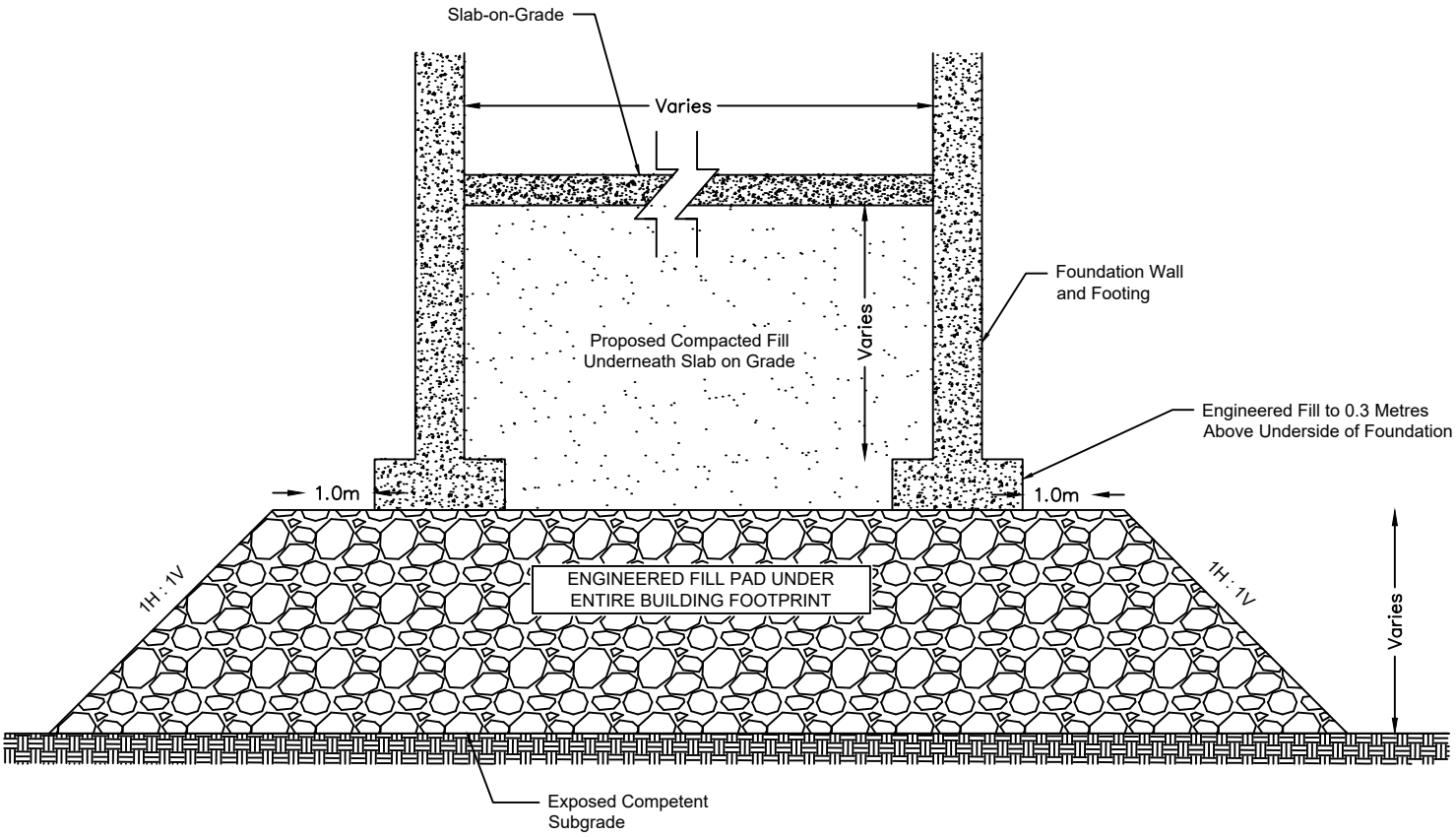
TYPICAL WINDOW REINFORCING

GEI Consultants
647 Welham Rd, Unit 14, Barrie, ON, L4N 0B7

FOUNDATION WALL REINFORCING ON ENGINEERED FILL TYPICAL DETAIL

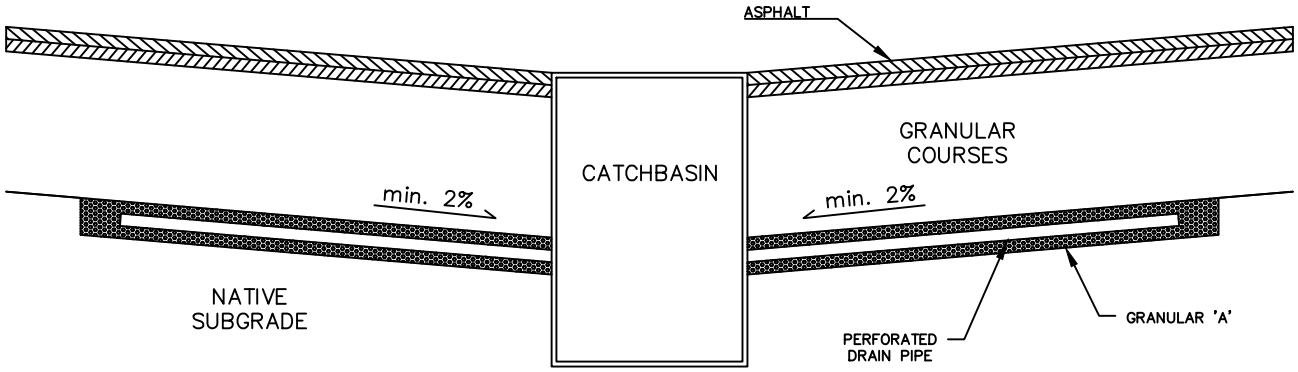
Notes:

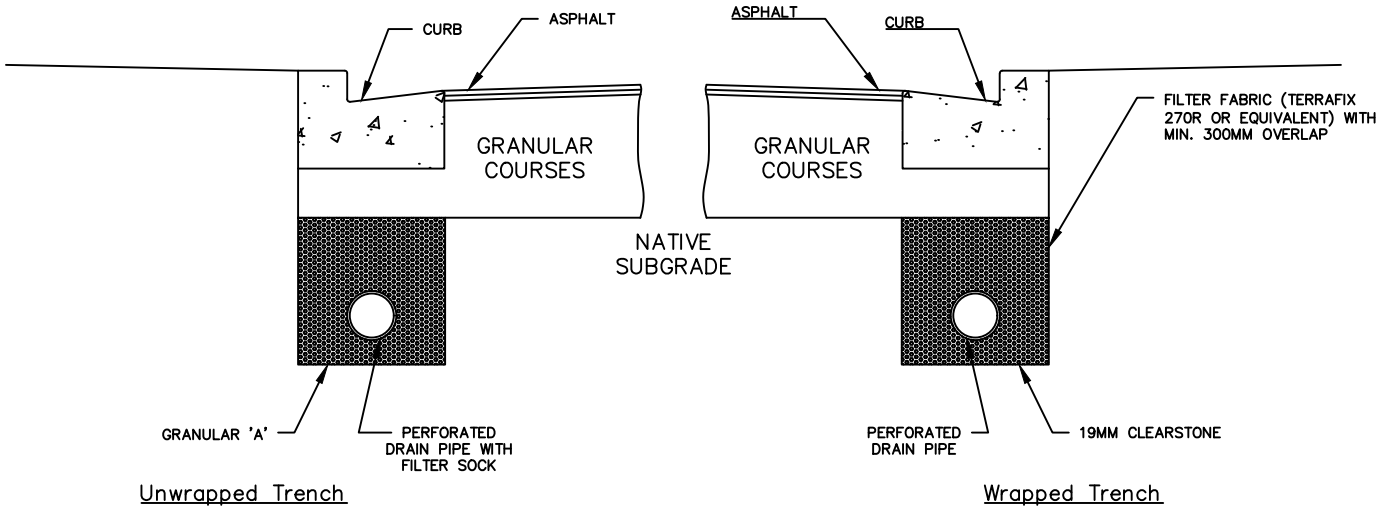
1. Engineered Fill compacted to 100% Standard Proctor Maximum Dry Density (SPMDD) and inspected under the full time supervision of GEI.
2. Engineered fill must be placed in loose lifts of 200 mm or less and then compacted as noted above.
3. Interior non-structural compacted fill compacted to 98% SPMDD with recommended part-time inspection.



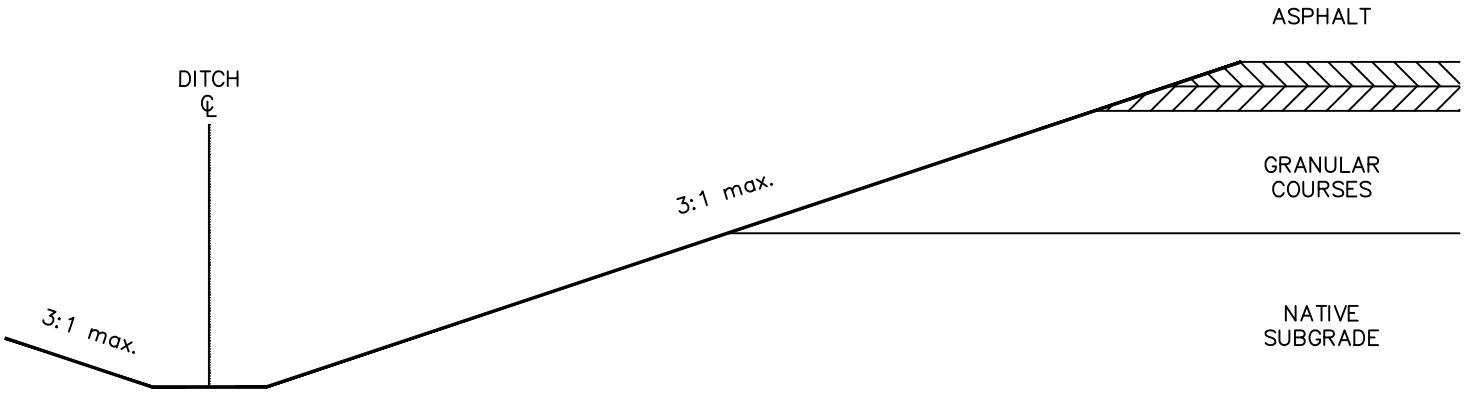
GEI Consultants
647 Welham Rd, Unit 14, Barrie, ON, L4N 0B7

ENGINEERED FILL PAD DIMENSIONING TYPICAL DETAIL





Urban Cross Sections



Rural Cross Section

GEI Consultants

647 Welham Rd, Unit 14, Barrie, ON, L4N 0B7

PAVEMENT DRAINAGE ALTERNATIVES TYPICAL DETAILS

Elgin Avenue Public School Addition and Renovations

Functional Servicing & Stormwater Management Report

Project Location:
80 Elgin Avenue, Simcoe, ON

Prepared for:
Salter Pilon Architecture
151 Ferris Lane Suite 400, Barrie, ON L4M 6C1

Prepared by:
MTE Consultants
1016 Sutton Drive, Unit A
Burlington, ON L7L 6B8

October 11, 2024

MTE File No.: 43581-101

Engineers, Scientists, Surveyors.

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1.0 INTRODUCTION

1.1 Overview

MTE Consultants Inc. were retained by Salter Pilon to complete the site grading, servicing, and stormwater management design for the proposed school expansion located at 80 Elgin Avenue within Norfolk County (see Figure 1 for Location Plan). This report will outline a functional servicing and stormwater management strategy for the proposed development.

The site is located on an approximately 3.03ha parcel of land bounded by Residential houses to the north and west, Elgin Avenue to the east and Norfolk General Hospital to the south. The property is currently occupied by a school building, asphalt parking lot and play areas as well as landscaped areas. The proponent plans to construct an addition onto the existing school building to the north, asphalt parking lot and play area for students.

The functional servicing described in this report will provide additional detailed information on the proposed servicing scheme for the site. Please refer to the site plan and the enclosed MTE drawings for additional information.

1.2 Background Information

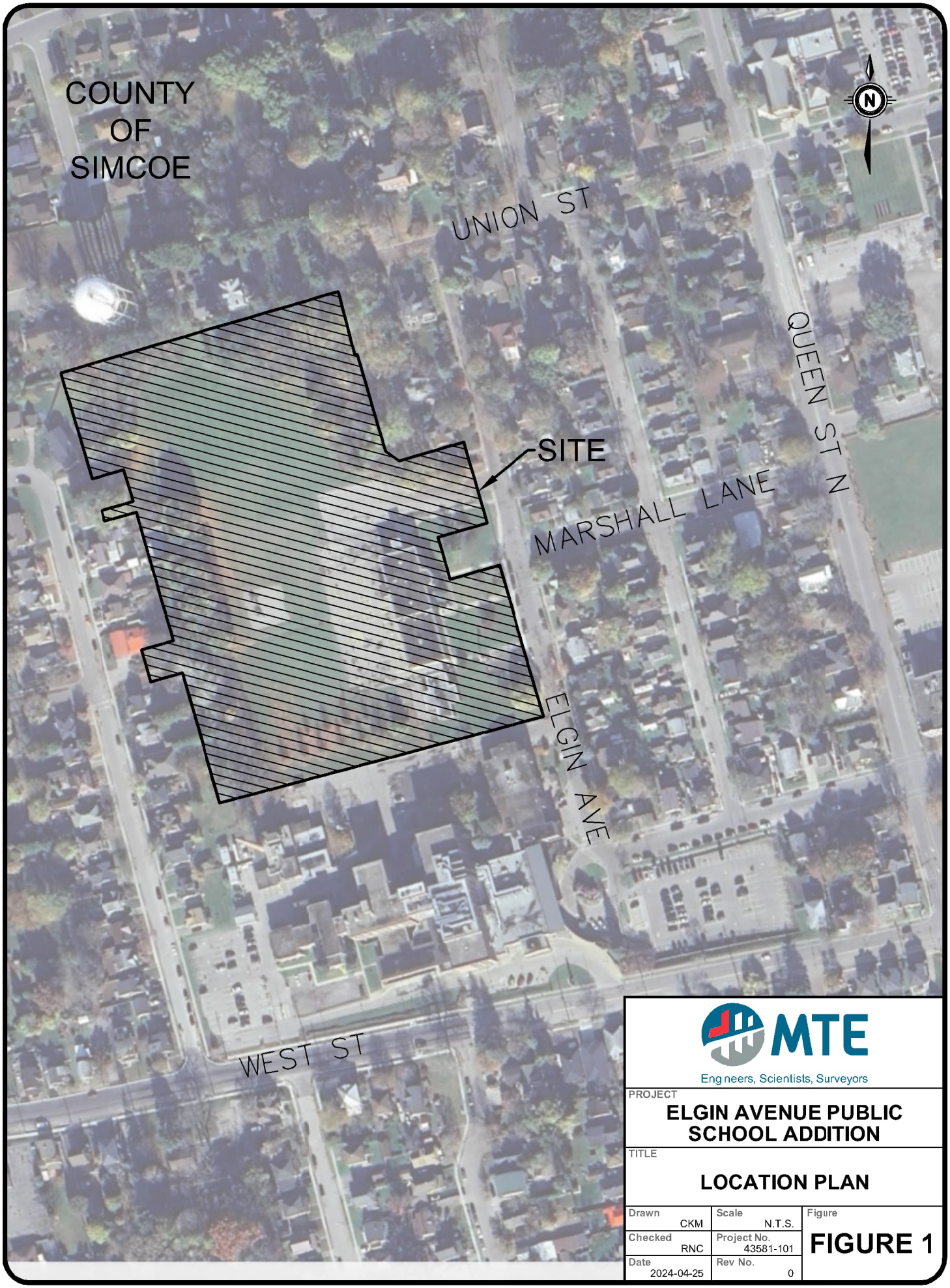
The following documents were referenced in the preparation of this report:

- Ref. 1: *Ontario Building Code (2024).*
- Ref. 2: *Water Supply for Public Fire Protection, Fire Underwriters Survey (2020).*
- Ref. 3: *Norfolk County Design Criteria (February 2019).*
- Ref. 4: *Geotechnical Investigation, 80 Elgin Avenue, Terraprobe. (May 2018).*
- Ref. 5: *Design Guidelines for Drinking-Water Systems, Ministry of the Environment and Climate Change (2008).*
- Ref. 6: *Design Guidelines for Sewage Works, Ministry of the Environment and Climate Change (2008).*
- Ref. 7: *Erosion & Sediment Control Guideline for Urban Construction (December, 2006).*

1.3 Geotechnical Investigation

A geotechnical investigation was undertaken by Terraprobe dated May 23, 2018. sixteen (16) boreholes were advanced to depths ranging from 2.0m to 6.6m below the existing grade. The investigation revealed clayey silt and silt in all boreholes. The clayey silt fill was generally found to depths of 2.9 meters and silt was generally found to depths of 6.6 meters.

Un-stabilized groundwater level observations were made in each borehole. As best as could be determined from these observations, the groundwater was encountered at depths of about 0.3 to 3.0 meter below existing ground surface.



MTE
Engineers, Scientists, Surveyors

PROJECT
ELGIN AVENUE PUBLIC SCHOOL ADDITION

TITLE
LOCATION PLAN

Drawn	Scale	Figure
CKM	N.T.S.	**FIGURE 1**
Checked: RNC	Project No.: 43581-101	
Date: 2024-04-25	Rev No.: 0	

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Plot Date: October 1, 2024 - 5:09 PM

2.0 STORMWATER MANAGEMENT

The following sections will describe the proposed stormwater management (SWM) plan for the proposed development.

2.1 Stormwater Management Criteria

Based on correspondence with Norfolk County Staff, the following stormwater management (SWM) criteria will be applied to the site:

2.1.1 Quantity Control

Attenuation of the post-development peak flows for the 5 through 100-year storm events to the pre-development (existing) 5-year peak flow rate.

2.1.2 Quality Control

An enhanced (Level 1) water quality control is to be provided to achieve 80% Total Suspended Solids (TSS) Removal.

2.2 Existing Conditions

Under existing conditions, the property is occupied by a school building, asphalt parking lot and play areas as well as landscaped areas. There is an existing 250mm diameter storm sewer flowing east at the intersection of Elgin Avenue and Marshall Lane right-of-way (ROW). There are two existing storm servicing outlets for the site; a 375mm diameter south connection to the existing storm sewer within Elgin Avenue and a 250mm diameter north connection to a manhole at the intersection of Elgin Avenue and Marshall Lane ROW. The proposed building addition will be within the drainage area of the north storm service outlet. The site slopes east towards Elgin Avenue. Existing catchbasins within the parking lot and play area capture storm runoff and discharge to the respective storm sewer outlet on Elgin Avenue. There are no known existing stormwater management quantity or quality controls on site.

The existing conditions have been defined by four (4) catchment areas (see Table 2.1 and Figure 2).

Table 2.1 - Existing Conditions Catchment Area

Catchment ID	Description	Area (ha)	Runoff Coef.
101	Existing Site Drainage to Elgin Avenue via pipe conveyance (North Storm Servicing Outlet)	1.60	0.39
101A	External Drainage to Elgin Avenue (North Storm Servicing Outlet)	0.11	0.25
102	Existing Site Drainage to Elgin Avenue via pipe conveyance (South Storm Servicing Outlet)	1.22	0.45
103	Existing Site Drainage to Elgin Avenue via overland sheet flow through easement.	0.21	0.25
	TOTAL	**3.14**	**64**

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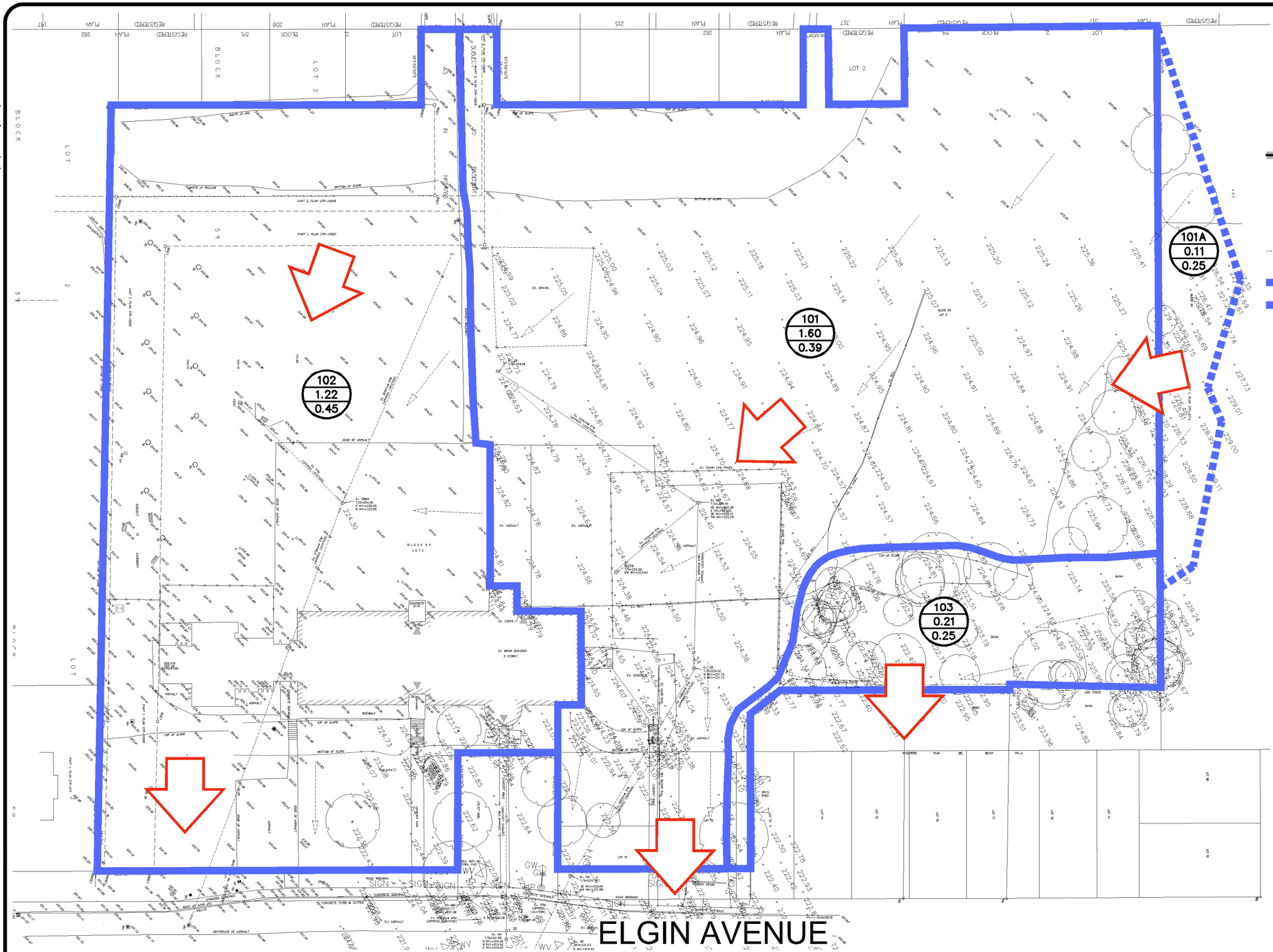
Plot Date: October 11, 2024 - 10:46 AM



LEGEND

- SITE BOUNDARY
- EXISTING SPOT ELEVATIONS (+ 326.23)
- EXISTING DIRECTION OF DRAINAGE
- EXISTING STORM SEWER (Ex. MH; Ex. 375mmØ STM)
- DRAINAGE AREA
- EXTERNAL DRAINAGE AREA
- ID No. / AREA (Ha) / RUNOFF COEFFICIENT (e.g. 101 / 1.60 / 0.39)
- EXISTING DIRECTION OF FLOW

0 7.5 15 22.5 30m

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PROJECT
ELGIN AVENUE PUBLIC SCHOOL ADDITION

TITLE
EXISTING CONDITIONS CATCHMENT AREAS

Drawn: CKM	Scale: 1:750	Figure: **FIGURE 2**
Checked: RNC	Project No.: 43581-101	
Date: 2024-06-27	Rev No.: 0	

The existing conditions were assessed using the Rational Method and the 5-year IDF parameters for the Norfolk County design storm. Table 2.2 summarizes the north storm servicing outlet allowable release rate for the 5-year design storm event, which was calculated as follows:

$$Q = 2.78CiA$$

Where:
Q = runoff rate (m^3/s)
C = runoff coefficient; $C_{existing}$
i = rainfall intensity (mm/hr) = $A/(T+B)^C$, where T=10 minutes
A = area (ha)

Catchment 102 and 202 (south storm service outlet) remain per existing conditions and are not included in the quantity control analysis due to this reasoning. In addition, Catchment 103 and 203 were compared as the drainage area is not conveyed through the north storm service outlet, but is conveyed to Elgin Avenue via overland sheet flow through an existing easement. Refer to Table 2.6 for a comparison of the proposed flows (Catchment 203) to the existing flows (Catchment 103) for all storm events.

Table 2.2 - Allowable Site (North Storm Servicing Outlet) Discharge

Storm Event	Allowable Release Rate to Elgin Street (North Storm Servicing Outlet) (Catchment 101) Q (m^3/s) [A]	External Drainage Allowable Release Rate to Elgin Street (North Storm Servicing Outlet) (Catchment 101a) Q (m^3/s) [B]	Total Allowable Release Rate (101 +101a) Q (m^3/s)
5-year	0.166	0.007	**0.173**

[A] $Q=2.78CiA = 2.78(0.39)(583/(10+3)^{0.70})(1.60) = 0.166\ m^3/s$

[B] $Q=2.78CiA = 2.78(0.25)\ (583/(10+3)^{0.70})(0.11) = 0.007\ m^3/s$

2.3 Proposed Conditions

Under proposed conditions, the proponent plans to construct an addition onto the existing school building to the north, asphalt parking lot and play area for students.

The proposed conditions drainage pattern is delineated by five (5) catchment areas. The stormwater runoff generated from the roof area of the building addition, parking lot expansion, partial play area and external drainage from the north will be captured by on-site catchbasins and will be conveyed to the existing (north storm outlet) 250mm diameter storm sewer within Marshall Lane. A proposed 185mm diameter orifice plate will be installed downstream of MH3 to allow for control of the proposed condition 100-year discharge rate to the existing condition 5-year release rate for the north storm servicing connection to Elgin Avenue.

Due to grading constraints, a small portion of the driveway and landscape area fronting the building (Catchment 204) will drain uncontrolled to Elgin Street via overland sheet flow.

Table 2.3 provides a brief description of each catchment area as well as the size and impervious cover associated with each. Figure 3 provides an illustration of the post-development catchment areas.

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Plot Date: October 1, 2024 - 5:05 PM

LEGEND

- SITE BOUNDARY
- EXISTING SPOT ELEVATIONS (+ 326.23)
- EXISTING DIRECTION OF DRAINAGE
- EXISTING STORM SEWER (Ex. MH; Ex. 375mmø STM)
- DRAINAGE AREA
- EXTERNAL DRAINAGE AREA
- MH — 21.3m–300mmø STM @ 1.3% — STORM SEWER
- ID No. / AREA (Ha) / RUNOFF COEFFICIENT (e.g. 201 / 1.69 / 0.52)
- OVERLAND FLOW ROUTE (MAJOR STORM)

0 7.5 15 22.5 30m

201 1.64 0.52

201A 0.11 0.25

202 1.22 0.45

203 0.04 0.25

204 0.13 0.59

450mmø STM

CBMH5

CB6.2

CBMH4

CBMH7

525mmø STM

250mmø STM

MH3

375mmø STM

CBMH2

CB2.1

CONTROL MH8

MH1

MH9 EFO6

ELGIN AVENUE

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PROJECT
ELGIN AVENUE PUBLIC SCHOOL ADDITION

TITLE
POST-DEVELOPMENT CATCHMENT AREAS

Drawn	Scale	Figure
CKM	1:750	**FIGURE 3**
Checked: RNC	Project No.: 43581-101	
Date: 2024-06-27	Rev No.: 0	

Table 2.3 - Proposed Conditions Catchment Areas

Catchment ID	Description	Area (ha)	Runoff Coeff.
201	Site Drainage to Elgin Avenue via pipe conveyance (North Storm Servicing Outlet) (Controlled)	1.64	0.52
201a	External Drainage to Elgin Avenue via pipe conveyance (North Storm Servicing Outlet) (Controlled)	0.11	0.25
202	Existing Site Drainage to Elgin Avenue via pipe conveyance (South Storm Servicing Outlet) (Per existing conditions)	1.22	0.45
203	Site Drainage to Elgin Avenue via overland sheet flow through easement. (Uncontrolled, per existing conditions)	0.04	0.25
204	Driveway & Landscape (Uncontrolled to Elgin Street)	0.13	0.59
	Total	**3.14**	**0.48**

2.4 Quantity Control

Stormwater management quantity controls for the developed area will be provided by an orifice plate downstream on MH3 and storage within underground pipes and structures as well as surface ponding within the parking lot. Appendix A contains detailed information pertaining to the stormwater management model.

Tables 2.4 summarizes the stage-storage-discharge relationship of the proposed underground storage, surface ponding and orifice control.

Table 2.4 - Stage-Storage-Discharge Calculations for Underground Storm Tank

Elevation (m)	Head, H (m)	Cumulative Storage Volume (m^3)[A]	Discharge Q (m^3/s)[B]	Comments
221.64	0.00	0.00	0.00000	C/L of Orifice
223.60	1.96	48.31	0.10495	
224.40	2.76	54.69	0.12456	Lowest T/G of Parking Lot
224.45	2.81	56.10	0.12568	0.05m of Ponding
224.50	2.86	66.03	0.12680	0.10m of Ponding
224.65	3.01	220.70	0.13008	0.25m of Ponding

[A] Storage volume based on underground pipes and structures and surface ponding. See Appendix A and drawing C2.1 and C2.2 for more details.
[B] From orifice equation Q = CA (2gH)0.5 for a 185 mm diameter orifice
Where: C = 0.63, A=cross-sectional area, g=9.81, H=pressure head

The proposed conditions were assessed using the Modified Rational Method and IDF parameters for the 100-year Norfolk County storm to determine the on-site storage volume and orifice control required to attenuate proposed conditions flows to the 5-year existing conditions allowable release rate for the north storm outlet. Catchment 201 and 201a drains to the on-site north storm system

and controlled via the proposed orifice control. Catchment 204 drains uncontrolled to Elgin Avenue via overland sheet flow and pipe conveyance due to grading constraints. The allowable release rate from the proposed orifice control was determined by subtracting the uncontrolled Catchment 204 flows. The uncontrolled flows that resulted from Catchment 204 was calculated with rational method (100-year storm). Catchment 201 + 201a flows were over-controlled due to the subtraction of the uncontrolled flow from Catchment 204. Refer to Appendix A for detailed calculations.

The orifice control was sized based on a stage-storage-discharge relationship developed for the high water elevation for the surface ponding at the 100-year storm event. As mentioned above, Catchment 201+201a is to be controlled via the proposed orifice control. Table 2.5 below summarizes the total proposed condition 100-year peak discharge rates from the developed area and compares them to the 5-year existing conditions allowable release rate for the north storm servicing outlet.

Catchment 102 and 202 (south storm service outlet) remain per existing conditions and are not included in the quantity control analysis due to this reasoning. In addition, Catchment 103 and 203 were compared as the drainage area is not conveyed through the north storm service outlet, but is conveyed to Elgin Avenue via overland sheet flow through an existing easement. Refer to Table 2.6 for a comparison of the proposed flows (Catchment 203) to the existing flows (Catchment 103) for all storm events.

Table 2.5 - Proposed Conditions Peak Discharge Rate Vs. Allowable Release Rate (North Storm Service Outlet)

Storm Event	Proposed Condition (100-year)			Allowable 5-Year Existing Condition Peak Discharge Rate (Catchment 101 +101a) (m^3/s) [D]
	Peak Discharge Rate Controlled (Catchment 201+201a) (m^3/s) [A]	Peak Discharge Rate Uncontrolled (Catchment 204) (m^3/s) [C]	Total Peak Discharge Rate from Site (m^3/s)	
100-yr	0.130	0.043	**0.173**	**0.173**

[A] Discharge rate taken from Modified Rational Method (See Appendix A).
[B] $Q=2.78CiA = 2.78(0.50)\ (801/(10+1.5)^{0.657})(1.80) = 0.007\ m^3/s$
[C] See Table 2.2

Based on the above, the proposed conditions north storm servicing connection peak discharge for the 100-year storm meets the existing conditions release rate of 0.173 m^3/s, and therefore within the Norfolk County guidelines.

As mentioned above, catchment 103 and 203 were compared as the drainage area is not conveyed through the north storm service outlet, but is conveyed to Elgin Avenue via overland sheet flow through an existing easement. The proposed peak flow rates to Elgin Street through the existing easement is less than the existing peak flow rates for all storm events through the easement. Table 2.6 compares the proposed flows (Catchment 203) to the existing flows (Catchment 103) for all storm events. As seen in Table 2.6, the proposed flows to the easement will be less than current conditions and will not have a negative impact to the neighbouring property or existing storm infrastructure within Elgin Avenue. Since Catchment 103 was not draining through the existing north storm servicing connection, it was not included in the quantity control calculations. However, the proposed development improves and reduces the existing

drainage through the easement significantly. In addition, Catchment 102 and 202 remain per existing conditions and are not included in the quantity control analysis due to this reasoning.

Table 2.6 - Comparison of Proposed and Existing Peak Discharge Rates to Elgin Avenue Through Existing Easement (Catchment 103 vs. Catchment 203)

Storm Event	Proposed Peak Discharge Rate (Catchment 203) (m^3/s) [A]	Existing Peak Discharge Rate (Catchment 103) (m^3/s) [A]
2-yr	0.002	0.011
5-yr	0.003	0.014
10-yr	0.003	0.016
25-yr	0.004	0.021
50-yr	0.005	0.026
100-yr	0.006	0.029
[A] Calculated using Rational Method. Refer to Appendix A for calculations.		

Using the Modified Rational Method, the on-site active storage volume required to control the proposed conditions 100-year discharge rate to the allowable release rate for the north storm service outlet is summarized in Table 2.7 below. The underground pipes and structures and surface ponding will provide sufficient storage volume to attenuate stormwater runoff up to the 100-year storm event prior to being released into the existing 250mm diameter storm sewer within Marshall Lane.

Table 2.7 - Proposed Conditions Storage Volume Requirements

Storm Event	(Catchment 201+201b)	
	Storage Volume Req. [A] (m^3)	Total Storage Volume Provided (m^3)[B]
100-yr	209.11	220.70 (5-year Water Level Elevation=223.74) (100-year Water Level Elevation=224.64)
[A] Storage volume taken from Modified Rational Method (see Appendix A). [B] See Table 2.4		

The analysis indicates the following:

- The 100-year proposed condition peak discharge rate for the north storm servicing outlet is less than the existing condition peak discharge rate for the 5-year storm event as illustrated in Table 2.5.
- As illustrated in Table 2.6, the proposed flows to the existing easement will be less than current conditions and will not have a negative impact to the neighbouring property or existing storm infrastructure within Elgin Avenue.

- Sufficient storage volume is provided within the underground pipes and structures and surface ponding to contain the 100-year storm event on-site as illustrated in Table 2.7.
- Through on-site quantity control and by reducing the peak runoff from the developed area, the proposed development will not negatively impact the downstream storm sewer system and therefore no infrastructure upgrades are required due to the proposed development.

2.5 Water Quality Control

Water quality control for the proposed development (North storm servicing connection) will be provided by a Stormceptor oil/grit separator (or approved equivalent) that will be installed at the downstream end of the stormwater management system prior to connecting into the existing 250mm diameter storm sewer within Elgin Avenue ROW. The following parameters were used to size the oil/grit separator:

- Upstream Catchment Area = 1.88ha (Catchments 201+201a+204);
- Runoff Coefficient = 0.51 ; and,
- Particle Distribution = FINE

The analysis indicates that a Stormceptor EFO6 will provide 83% TSS Removal and treat over 90% of the average annual runoff, which meets the requirements for an “Enhanced” (Level 1 or 80% TSS removal) level of water quality protection. Stormceptor sizing output information is included in Appendix A.

Stormwater runoff generated from the remainder of the developed area (Catchment 203) will flow overland uncontrolled to Elgin Avenue ROW per existing conditions. Since this area is comprised of landscaped areas, stormwater runoff is generally considered to be clean and therefore no water quality controls will be provided for this area.

2.6 Sediment and Erosion Control

Sediment and erosion control measures will be implemented on site during construction and will conform to the Erosion & Sediment Control Guideline for Urban Construction (Ref. 7).

Sediment and erosion control measures will include:

- Installation of silt control fencing at strategic locations around the perimeter of the site where feasible.
- Preventing silt or sediment laden water from entering inlets (catch basins / catch basin manholes) by wrapping their tops with filter fabric or installing silt sacks.
- Construction of 7m x 14m mud mat at the exit from the site to mitigate the transportation of sediments to the surrounding roads.
- Maintaining sediment and erosion control structures in good repair (including periodic cleaning as required) until such time that the Engineer or Norfolk County approves their removal. Erosion control measures to be inspected daily and after any rainfall event.

3.0 SANITARY SEWER SERVICING

3.1 Existing Conditions

The existing school is currently being serviced with a 200mm diameter sewer, connected to a manhole at the intersection of Elgin Avenue and Marshall Lane ROW.

3.2 Sanitary Demands

The anticipated population for the proposed development was estimated using the Ontario Building Code (2024) based on the proposed building use. Table 3.1 provides an estimate of the school population.

Table 3.1 - Population Estimate

Unit Types	Floor Area (m^2) [A]	Population Density (m^2/ppl) [B]	Population (people) [C]
Proposed School Addition			
Building Addition	1355	1.85	732
		Total Estimated Population	**732**

[A] Floor area provided in site plan by Salter Pilon Architecture
[B] Population density based on OBC Occupancy Loads for classrooms (Table 3.1.17.1)
[C] Population = Floor area/Population density = 1355/1.85=732 ppl.

Norfolk County guidelines and estimated populated per Table 3.1 were used to calculate discharge rates from the building addition. The sanitary sewer discharge rates from the development are summarized in Table 3.2 and detailed calculations are found in Appendix B.

Table 3.2 - Sanitary Sewer Discharge from Site

Land Use	Population (people) [A]	Average Flow (L/s) [B]	Peak Flow (L/s)
Proposed Addition	732	3.81	5.53 [C]
Total Peak Sanitary Demand for Addition (with infiltration allowance)			**5.57 [D]**

[A] Population Estimate: see Table 3.1
[B] Average flow based on 0.0052 L/cap/s. Avg Flow = 0.0052 * 732= 3.81 L/s
[C] Peak flow = Average Flow*PF, where Peaking Factor (PF) = $1+(14/(4+P^{0.5}))$ = $1+(14/(4+(732)^{0.5}))$ = 1.45 (max 5.0)
[D] Total Peak flow with infiltration = Total Peak flow + infiltration allowance = 5.53 + 0.04 = 5.57 L/s
Where infiltration is based on 0.28 l/s/ha. Area reflects building addition (0.16 ha), I = 0.28*0.16 = 0.04 L/s

3.3 Proposed Sanitary Servicing Plan and Capacity Analysis

As calculated in Table 3.2, the total peak sanitary discharge from the site is 5.57 L/s.

The proposed building addition will be serviced with a 100mm diameter sanitary sewer at 2.0% that will connect to the existing 200mm diameter sanitary lateral for the existing school. The connection of the proposed 100mm diameter service to the existing 200mm diameter sanitary service will be completed via a new manhole connection and will be fully on site. Through correspondence with the Norfolk County, it is understood that the County will provide this flow rate to their consultant to input into the County's wastewater model and verify capacity.

4.0 DOMESTIC AND FIRE WATER SUPPLY SERVICING

4.1 Existing Conditions

The existing municipal water distribution system around the site consists of a 150mm diameter watermain within Elgin Avenue ROW. The existing school is serviced by a 100mm diameter watermain that tees off an existing 150mm diameter watermain located within Elgin Avenue ROW.

There is an existing hydrant fronting the site at the intersection of Elgine Avenue and Marshall Lane. Hydrant flow testing was conducted for this hydrant (Hydrant 308) in April 2024. Results of the hydrant flows test can be found in Appendix C.

4.2 Domestic Water Demands

The expected domestic water demands for the proposed development were estimated using Norfolk County design criteria. Table 4.1 summarizes the domestic water demand requirements for the Average Day, Maximum Day and Peak Hour demand scenarios and detailed calculations are provided in Appendix C. It should be noted that average day peak factor is 1.0, the max day peak factor is 2.25 and the peak hour factor is 2.0 in accordance with Norfolk County standards.

Table 4.1 - Domestic Water Demands

School Addition Demands		
Population:	732 people (see Table 3.1)	
Average Day Demand:	0.0052 x 732 people =	3.81 L/s
Maximum Day Demand:	2.25 x 3.81 L/s =	8.58 L/s
Peak Hour Demand:	2.0 x 3.81 L/s =	7.63 L/s

4.3 Fire Flow Demands

Fire flow demands for the proposed development were also determined using the methodology outlined in Water Supply for Public Fire Protection (Fire Underwriters Survey (FUS), 2020). The fire demands are summarized in Table 4.2 and detailed calculations are provided in Appendix C.

Table 4.2 - FUS Fire Flow Requirements

Building	Fire Underwriters Survey (FUS) Flow Rate
School Addition	65 L/s (3,900 L/min)

4.4 Proposed Water Servicing Plan and Analysis

The proposed building addition will be serviced with a 150mm diameter water service. The proposed 150mm diameter water service will tee off the existing 100mm diameter water service for the existing building, fully on site. Since the existing water service for the site is 100mm diameter, it will be upgraded to a 150mm diameter water service downstream of where the new service tees off the existing water service. Please refer to Drawing C2.2 for further details. In addition, an on-site hydrant north of the school addition is proposed to achieve adequate fire protection.

Based on a worst-case Maximum Day + Fire Flow Demand of 73.6 L/s (65 L/s + 8.6 L/s from Tables 4.1 and 4.2), the extrapolated system pressure is 62 psi (430 kPa), which exceeds the minimum required residual pressure of 20.3 psi (140 kPa) required by the MOE and Norfolk County (see worksheet in Appendix C). As well, based on the results of the water pressure testing, achieving a minimum operating pressure of 40 psi required by the MOE will not be an issue. Through correspondence with the Norfolk County, it is understood that the County will provide this flow rate to their consultant to input into the County's water model and verify capacity.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the information provided herein, it is concluded that the development can be constructed to meet the requirements of the Norfolk County. Therefore, it is suggested that:

i. On-site stormwater will be collected by the proposed storm sewer system and conveyed to the existing (north outlet) 250mm diameter storm sewer at the intersection of Marshall Lane and Elgin Avenue.

ii. The existing south storm outlet for the site remains the same as the drainage area conveyed to this outlet remains per existing conditions.

iii. Surface ponding and underground pipes and structures storage complete with an orifice control be provided to control proposed conditions stormwater site discharge rates to the allowable release rate for the north outlet as described in Section 2.4 of this report.

iv. Erosion and sediment controls be installed as described in Section 2.6 of this report.

v. Sanitary servicing for the development be installed as described in Section 3.3 of this report.

vi. Water servicing for the development be installed as described in Section 4.4 of this report.

In addition, it is recommended that:

vii. The proposed stormwater management plan presented in this report and the site servicing works described in this report and as shown on Drawings C1.1, C2.1, C2.2, and C2.3 be accepted in support of the site plan approval process.

We trust the information enclosed herein is satisfactory. Should you have any questions please do not hesitate to contact our office.

All of which is respectfully submitted,

MTE Consultants Inc.

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Appendix A

STORMWATER MANAGEMENT INFORMATION

ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE
STORMWATER MANAGEMENT RATIONAL METHOD - EXISTING CONDITIONS RELEASE RATES

Design Storm Information

Intensity-Duration-Frequency (IDF) equations for the Norfolk County (A) in the form:

$$i = \frac{A}{(t + B)^C}$$

Where: i = Rainfall intensity (mm/hr)
t = Time of duration (5min)
A, B and C = Constant (see below)

The value of the parameters for the various storm events is provided below:

Constant	2-Yr.	5-Yr.	10-Yr.	25-Yr.	50-Yr.	100-Yr.
A	530	583	670	722	766	801
B	4.5	3.0	3.0	2.3	1.9	1.5
C	0.7450	0.7030	0.6980	0.6790	0.6680	0.6570
Antecedant run-off factor						
Ca	1.00	1.00	1.00	1.10	1.20	1.25
Runoff Rate Q (m3/s)						
Catchment 101+101A	0.131	0.173	0.202	0.262	0.318	0.363
Catchment 102	0.110	0.147	0.171	0.221	0.268	0.307
Catchment 103	0.011	0.014	0.016	0.021	0.026	0.029
Total	0.251	0.334	0.389	0.504	0.612	0.700
Catchment 201+201A	0.176	0.234	0.272	0.352	0.428	0.489
Catchment 202	0.110	0.147	0.171	0.221	0.268	0.307
Catchment 203	0.002	0.003	0.003	0.004	0.005	0.006
Catchment 204	0.015	0.020	0.024	0.031	0.037	0.043
Total	0.303	0.403	0.470	0.608	0.738	0.845

(A) IDF parameters from Section 7.8.02 The Corporatio of Norfolk County Design Criteria (February 2019)

ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE

MODIFIED RATIONAL STORM WATER STORAGE REQUIREMENTS

Chicago Storm Rainfall Information		
City/Town:	**Simcoe**	
Return Period:	**100**	Years
A =	**801**	
B =	**1.5**	
C =	**0.66**	
Tc =	**10**	minutes
	600	seconds

Area of site being investigated (ha) = **1.750** (Catchment 201+201A)
Composite Runoff Coeff. (C) = **0.50**
Allowable Release Rate - Q_{ALLOW} (m^3/s) = **0.130** (Q_{Allow} = $Q_{101\text{-}Q204}$ OR flow through Orifice, whichever is LESS)

Flows from site area calculated from area indicated above

Roof flows (Q_{ROOF}) added in as a constant flow rate into the orifice controlled system (if applicable)

Duration (T_D)		Rainfall Intensity		Post-Development Runoff			Runoff Volume	Release Volume	Storage Volume
				Site	Roof	Total "Q_{POST}"			
(min)	(sec)	(mm/hr)	(m/s)	(m^3/s)	(m^3/s)	(m^3/ha)	(m^3)	(m^3)	(m^3)
5	300	234.168	0.0000650	0.569	0.00000	0.5692	170.75	58.54	112.21
10	600	160.972	0.0000447	0.391	0.00000	0.3913	234.75	78.05	156.70
15	900	126.984	0.0000353	0.309	0.00000	0.3086	277.78	97.56	180.21
20	1200	106.716	0.0000296	0.259	0.00000	0.2594	311.25	117.08	194.18
25	1500	93.019	0.0000258	0.226	0.00000	0.2261	339.13	136.59	202.54
30	1800	83.034	0.0000231	0.202	0.00000	0.2018	363.27	156.10	207.17
35	2100	75.374	0.0000209	0.183	0.00000	0.1832	384.72	175.61	209.11
40	2400	69.277	0.0000192	0.168	0.00000	0.1684	404.12	195.13	208.99
45	2700	64.288	0.0000179	0.156	0.00000	0.1563	421.89	214.64	207.25
50	3000	60.116	0.0000167	0.146	0.00000	0.1461	438.35	234.15	204.20
55	3300	56.566	0.0000157	0.137	0.00000	0.1375	453.70	253.67	200.04
60	3600	53.501	0.0000149	0.130	0.00000	0.1300	468.13	273.18	194.95
65	3900	50.823	0.0000141	0.124	0.00000	0.1235	481.76	292.69	189.07
70	4200	48.459	0.0000135	0.118	0.00000	0.1178	494.68	312.20	182.48
75	4500	46.354	0.0000129	0.113	0.00000	0.1127	506.99	331.72	175.28
80	4800	44.465	0.0000124	0.108	0.00000	0.1081	518.76	351.23	167.53
85	5100	42.759	0.0000119	0.104	0.00000	0.1039	530.04	370.74	159.30
90	5400	41.210	0.0000114	0.100	0.00000	0.1002	540.88	390.25	150.62
95	5700	39.794	0.0000111	0.097	0.00000	0.0967	551.31	409.77	141.55
100	6000	38.495	0.0000107	0.094	0.00000	0.0936	561.38	429.28	132.11
105	6300	37.298	0.0000104	0.091	0.00000	0.0907	571.12	448.79	122.33
110	6600	36.190	0.0000101	0.088	0.00000	0.0880	580.55	468.30	112.25
115	6900	35.162	0.0000098	0.085	0.00000	0.0855	589.70	487.82	101.88
120	7200	34.205	0.0000095	0.083	0.00000	0.0831	598.58	507.33	91.25
125	7500	33.310	0.0000093	0.081	0.00000	0.0810	607.22	526.84	80.38
130	7800	32.473	0.0000090	0.079	0.00000	0.0789	615.63	546.36	69.27
135	8100	31.686	0.0000088	0.077	0.00000	0.0770	623.82	565.87	57.95
140	8400	30.946	0.0000086	0.075	0.00000	0.0752	631.82	585.38	46.43
145	8700	30.248	0.0000084	0.074	0.00000	0.0735	639.62	604.89	34.73
150	9000	29.588	0.0000082	0.072	0.00000	0.0719	647.25	624.41	22.84
155	9300	28.964	0.0000080	0.070	0.00000	0.0704	654.70	643.92	10.79
160	9600	28.372	0.0000079	0.069	0.00000	0.0690	662.00	663.43	-1.43
165	9900	27.809	0.0000077	0.068	0.00000	0.0676	669.15	682.94	-13.79
170	10200	27.274	0.0000076	0.066	0.00000	0.0663	676.16	702.46	-26.30
175	10500	26.763	0.0000074	0.065	0.00000	0.0651	683.03	721.97	-38.94
180	10800	26.277	0.0000073	0.064	0.00000	0.0639	689.76	741.48	-51.72

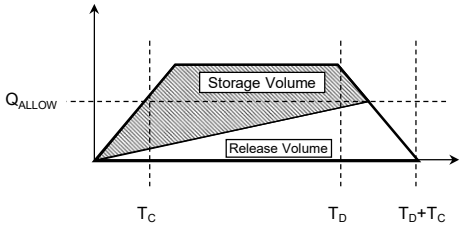
Max. required storage volume = 209.11 m^3

Q_{POST} = (C i A) x 10000 m^2/ha (Rational Method)

Runoff Volume = Area under trapezoidal hydrograph
= $(T_D - T_C)Q_{POST} + (T_C Q_{POST})$

Release Volume = Area under triangular outflow hydrograph
= ½ $(T_D + T_C)$ Q_{ALLOW}

Storage Volume = Runoff Volume - Release Volume



ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE

MODIFIED RATIONAL STORM WATER STORAGE REQUIREMENTS

Chicago Storm Rainfall Information		
City/Town:	**Simcoe**	
Return Period:	**5**	Years
A =	**583**	
B =	**3**	
C =	**0.70**	
Tc =	**10**	minutes
	600	seconds

Area of site being investigated (ha) = **1.750** (Catchment 201+201A)
Composite Runoff Coeff. (C) = **0.50**
Allowable Release Rate - Q_{ALLOW} (m^3/s) = **0.130** (QAllow = Q101-Q204 OR flow through Orifice, whichever is LESS)

Flows from site area calculated from area indicated above

Roof flows (Q_{ROOF}) added in as a constant flow rate into the orifice controlled system (if applicable)

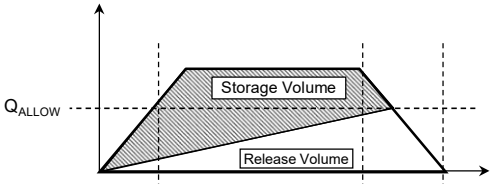
Duration (T_D)		Rainfall Intensity		Post-Development Runoff			Runoff Volume	Release Volume	Storage Volume
				Site	Roof	Total "Q_{POST}"			
(min)	(sec)	(mm/hr)	(m/s)	(m^3/s)	(m^3/s)	(m^3/ha)	(m^3)	(m^3)	(m^3)
5	300	135.144	0.0000375	0.328	0.00000	0.3285	98.54	58.54	40.00
10	600	96.065	0.0000267	0.233	0.00000	0.2335	140.10	78.05	62.04
15	900	76.421	0.0000212	0.186	0.00000	0.1857	167.17	97.56	69.61
20	1200	64.324	0.0000179	0.156	0.00000	0.1563	187.61	117.08	70.54
25	1500	56.017	0.0000156	0.136	0.00000	0.1362	204.23	136.59	67.64
30	1800	49.906	0.0000139	0.121	0.00000	0.1213	218.34	156.10	62.24
35	2100	45.194	0.0000126	0.110	0.00000	0.1098	230.68	175.61	55.06
40	2400	41.432	0.0000115	0.101	0.00000	0.1007	241.69	195.13	46.56
45	2700	38.349	0.0000107	0.093	0.00000	0.0932	251.67	214.64	37.03
50	3000	35.769	0.0000099	0.087	0.00000	0.0869	260.81	234.15	26.66
55	3300	33.572	0.0000093	0.082	0.00000	0.0816	269.28	253.67	15.61
60	3600	31.676	0.0000088	0.077	0.00000	0.0770	277.17	273.18	3.99
65	3900	30.020	0.0000083	0.073	0.00000	0.0730	284.57	292.69	-8.12
70	4200	28.560	0.0000079	0.069	0.00000	0.0694	291.55	312.20	-20.66
75	4500	27.260	0.0000076	0.066	0.00000	0.0663	298.16	331.72	-33.56
80	4800	26.095	0.0000072	0.063	0.00000	0.0634	304.44	351.23	-46.79
85	5100	25.044	0.0000070	0.061	0.00000	0.0609	310.44	370.74	-60.30
90	5400	24.089	0.0000067	0.059	0.00000	0.0586	316.17	390.25	-74.08
95	5700	23.219	0.0000064	0.056	0.00000	0.0564	321.67	409.77	-88.09
100	6000	22.420	0.0000062	0.054	0.00000	0.0545	326.96	429.28	-102.31
105	6300	21.686	0.0000060	0.053	0.00000	0.0527	332.06	448.79	-116.73
110	6600	21.007	0.0000058	0.051	0.00000	0.0511	336.98	468.30	-131.33
115	6900	20.377	0.0000057	0.050	0.00000	0.0495	341.74	487.82	-146.08
120	7200	19.791	0.0000055	0.048	0.00000	0.0481	346.34	507.33	-160.99
125	7500	19.244	0.0000053	0.047	0.00000	0.0468	350.81	526.84	-176.04
130	7800	18.733	0.0000052	0.046	0.00000	0.0455	355.14	546.36	-191.21
135	8100	18.253	0.0000051	0.044	0.00000	0.0444	359.36	565.87	-206.51
140	8400	17.802	0.0000049	0.043	0.00000	0.0433	363.46	585.38	-221.92
145	8700	17.377	0.0000048	0.042	0.00000	0.0422	367.45	604.89	-237.44
150	9000	16.976	0.0000047	0.041	0.00000	0.0413	371.35	624.41	-253.06
155	9300	16.596	0.0000046	0.040	0.00000	0.0403	375.15	643.92	-268.77
160	9600	16.237	0.0000045	0.039	0.00000	0.0395	378.86	663.43	-284.57
165	9900	15.896	0.0000044	0.039	0.00000	0.0386	382.49	682.94	-300.46
170	10200	15.571	0.0000043	0.038	0.00000	0.0378	386.04	702.46	-316.42
175	10500	15.262	0.0000042	0.037	0.00000	0.0371	389.51	721.97	-332.46
180	10800	14.968	0.0000042	0.036	0.00000	0.0364	392.91	741.48	-348.57

Max. required storage volume = 70.54 m^3

Q_{POST} = (C i A) x 10000 m^2/ha (Rational Method)

Runoff Volume = Area under trapezoidal hydrograph
= $(T_D - T_C)Q_{POST} + (T_C Q_{POST})$

Release Volume = Area under triangular outflow hydrograph



ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE

STAGE-STORAGE-DISCHARGE CALCULATIONS

Outlet Device No. 1 (Quantity)

Type:	Orifice Plate
Diameter (mm)	185
Area (m^2)	0.02688
Invert Elev. (m)	221.55
C/L Elev. (m)	221.64
Disch. Coeff. (C_d)	0.63
Discharge (Q) =	C_d A (2 g H)$^{0.5}$
Number of Orifices:	1

Description	Catchment 201 +201A						
	Elevation	Surface Ponding		Pipes & Structures	Cumulative Volume	Head (H)	Discharge (Q)
		Contour Area	Incremental Volume	Storage Volume			
	m	m^2	m^3	m^3	m^3	m	m^3/s
C/L of orifice	221.64	0.00	0.00	0.00	0.00	0.00	0.00000
	223.60	0.00	0.00	48.31	48.31	1.96	0.10495
Lowest T/G of Parking Lot	224.40	0.00	0.00	6.38	54.69	2.76	0.12456
0.05m of Ponding	224.45	57.00	1.35	0.06	56.10	2.81	0.12568
0.10m of Ponding	224.50	340.00	9.93	0.00	66.03	2.86	0.12680
0.25m of Ponding	224.65	1720.00	154.50	0.17	220.70	3.01	0.13008

Note: Volume is provided via storage within underground pipes & structures and surface ponding

100-year Volume Required (taken from Modified Rational Method) (m^3):	209.11	
100-year water level (m) :	224.64	
5-year Volume Required (taken from Modified Rational Method) (m^3):	70.54	
5-year water level (m) :	223.74	Therefore, no ponding during the 5-year event

ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE
STORMWATER MANAGEMENT
STORM PIPES AND STRUCTURES VOLUME CALCULATIONS

Pipe Volumes		
Diameter (m)	Length (m)	Volume (m^3)
(To Elgin Avenue)		
0.525	77.10	16.69
0.450	125.90	20.02
	Total	36.71

Structure Volumes							
Structure ID	Diameter (m)	Outlet Invert (m)	Top of Structure (m)	Height (m)	V @ 223.60	V @ 224.40	REMAINING VOLUME IN STRUCTURE UP TO 224.66
(To Elgin Avenue)							
MH3	2.54	221.55	224.26	2.71	5.22	6.90	0.00
CBMH4	1.77	222.15	224.40	2.25	2.56	3.98	0.00
CB4.1	1.13	222.53	224.45	1.92	1.21	2.11	0.06
CBMH5	1.13	222.41	224.40	1.99	1.35	2.25	0.00
CB6	0.36	223.07	224.62	1.55	0.19	0.48	0.08
MH6	1.13	222.83	224.89	2.06	0.87	1.78	0.25
CB6.1	0.36	223.05	224.66	1.61	0.20	0.49	0.09
				Total	**11.59**	**17.98**	**0.48**

Total Volume (m^3)	
(To Elgin Avenue, North Outlet)	54.69

Stormceptor®

Rinker MATERIALS™

Stormceptor® EF Sizing Report

Imbrium® Systems
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

10/01/2024

Province:	Ontario
City:	Simcoe
Nearest Rainfall Station:	LONDON CS
Climate Station Id:	6144478
Years of Rainfall Data:	20

Site Name:	Elgin Avenue School Addition

Drainage Area (ha):	1.88
Runoff Coefficient 'c':	0.51

Particle Size Distribution:	Fine
Target TSS Removal (%):	80.0

Required Water Quality Runoff Volume Capture (%):	90.00
Estimated Water Quality Flow Rate (L/s):	35.01
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	
Influent TSS Concentration (mg/L):	200
Estimated Average Annual Sediment Load (kg/yr):	832
Estimated Average Annual Sediment Volume (L/yr):	676

Project Name:	Elgin Avenue School Addition
Project Number:	43581-101
Designer Name:	Rosie Calogero
Designer Company:	MTE Consultants
Designer Email:	rcalogero@mte85.com
Designer Phone:	905-580-2133
EOR Name:	
EOR Company:	
EOR Email:	
EOR Phone:	

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	71
EFO6	83
EFO8	90
EFO10	94
EFO12	96

Recommended Stormceptor EFO Model: EFO6

Estimated Net Annual Sediment (TSS) Load Reduction (%): 83

Water Quality Runoff Volume Capture (%): > 90

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THIRD-PARTY TESTING AND VERIFICATION

►**Stormceptor® EF and Stormceptor® EFO** are the latest evolutions in the Stormceptor® oil-grit separator (OGS) technology series, and are designed to remove a wide variety of pollutants from stormwater and snowmelt runoff. These technologies have been third-party tested in accordance with the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators** and performance has been third-party verified in accordance with the **ISO 14034 Environmental Technology Verification (ETV)** protocol.

PERFORMANCE

►**Stormceptor® EF and EFO** remove stormwater pollutants through gravity separation and floatation, and feature a patent-pending design that generates positive removal of total suspended solids (TSS) throughout each storm event, including high-intensity storms. Captured pollutants include sediment, free oils, and sediment-bound pollutants such as nutrients, heavy metals, and petroleum hydrocarbons. Stormceptor is sized to remove a high level of TSS from the frequent rainfall events that contribute the vast majority of annual runoff volume and pollutant load. The technology incorporates an internal bypass to convey excessive stormwater flows from high-intensity storms through the device without resuspension and washout (scour) of previously captured pollutants. Proper routine maintenance ensures high pollutant removal performance and protection of downstream waterwavs.

PARTICLE SIZE DISTRIBUTION (PSD)

►The **Canadian ETV PSD** shown in the table below was used, or in part, for this sizing. This is the identical PSD that is referenced in the Canadian ETV ***Procedure for Laboratory Testing of Oil-Grit Separators*** for both sediment removal testing and scour testing. The Canadian ETV PSD contains a wide range of particle sizes in the sand and silt fractions, and is considered reasonably representative of the particle size fractions found in typical urban stormwater runoff.

Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

Stormceptor® EF Sizing Report

Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.50	9.0	9.0	1.33	80.0	30.0	100	9.0	9.0
1.00	18.9	27.8	2.67	160.0	61.0	100	18.9	27.8
2.00	15.3	43.2	5.33	320.0	122.0	93	14.3	42.1
3.00	10.8	53.9	8.00	480.0	182.0	86	9.2	51.4
4.00	7.8	61.7	10.66	640.0	243.0	81	6.3	57.7
5.00	5.8	67.5	13.33	800.0	304.0	78	4.6	62.2
6.00	4.5	72.0	15.99	960.0	365.0	76	3.4	65.6
7.00	3.6	75.6	18.66	1119.0	426.0	73	2.6	68.2
8.00	3.5	79.1	21.32	1279.0	486.0	70	2.5	70.7
9.00	3.3	82.4	23.99	1439.0	547.0	67	2.2	72.9
10.00	2.6	85.0	26.65	1599.0	608.0	65	1.7	74.6
11.00	1.7	86.7	29.32	1759.0	669.0	64	1.1	75.7
12.00	1.7	88.4	31.99	1919.0	730.0	64	1.1	76.8
13.00	1.5	89.8	34.65	2079.0	791.0	63	0.9	77.7
14.00	1.2	91.0	37.32	2239.0	851.0	63	0.7	78.4
15.00	1.3	92.3	39.98	2399.0	912.0	62	0.8	79.2
16.00	0.8	93.0	42.65	2559.0	973.0	62	0.5	79.7
17.00	0.8	93.8	45.31	2719.0	1034.0	61	0.5	80.2
18.00	1.2	95.0	47.98	2879.0	1095.0	59	0.7	80.9
19.00	0.7	95.7	50.64	3039.0	1155.0	58	0.4	81.3
20.00	0.9	96.6	53.31	3199.0	1216.0	57	0.5	81.8
21.00	0.2	96.8	55.97	3358.0	1277.0	55	0.1	81.9
22.00	0.0	96.8	58.64	3518.0	1338.0	54	0.0	81.9
23.00	0.4	97.2	61.31	3678.0	1399.0	53	0.2	82.1
24.00	0.4	97.7	63.97	3838.0	1459.0	50	0.2	82.3
25.00	0.0	97.7	66.64	3998.0	1520.0	48	0.0	82.3
30.00	1.3	99.0	79.96	4798.0	1824.0	40	0.5	82.9
35.00	0.6	99.6	93.29	5597.0	2128.0	35	0.2	83.1
40.00	0.4	100.0	106.62	6397.0	2432.0	30	0.1	83.2
45.00	0.0	100.0	119.95	7197.0	2736.0	27	0.0	83.2
Estimated Net Annual Sediment (TSS) Load Reduction =								**83 %**

Climate Station ID: 6144478 *Years of Rainfall Data*: 20

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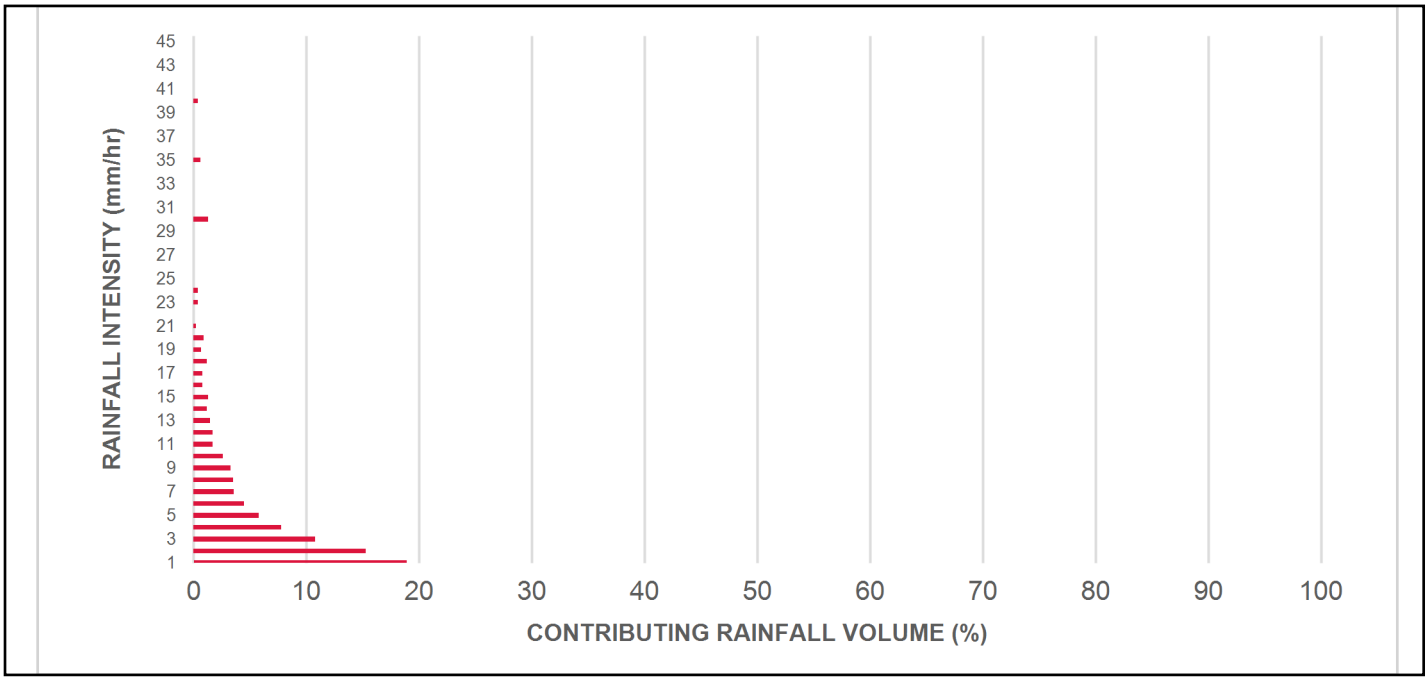
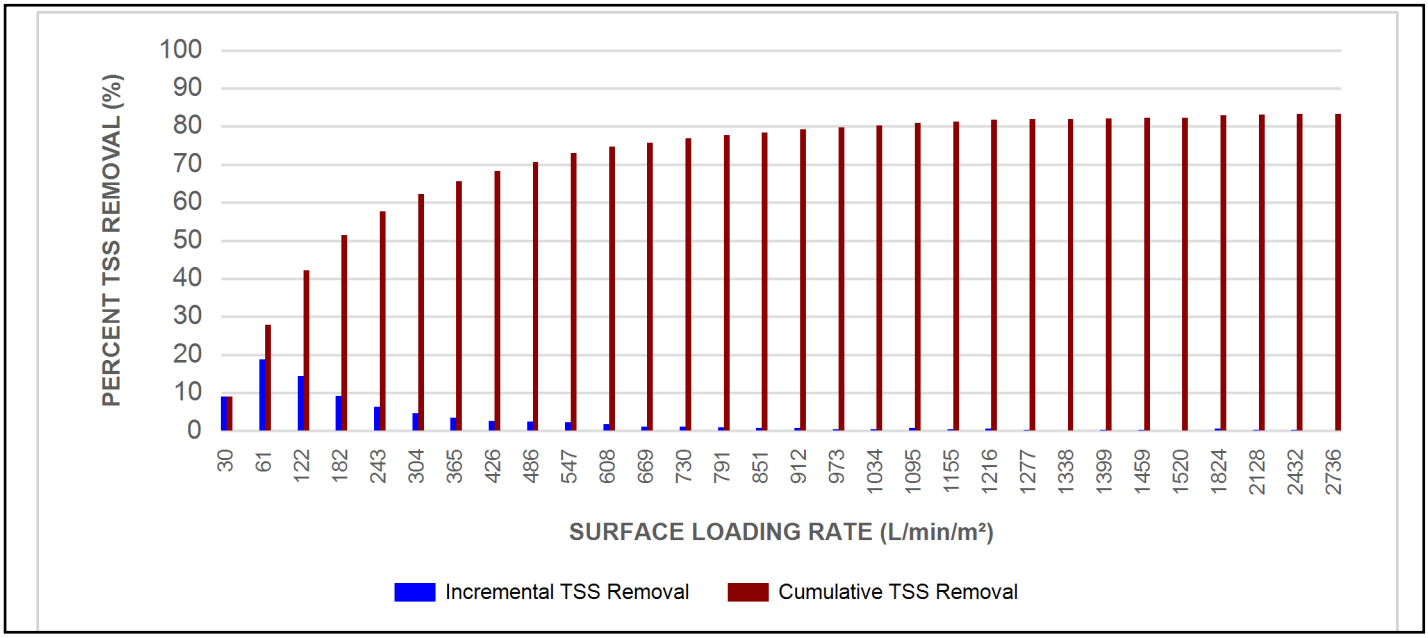
RAINFALL DATA FROM LONDON CS RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

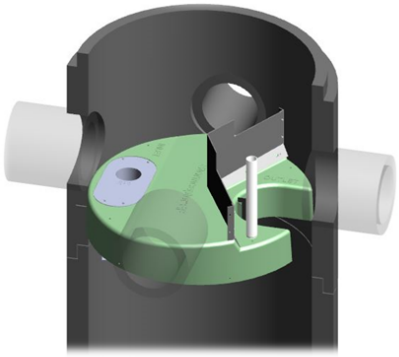
►**Stormceptor® EF and EFO** feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**, and the exceptional scour test performance has been third-party verified in accordance with the ISO 14034 ETV protocol. As a result, Stormceptor EF and EFO are approved for online installation, eliminating the need for costly additional bypass structures, piping, and installation expense.

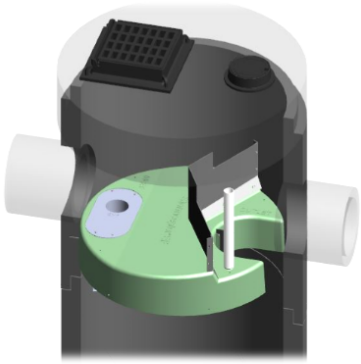
DESIGN FLEXIBILITY

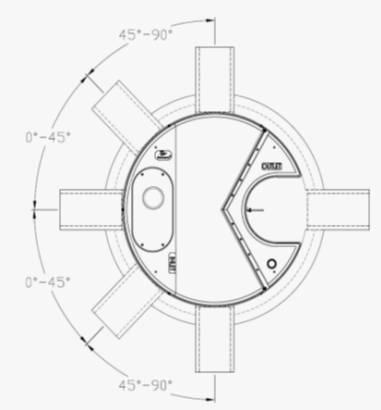
►**Stormceptor® EF** and **EFO** offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, and can be modified to ensure performance in submerged conditions.

OIL CAPTURE AND RETENTION

►While Stormceptor® EF will capture and retain oil from dry weather spills and low intensity runoff, **Stormceptor® EFO** has demonstrated superior oil capture and greater than 99% oil retention in third-party testing according to the light liquid re-entrainment testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**. Stormceptor EFO is recommended for sites where oil capture and retention is a requirement.







INLET-TO-OUTLET DROP

Elevation differential between inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit.
0° - 45° : The inlet pipe is 1-inch (25mm) higher than the outlet pipe.
45° - 90° : The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft^3)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

*Increased sump depth may be added to increase sediment storage capacity
** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft^3)

Feature	Benefit	Feature Appeals To
Patent-pending enhanced flow treatment and scour prevention technology	Superior, verified third-party performance	Regulator, Specifying & Design Engineer
Third-party verified light liquid capture and retention for EFO version	Proven performance for fuel/oil hotspot locations	Regulator, Specifying & Design Engineer, Site Owner
Functions as bend, junction or inlet structure	Design flexibility	Specifying & Design Engineer
Minimal drop between inlet and outlet	Site installation ease	Contractor
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade	Maintenance Contractor & Site Owner

STANDARD STORMCEPTOR EF/EFO DRAWINGS

For standard details, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD STORMCEPTOR EF/EFO SPECIFICATION

For specifications, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD PERFORMANCE SPECIFICATION FOR "OIL GRIT SEPARATOR" (OGS) STORMWATER QUALITY TREATMENT DEVICE

PART 1 – GENERAL

1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, and designing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, with third-party testing results and a Statement of Verification in accordance with ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

1.2 REFERENCE STANDARDS & PROCEDURES

ISO 14034:2016 Environmental management – Environmental technology verification (ETV)

Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit** S**eparators**

1.3 SUBMITTALS

1.3.1 All submittals, including sizing reports & shop drawings, shall be submitted upon request with each order to the contractor then forwarded to the Engineer of Record for review and acceptance. Shop drawings shall detail all OGS components, elevations, and sequence of construction.

1.3.2 Alternative devices shall have features identical to or greater than the specified device, including: treatment chamber diameter, treatment chamber wet volume, sediment storage volume, and oil storage volume.

1.3.3 Unless directed otherwise by the Engineer of Record, OGS stormwater quality treatment product substitutions or alternatives submitted within ten days prior to project bid shall not be accepted. All alternatives or substitutions submitted shall be signed and sealed by a local registered Professional Engineer, based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record.

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a protected volume for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The minimum sediment & petroleum hydrocarbon storage capacity shall be as follows:

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

The OGS stormwater quality treatment device shall be verified in accordance with ISO 14034:2016 Environmental management – Environmental technology verification (ETV). The OGS stormwater quality treatment device shall

remove oil, sediment and gross pollutants from stormwater runoff during frequent wet weather events, and retain these pollutants during less frequent high flow wet weather events below the insert within the OGS for later removal during maintenance. The Manufacturer shall have at least ten (10) years of local experience, history and success in engineering design, manufacturing and production and supply of OGS stormwater quality treatment device systems, acceptable to the Engineer of Record.

3.2 SIZING METHODOLOGY

The OGS device shall be engineered, designed and sized to provide stormwater quality treatment based on treating a minimum of 90 percent of the average annual runoff volume and a minimum removal of an annual average 60% of the sediment (TSS) load based on the Particle Size Distribution (PSD) specified in the sizing report for the specified device. Sizing of the OGS shall be determined by use of a minimum ten (10) years of local historical rainfall data provided by Environment Canada. Sizing shall also be determined by use of the sediment removal performance data derived from the ISO 14034 ETV third-party verified laboratory testing data from testing conducted in accordance with the Canadian ETV protocol Procedure for Laboratory Testing of Oil-Grit Separators, as follows:

3.2.1 Sediment removal efficiency for a given surface loading rate and its associated flow rate shall be based on sediment removal efficiency demonstrated at the seven (7) tested surface loading rates specified in the protocol, ranging 40 L/min/m^2 to 1400 L/min/m^2, and as stated in the ISO 14034 ETV Verification Statement for the OGS device.

3.2.2 Sediment removal efficiency for surface loading rates between 40 L/min/m^2 and 1400 L/min/m^2 shall be based on linear interpolation of data between consecutive tested surface loading rates.

3.2.3 Sediment removal efficiency for surface loading rates less than the lowest tested surface loading rate of 40 L/min/m^2 shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m^2. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m^2.

3.2.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m^2 shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m^2, and shall be calculated using a simple proportioning formula, with 1400 L/min/m^2 in the numerator and the higher surface loading rate in the denominator, and multiplying the resulting fraction times the sediment removal efficiency at 1400 L/min/m^2.

The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 2.1.

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of third-party scour testing conducted in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**

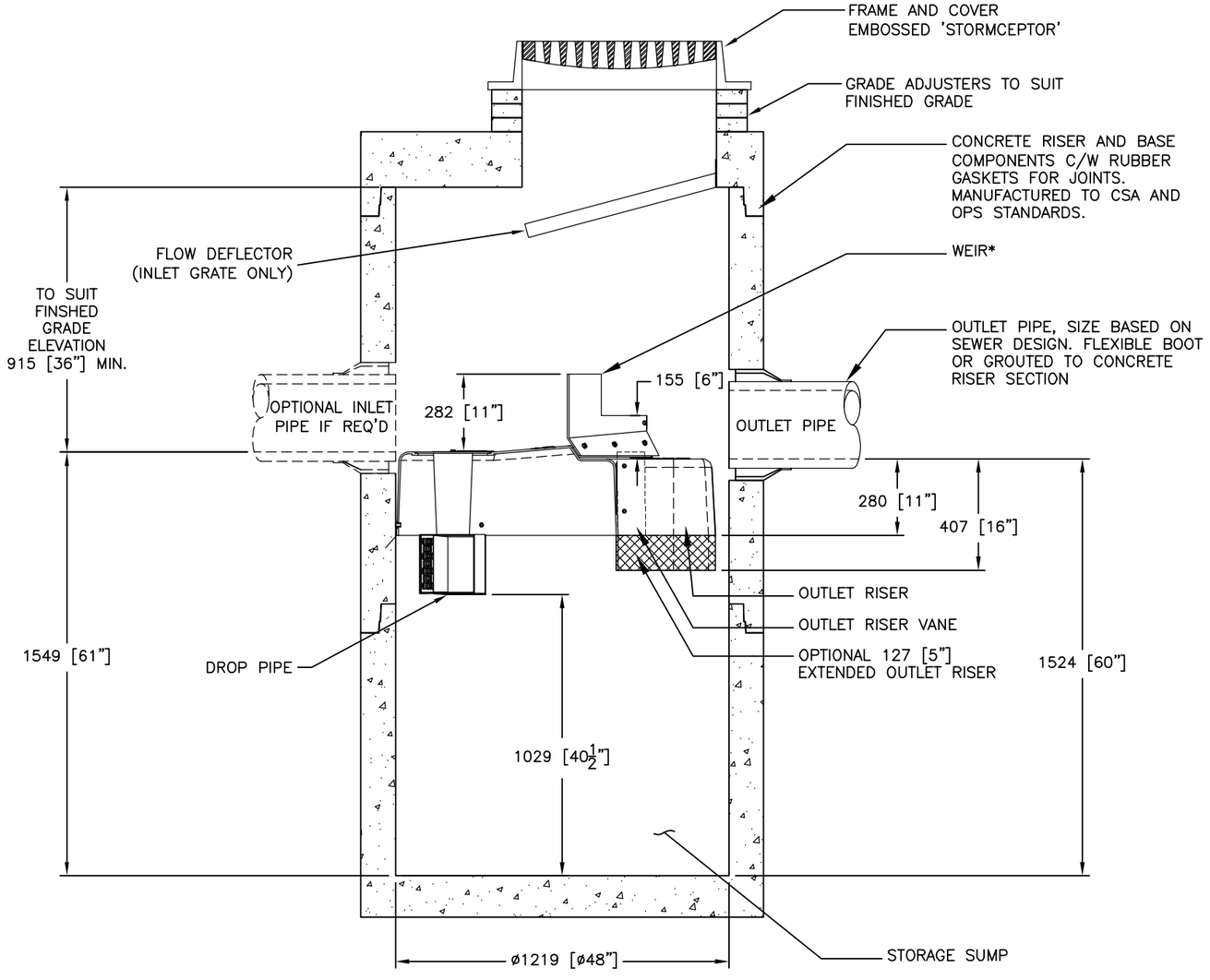
3.3.1 To be acceptable for on-line installation, the OGS device must demonstrate an average scour test effluent concentration less than 10 mg/L at each surface loading rate tested, up to and including 2600 L/min/m^2.

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

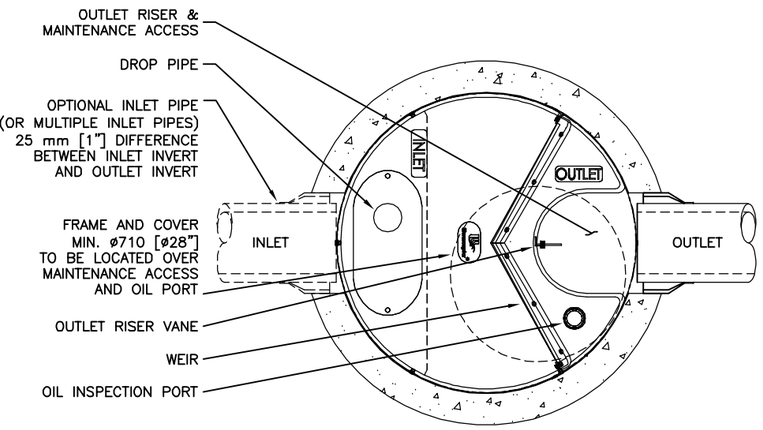
The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party Light Liquid Re-entrainment Simulation Testing in accordance with the Canadian ETV **Program's Procedure for Laboratory Testing of Oil-Grit Separators,** with results reported within the Canadian ETV or ISO 14034 ETV verification. This re-entrainment testing is conducted with the device pre-loaded with low density polyethylene (LDPE) plastic beads as a surrogate for light liquids such as oil and fuel. Testing is conducted on the same OGS unit tested for sediment removal to

assess whether light liquids captured after a spill are effectively retained at high flow rates.

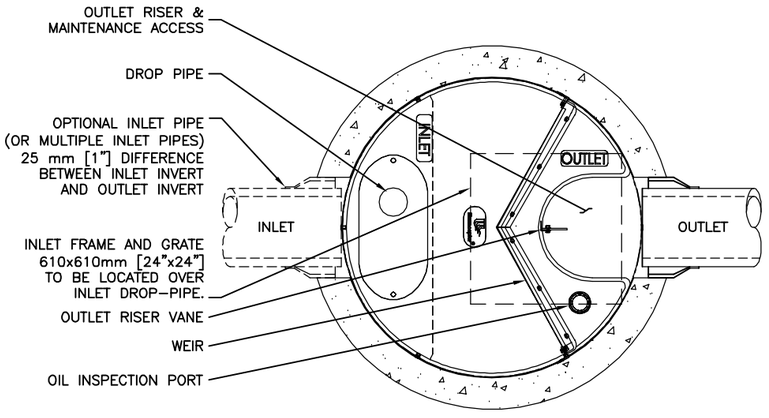
3.4.1 For an OGS device to be an acceptable stormwater treatment device on a site where vehicular traffic occurs and the potential for an oil or fuel spill exists, the OGS device must have reported verified performance results of greater than 99% cumulative retention of LDPE plastic beads for the five specified surface loading rates (ranging 200 L/min/m^2 to 2600 L/min/m^2) in accordance with the Light Liquid Re-entrainment Simulation Testing within the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.** However, an OGS device shall not be allowed if the Light Liquid Re-entrainment Simulation Testing was performed with screening components within the OGS device that are effective at retaining the LDPE plastic beads, but would not be expected to retain light liquids such as oil and fuel.



SECTION VIEW



PLAN VIEW (STANDARD)



PLAN VIEW (INLET TOP)

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL STORMCEPTOR REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE (IF REQUIRED).

GENERAL NOTES:

* MAXIMUM SURFACE LOADING RATE (SLR) INTO LOWER CHAMBER THROUGH DROP PIPE IS 1135 L/min/m^2 (27.9 gpm/ft^2) FOR STORMCEPTOR EF4 AND 535 L/min/m^2 (13.1 gpm/ft^2) FOR STORMCEPTOR EFO4 (OIL CAPTURE CONFIGURATION). WEIR HEIGHT IS 150 mm (6 INCH) FOR EF04.

1. ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
2. STORMCEPTOR STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
3. UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE STORMCEPTOR SYSTEM SHALL BE PROVIDED AND ADDRESSED SEPARATELY.
4. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEER'S SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.
5. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT THE DEVICE FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. DEVICE ACTIVATION, BY CONTRACTOR, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE STORMCEPTOR UNIT IS CLEAN AND FREE OF DEBRIS.

STANDARD DETAIL
NOT FOR CONSTRUCTION

SITE SPECIFIC DATA REQUIREMENTS

STORMCEPTOR MODEL	EFO4				
STRUCTURE ID					*
HYDROCARBON STORAGE REQ'D (L)					*
WATER QUALITY FLOW RATE (L/s)					*
PEAK FLOW RATE (L/s)					*
RETURN PERIOD OF PEAK FLOW (yrs)					*
DRAINAGE AREA (HA)					*
DRAINAGE AREA IMPERVIOUSNESS (%)					*
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

* PER ENGINEER OF RECORD

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MARK	DATE	REVISION DESCRIPTION	BY
1	6/8/18	UPDATES	JSK
0	5/26/17	INITIAL RELEASE	JSK

Stormceptor® EF

SCALE = NTS

imbrium®
407 FAIRVIEW DRIVE, WHITBY, ON, L1N 9A9
TF 800-565-4501 CA 416-800-8600 INTL +1-416-800-8600

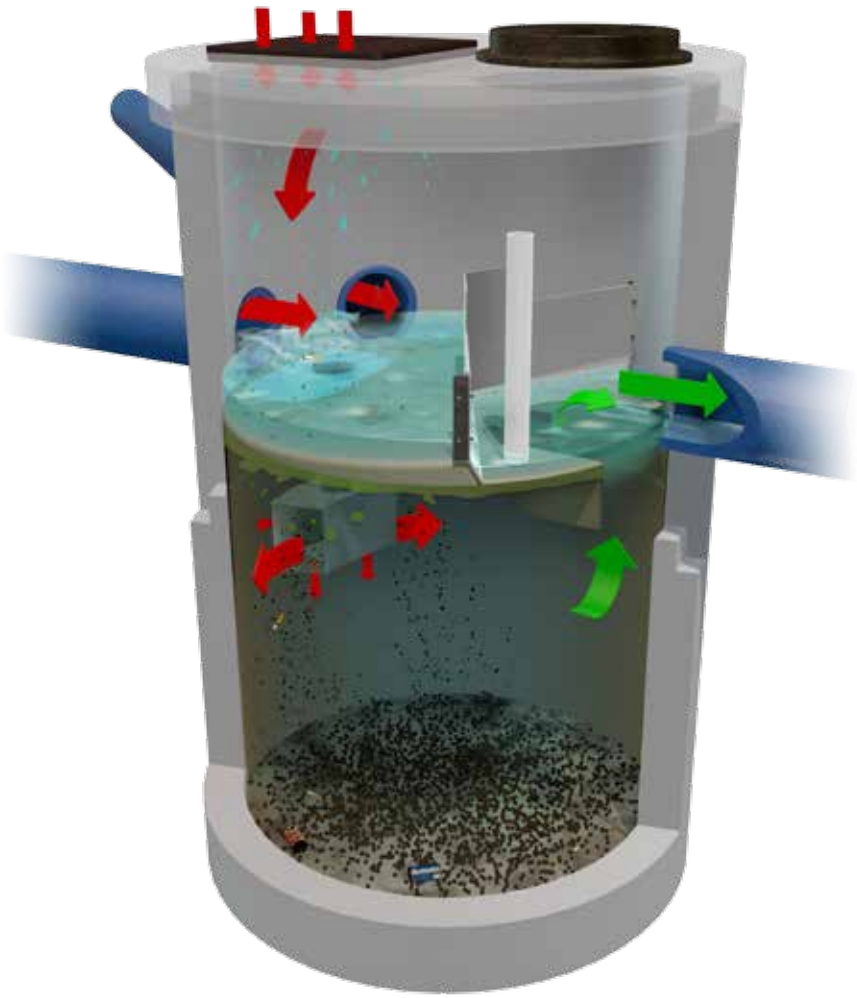
DATE: 10/13/2017

DESIGNED:	DRAWN:
JSK	JSK
CHECKED:	APPROVED:
BSF	SP
PROJECT No.:	SEQUENCE No.:
EFO4	*

SHEET: 1 OF 1

Stormceptor® EF

Technical Manual



imbrium®

OVERVIEW

Stormceptor® EF is a continuation and evolution of the most globally recognized oil-grit separator (OGS) stormwater treatment technology - ***Stormceptor®***. Also known as a hydrodynamic separator, the enhanced flow Stormceptor EF is a high performing oil-grit separator that effectively removes a wide variety of pollutants from stormwater and snowmelt runoff at higher flow rates as compared to the original Stormceptor. Stormceptor EF captures and retains sediment (TSS), free oils, gross pollutants and other pollutants that attach to particles, such as nutrients and metals. Stormceptor EF's patent-pending treatment and scour prevention technology and internal bypass ensures sediment is retained during all rainfall events..

Stormceptor EF offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe, multiple inlet pipes, and/or from the surface through an inlet grate. Stormceptor EF can also serve as a junction structure, accommodate a 90-degree inlet to outlet bend angle, and be modified to ensure performance in submerged conditions. With its scour prevention technology and internal bypass, Stormceptor EF can be installed online, eliminating the need for costly additional bypass structures.

OPERATION

- Stormwater enters the Stormceptor upper chamber through the inlet pipe(s) or a surface inlet grate. A specially designed insert reduces the influent velocity by creating a pond upstream of the insert's weir. Sediment particles immediately begin to settle. Swirling flow sweeps water, sediment, and floatables across the sloped surface of the insert to the inlet opening of the drop pipe, where a strong vortex draws water, sediment, oil, and debris down the drop pipe cone.
- Influent exits the cone into the drop pipe duct. The duct has two large rectangular outlet openings as well as perforations in the backside and floor of the duct. Influent is diffused through these various opening in multiple directions and at low velocity into the lower chamber.
- Free oils and other floatables rise up and are trapped beneath the insert, while sediment settles to the sump. Pollutants are retained for later removal during maintenance cleaning.
- Treated effluent enters the outlet riser, moves upward, and discharges to the top side of the insert downstream of the weir, where it flows out the outlet pipe.
- During intense storm events with very high influent flow rates, the pond height on the upstream side of the weir may exceed the height of the weir, and the excess flow passes over the top of the weir to the downstream side of the insert, and exits through the outlet pipe. This internal bypass feature allows for online installation, avoiding the cost of additional bypass structures. During bypass, the pond separates sediment from all incoming flows, while full treatment in the lower chamber continues at the maximum flow rate.
- Stormceptor EF's patent-pending enhanced flow and scour prevention technology ensures pollutants are captured and retained, allowing excess flows to bypass during infrequent, high intensity storms.
- **Refer to components identified in Figures 1 and 2 to understand the Stormceptor EF operation.**

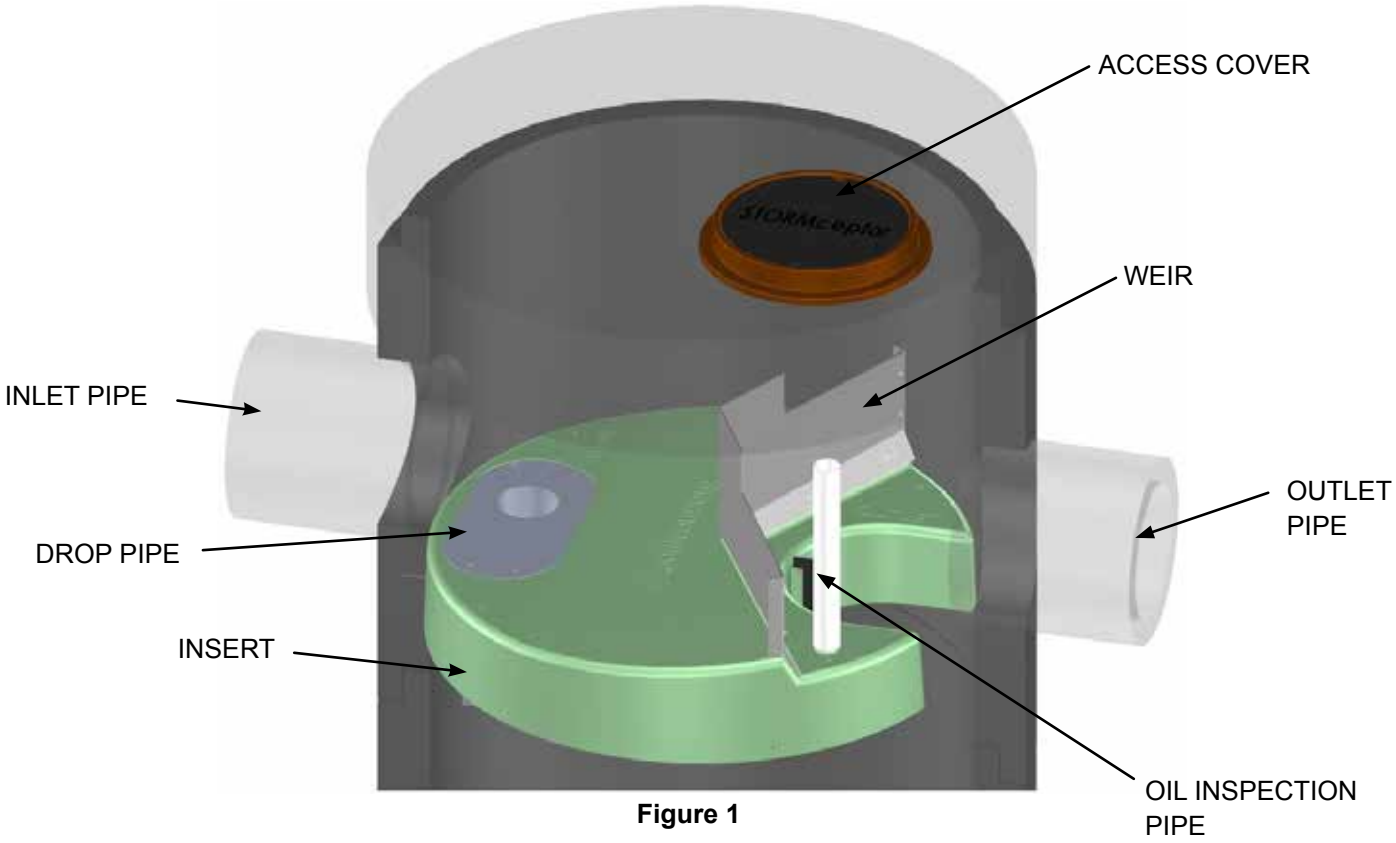


Figure 1

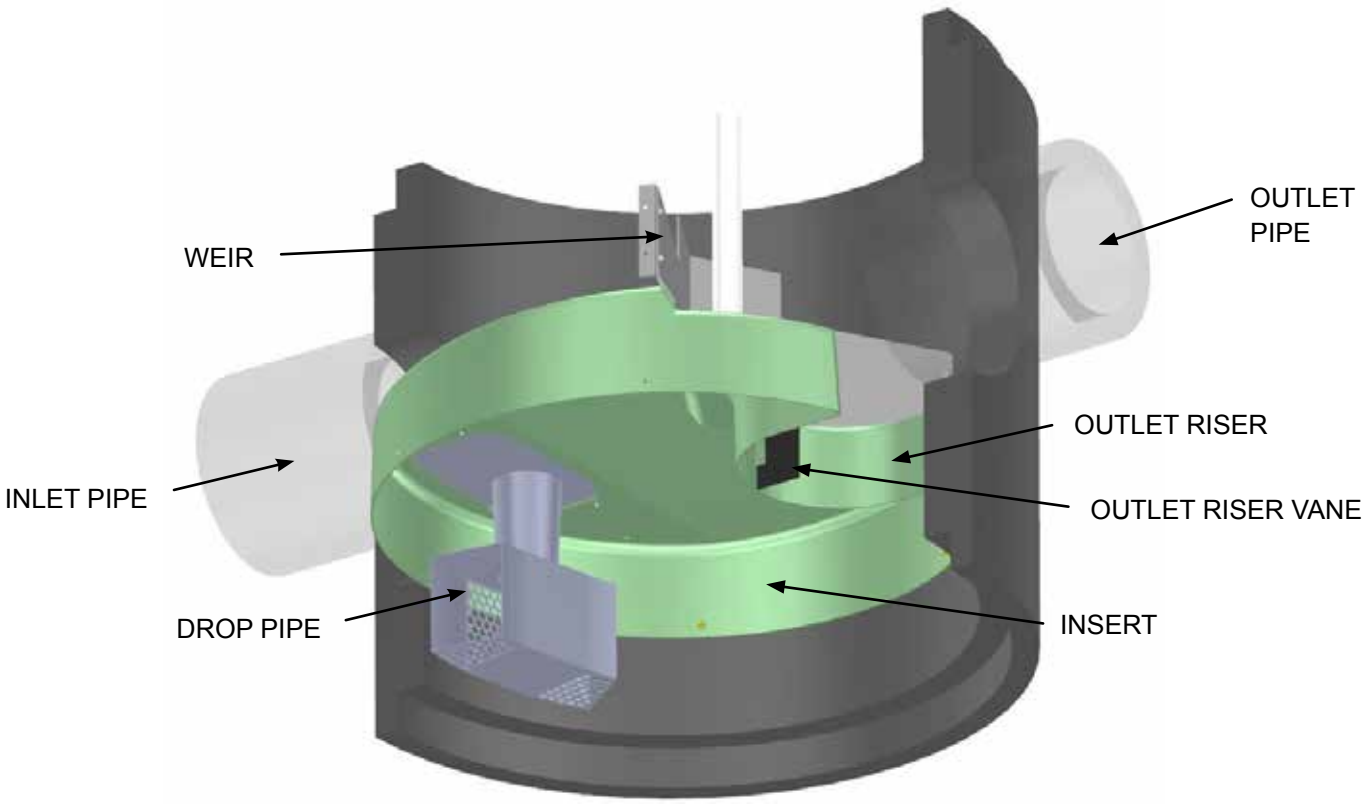


Figure 2

FEATURES AND BENEFITS

FEATURE	BENEFITS
Patent-pending enhanced flow, TSS treatment technology	Superior, verified third-party performance
Scour prevention with an internal bypass	Validated online installation and cost savings
Third-party verified light liquid capture (oil) and retention (Stormceptor EFO)	Proven performance for fuel/oil hotspot locations
Functions as bend, junction or inlet structure	Cost savings & design flexibility
Minimal drop between inlet and outlet	Site installation ease
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade

APPLICATIONS

Stormceptor EF is designed as an 'at source' solution for commercial and industrial sites, urban environments, and residential developments. Stormceptor EF is ideal for:

- Pretreatment of wet ponds, filters, infiltration systems, bioretention, and other Low Impact Development (LID) applications
- Commercial sites
- Manufacturing/Industrial sites
- Residential developments
- Fueling stations, convenience stores, fast food restaurants
- Roads and highways
- Airports, seaports, and military bases
- Hydrocarbon spill, high pollutant load hotspots (Stormceptor EFO)

PRODUCT DETAILS

METRIC DIMENSIONS AND CAPACITIES								
Stormceptor Model	Inside Diameter	Minimum Surface to Outlet Invert Depth	Depth Below Outlet Pipe Invert	Wet Volume	Sediment Capacity[1]	Hydrocarbon Storage Capacity[2]	Maximum Flow Rate into Lower Chamber[3]	Peak Conveyance Flow Rate[4]
	(m)	(mm)	(mm)	(L)	(m^3)	(L)	(L/s)	(L/s)
EF4 / EFO4	1.22	915	1524	1780	1.19	265	22.1 / 10.4	425
EF6 / EFO6	1.83	915	1930	5070	3.47	610	49.6 / 23.4	990
EF8 / EFO8	2.44	1219	2591	12090	8.78	1070	88.3 / 41.6	1700
EF10 / EFO10	3.05	1219	3251	23700	17.79	1670	138 / 65	2830
EF12 / EFO12	3.66	1524	3886	40800	31.22	2475	198.7 / 93.7	2830

U.S. DIMENSIONS AND CAPACITIES								
Stormceptor Model	Inside Diameter	Minimum Surface to Outlet Invert Depth	Depth Below Outlet Pipe Invert	Wet Volume	Sediment Capacity[1]	Hydrocarbon Storage Capacity[2]	Maximum Flow Rate into Lower Chamber[3]	Peak Conveyance Flow Rate[4]
	(ft)	(in)	(in)	(gal)	(ft^3)	(gal)	(cfs)	(cfs)
EF4 / EFO4	4	36	60	471	42	70	0.78 / 0.37	15
EF6 / EFO6	6	36	76	1339	123	160	1.75 / 0.83	35
EF8 / EFO8	8	48	102	3194	310	280	3.12 / 1.47	60
EF10 / EFO10	10	48	128	6261	628	440	4.87 / 2.30	100
EF12 / EFO12	12	60	153	10779	1103	655	7.02 / 3.31	100

1. Sediment Capacity is measured from the floor to the bottom of the drop pipe cone. Sediment Capacity can be increased to accommodate specific site designs and pollutant loads. Contact your local representative for assistance.
2. Hydrocarbon Storage Capacity is measured from the bottom of the outlet riser to the underside of the insert. Hydrocarbon Storage Capacity can be increased to accommodate specific site designs and pollutant loads. Contact your local representative for assistance.
3. EF Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 1135 L/min/m^2 (27.9 gpm/ft^2). EFO Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 535 L/min/m^2 (13.1 gpm/ft^2).
4. Peak Conveyance Flow Rate is limited by a maximum velocity of 1.5 m/s (5 fps).

UNIT DESIGN

Sizing Methodology

Stormceptor® EF and Stormceptor® EFO are sized using local historical rainfall data for the site of interest, specific site parameters, and a performance curve for TSS removal derived from third-party testing conducted in accordance with the Canadian Environmental Technology Verification (ETV) Program's ***Procedure for Laboratory Testing of Oil-Grit Separators***. Every Stormceptor unit is designed to achieve the specified target TSS removal, however, for sites where oil/fuel capture and retention is an additional specified water quality objective Stormceptor EFO is the proper selection. The sizing methodology includes various considerations, including:

- Site parameters
- Local historical rainfall data
- Capture of the Canadian ETV particle size distribution
- Requirements for oil/fuel capture and retention
- Performance results from third-party testing and verification

State, provincial, and local regulatory agencies and municipalities may have specific sizing and design criteria for stormwater treatment systems such as OGS devices. To ensure proper sizing and design, contact your local Stormceptor representative for sizing and design assistance or visit www.imbriumsystems.com for more information.

ONLINE APPLICATION

Stormceptor EF's internal bypass and patent-pending scour prevention technology has demonstrated very effective retention of pollutants in third-party testing and verification following the Canadian ETV's ***Procedure for Laboratory Testing of Oil-Grit Separators***. Sediment scour prevention demonstrated an effluent concentration of less than 10 mg/L for sediment particles ranging from 1 to 1,000 microns, even during peak influent flow rates associated with infrequent high intensity storm events. While Stormceptor EF will capture oil, only the Stormceptor EFO configuration has been third-party tested and verified to retain greater than 99% of captured oil.

Based on these verified performance attributes, the most efficient and widely accepted application of Stormceptor EF is an online configuration, which allows all upstream conveyance flows to enter and exit the unit. The online application eliminates the need for costly additional bypass structures, piping and installation expense.

FLOW ENTRANCE OPTIONS

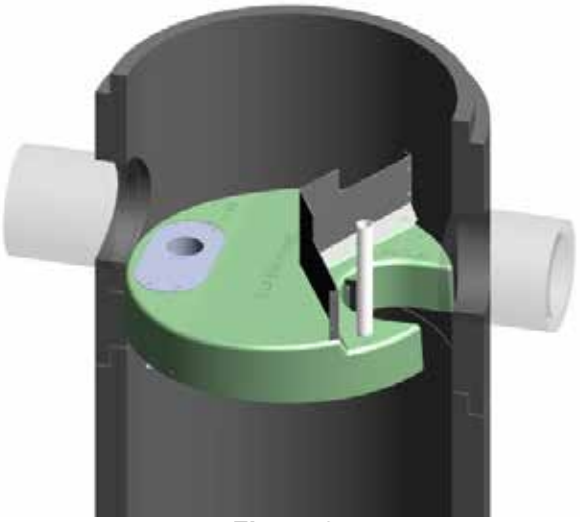


Figure 3

Single Inlet Pipe – A common design which includes one inlet pipe and one outlet pipe. A 90-degree (maximum) bend is also accepted with this configuration. **Example seen in Figure 3**.

MAXIMUM PIPE DIAMETER		
MODEL	INLET	OUTLET
	(in / mm)	(in / mm)
EF4 / EFO4	24 / 610	24 / 610
EF6 / EFO6	36 / 915	36 / 915
EF8 / EFO8	48 / 1220	48 / 1220
EF10 / EFO10	72 / 1828	72 / 1828
EF12 / EFO12	72 / 1828	72 / 1828

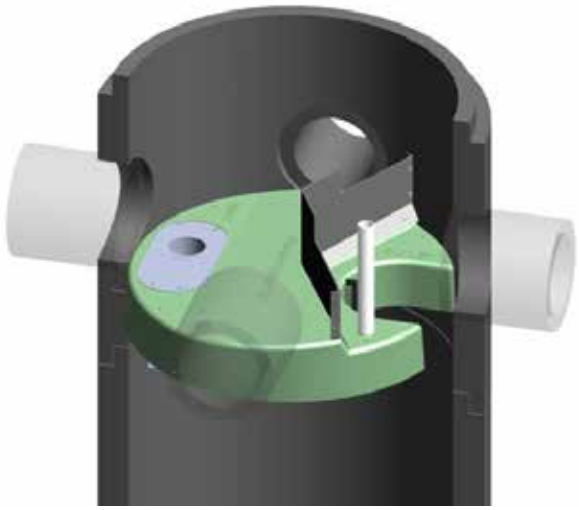


Figure 4

Multiple Inlet Pipes – Allows for multiple inlet pipes of various diameters to enter the unit. **Example seen in Figure 4**.

MAXIMUM PIPE DIAMETER		
MODEL	INLET	OUTLET
	(in / mm)	(in / mm)
EF4 / EFO4	18 / 457	24 / 610
EF6 / EFO6	30 / 762	36 / 915
EF8 / EFO8	42 / 1067	48 / 1220
EF10 / EFO10	60 / 1524	72 / 1828
EF12 / EFO12	60 / 1524	72 / 1828

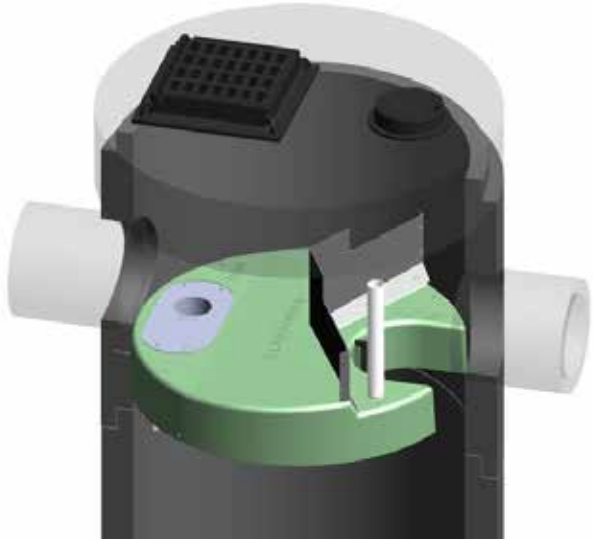


Figure 5

Inlet Grate – Allows surface runoff to enter the unit from grade. The inlet grate option can also be used in conjunction with one inlet pipe or multiple inlet pipes. A removable flow deflector is added in the Stormceptor EF4/EFO4. **Example seen in Figure 5**.

MAXIMUM PIPE DIAMETER		
MODEL	INLET	OUTLET
	(in / mm)	(in / mm)
EF4 / EFO4	24 / 610	24 / 610
EF6 / EFO6	36 / 915	36 / 915
EF8 / EFO8	48 / 1220	48 / 1220
EF10 / EFO10	72 / 1828	72 / 1828
EF12 / EFO12	72 / 1828	72 / 1828

INLET-TO-OUTLET DROP

Elevation differential between the inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit (**illustration seen in Figure 6**).

0° – 45°: The inlet pipe is 1-inch (25mm) higher than the outlet pipe.

45° – 90°: The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

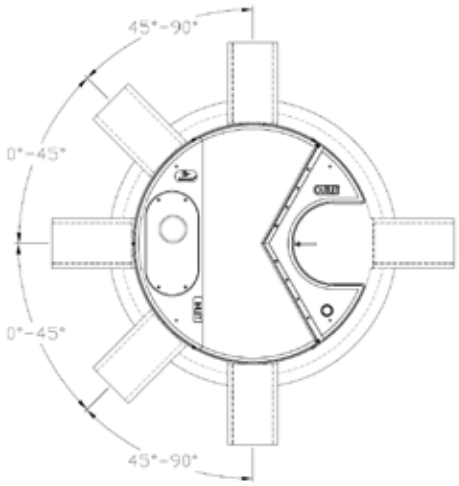


Figure 6

SUBMERGED (TAILWATER) DESIGN

Submerged or tailwater conditions are defined as standing water above the insert elevation during zero-runoff conditions. A weir height modification allows Stormceptor EF to operate under submerged conditions. The following information is necessary to properly design Stormceptor EF for the submerged condition:

- Stormceptor top of grade elevation
- Stormceptor outlet pipe invert elevation
- Standing water elevation

NOTE: The maximum weir height for Stormceptor EF is 48 inches (1200 mm). Contact your local Stormceptor representative for design assistance.

LIVE LOAD

Stormceptor EF is typically designed for local highway truck loading. In instances where other live loads are required, Stormceptor EF can be customized to meet the necessary structural requirements. Contact your local Stormceptor representative for design assistance.

SHALLOW COVER

Stormceptor EF is typically designed with a minimum depth of burial to the outlet invert based on the diameter of the inlet and outlet pipes. A common minimum burial depth to the outlet invert is 48 inches (1.2 meters). In instances where there may be site constraints to the depth of burial contact your local Stormceptor representative for design assistance.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

ABOVE-GROUND INSTALLATIONS

Stormceptor EF can be designed as a free-standing above-ground unit, constructed of fiberglass as illustrated in **Figure 7**. These customized units are lightweight and can be installed within a building footprint, providing structural support and installation advantages. Contact your local Stormceptor representative for design assistance.

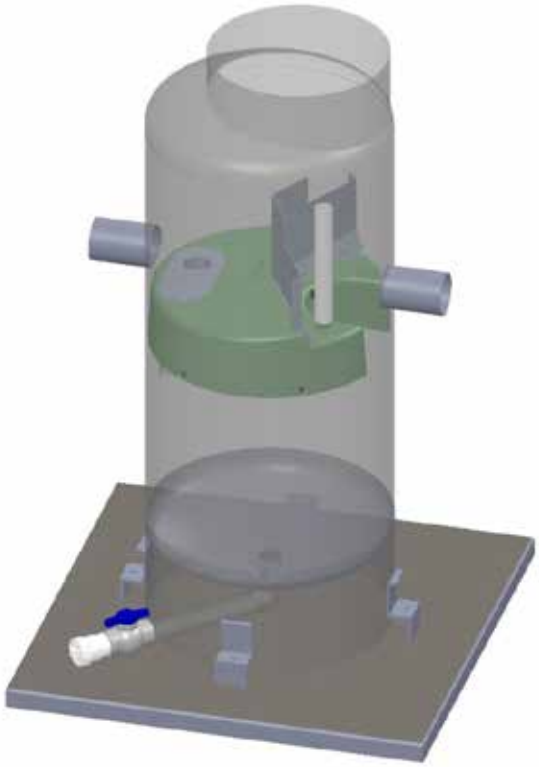


Figure 7

PERFORMANCE VERIFICATION TESTING

Stormceptor EF has been third-party performance tested according to the Canadian Environmental Technical Verification (ETV) Procedure for ***Laboratory Testing of Oil-Grit Separators***, and has received ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

For more information, please visit www.imbriumsystems.com or contact your local Stormceptor representative.

INSTALLATION

For installation details, please visit www.imbriumsystems.com and refer to the Stormceptor EF Installation Guideline or contact your local Stormceptor representative.

INSPECTION AND MAINTENANCE

As with any stormwater treatment device, periodic inspection and maintenance of Stormceptor EF is required for long-term performance.

Inspection and maintenance is performed from grade without entering the unit. Sediment depth inspections are performed through the outlet riser, and oil presence can be determined through the oil inspection pipe. Oil presence and sediment depth are determined by inserting a Sludge Judge® or measuring stick to quantify the pollutant depths. Visual inspections of the insert can be performed to ensure there is no damage or blockages. A beneficial feature of Stormceptor EF in comparison to many other treatment practices is that once it is maintained, Stormceptor EF is functionally restored to its original condition.

When maintenance is required, a standard vacuum truck is used to remove the pollutants (sediment and floatables) from the lower chamber of the unit through the outlet riser. When an appreciable amount of oil or other hydrocarbons is present, these floatable pollutants can be removed by hydrovac from the water surface. Should an oil/fuel spill occur, or presence of oil/fuel be identified within the unit, it should be cleaned immediately by a licensed liquid waste hauler.

RECOMMENDED SEDIMENT DEPTHS FOR MAINTENANCE SERVICE*	
MODEL	Sediment Depth (in/mm)
EF4 / EFO4	8 / 203
EF6 / EFO6	12 /305
EF8 / EFO8	24 / 610
EF10 / EFO10	24 / 610
EF12 / EFO12	24 / 610

* Based on a minimum distance of 40 inches (1,016 mm) from bottom of outlet riser to top of sediment bed.

The frequency of inspection and maintenance may need to be adjusted based on site conditions to ensure the unit is operating and performing as intended. Maintenance costs will vary based on the size of the unit, site conditions, local requirements, location, and transportation distance(s).

For more details on inspection and maintenance refer to the Stormceptor EF Owner's Manual at www.imbriumsystems.com.

HYDROCARBON CAPTURE AND RETENTION

Stormceptor EFO
Stormceptor is often installed on high-traffic pollutant hotspots where hydrocarbon spill potential exists.

The technology platform of Stormceptor EFO is the same as Stormceptor EF, however the maximum surface loading rate into the lower chamber is restricted to a lower value with Stormceptor EFO, thereby ensuring excellent oil retention. Third-party testing in accordance with the Light Liquid Re-entrainment testing provisions within the Canadian ETV protocol ***Procedure for Laboratory Testing of Oil-Grit Separators*** demonstrated greater than 99% oil retention. Stormceptor EFO is engineered to capture and retain free floating oil/chemical/fuel spills, not emulsified hydrocarbons.

Oil Sheen

When oil is present in stormwater runoff, a sheen may be noticeable at the Stormceptor outlet. An oil rainbow or sheen can be noticeable at very low oil concentrations (< 10 mg/L). Despite the appearance of a sheen, Stormceptor EFO may still be functioning as intended.

Disposal

Maintenance providers are to follow all federal, state/ provincial, and local requirements for disposal of hydrocarbons.

Oil Level Alarm

As an added safeguard, an oil level alarm is available as an optional feature for Stormceptor EFO. This is an electronic monitoring system designed to trigger a visual and audible alarm when a preset level of oil is captured in the lower chamber. The oil level alarm is installed as illustrated in **Figure 8**.

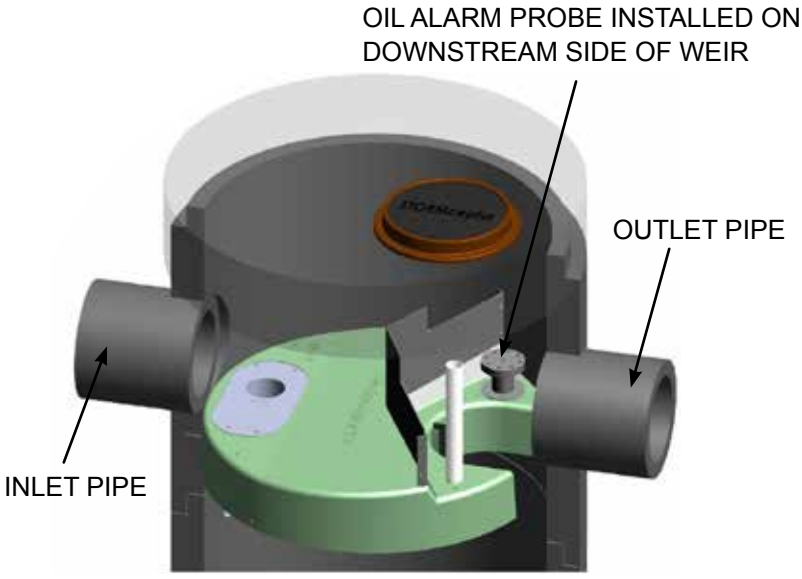


Figure 8

ADDITIONAL POLLUTANT STORAGE CAPACITY

Stormceptor EF/EFO can be easily modified to increase sediment storage capacity by extending the depth of the lower chamber. Stormceptor EFO can be modified to increase hydrocarbon storage capacity by extending the outlet riser, thereby providing the storage volumes depicted in the table below.

STORMCEPTOR EFO STORAGE VOLUME		
Stormceptor EFO Model	**Standard Hydrocarbon Storage Capacity [1]**	**Extended Hydrocarbon Storage Capacity [1,2]**
	(L / gal)	**(L / gal)**
EFO4	265 / 70	395 / 105
EFO6	610 / 160	1615 / 425
EFO8	1070 / 280	4340 / 1145
EFO10	1670 / 440	NA
EFO12	2475 / 655	NA

1. Hydrocarbon Storage Capacity is measured from the bottom of the outlet riser to the underside of the insert.
2. Distance from bottom of the extended outlet riser to top of the sediment maintenance depth is 914 mm (36 in).
   NA –Not available in these model sizes

Additional hydrocarbon storage capacity can be added with a draw off tank.

Contact your local Stormceptor representative for additional information and design assistance.

HEALTH AND SAFETY

For all aspects of installation and inspection/maintenance, OSHA and appropriate local regulations should be followed to ensure safe practice.

Contact

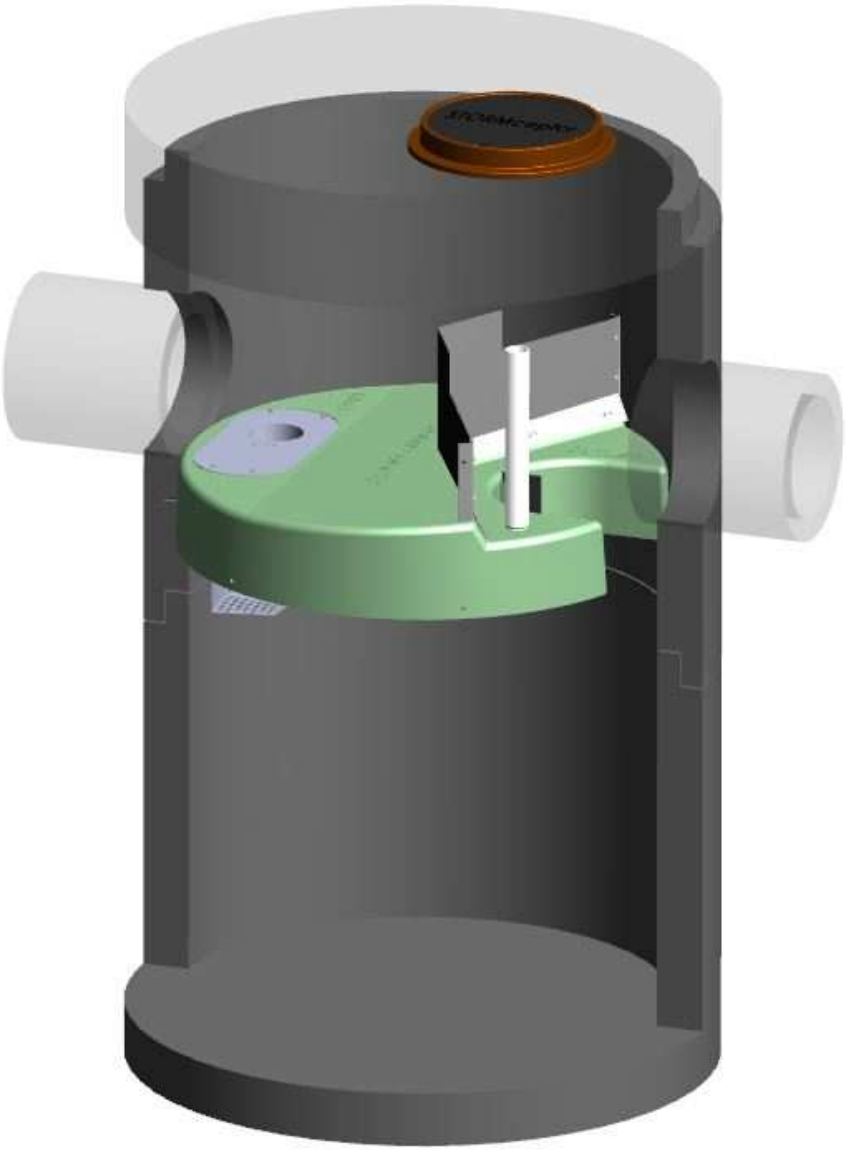
888-279-8826 / 416-960-9900

info@imbriumsystems.com

www.imbriumsystems.com

Stormceptor® EF

Owner's Manual



Stormceptor is protected by one or more of the following patents:

Canadian Patent No. 2,137,942
Canadian Patent No. 2,180,305
Canadian Patent No. 2,327,768
Canadian Patent No. 2,694,159
Canadian Patent No. 2,697,287
U.S. Patent No. 6,068,765
U.S. Patent No. 6,371,690
U.S. Patent No. 7,582,216
U.S. Patent No. 7,666,303
Australia Patent No. 693.164
Australia Patent No. 729,096
Australia Patent No. 2008,279,378
Australia Patent No. 2008,288,900
Japanese Patent No. 5,997,750
Japanese Patent No. 5,555,160
Korean Patent No. 0519212
Korean Patent No. 1451593
New Zealand Patent No. 583,008
New Zealand Patent No. 583,583
South African Patent No. 2010/00682
South African Patent No. 2010/01796
Patent pending

Table of Contents:

1 - Stormceptor EF Overview

2 - Stormceptor EF Operation, Components

3 - Stormceptor EF Model Details

4 - Stormceptor EF Identification

5 - Stormceptor EF Inspection & Maintenance

6 – Stormceptor Contacts

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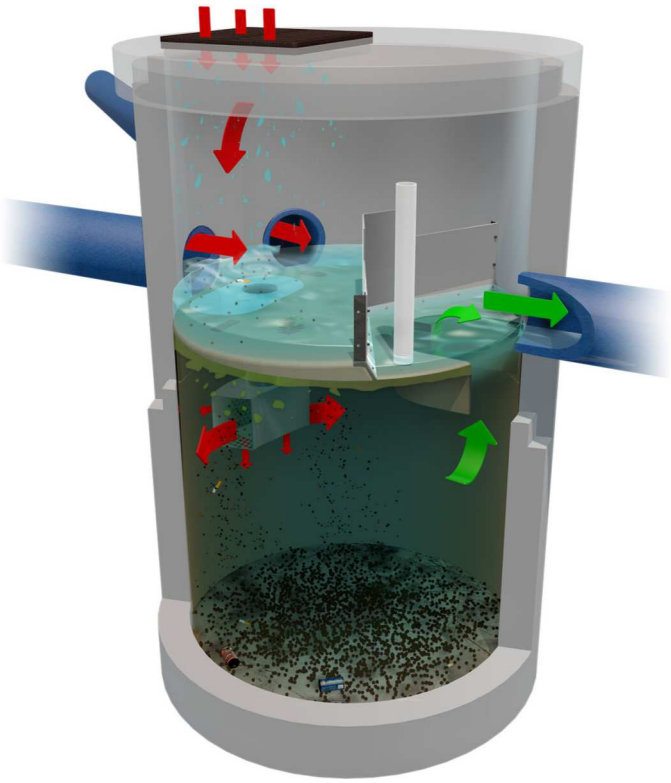
OPERATION

- Stormwater enters the Stormceptor upper chamber through the inlet pipe(s) or a surface inlet grate. A specially designed insert reduces the influent velocity by creating a pond upstream of the insert's weir. Sediment particles immediately begin to settle. Swirling flow sweeps water, sediment, and floatables across the sloped surface of the insert to the inlet opening of the drop pipe, where a strong vortex draws water, sediment, oil, and debris down the drop pipe cone.
- Influent exits the cone into the drop pipe duct. The duct has two large rectangular outlet openings as well as perforations in the backside and floor of the duct. Influent is diffused through these various opening in multiple directions and at low velocity into the lower chamber.
- Free oils and other floatables rise up within the channel surrounding the central riser pipe and are trapped beneath the insert, while sediment settles to the sump. Pollutants are retained for later removal during maintenance cleaning.
- Treated effluent enters the outlet riser, moves upward, and discharges to the top side of the insert downstream of the weir, where it flows out the outlet pipe.
- During intense storm events with very high influent flow rates, the pond height on the upstream side of the weir may exceed the height of the weir, and the excess flow passes over the top of the weir to the downstream side of the insert, and exits through the outlet pipe. This internal bypass feature allows for in-line installation, avoiding the cost of additional bypass structures. During bypass, the pond separates sediment from all incoming flows, while full treatment in the lower chamber continues at the maximum flow rate.
- Stormceptor EF's patent-pending enhanced flow and scour prevention technology ensures pollutants are captured and retained, allowing excess flows to bypass during infrequent, high intensity storms.



COMPONENTS

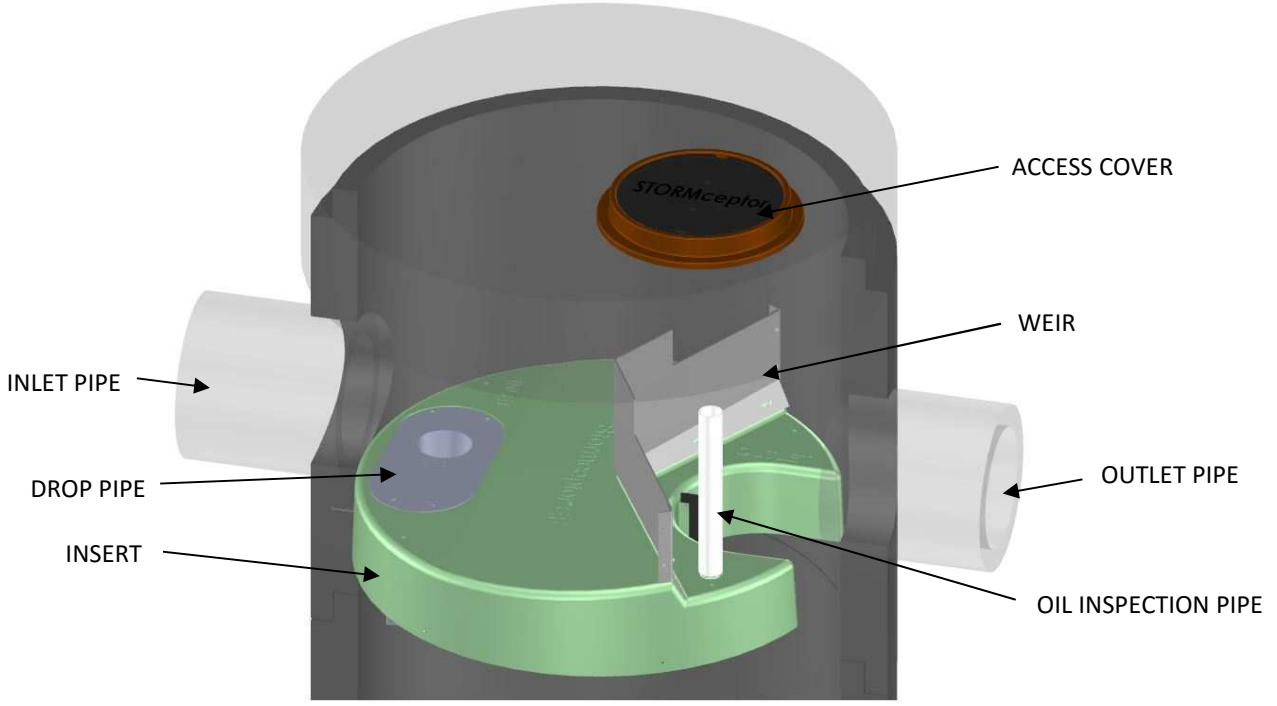


Figure 1

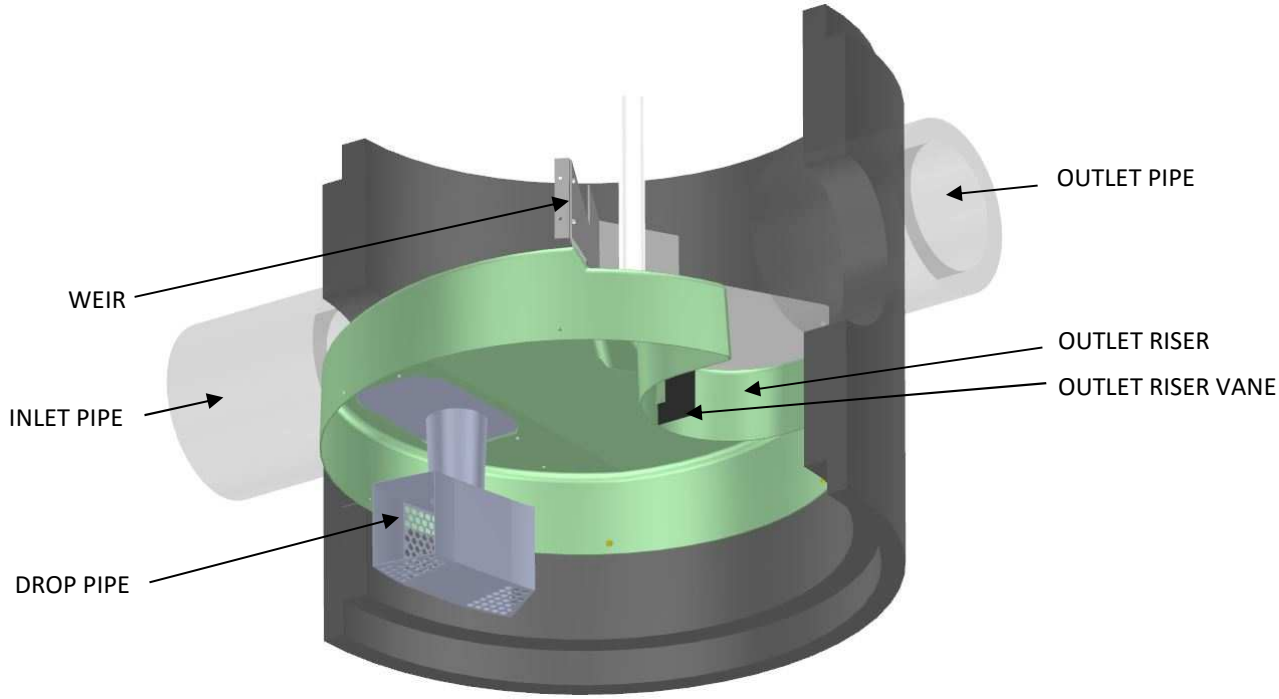


Figure 2

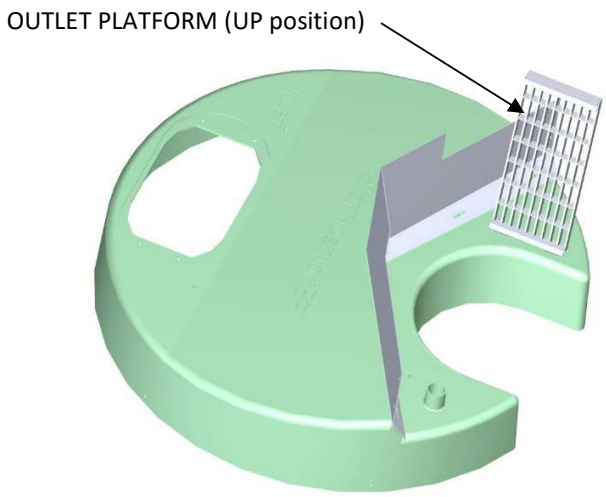


Figure 3A

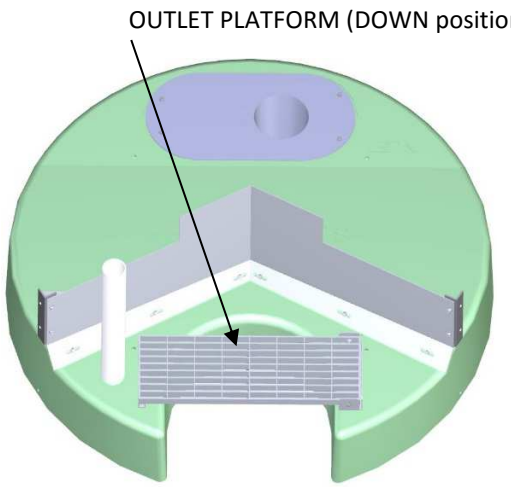


Figure 3B

- **Insert** – separates vessel into upper and lower chambers, and provides double-wall containment of hydrocarbons
- **Weir** – creates stormwater ponding and driving head on top side of insert
- **Drop pipe** – conveys stormwater and pollutants into the lower chamber
- **Outlet riser** – conveys treated stormwater from the lower chamber to the outlet pipe, and provides primary inspection and maintenance access into the lower chamber
- **Outlet riser vane** – prevents formation of a vortex in the outlet riser during high flow rate conditions
- **Outlet platform (optional)** – safety platform in the event of manned entry into the unit
- **Oil inspection pipe** – primary access for measuring oil depth

PRODUCT DETAILS

METRIC DIMENSIONS AND CAPACITIES

Table 1

Stormceptor Model	Inside Diameter (m)	Minimum Surface to Outlet Invert Depth (mm)	Depth Below Outlet Pipe Invert (mm)	Wet Volume (L)	Sediment Capacity [1] (m^3)	Hydrocarbon Storage Capacity [2] (L)	Maximum Flow Rate into Lower Chamber [3] (L/s)	Peak Conveyance Flow Rate [4] (L/s)
EF4 / EFO4	1.22	915	1524	1780	1.19	265	22.1 / 10.4	425
EF6 / EFO6	1.83	915	1930	5070	3.47	610	49.6 / 23.4	990
EF8 / EFO8	2.44	1219	2591	12090	8.78	1070	88.3 / 41.6	1700
EF10 / EFO10	3.05	1219	3251	23700	17.79	1670	138 / 65	2830
EF12 / EFO12	3.66	1524	3886	40800	31.22	2475	198.7 / 93.7	2830

[1] Sediment Capacity is measured from the floor to the bottom of the drop pipe cone. Sediment Capacity can be increased to accommodate specific site designs and pollutant loads. Contact your local representative for assistance.
[2] Hydrocarbon Storage Capacity is measured from the bottom of the outlet riser to the underside of the insert. Hydrocarbon Storage Capacity can be increased to accommodate specific site designs and pollutant loads. Contact your local representative for assistance.
[3] EF Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 1135 L/min/m^2.
EFO Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 535 L/min/m^2.
[4] Peak Conveyance Flow Rate is limited by a maximum velocity of 1.5 m/s.

U.S. DIMENSIONS AND CAPACITIES

Table 2

Stormceptor Model	Inside Diameter (ft)	Minimum Surface to Outlet Invert Depth (in)	Depth Below Outlet Pipe Invert (in)	Wet Volume (gal)	Sediment Capacity [1] (ft^3)	Hydrocarbon Storage Capacity [2] (gal)	Maximum Flow Rate into Lower Chamber [3] (cfs)	Peak Conveyance Flow Rate [4] (cfs)
EF4 / EFO4	4	36	60	471	42	70	0.78 / 0.37	15
EF6 / EFO6	6	36	76	1339	123	160	1.75 / 0.83	35
EF8 / EFO8	8	48	102	3194	310	280	3.12 / 1.47	60
EF10 / EFO10	10	48	128	6261	628	440	4.87 / 2.30	100
EF12 / EFO12	12	60	153	10779	1103	655	7.02 / 3.31	100

[1] Sediment Capacity is measured from the floor to the bottom of the drop pipe cone. Sediment Capacity can be increased to accommodate specific site designs and pollutant loads. Contact your local representative for assistance.
[2] Hydrocarbon Storage Capacity is measured from the bottom of the outlet riser to the underside of the insert. Hydrocarbon Storage Capacity can be increased to accommodate specific site designs and pollutant loads. Contact your local representative for assistance.
[3] EF Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 27.9 gpm/ft^2.
EFO Maximum Flow Rate into Lower Chamber is based on a maximum surface loading rate (SLR) into the lower chamber of 13.1 gpm/ft^2.
[4] Peak Conveyance Flow Rate is limited by a maximum velocity of 5 fps.

IDENTIFICATION

Each Stormceptor EF/EFO unit is easily identifiable by the trade name ***Stormceptor***® embossed on the access cover at grade as shown in **Figure 3**. The tradename ***Stormceptor***® is also embossed on the top of the insert upstream of the weir as shown in **Figure 3**.

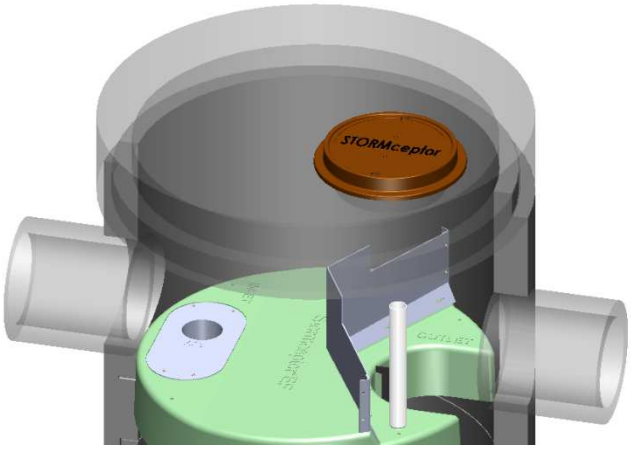


Figure 4

The specific Stormceptor EF/EFO model number is identified on the top of the aluminum Drop Pipe as shown in **Figure 4**. The unit serial number is identified on the top of the insert upstream of the weir as shown in **Figure 4**.

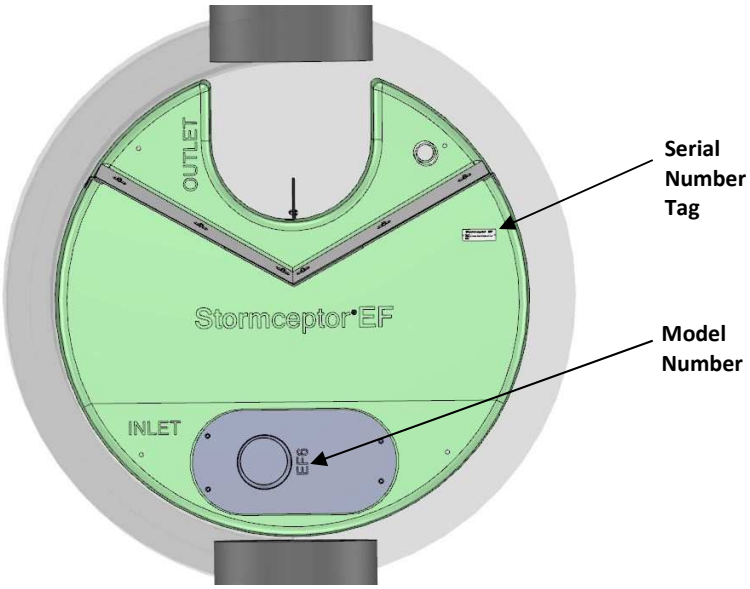


Figure 5

INSPECTION AND MAINTENANCE

It is very important to perform regular inspection and maintenance. Regular inspection and maintenance ensures maximum operation efficiency, keeps maintenance costs low, and provides continued of natural waterways.

Quick Reference

- Typical inspection and maintenance is performed from grade
- Remove manhole **cover(s)** or **inlet grate** to access insert and lower chamber
  NOTE: EF4/EFO4 requires the removal of a **flow deflector** beneath inlet grate
- Use Sludge Judge® or similar sediment probe to check sediment depth through the **outlet riser**
- Oil dipstick can be inserted through the **oil inspection pipe**
- Visually inspect the **insert** for debris, remove debris if present
- Visually inspect the **drop pipe** opening for blockage, remove blockage if present
- Visually inspect **insert** and **weir** for damage, schedule repair if needed
- Insert vacuum hose and jetting wand through the outlet riser and extract sediment and floatables
- Replace flow deflector (EF4/EFO4), inlet grate, and cover(s)
- **NOTE:** If the unit has an **outlet platform**, the outlet platform is typically in the UP position (see Figure 3A) for normal treatment conditions, and for inspection and maintenance. If manned entry into the unit is required, the outlet platform must first be placed in the DOWN position (see Figure 3B). After manned entry is completed, return the outlet platform to the UP position for treatment.

When is inspection needed?

- Post-construction inspection is required prior to putting the Stormceptor into service.
- Routine inspections are recommended during the first year of operation to accurately assess pollutant accumulation.
- Inspection frequency in subsequent years is based on the maintenance plan developed in the first year.
- Inspections should also be performed immediately after oil, fuel, or other chemical spills.

What equipment is typically required for inspection?

- Manhole access cover lifting tool
- Oil dipstick / Sediment probe with ball valve (typically ¾-inch to 1-inch diameter)
- Flashlight
- Camera
- Data log / Inspection Report
- Safety cones and caution tape
- Hard hat, safety shoes, safety glasses, and chemical-resistant gloves

When is maintenance cleaning needed?

- If the post-construction inspection indicates presence of construction sediment of a depth greater than a few inches, maintenance is recommended at that time.
- For optimum performance and normal operation the unit should be cleaned out once the sediment depth reaches the recommended maintenance sediment depth, see **Table 3**.
- Maintain immediately after an oil, fuel, or other chemical spill.

Table 3

Recommended Sediment Depths for Maintenance Service*	
MODEL	Sediment Depth (in/mm)
EF4 / EFO4	8 / 203
EF6 / EFO6	12 /305
EF8 / EFO8	24 / 610
EF10 / EFO10	24 / 610
EF12 / EFO12	24 / 610

* Based on a minimum distance of 40 inches (1,016 mm) from bottom of outlet riser to top of sediment bed

The frequency of inspection and maintenance may need to be adjusted based on site conditions to ensure the unit is operating and performing as intended. Maintenance costs will vary based on the size of the unit, site conditions, local requirements, disposal costs, and transportation distance.

What equipment is typically required for maintenance?

- Vacuum truck equipped with water hose and jet nozzle
- Small pump and tubing for oil removal
- Manhole access cover lifting tool
- Oil dipstick / Sediment probe with ball valve (typically ¾-inch to 1-inch diameter)
- Flashlight
- Camera
- Data log / Inspection Report
- Safety cones
- Hard hats, safety shoes, safety glasses, chemical-resistant gloves, and hearing protection for service providers
- Gas analyzer, respiratory gear, and safety harness for specially trained personnel if confined space entry is required (adhere to all OSHA / CCOSH standards)

What conditions can compromise Stormceptor performance?

- Presence of construction sediment and debris in the unit prior to activation
- Excessive sediment depth beyond the recommended maintenance depth
- Oil spill in excess of the oil storage capacity
- Clogging or restriction of the drop pipe inlet opening with debris
- Downstream blockage that results in a backwater condition

Maintenance Procedures

- Maintenance should be conducted during dry weather conditions when no flow is entering the unit.
- Stormceptor is maintained from grade through a standard surface manhole access cover or inlet grate.
- In the case of submerged or tailwater conditions, extra measures are likely required, such as plugging the inlet and outlet pipes prior to conducting maintenance.
- Inspection and maintenance of upstream catch basins and other stormwater conveyance structures is also recommended to extend the time between future maintenance cycles.

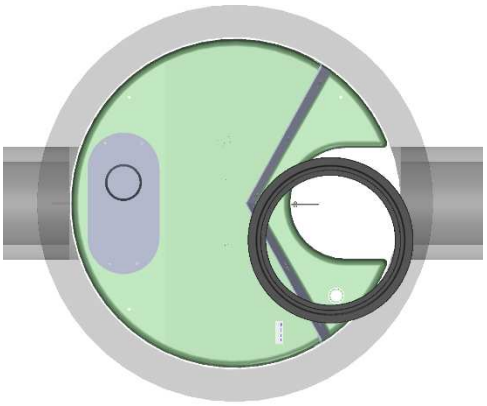


Figure 6

- Sediment depth inspections are performed through the **Outlet Riser** and oil presence can be determined through the **Oil Inspection Pipe**.
- Oil presence and sediment depth are determined by inserting a Sludge Judge® or measuring stick to quantify the pollutant depths.

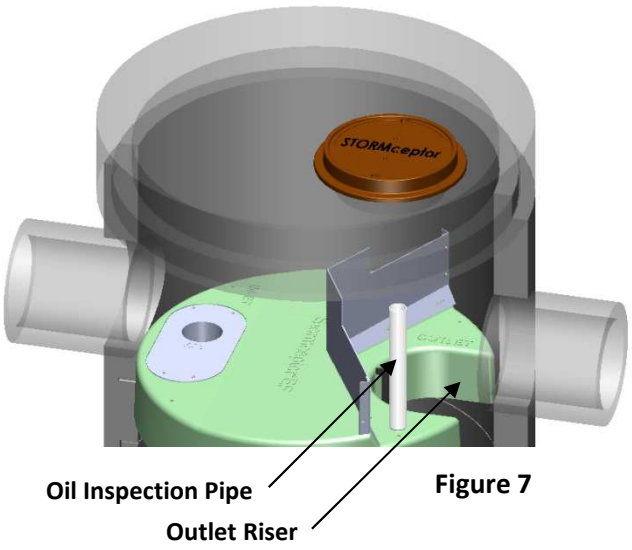


Figure 7

Figure 8

- Visually inspect the insert, weir, and drop pipe inlet opening to ensure there is no damage or blockage.
- **NOTE:** If the unit has an **outlet platform**, the outlet platform is typically in the UP position (see Figure 3A) for normal treatment conditions, and for inspection and maintenance. If manned entry into the unit is required, the outlet platform must first be placed in the DOWN position (see Figure 3B). After manned entry is completed, return the outlet platform to the UP position for treatment.

- When maintenance is required, a standard vacuum truck is used to remove the pollutants from the lower chamber of the unit through the **Outlet Riser**.

Figure 9

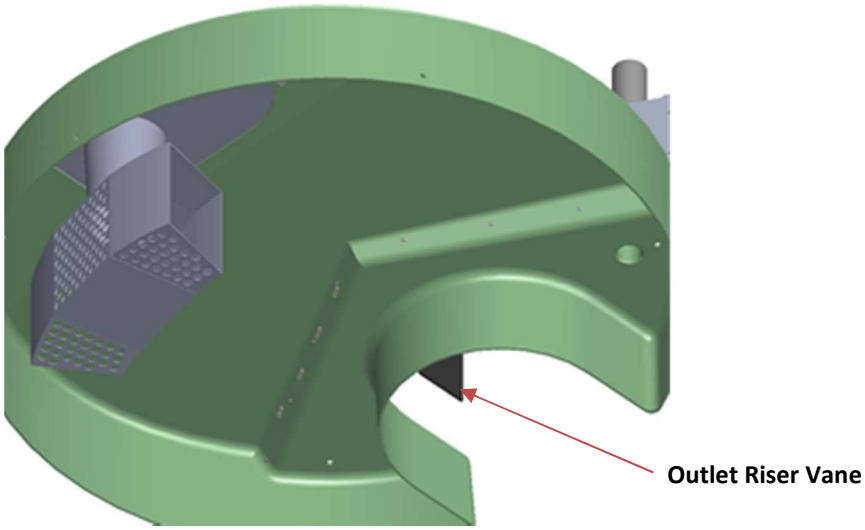
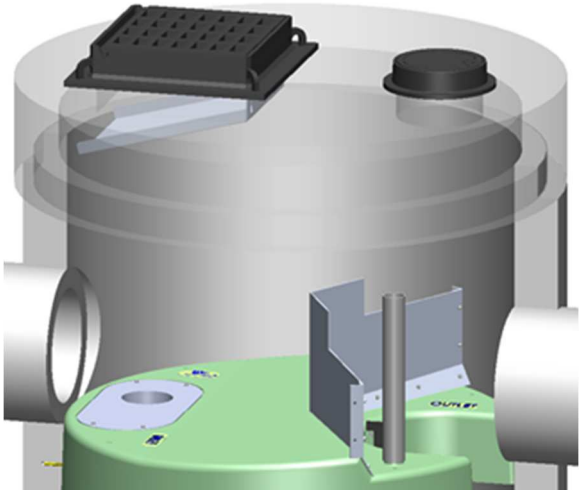


Figure 10

NOTE: The Outlet Riser Vane is durable and flexible and designed to allow maintenance activities with minimal, if any, interference.

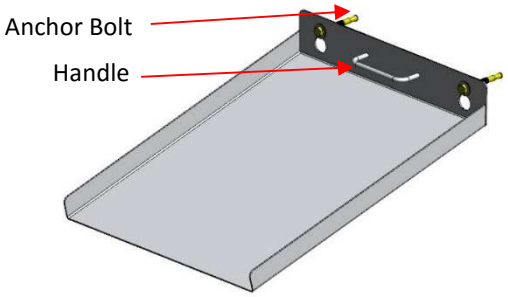
Removable Flow Deflector

- Top grated inlets for the Stormceptor EF4/EFO4 model requires a removable flow deflector staged underneath a 24-inch x 24-inch (600 mm x 600 mm) square inlet grate to direct flow towards the inlet side of the insert, and avoid flow and pollutants from entering the outlet side of the insert from grade. The EF6/EFO6 and larger models do not require the flow deflector.



How to Remove:

1. Loosen anchor bolts
2. Pull up and out using the handle



Removable Flow Deflector

Figure 11

Hydrocarbon Spills

Stormceptor is often installed on high pollutant load hotspot sites with vehicular traffic where hydrocarbon spill potential exists. Should a spill occur, or presence of oil be identified within a Stormceptor EF/EFO, it should be cleaned immediately by a licensed liquid waste hauler.

Disposal

Maintenance providers are to follow all federal, state/ provincial, and local requirements for disposal of material.

Oil Sheens

When oil is present in stormwater runoff, a sheen may be noticeable at the Stormceptor outlet. An oil rainbow or sheen can be noticeable at very low oil concentrations (< 10 mg/L). Despite the appearance of a sheen, Stormceptor EF/EFO may still be functioning as intended.

Oil Level Alarm

To mitigate spill liability with 24/7 detection, an electronic monitoring system can be employed to trigger a visual and audible alarm when a pre-set level of oil is captured within the lower chamber or when an oil spill occurs. The oil level alarm is available as an optional feature to include with Stormceptor EF/EFO as shown in **Figure 11**. For additional details about the Oil Level Alarm please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-systems.

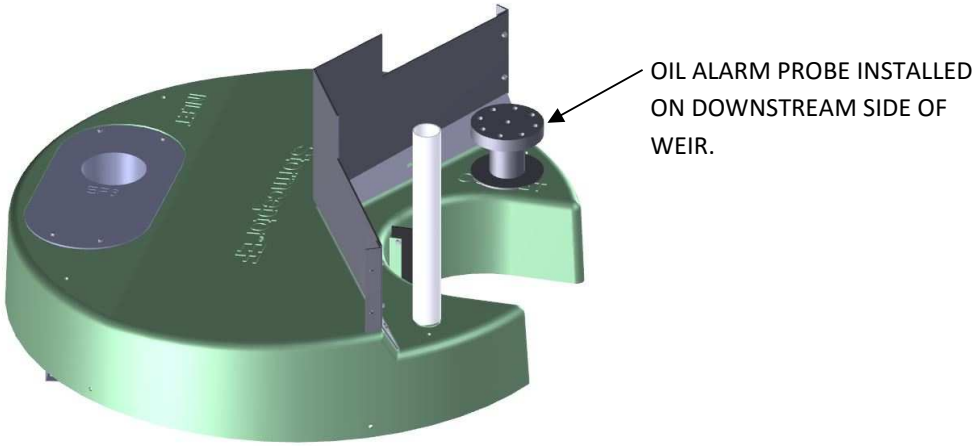


Figure 12

Replacement Parts

Stormceptor has no moving parts to wear out. Therefore inspection and maintenance activities are generally focused on pollutant removal. Since there are no moving parts during operation in a Stormceptor, broken, damaged, or worn parts are not typically encountered. However, if replacement parts are necessary, they may be purchased by contacting your local Stormceptor representative.

Stormceptor Inspection and Maintenance Log

Stormceptor Model No: _____

Serial Number: _____

Installation Date: _____

Location Description of Unit: _____

Recommended Sediment Maintenance Depth: _____

DATE	SEDIMENT DEPTH (inch or mm)	OIL DEPTH (inch or mm)	SERVICE REQUIRED (Yes / No)	MAINTENANCE PERFORMED	MAINTENANCE PROVIDER	COMMENTS

Other Comments:

Contact Information

Questions regarding Stormceptor EF/EFO can be addressed by contacting your local Stormceptor representative or by visiting our website at **www.stormceptor.com.**

Imbrium Systems Inc. & Imbrium Systems LLC

Canada	1-416-960-9900 / 1-800-565-4801
United States	1-301-279-8827 / 1-888-279-8826
International	+1-416-960-9900 / +1-301-279-8827

www.imbriumsystems.com
www.stormceptor.com
info@imbriumsystems.com

Appendix B

SANITARY SERVICING

Elgin Avenue Public School - Building Addition

Simcoe, ON
Project No: 43581-101
Date: April 2024
By: DXP

Sanitary Demand Calculations

Location	Institutional			Total		
	Population[1] (persons)	Flow Rate Factor (m^3/person/day)	Demand (L/s)	Total Average Demand (L/s)	Total Peak Demand (L/s)	Total Peaked Demand +Infiltration (L/s)
Proposed Public School Building Addition	732	0.45	3.81	3.81	5.53	**5.57**

Sanitary Demand		
Average Flow [2]	0.45	m^3 / person / day
	0.0052	L / person / s
Peaking Factor [3]	1.45	
Site Area[4]	0.13	ha
Infiltration Allowance [5]	0.28	L/s/ha
	0.04	L/s

Note 1: Sanitary demand design population assumed to be the same as calculated water demand design population (MTE Consultants Inc., dated April 2024)

Note 2: Average flow Demand from the Norfolk County Design Criteria (February 2019)

Note 3: Peaking Factor from the Norfolk County Design Criteria (February 2019)
PF = $1+(14/(4+P^{0.5}))$ where P is population in thousands and $2<M<5$

Note 4: Site Area provided by Salter Pilon Architecture Inc.

Note 5: Infiltration allowance from the Norfolk County Design Criteria (February 2019)

Appendix C

DOMESTIC & FIRE WATER SERVICING

Elgin Avenue Public School - Building Addition

Simcoe, ON
Project No: 43581-101
Date: April 2024
By: DXP

Peaking Factors[1]:	
Avg. Day	1.0
Max. Day	2.25
Peak Hour[2]	2.0

Water Demand Calculations

	Institutional				Final Demand		
Location	Floor Area [3] (m^2)	Population Density [4] (m^2/person)	Population (persons)	Demand (L/s)	Avg Day Demand Qavg (L/s)	Max Day Demand Qmax.day (L/s)	Peak Hour Demand Qpeak (L/s)
Proposed Public School Building Addition							
Classrooms	1355	1.85	732	3.81	3.81	8.58	7.63
Total					3.81	8.58	7.63

Water Demand [5]		
Average Daily Demands	450	L/d/student
	0.0052	L/s/student

Max Day + Fire Flow Demand	
Existing Qmax.day+fire	**73.6 L/s**

Fire Flow [6]		
Fire Flow	3900.0	L/min
	65.0	L/s

Note 1: Peaking factors based on the Norfolk County Design Criteria (February 2019)
Note 2: Peak Hour determined based on the Community Services category
Note 3: Floor Area Provided in Site Plan by Salter Pilon Architecture
Note 4: Population Density based on OBC Occupancy Loads for classrooms (Table 3.1.17.1)
Note 5: Water Demands based on the Norfolk County Design Criteria (February 2019)
Note 6: Fire flows from FUS (2020) - See attached worksheet

Elgin Avenue Public School - Building Addition

Simcoe, ON
Project No: 43581-101
Date: April 2024
By: DXP

FIRE FLOW DEMAND REQUIREMENTS - FIRE UNDERWRITERS SURVEY (FUS GUIDELINES)

Fire flow demands for the FUS method is based on information and guidance provided in "Water Supply for Public Protection" (Fire Underwriters Survey, 2020).

An estimate of the fire flow required is given by the following formula:

$$RFF = 220C\sqrt{A}$$

where:

RFF = the required fire flow in litres per minute
C = coefficient related to the type of construction
= 1.5 for **Type V** Wood Frame Construction
= 0.8 for **Type IV-A** Mass Timber Construction
= 0.9 for **Type IV-B** Mass Timber Construction
= 1.0 for **Type IV-C** Mass Timber Construction
= 1.5 for **Type IV-D** Mass Timber Construction
= 1.0 for **Type III** Ordinary Construction
= 0.8 for **Type II** Noncombustible Construction
= 0.6 for **Type I** Fire Resistive Construction

Adjustments to the calculated fire flow can be made based on occupancy, sprinkler protection and exposure to other structures. The table below summarizes the adjustments made to the basic fire flow demand.

			(1)		(2)		(3)		(4)		Final Adjusted		
Building	Area "A" (m^2)	C (Type II)	Fire Flow "RFF" (l/min)	(l/s)	Occupancy %	Adjusted Fire Flow (L/min)	Sprinkler %	Adjustment (L/min)	Exposure %	Adjustment (L/min)	Fire Flow (L/min)	Rounded (L/min)	(L/s)
Proposed Building	1,355	0.8	6,500	108.3	-15	5,525	-30	-1,658	0	0	3,868	3,900	**65.0**

(2) Occupancy

Non-Combustible	-25%
Limited Combustible	-15%
Combustible	No charge
Free Burning	15%
Rapid Burning	25%

(3) Sprinkler

-30% - Automatic sprinkler protection designed and installed in accordance with NFPA 13
-10% - Water supply is standard for both the system and Fire Department hose line
-10% - Fully supervised system

(4) Exposure

0 to 3m	25%	
3.1 to 10m	20%	Calculate for all
10.1 to 20m	15%	sides. Maximum
20.1 to 30m	10%	charge shall not
>30	0%	exceed 75%

Public School Building Addition

Direction	Distance	%
N	>30m	0
E	>30m	0
S	>30m	0
W	>30m	0
	Total	0

Elgin Avenue Public School - Building Addition

FIRE FLOW ANALYSIS

Simcoe, Ontario

Project Number: 43581-101
Date: 9/28/2021
Design By: RNC
File: Q:\43581\101\WATER\43581-101- Water Calculations.xlsx

CALCULATION OF RESIDUAL PRESSURE AT MUNICIPAL HYDRANT 308

1. Boundary Conditions (Based on Fire Flow Test Results):					
	Metric		**Imperial**		
P0 - Starting Pressure	43.81	*m*	**62.3**	*psi*	(at Q = 0)
P1 - Pressure at Q1	42.27	*m*	**60.1**	*psi*	(at Q = 1248 USGPM)
Q1 - From Fire Flow Test	4724	*L/min*	**1248**	*U.S. gal/min*	
Q2 - Required Flow	**73.6**	*L/min*	19	*U.S. gal/min*	***(Max day + fire)***
P-loss 1	1.55	*m*	2	*psi*	
P-loss 2	0.00	*m*	0	*psi*	
P2 - Residual Pressure	**43.81**	***m***	**62**	***psi***	

Hydrant Flow Test Report

Residual Hydrant Number _____

Operator: Colin Powell

Date: 15-Apr-24 Time: 11:35 AM

Witness: Norfolk County

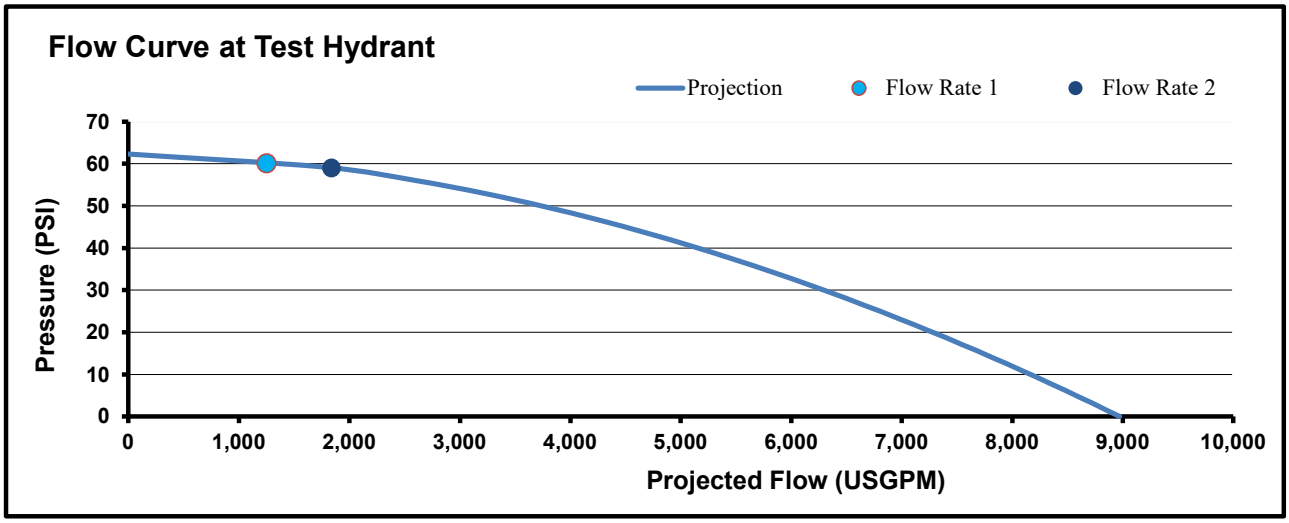
Residual Test Hydrant:	63 Elgin Ave		
Hydrant Number:	308	NFPA Colour Code:	**CLASS AA - BLUE**
Owner:	Norfolk County		

STATIC PRESSURE:	62.3 psi	430 kPa	Pressure Drop
RESIDUAL PRESSURE 1:	60.1 psi	414 kPa	3.5%
RESIDUAL PRESSURE 2:	59 psi	407 kPa	5.3%

			Hydrant Number
Flow Hydrants:	A	107 Elgin Ave	80
	B		
	C		

Hydrant No.	Flow Device	Outlet Dia. (in.)	Flow Rate 1 Reading (psi)	Flow Rate 1 (USGPM)	Flow Rate 2 Reading (psi)	Flow Rate 2 (USGPM)
A	Pitot	2.5	16	624	9	468
A	Pitot	2.5	16	624	9	468
A	HoseMonster	4"				900
Total Flow (USGPM)			1248		1836	
Total Flow (L/second)			79		116	
Available Flow At Test Hydrant at 20 ps			6,159	USGPM	7,279	USGPM
			389	L/second	459	L/second

Average Projection at 20 PSI	6,719	USGPM



Comments/Discrepencies/Diagram:

Watermark Solutions Limited
(705) 250-0368 www.watermark.ca

Appendix D

DRAWINGS

P:\P_43581\101\43581-101-C1.DWG

REPLACE EXISTING CB. CONTRACTOR TO FIELD INVESTIGATE TO DETERMINE IF EXISTING CB CAN BE REUSED.

EXISTING 400mmø STM TO BE REMOVED

EXISTING FENCE TO BE REMOVED

EXISTING CB AND 100mmø STM TO BE REMOVED

EXISTING CB TO BE REMOVED

EXISTING ASPHALT AREA TO BE REMOVED

EXISTING TRANSFORMER TO BE REMOVED, REFER TO ELECTRICAL PLANS.

EXISTING FENCE POST TO BE REMOVED AND REINSTATE, REFER TO SITE PLAN

EXISTING FENCE POST & GATE TO BE REMOVED AND REINSTATE, REFER TO SITE PLAN

EXISTING STAIRS AREA TO BE DEMOLISHED

EXISTING CONCRETE AREA TO BE REMOVED

EXISTING 400mmø STM TO BE REMOVED

EXISTING CB AND 400mmø STM TO BE REMOVED

EXISTING HAND RAIL TO BE REMOVED

EXISTING RETAINING WALL AND STAIRS TO BE DEMOLISHED

SURFACE TO BE REINSTATED TO EXISTING CONDITIONS OR BETTER.

EXISTING 400mmø PIPE TO BE PLUGGED AND SOLID GROUTED.

LIMIT OF PROPOSED GRADING. REFER TO C2.1 FOR FURTHER DETAILS.

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD

EXISTING GUARD RAIL TO BE REMOVED.

CONTRACTOR TO LOCATE AND REMOVE APPROXIMATELY 43m OF EX. 100mmø WTM AND REPLACE WITH 150mmø PVC WTM

CONTRACTOR TO LOCATE AND REMOVE APPROXIMATELY 15m OF EX. 250mmø STM AND REPLACE WITH 375mmø STM

SAW CUT AND REMOVE EX. BOULEVARD, CURB, SIDEWALK AND ASPHALT. RESTORE TO PREVIOUS CONDITIONS OR BETTER AND IN ACCORDANCE WITH COUNTY OF SIMCOE SPECIFICATIONS

EXISTING SIGN TO BE REMOVED

EXISTING FRENCH DRAIN TO BE REMOVED

EXISTING SIGN TO BE REMOVED

EXISTING CONCRETE SIDEWALK AND CURB TO BE REMOVED

CONTRACTOR TO REMOVE EXISTING 100mmø WTM CONNECTION AND REPLACE WITH 150mmø WTM CONNECTION

REMOVE EXISTING CONCRETE WALKWAY. REFER TO C2.1 FOR MORE DETAILS.

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD

LIMIT OF PROPOSED GRADING. REFER TO C2.1 FOR FURTHER DETAILS.

EXISTING TV AND BELL CABLE TO BE REMOVED AND RELOCATED WITHIN LIMIT OF PROPOSED DEVELOPMENT. TO BE DESIGNED AND COMPLETED BY OTHERS.

EXISTING TREES TO BE REMOVED (TYP.)

EXISTING VEGETATION TO BE REMOVED

EXISTING PEDB TO BE REMOVED

EXISTING TREES TO BE REMOVED (TYP.)

EXISTING FENCE TO BE REMOVED

NOTE: RESTORE DISTURBED AREAS TO EX. CONDITIONS OR BETTER. REFER TO GRADING PLAN FOR RESTORATION WORKS.

NOTE: ROAD RESTORATION ON ELGIN AVENUE TO CONFORM TO COUNTY OF SIMCOE STANDARDS.

ELGIN AVENUE

MARSHALL LANE

SCALE 1 : 250

5 0 5 10 15 metres

LEGEND

- SITE BOUNDARY
- EXISTING ELEVATIONS
- EXISTING DIRECTION OF DRAINAGE
- EXISTING CURB
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING MAN DOOR
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- REMOVALS
- ASPHALT REMOVALS
- BUILDING REMOVALS
- CONCRETE REMOVALS
- PROPOSED HEAVY DUTY ASPHALT
- SIDEWALK RESTORATION
- SOD RESTORATION
- LIMIT OF GRADING WORK
- SAW CUT c/w LAP JOINT (SEE DETAIL ON C2.3)

GEODETIC BENCHMARK ELEV. =222.264m
SITE B.M.#1 SPIKE IN NORTH FACE OF HYDRO POLE
(JEWITT AND DIXON LTD, 2018)

SITE BENCHMARK ELEV. =222.745m
TOP OF SPINDLE OF FIRE HYDRANT
(MTE, 2024)

No.	Revision	Date
1.	ISSUED FOR SPA	OCT. 11/2024

Seal

MTE
Engineers, Scientists, Surveyors
905-639-2552

salterpilon architecture

151 Ferris Lane, Suite 400 Barrie, Ontario L4M 6C1
salterpilon.com t: 705.737.3530

Project Information

ELGIN AVENUE PUBLIC SCHOOL ADDITION

80 ELGIN AVENUE, SIMCOE ON

For

SMCDSB

Drawing Title

EXISTING CONDITIONS AND REMOVALS PLAN

Date	2024-04-25	Project No	Drawing No
Design by	CKM	Checked by	RNC/KRR	43581-101	C1.1
Scale	1:250		

October 11, 2024 - 10:35:34 AM - Plotted By: Rosie Colagero

P:\P\43581\101\43581-101-C2.DWG

GEODETIC BENCHMARK ELEV. =222.264m
SITE B.M.#1 SPIKE IN NORTH FACE OF HYDRO POLE
(JEWITT AND DIXON LTD, 2018)

SITE BENCHMARK ELEV. =222.745m
TOP OF SPINDLE OF FIRE HYDRANT
(MTE, 2024)

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD

MATCH TO EX. GRADES (TYP.)

LIMIT OF PROPOSED GRADING WORK

PROP. 30.2m SWALE @ 0.5% c/w SUBDRAIN. SUBDRAIN TO CONNECT INTO CBMH5 (REFER TO DETAIL ON C2.3)

CB6.1 T/G=224.66

MH6 T/G=224.89

LANDSCAPE AREA

KINDERGARTEN PLAY AREA

CHILDCARE PLAY AREA

LIGHT DUTY ASPHALT

CBMH5 T/G=224.42

PROP. 14.4m SWALE @ 0.5% c/w SUBDRAIN. SUBDRAIN TO CONNECT INTO CBMH5. (REFER TO DETAIL ON C2.3)

PROP. BIKE RACK

PROPOSED DROP CURB

100-YEAR PONDING ELEV.=224.65
PONDING VOLUME=37.43m³
PONDING DEPTH=0.23m
PONDING AREA=362m²

PROP. 48.8m SWALE @ 0.5% c/w SUBDRAIN

PROPOSED CONCRETE BARRIER CURB AS PER OPSD 600.110 (TYP.)

PROP. SNOW STORAGE

PROPOSED SILT FENCE TO BE INSTALLED INSIDE THE PROPERTY LINE AS PER THE DETAIL (SEE DETAIL ON C2.3)

RETAINING WALL TRANSITION TO FULL HEIGHT BARRIER CURB
T/W=225.45
B/W=225.30
HEIGHT=0.15m

KISS & RIDE

100-YEAR PONDING ELEV.=224.65
PONDING VOLUME=88.33m³
PONDING DEPTH=0.25m
PONDING AREA=891m²

100-YEAR PONDING ELEV.=224.65
PONDING VOLUME=40.03m³
PONDING DEPTH=0.20m
PONDING AREA=467m²

T/W=226.00
B/W=225.45
HEIGHT=0.55m

PROPOSED 50.1m RETAINING WALL MAX HEIGHT=2.6m c/w GUARD RAILING PER OPSD 980.101 (OR APPROVED EQUIVALENT) RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW. ARMOUR STONE WALL ALTERNATIVE TO BE PRICED.

PROP. PLAY CURB. REFER TO LANDSCAPE PLANS.

PROPOSED FENCE. REFER TO ARCHITECTURAL PLAN FOR DETAILS.

PROPOSED ASPHALT TO MATCH INTO EXISTING ASPHALT c/w SAW CUT AND LAP JOINT. REFER TO DETAIL ON C2.3.

PROP. ARTIFICIAL TURF. REFER TO LANDSCAPE PLANS.

LIGHT DUTY ASPHALT

CB6.2 T/G=224.62

PROP. RAISED 150mm HIGH PLANTER BED. REFER TO LANDSCAPE PLAN.

PROP. PLANTER

PROPOSED SINGLE STOREY BUILDING
FFE=225.10

PAINTED LINES (TYP.) REFER TO ARCHITECTURAL PLAN FOR DETAILS.

PROPOSED MEDIUM DUTY ASPHALT

PROPOSED HEAVY DUTY ASPHALT

CBMH4 T/G=224.40

CBMH7 T/G=224.45

MATCH TO EX. GRADES ALONG PROPERTY LINE (TYP.)

T/W=227.90
B/W=225.35
HEIGHT=2.55m

EXISTING TRANSFORMER TO BE REMOVED. REFER TO ELECTRICAL PLANS.

EXISTING FENCE POST & GATE TO BE REMOVED AND REINSTATE. REFER TO SITE PLAN

PROP. LIGHT DUTY ASPHALT. REFER TO SITE PLAN

CANOPY ABOVE

RAISED FOUNDATION WALL TO BE 0.15m ABOVE OUTSIDE ELEVATION

PROPOSED 4.9m RETAINING WALL MAX HEIGHT=1.9m c/w GUARD RAILING PER OPSD 980.101 (OR APPROVED EQUIVALENT) RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW.

PROP. RAISED 150mm High PLANTER BED. REFER TO LANDSCAPE PLAN.

PROP. 4.5m CURB CUT

T/W=228.10
B/W=225.50
HEIGHT=2.60m

EXISTING FENCE POST TO BE REMOVED AND REINSTATE. REFER TO SITE PLAN

PROP. SAND BOX WITH CURB. REFER TO LANDSCAPE PLANS.

TERMINATE RETAINING WALL TO BE FLUSH WITH CONCRETE SURFACE.

T/W=225.10
B/W=223.10

PROPOSED 3 STOREY BUILDING
FFE=223.10

TRANSITION RETAINING WALL TO FULL HEIGHT BARRIER CURB

PROP. LIGHT STANDARDS (TYP.) REFER TO ELECTRICAL PLANS

PROP. SIGN (TYP.) REFER TO ARCHITECTURAL PLANS

T/W=227.65
B/W=225.70
HEIGHT=1.95m

POTENTIAL FOR EX. TREES WITHIN 3:1 EMBANKMENT ON SITE TO BE REMOVED.

MATCH INTO EXISTING GRADES (TYP.)

PROP. RAMP TO MATCH NEW DOOR ELEVATION. REFER TO SITE PLAN.

AD2 T/G=223.05

AD1 T/G=223.05

PROPOSED 13.3m RETAINING WALL MAX HEIGHT=1.55m c/w PEDESTRIAN SAFETY RAILING PER OPSD 980.101 (OR APPROVED EQUIVALENT) RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW.

MH3 T/G=224.32

T/W=224.65
B/W=223.10
HEIGHT=1.55

PROP. GARBAGE

PROP. SNOW STORAGE

T/W=224.85
B/W=223.87
HEIGHT=0.98m

T/W=224.85
B/W=223.63
HEIGHT=1.22m

PROP. FIRE HYDRANT

PROPOSED 14.7m RETAINING WALL MAX HEIGHT=1.22m c/w GUARD RAILING RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW.

MATCH TO EX. GRADES ALONG PROPERTY LINE (TYP.)

RETAINING WALL TRANSITION TO FULL HEIGHT BARRIER CURB
T/W=225.60
B/W=225.45
HEIGHT=0.15m

SURFACE TO BE REINSTATED TO EXISTING CONDITIONS DUE TO PROPOSED WTM AND SANITARY SERVICING. REFER TO C2.2 FOR DETAILS ON SERVICING.

PROP. GAS METER ON CONCRETE PAD. REFER TO MECHANICAL PLANS FOR GAS METER DETAILS.

PROP. LIGHT DUTY ASPHALT. REFER TO SITE PLAN

EXISTING GARDEN TO REMAIN AND RECONDITIONED. REFER TO SITE PLAN.

PROPOSED SILT FENCE (SEE DETAIL ON C2.3)

PROPOSED TREE PROTECTION FENCE (TYP.) REFER TO LANDSCAPE PLANS

MH2A T/G=223.22

MH1A T/G=222.94 EX.

PROPOSED BOLLARD

RAISED BARRIER CURB

PROPOSED ASPHALT

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD

LIMIT OF PROPOSED GRADING WORK

PROP. 9.0m SWALE @ 11.1%

PROP. 18.4m SWALE @ 1.8% c/w SUBDRAIN TO CONNECT TO CB2.1

PROP. TRANSFORMER REFER TO ELECTRICAL PLANS. TRANSFORMER TO SIT ON CONCRETE PAD. CONCRETE PAD TO BE 0.15m ABOVE PERIMETER ELEVATIONS.

PROPOSED 7m x 14m CONSTRUCTION ACCESS (SEE DETAIL ON C2.3)

MATCH TO EX. GRADES (TYP.)

9.7m RAMP MAX 12:1

CBMH2 T/G=222.55

CB2.1 T/G=222.15

MH1 T/G=222.23 EX.

CONTROL MH8

MH9 EF06 T/G=222.30 EX.

POTENTIAL FOR EXISTING TREE REMOVAL DUE TO LIMIT OF WTM UPGRADE WORKS.

TAPER CURB AT EX. SIDEWALK

MATCH INTO EX. MUNICIPAL SIDEWALK

SILT SACK (TYP.) (SEE DETAIL ON C2.3)

SAW CUT AND REMOVE EX. BOULEVARD, CURB, SIDEWALK AND ASPHALT. RESTORE TO PREVIOUS CONDITIONS OR BETTER AND IN ACCORDANCE WITH COUNTY OF SIMCOE SPECIFICATIONS.

NEW HYDRO POLE. REFER TO ELECTRICAL PLANS. GENERAL CONTRACTOR TO COORDINATE WITH UTILITIES.

TAPER CURB AT EX. SIDEWALK

22.5± WIDE DROP CURB PER OPSD 600.040 (SEE DETAIL ON C2.3)

REMOVE AND RESTORE EXISTING SIDEWALK TO EXISTING CONDITIONS OR BETTER

NEW 150mm TOPSOIL AND SOD TO MATCH EXISTING CONDITIONS OR BETTER.

NEW CONCRETE WALKWAY TO MATCH EXISTING CONDITIONS OR BETTER.

NOTE: ROAD RESTORATION ON ELGIN AVENUE TO CONFORM TO COUNTY OF SIMCOE STANDARDS.

ELGIN AVENUE

MARSHALL LANE

SITE BENCH MARK ELEVATION=222.745 TOP OF SPINDLE OF FIRE HYDRANT

SCALE 1 : 250
5 0 5 10 15 metres

LEGEND OF EXISTING FEATURES

- SITE BOUNDARY
- EXISTING SPOT ELEVATIONS
- EXISTING DIRECTION OF DRAINAGE
- EXISTING CURB
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING MAN DOOR
- EXISTING TREES
- EASEMENT

LEGEND OF PROPOSED FEATURES

- PROPOSED SPOT ELEVATIONS (EX =MAINTAIN EXISTING; T/G =TOP OF CASTING/GRATE; INV =INVERT ELEVATION; FFE =FINISHED FLOOR ELEVATION)
- DIRECTION OF DRAINAGE/SWALE
- DRAINAGE SPLIT
- EMBANKMENT (SLOPE AS NOTED)
- PROPOSED BUILDING
- MAN DOOR
- CONCRETE CURB
- RETAINING WALL
- OVERLAND FLOW ROUTE (MAJOR STORM)
- SEDIMENT CONTROL FENCE (SEE DETAIL ON C2.3)
- SILT SACK (SEE DETAIL ON C2.3)
- CONSTRUCTION ACCESS (SEE DETAIL ON C2.3)
- RAISED FOUNDATION WALL
- LIMIT OF GRADING WORK
- CANOPY ABOVE
- FENCE
- BARRIER FREE PARKING REFER TO ARCHITECTURAL PLANS
- 100 YEAR PONDING LIMIT
- GUARDRAIL
- PROP. SIGN REFER TO ARCHITECTURAL PLANS
- PROP. LIGHT STANDARD REFER TO ELECTRICAL PLANS
- PROPOSED HEAVY DUTY ASPHALT
- SIDEWALK RESTORATION
- SOD RESTORATION
- SAW CUT c/w LAP JOINT (SEE DETAIL ON C2.3)
- PROP TREE PROTECTION FENCE (REFER TO LANDSCAPE PLAN)
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED BOLLARD

No.	Revision	Date
1.	ISSUED FOR SPA	OCT. 11/2024

Seal

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Project Information
ELGIN AVENUE PUBLIC SCHOOL ADDITION

80 ELGIN AVENUE, SIMCOE ON

For
SMCDSB

Drawing Title
SITE GRADING AND EROSION & SEDIMENT CONTROL PLAN

Date	Project No	Drawing No
2024-04-25	43581-101	C2.1
Design by CKM / Checked by RNC/KRR		
Scale 1:250		

October 11, 2024 - 10:37:24 AM - Plotted By: Rocio Colagero

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GEODETIC BENCHMARK ELEV. =222.264m
SITE B.M.#1 SPIKE IN NORTH FACE OF HYDRO POLE
(JEWITT AND DIXON LTD, 2018)

SITE BENCHMARK ELEV. =222.745m
TOP OF SPINDLE OF FIRE HYDRANT
(MTE, 2024)

PROPOSED SINGLE STOREY BUILDING
FFE=225.10

PROPOSED 3 STOREY BUILDING
FFE=223.10
0.8m–250mmø STM @ 2.6%

ELGIN AVENUE

MARSHALL LANE

CB6.1
T/G=224.66
(OPSD 705.010)
N INV.=223.05

MH6
T/G=224.89
1200mmø (OPSD 701.010)
S INV.=222.89
E INV.=222.90
N INV.=222.83

15.5m–450mmø STM @ 1.0%

40.4m–450mmø STM @ 0.8%

CBMH5
T/G=224.42
1200mmø (OPSD 701.010)
S INV.=222.46
NE INV.=222.41

CBMH4
T/G=224.40
1200mmø (OPSD 701.010)
SW INV.=222.23
N INV.=222.20
SE INV.=222.15

CBMH7
T/G=224.45
1200MM (OPSD 701.010)
S INV.=222.53

34.6m–525mmø STM @ 1.0%

44.8m–525mmø STM @ 0.5%

31.4m–450mmø STM @ 0.5%

CB6.2
T/G=224.62
(OPSD 705.010)
W INV.=223.07

AD1
T/G=223.05
E INV.=221.62
STM STUB INV.=221.65
STM STUB INV.=221.65

AD2
T/G=223.05
W INV.=221.62

MH3
T/G=224.32
1800mmø (OPSD 701.012)
NW INV.=221.93
W INV.=221.60
SE INV.=221.55

MH2A
T/G=223.22
1200mmø (OPSD 701.010)
W INV.=220.36
S INV.=220.30

MH1A
T/G=222.94 EX.
1200mmø (OPSD 701.010)
N INV.=219.84

MH1
T/G=222.23 EX.
1200mmø (OPSD 701.010)
N INV.=220.49
W INV.=220.43

22.6m–375mmø STM @ 1.5%

MH9 EFO6
T/G=222.30 EX.
1800mmø (OPSD 701.012)
NW INV.=221.12
S INV.=221.10

14.3m–375mmø STM @ 0.7%

CONTROL MH8
T/G=222.28 EX.
1200mmø (OPSD 701.010)
N INV.=221.07
S INV.=220.83

CBMH2
T/G=222.55
1200mmø (OPSD 701.010)
W INV.=221.31
NW INV.=221.31
SE INV.=221.22

CB2.1
T/G=222.15
(OPSD 705.010)
SE INV.=221.37

6.5m–250mmø STM @ 1.0%

14.5m–375mmø STM @ 2.0%

15.0m–250mmø STM @ 2.0%

0.8m–250mmø STM @ 2.6%

6.5m–100mmø SAN @ 2.0%

22.9m–100mmø SAN @ 2.0%

2.5m

150mmø WTM

53.6m–375mmø STM @ 0.7%

4.0m–375mmø STM @ 0.7%

REPLACE EXISTING CB. CONTRACTOR TO FIELD INVESTIGATE TO DETERMINE IF EXISTING CB CAN BE REUSED

PROP. PLAY CURB. REFER TO LANDSCAPE PLANS.

PROPOSED FENCE. REFER TO ARCHITECTURAL PLAN FOR DETAILS

PROPOSED INSULATION (TYP.) (SEE DETAIL ON C2.3)

5.0m PERFORATED SUBDRAIN (TYP.) REFER TO C2.3 FOR DETAIL.

PROP. ARTIFICIAL TURF. REFER TO LANDSCAPE PLANS.

EXISTING TRANSFORMER TO BE REMOVED. REFER TO ELECTRICAL PLANS.

PROP. RAMP

PROP. LIGHT DUTY ASPHALT

PROP. SAND BOX WITH CURB. REFER TO LANDSCAPE PLANS.

REFER TO MECHANICAL PLANS FOR DETAILS ON BACKFLOW PREVENTOR

DRAINAGE FROM AD1 TO CONNECT TO INTERNAL PLUMBING SYSTEM. REFER TO MECHANICAL PLANS.

PROP. RETAINING WALL. REFER TO C2.1 FOR MORE INFORMATION.

PROP. GAS METER ON CONCRETE PAD. REFER TO MECHANICAL PLANS FOR GAS METER DETAILS.

WTM TO SPLIT INTO FIRE AND DOMESTIC INTERNALLY. REFER TO MECHANICAL PLANS FOR DETAIL ON INTERNAL WTM SPLIT, BACKFLOW PREVENTOR AND METER.

PROPOSED 185mmø ORIFICE PLATE (REFER TO DETAIL ON C2.3)

PROP. BOLLARD

PROPOSED ASPHALT

PROP. 30.6m SUBDRAIN UNDERLYING SWALE. SUBDRAIN TO CONNECT INTO CBMHS. REFER TO C2.1 FOR GRADING OF SWALE. (REFER TO DETAIL ON C2.3)

PROP. 63.2m SUBDRAIN UNDERLYING SWALE. SUBDRAIN TO CONNECT INTO CBMHS. REFER TO C2.1 FOR GRADING OF SWALE. (REFER TO DETAIL ON C2.3)

PROP. 17.7m SUBDRAIN UNDERLYING SWALE SUBDRAIN TO CONNECT INTO CB2.1. REFER TO C2.1 FOR GRADING OF SWALE. (REFER TO DETAIL ON C2.3)

PROP. DROP CURB

KISS & RIDE

PROP. SNOW STORAGE

PROPOSED MEDIUM DUTY ASPHALT

PROPOSED HEAVY DUTY ASPHALT

PROPOSED PAINTED BARRIER FREE PARKING SPACES

PROP. LIGHT STANDARDS (TYP.) REFER TO ELECTRICAL PLANS

PROP. SIGN (TYP.) REFER TO ARCHITECTURAL PLANS

PROP. GARBAGE

PROP. BOLLARD (TYP.)

PROP. FIRE HYDRANT

PROPOSED RETAINING WALL. REFER TO C2.1 FOR MORE INFORMATION.

PROP. RETAINING WALL. REFER TO C2.1 FOR MORE INFORMATION.

PROP. PLANTER

PROP. BIKE RACK

PROP. TRANSFORMER ON CONCRETE PAD

PROP. SIGN

PROP. HP GENERAL CONTRACTOR TO COORDINATE WITH UTILITIES

CONTRACTOR TO REMOVE EXISTING STM IN THIS LOCATION IF IN CONFLICT WITH TRANSFORMER OR PROP. ELECTRICAL LINES. CONTRACTOR TO FIRST CONFIRM LOCATION, SIZE, CONDITION, MATERIAL AND CONNECTIVITY OF SEWER AND INFORM CIVIL ENGINEER OF FINDINGS BEFORE CUTTING STM SEWER.

***CAUTION*:** CROSSING MAINTAIN MIN 0.5m VERTICAL CLEARANCE BETWEEN WTM & EX. SAN, EX. STM. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND ELEVATION OF EX. SAN & EX. STM SEWER.

EX. 100mmø WTM CONNECTION TO EX. BUILDING TO REMAIN AT THIS LOCATION

CONTRACTOR TO PROVIDE BEST EFFORTS TO LIMIT DISTURBANCE WITHIN THE EX. TREE DRIPLINE.

150mm TO 100mm WATERMAIN REDUCER. CONNECT 150mm WTM TO EXISTING 100mm WTM VIA TEE. CONTRACTOR TO CUT AND REMOVE EX. 100mm WTM DOWNSTREAM OF CONNECTION POINT AND REPLACE WITH 150mm WTM. CONTRACTOR TO CONFIRM SIZE, LOCATION, MATERIAL AND CONDITION OF EXISTING WTM.

CONNECT 100mmø SAN TO EXISTING 200mmø SANITARY VIA MH CONNECTION. CONTRACTOR TO CONFIRM SIZE, LOCATION, MATERIAL AND CONDITION OF EXISTING SAN SEWER.

***CAUTION*:** CROSSING MAINTAIN MIN 0.3m VERTICAL CLEARANCE BETWEEN STM. & EX.SAN. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND ELEVATION OF EX. SAN SEWER. STM.INV=220.41

CONNECT PROP. 375mmø STM TO EXISTING 250mmø STM VIA NEW 'DOG HOUSE' METHOD MH. CONTRACTOR TO CUT AND REMOVE EX. 250mmø STM DOWNSTREAM OF CONNECTION POINT AND REPLACE WITH 375mmø STM. CONNECT AT INV.=220.49 CONTRACTOR TO CONFIRM LOCATION, SIZE, ELEVATION, MATERIAL AND CONDITION OF EXISTING STM SEWER.

CONTRACTOR TO REMOVE EXISTING 100mmø WTM CONNECTION AND REPLACE WITH 150mmø WTM CONNECTION VIA CUT-IN-TEE.

CONTRACTOR TO CONFIRM LOCATION, SIZE, CONDITION, MATERIAL AND CONNECTIVITY OF SEWER AND INFORM CIVIL ENGINEER OF FINDINGS. CUT AND CAP EX. 400mm STM FULLY GROUT END.

***CAUTION*:** CROSSING MAINTAIN MIN 0.5m VERTICAL CLEARANCE BETWEEN WTM & SAN. SAN OBV=220.51 WTM INV=221.30±

***CAUTION*:** CROSSING MAINTAIN MIN 0.5m VERTICAL CLEARANCE BETWEEN WTM & STM. STM INV=221.50 WTM OBV=221.00±

***CAUTION*:** CROSSING MAINTAIN MIN 0.3m VERTICAL CLEARANCE BETWEEN STM & EX.STM. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND ELEVATION OF EX. STM SEWER. IF EX. STM SEWER IN CONFLICT, ADVISE CIVIL ENGINEER. STM.OBV=220.91 EX. STM INV.=221.09±

EX. UTILITY POLE TO REMAIN. CONTRACTOR TO SUPPORT UTILITY POLE AND GUY WIRES DURING INSTALLATION OF STORM SEWER.

CONTRACTOR TO CONFIRM LOCATION, SIZE, MATERIAL AND CONDITION OF EXISTING STM SEWER

CONTRACTOR TO REMOVE EXISTING 250mmø STM CONNECTION AND REPLACE WITH 375mmø STM CONNECTION.

SITE BENCH MARK ELEVATION=222.745 TOP OF SPINDLE OF FIRE HYDRANT

SCALE 1 : 250
5 0 5 10 15 metres

LEGEND OF EXISTING FEATURES

- SITE BOUNDARY
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- EXISTING CURB
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING MAN DOOR
- EXISTING TREES
- EASEMENT

LEGEND OF PROPOSED FEATURES

- PROPOSED BUILDING
- MAN DOOR
- CONCRETE CURB (DROP CURB)
- RETAINING WALL
- EMBANKMENT (SLOPE AS NOTED) (TOP) 3:1 (BOTTOM)
- SANITARY SEWER (MH, 14.6m–200mmø SAN @ 1.5%)
- STORM SEWER (MH, 21.3m–300mmø STM @ 1.3%)
- PERFORATED BIG 'O' SUBDRAIN (SEE DETAIL ON C2.3)
- WATERMAIN (200mmø WTM, HYD. SET, V, TEE)
- SHALLOW PIPE INSULATION (SEE DETAIL ON C2.3)
- FENCE
- GUARDRAIL
- BARRIER FREE PARKING REFER TO ARCHITECTURAL PLANS
- PROP. SIGN REFER TO ARCHITECTURAL PLANS
- PROP. LIGHT STANDARD REFER TO ELECTRICAL PLANS
- PROP. BACKFLOW PREVENTOR (BP)
- SIDEWALK RESTORATION
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED BOLLARD

No.	Revision	Date
1.	ISSUED FOR SPA	OCT. 11/2024

Seal

MTE
Engineers, Scientists, Surveyors
905-639-2552

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salterpilon.com t: 705.737.3530

Project Information

ELGIN AVENUE PUBLIC SCHOOL ADDITION

80 ELGIN AVENUE, SIMCOE ON

For SMCDSB

Drawing Title

SITE SERVICING PLAN

Date	Project No	Drawing No
2024-04-25	43581 -101	C2.2
Design by CKM / Checked by RNC/KRR		
Scale 1:250		

October 11, 2024 – 10:38:19 AM – Plotted By: Rovie Cologero

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CONSTRUCTION NOTES AND SPECIFICATIONS

1. GENERAL

1.1. THESE PLANS ARE NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.

1.2. THESE PLANS ARE TO BE USED FOR SERVICING AND GRADING ONLY; ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THESE PLANS MUST NOT BE USED TO SITE THE PROPOSED BUILDING.

1.3. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.

1.4. THESE PLANS ARE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF MTE CONSULTANTS INC.

1.5. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:

1.5.1. CHECK AND VERIFY ALL EXISTING CONDITIONS, LOCATIONS AND ELEVATIONS WHICH INCLUDES BUT IS NOT LIMITED TO THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING.

1.5.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.

1.5.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND BASEMENT FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.

1.5.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.

1.6. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO EXISTING WORKS. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO LOCAL MUNICIPALITY STANDARDS

1.7. ALL WORKS ON A MUNICIPAL RIGHT-OF-WAY WITH THE EXCEPTION OF WATERMAIN TAPPING, TO BE INSTALLED BY THE OWNER'S CONTRACTOR AT OWNER'S EXPENSE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY'S "PROCEDURE FOR OFF-SITE WORKS BY PRIVATE CONTRACTOR". THE OWNER AND CONTRACTOR ARE TO ENSURE OFF-SITE WORKS PERMIT IS IN PLACE PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL AFFECTED PROPERTY TO ORIGINAL CONDITION. ALL BOULEVARD AREAS SHALL BE RESTORED WITH 150mm TOPSOIL AND SOD.

1.8. ALL UNDERGROUND SERVICES ARE TO BE CONSTRUCTED IN FULL COMPLIANCE WITH THE ONTARIO PROVINCIAL BUILDING CODE (PART 7, PLUMBING), THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND THE REGIONAL MUNICIPALITY OF NORFOLK COUNTY; WHICH CODES AND REGULATIONS SHALL SUPERSEDE ALL OTHERS.

1.9. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE, DIVISION C, PART 1, SECTION 1.2.2. GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.

1.10. STORM SEWERS AND SERVICES TO HAVE A MINIMUM 1.2m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. CONTACT DESIGN ENGINEER FOR "SEWER PIPE INSULATION DETAIL" IF REQUIRED.

1.11. PLAN TO BE READ IN CONJUNCTION WITH MTE DRAWING C1.1, C2.1, C2.2, C2.3, FUNCTIONAL SERVICING AND SWM REPORT.

1.12. SITE PLAN INFORMATION TAKEN FROM PLAN PREPARED BY SALTER PILON ARCHITECTURE DATED OCTOBER 2024.

1.13. EXISTING TOPOGRAPHIC AND LEGAL INFORMATION TAKEN FROM PLAN PREPARED BY JEWITT AND DIXON LTD, DATED APRIL 2018 AND MTE DATED JUNE 2024. MTE ASSUMES THAT ALL TOPOGRAPHICAL INFORMATION IS AN ACCURATE REPRESENTATION OF CURRENT CONDITIONS.

1.14. CONTRACTOR TO OBTAIN WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNER PRIOR TO ENTERING UPON NEIGHBOURING LANDS TO UNDERTAKE ANY WORK. COPIES OF THESE LETTERS OF CONSENT SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT CONTRACTOR'S OWN RISK.

1.15. RETAINING WALLS TO BE DESIGNED BY OTHERS. FOR WALLS EXCEEDING 1.0m IN HEIGHT, SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW AND APPROVAL AND BUILDING PERMIT MUST BE OBTAINED. WALLS OVER 0.6m IN HEIGHT REQUIRE HIGH SIDE OF RETAINING WALLS TO BE BACKFILLED WITH FREE DRAINING MATERIAL.

1.16. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1 METRE FROM FOUNDATION WALL.

1.17. FILTER FABRIC TO BE TERRAFIX 270R OR APPROVED EQUAL.

1.18. MAXIMUM GRASSED SLOPE TO BE 3:1. SLOPES GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND COVER.

1.19. SIDE SLOPES OF ALL STOCKPILES OR EXTRACTION FACES TO BE MAINTAINED AT 70 DEGREES OR LESS BETWEEN EARLY APRIL AND LATE AUGUST TO DETER BANK SWALLOWS FROM NESTING.

1.20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE LOCAL MUNICIPALITY AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

1.21. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECCESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

1.22. CONTRACTOR TO MAINTAIN A 'CONFINED TRENCH CONDITION' IN ALL SEWER AND SERVICE TRENCHES.

1.23. FOLLOWING COMPLETION OF PROPOSED WORKS AND PRIOR TO OCCUPANCY INSPECTION, ALL STORM AND SANITARY SEWERS ARE TO BE FLUSHED, AND ALL CATCHBASIN AND CATCHBASIN MANHOLE SUMPS ARE TO BE CLEANED OF DEBRIS AND SILT.

2. STORM SEWERS

2.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030, 802.031, OR 802.032. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010, BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

2.2. STORM SEWERS, 150mm⌀ AND SMALLER, SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

2.3. STORM SEWERS 200mm⌀ TO 375mm⌀ SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 OR RIBBED PVC SEWER PIPE CSA B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS. RIBBED PVC NOT TO BE USED WITHIN RIGHT-OF-WAY.

2.4. STORM SEWERS, 450mm⌀ AND LARGER, SHALL BE CONCRETE PIPE, CSA-A257.2 65-D WITH RUBBER GASKET JOINT OR RIBBED PVC SEWER PIPE CSA B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC RIBBED PVC NOT TO BE USED WITHIN RIGHT-OF-WAY.

2.5. MANHOLES AND MANHOLE CATCHBASINS TO BE 1200mm⌀ PRECAST WITH ALUMINUM STEPS AT 300mm CENTRES AS PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.

2.6. CATCHBASINS TO BE 600mm SQUARE PRECAST AS PER OPSD 705.010.

2.7. ALL STORM STRUCTURES TO HAVE A MINIMUM 600mm DEEP SUMP.

2.8. MANHOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.

2.9. STORM MANHOLE LIDS TO BE PER OPSD 401.010 – TYPE 'B' CATCHBASIN AND CATCHBASIN MANHOLE GRATES TO BE PER OPSD 400.110.

2.10. ADJUSTMENT UNITS FOR STORM STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011.

2.11. STORM SEWERS AND SERVICES TO HAVE MINIMUM 1.2m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL". CONTACT DESIGN ENGINEER FOR "SEWER PIPE INSULATION DETAIL" IF REQUIRED.

2.12. UNDER NO CIRCUMSTANCES SHALL THE BUILDING FOUNDATION DRAINS BE CONNECTED DIRECTLY TO THE STORM SEWER SYSTEM.

2.13. ALL WEEPING TILE DRAINAGE TO BE PUMPED TO THE STORM SEWER SYSTEM.

3. SANITARY SEWERS

3.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010, BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

3.2. SANITARY SEWERS 150mm⌀ AND SMALLER SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.3. SANITARY SEWERS 200mm⌀ TO 600mm⌀ INCLUSIVE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.4. SANITARY SEWERS GREATER THAN 600mm⌀ SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.5. MANHOLES TO BE 1200mm⌀ PRECAST WITH ALUMINIUM STEPS AT 300mm CENTRES AS PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.

3.6. MANHOLES TO BE BENCHED PER OPSD 701.021.

3.7. SANITARY MANHOLE LIDS TO BE PER OPSD 401.010 –TYPE 'A'.

3.8. MANHOLE FRAMES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.

3.9. ADJUSTMENT UNITS FOR SANITARY STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011.

3.10. FACTORY FABRICATED WYES SHALL BE USED FOR ALL SERVICE CONNECTIONS.

3.11. SANITARY SEWERS AND SERVICES TO HAVE MINIMUM 1.4m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI-1.76 (R10) INSULATING FACTOR (TYPICALLY 50–65mm). INSULATION BOARD WIDTH SHALL BE 1.8m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 2.4m FOR 201mm–800mm DIAMETER AND 3.0m FOR 801mm–1,400mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM–SM OR –HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD–M28 OR OTHER ENGINEER–APPROVED EQUIVALENT.

3.12. PVC FORCEMAIN SHALL HAVE TWU STRANDED COPPER, AWG8 TRACER WIRE STRAPPED TO TOP AT 5 METRE INTERVALS.

3.13. CONTRACTOR RESPONSIBLE FOR TESTING OF SANITARY SEWERS IN ACCORDANCE WITH OPSS 410.

4. WATERMAINS

4.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010, BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

4.2. WATER SERVICE CONNECTIONS 50mm⌀ AND SMALLER, SHALL BE TYPE "K" SOFT COPPER ASTM B88, ALUMINUM COMPOSITE CSA B137.10, OR HDPE SERIES 160 AWWA C 901 WITH SERVICE SADDLE. COPPER SERVICE SHALL HAVE 5.5Kg ANODE.

4.3. WATERMAINS 100mm⌀ AND LARGER SHALL BE PVC C900 CLASS 150 INSTALLED WITH MINIMUM 2.0 METRES OF COVER. FITTINGS 100mm⌀ AND LARGER SHALL BE PVC CLASS 150 (DR18) CSA B137.3.

4.4. WATERMAIN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS. FOR WATERMAIN PIPE SIZES 150mm⌀ OR LESS ALL PIPE JOINTS TO BE RESTRAINED WITHIN 5.0m FROM ALL FITTINGS, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. FOR WATERMAIN PIPE SIZES GREATER THAN 150mm⌀ ALL PIPE JOINTS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTINGS, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. ALL TEES TO HAVE MINIMUM 2.0m SOLID PIPE LENGTH ON EACH RUN OF THE TEE, OR PROVIDE A THRUST BLOCK PER OPSD 1103.010.

4.5. ALL METALLIC FITTINGS (EXCLUDING CURB/MAIN STOP AND BRASS FITTINGS) AND APPURTENANCES INCLUDING SADDLES, VALVES, TEES, BENDS ETC ARE TO BE WRAPPED WITH AN APPROVED PETROLATUM SYSTEM CONSISTING OF PASTE, MASTIC AND TAPE. PARTICULAR ATTENTION SHALL BE PAID TO ANODE INSTALLATION. CONTRACTOR TO REFER TO THE MOST RECENT EDITION OF THE LOCAL MUNICIPALITY AND AREA MUNICIPALITIES DESIGN GUIDELINES AND SUPPLEMENTAL SPECIFICATIONS FOR MUNICIPAL SERVICES.

4.6. WATERMAIN VALVES 100mm⌀ AND LARGER SHALL BE AS PER AWWA C509 – MUELLER A2360–23 OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND 2.3Kg ANODE INCLUDING ANODE PROTECTION INSTALLED PER LOCAL MUNICIPALITY STANDARDS.

4.7. PVC WATERMAIN SHALL HAVE TWU STRANDED COPPER, AWG8 TRACER WIRE STRAPPED TO TOP AT 5 METRE INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CAD WELDED TO THE LOWER FLANGE OF THE HYDRANT.

4.8. HYDRANTS SHALL BE CANADA VALVE "CENTURY" OR APPROVED EQUIVALENT WITH 2–64mm HOSE CONNECTIONS INCLUDING 5.5Kg ANODE.

4.9. MAIN STOPS, CURB STOPS AND COUPLINGS SHALL BE AWWA C–800 COPPER TO COPPER FLANGED OR COMPRESSION CONNECTION OR APPROVED EQUIVALENT.

4.10. SERVICE BOXES TO BE FERGUSON ECLIPSE TYPE FIGURE 222 SIZE NO. 9 OR APPROVED EQUIVALENT COMPLETE WITH ROD AND PLUG.

4.11. WATER CONNECTIONS MAY BE PLACED IN THE SAME TRENCH WITH A STORM OR SANITARY CONNECTION ONLY IF A MINIMUM VERTICAL SEPARATION OF 500mm IS MAINTAINED BETWEEN THE WATER SERVICE AND ANY OTHER PIPE, IN ACCORDANCE WITH SECTION 7.3.5.7.(2)(a)(i) OF THE ONTARIO BUILDING CODE.

4.12. ALL WATERMAINS AND SERVICES TO HAVE MINIMUM 2.0m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL CONTACT DESIGN ENGINEER FOR "WATER PIPE INSULATION DETAIL".

4.13. ALL WATERMAINS AND SERVICES TO HAVE MINIMUM 2.0m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "WATER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI–3.52 (R20) INSULATING FACTOR (TYPICALLY 100–130mm). INSULATION BOARD WIDTH SHALL BE 2.4m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 3.0m FOR 201mm–305mm DIAMETER. INSULATION BOARD SHALL BE INSTALLED WITH MINIMUM2–LAYERS, OVERLAPPED MINIMUM 300mm AT ALL JOINTS. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME.ACCEPTABLE PRODUCTS ARE DOW STYROFOAM–SM OR –HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD–M28 OR OTHER ENGINEER–APPROVED EQUIVALENT.

4.14. ALL WATERMAIN TO BE PRESSURE TESTED IN ACCORDANCE WITH OPSS 441. DISINFECT ALL WATERMAIN IN ACCORDANCE WITH AWWA C 651–99 INCLUDING CHLORINATION, BACKFLOW PREVENTOR AND 24 HOUR DUPLICATE SAMPLING. ALL TESTING AND DISINFECTION TO BE COMPLETED UNDER THE SUPERVISION OF THE ENGINEER. **(CONTRACTOR TO SUBMIT WATER COMMISSIONING PLAN IN ACCORDANCE WITH OPSS.MUNI. THIS PLAN MUST BE APPROVED BY THE LOCAL MUNICIPALITY PRIOR TO ANY WATERMAIN WORK).**

4.15. PRIOR TO OCCUPANCY, CONTRACTOR MUST COMMISSION FIRE FLOW TEST FOR PRIVATE ON–SITE HYDRANT. PROVIDE RESULT TO DESIGN ENGINEER.

5. EROSION AND SEDIMENT CONTROL

5.1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE COVER.

5.2. ALL SEDIMENT CONTROL FENCING TO BE INSTALLED PRIOR TO ANY AREA GRADING, EXCAVATING OR DEMOLITION COMMENCING.

5.3. EROSION CONTROL FENCING TO BE INSTALLED AROUND BASE OF ALL STOCKPILES. ALL STOCKPILES TO BE KEPT 2.5m MINIMUM FROM PROPERTY LINE.

5.4. EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM AND SANITARY MHs AND CBs.

5.5. CONSTRUCTION ACCESS (MUD MAT) TO BE PROVIDED ON–SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES EXIT THE SITE. CONSTRUCTION ACCESS (MUD MAT) SHALL BE A MINIMUM OF 7.0m WIDE, 14.0m LONG (LENGTH MAY VARY DEPENDING ON SITE LAYOUT) AND 0.3m DEEP AND SHALL CONSIST OF 200mm CLEAR STONE MATERIAL OR APPROVED EQUIVALENT. PROPOSED EROSION FENCING TO TIE INTO MUD MAT. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAXIMIZE EFFECTIVENESS AT ALL TIMES.

5.6. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.

5.7. EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED.

5.8. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND THE LOCAL MUNICIPALITY'S DEPARTMENT OF PUBLIC WORKS.

5.9. CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

5.10. CONTRACTOR MUST REMOVE EROSION AND SEDIMENTATION FENCING PRIOR TO COMPLETION OF PROJECT. CONTRACTOR TO HAVE EROSION AND SEDIMENTATION FENCE INSPECTED WHEN VEGETATION HAS ESTABLISHED, BUT PRIOR TO FENCE BECOMING OVERGROWN. ENGINEER'S REPRESENTATIVE TO DETERMINE IF VEGETATION HAS REACHED THE CRITICAL POINT AND WILL THEN INSTRUCT CONTRACTOR TO REMOVE FENCE.

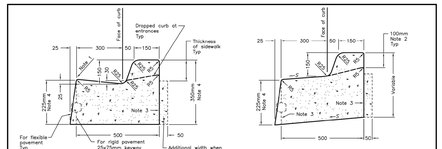
6. MAINTENANCE RECOMMENDATIONS

6.1. DURING THE COURSE OF CONSTRUCTION CONTRACTOR TO REMOVE SEDIMENT AND CONTAMINANTS FROM STORMWATER MANAGEMENT FACILITIES MONTHLY. FOLLOWING CONSTRUCTION CONTRACT COMPLETION, OWNER TO HIRE QUALIFIED CONTRACTOR TO REMOVE SEDIMENT AND CONTAMINANTS ANNUALLY AND REINSTATE STORMWATER MANAGEMENT FACILITIES ACCORDING TO THE DESIGN OUTLINED ON THIS PLAN, AS REQUIRED.

6.2. EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/3 THE HEIGHT OF THE FENCE.

6.3. OWNER'S REPRESENTATIVE TO MONITOR EROSION CONTROL STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO CITY REQUIREMENTS.

6.4. THE PROPOSED STORMCEPTOR(STC) WILL REQUIRE REGULAR ANNUAL MAINTENANCE. OWNER TO ENTER INTO A MAINTENANCE AGREEMENT WITH A SUITABLE CONTRACTOR TO COMPLETE THIS WORK.

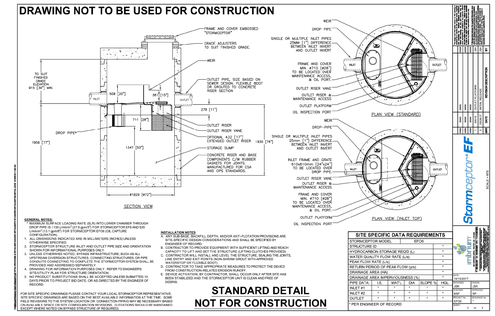


LEGEND:
S – Rate of pavement superelevation in percent, %.

NOTES:
1 Flexible and composite pavement shall be placed 5mm above the adjacent edge of gutter.
2 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
3 For slipforming procedure a 5% batter is acceptable.
4 For composite pavement the depth of concrete curb shall be adjusted to depth of concrete pavement.
5 When tie bars are specified, refer to OPSD 552.010 and 552.020 for details.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB WITH STANDARD GUTTER		OPSD 600.040

DRAWING NOT TO BE USED FOR CONSTRUCTION



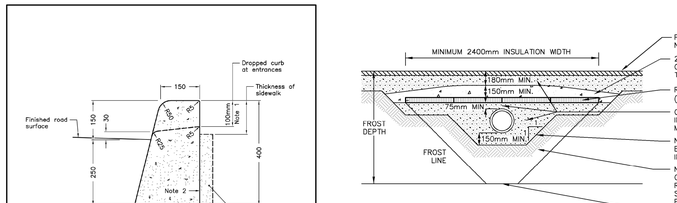
GENERAL NOTES
1. STORMCEPTOR STRUCTURE LOADING NOTE (S) IN STRUCTURES CHAMBER THROUGH MANHOLE IS 1.5M LONG BY 0.6M WIDE FOR STORMCEPTOR EF4 AND EF6 MODELS AND 1.5M LONG BY 0.9M WIDE FOR EF8 AND EF10 MODELS. CONFIGURATIONS.
2. ALL DIMENSIONS, ELEVATIONS AND WEIGHTS ARE APPROXIMATE AND SHOULD BE VERIFIED BY CONTACTING YOUR LOCAL STORMCEPTOR REPRESENTATIVE.
3. STORMCEPTOR STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION ARE FLEXIBLE AND CAN BE ADJUSTED IN THE FIELD.
4. UNLESS OTHERWISE SPECIFIED, STORMCEPTOR STRUCTURE IS DESIGNED FOR OFF-LINE INSTALLATION WITH INTERNAL BYPASS. EXTERNAL BYPASS CONDUITS CONNECTED TO COMPLETE THE STORMCEPTOR SYSTEM SHALL BE SUPPLIED BY OTHERS.
5. STORMCEPTOR STRUCTURE IS PRECAST CONCRETE. REFER TO DRAWINGS FOR STRUCTURE DESIGN AND LOADING CONSIDERATIONS.
6. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED TO AND APPROVED BY STORMCEPTOR ENGINEER. CONTACT STORMCEPTOR FOR DETAILS.

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL STORMCEPTOR REPRESENTATIVE. INTELLIGENT DESIGN, GUARANTEED PERFORMANCE AND SMALL AS SPECIFIED BY:
STORMCEPTOR CANADA, INC.
2300 ARGENTIA ROAD, UNIT 2-201
MISSISSAUGA, ONTARIO L5N 6H6
PHONE: 1-800-565-4403
EMAIL: INFO@STORMCEPTOR.CA
WEB: WWW.STORMCEPTOR.CA

INSTALLATION NOTES
1. STORMCEPTOR SHALL BE INSTALL OFFLINE AND AS PART OF A DESIGNED AND APPROVED STORMWATER MANAGEMENT SYSTEM.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE PRECAST STORMCEPTOR STRUCTURE.
3. CONTRACTOR SHALL INSTALL, INCLUDING THE STRUCTURE, SEALING THE JOINTS AND PENETRATIONS, AS PER THE MANUFACTURER'S INSTRUCTIONS AND/OR GUIDELINES.
4. CONTRACTOR TO IMPLEMENT APPROPRIATE MEASURES TO PROTECT THE DEVICE FROM SEDIMENTATION DURING CONSTRUCTION.
5. DEVICE ACTIVATION, BY CONTRACTOR, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE STORMCEPTOR UNIT IS CLEAN AND FREE OF DEBRIS.

SITE SPECIFIC DATA REQUIREMENTS		
STORMCEPTOR MODEL		EF06
STRUCTURE ID		
PEAK FLOW RATE STORAGE (RISER) (L/s)		
WATER QUALITY FLOW RATE (L/s)		
PEAK FLOW RATE (L/s)		
RETENTION TIME (MINUTES) (for WQF rate)		
DRAINAGE AREA (ha)		
DRAINAGE AREA IMPERVIOUSNESS (%)		
STRUCTURE DIMENSIONS	DIA	DEPTH (FL TO BTM)
INLET (mm)		
OUTLET (mm)		
SEDIMENT VOLUME (L)		
PER ENGINEER OF RECORD		

STANDARD DETAIL NOT FOR CONSTRUCTION



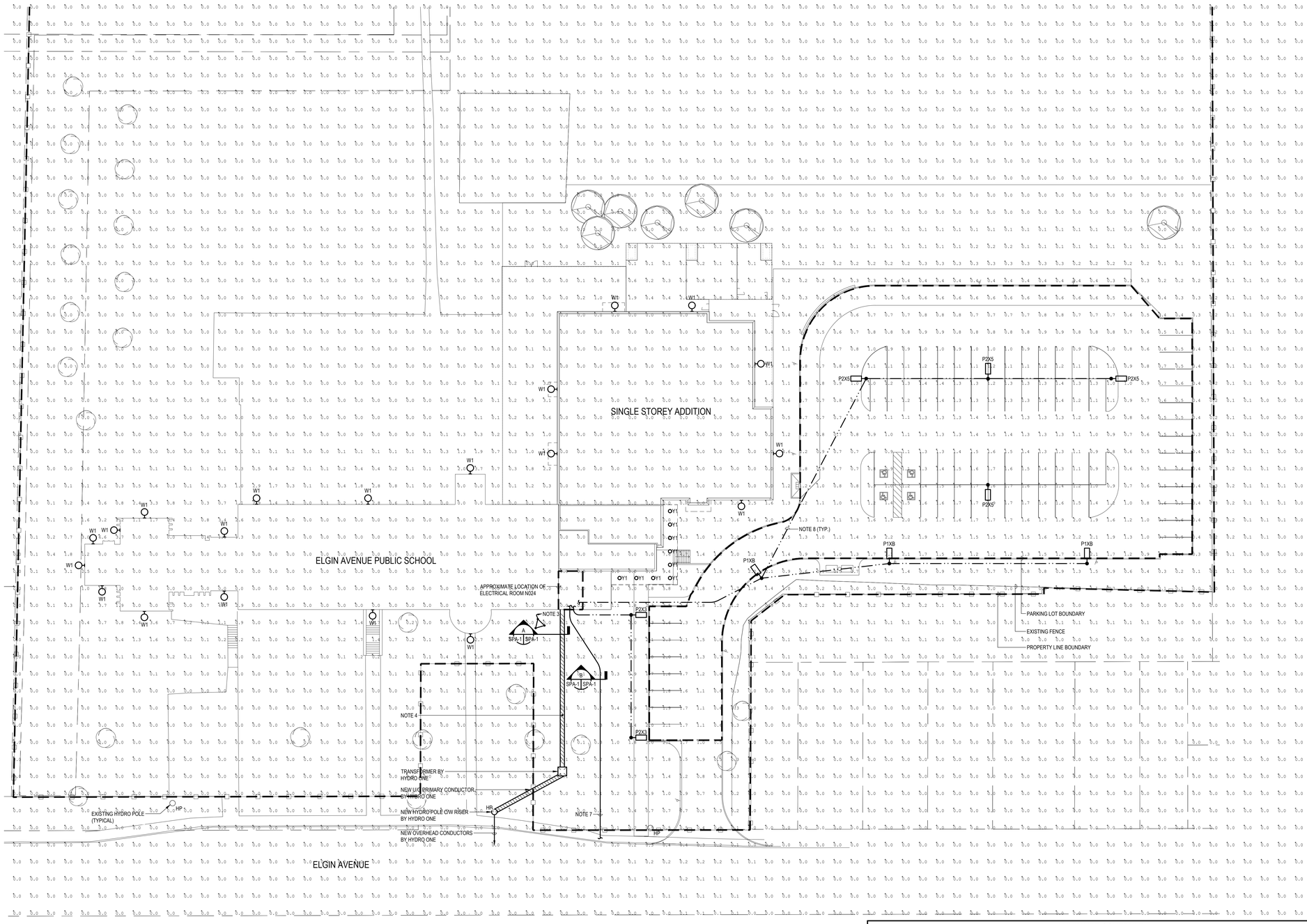
NOTES:
1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
2 For slipforming procedure a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

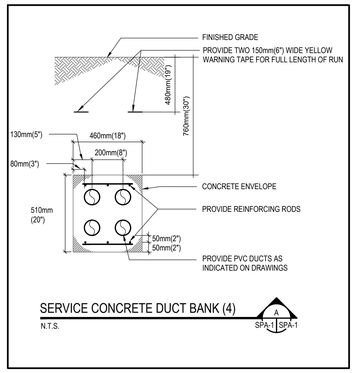
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB		OPSD 600.110

SEWER PIPE INSULATION DETAIL

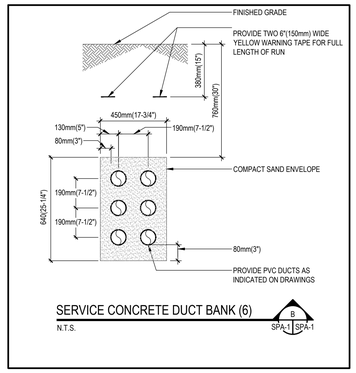
FOR SEWER PIPES HAVING LESS THAN 615mm COVER AND MINIMUM 470mm
N.T.S.

- PAVEMENT STRUCTURE (ASPHALT AND/OR GRANULAR), OR SELECT NATIVE MATERIAL AND TOPSOIL, AS SPECIFIED ON DRAWINGS
- 20 MPa CONCRETE c/w 6% AIR ENTRAINMENT, MINIMUM 150mm CENTRAL AREA THICKNESS, TAPERED TO MINIMUM 75mm EDGE THICKNESS AS SHOWN
- RIGID EPS–INSULATION BOARD PER SPECIFICATION NOTES (MINIMUM R10–THICKNESS, TYPICALLY 50–65mm)
- GRANULAR–A BEDDING & BACK FILL AROUND PIPE, UNDER INSULATION, AND ABOVE CONCRETE AS SHOWN, COMPACTED TO MINIMUM 95% SPMDD
- NOTE: TRENCH SIDE–SLOPES IN AREAS OF PIPE INSULATION TO BE MAXIMUM 1:1 SLOPE, NO VERTICAL SECTIONS ALLOWED UNLESS INDICATED IN DETAIL
- NATIVE SOILS – WHERE NATIVE SOIL IS SOFT AND/OR OF ORGANIC CONTENT, REMOVE TO DEPTH OF SUITABLE SOILS AND REPLACE WITH GRANULAR–B2 MATERIAL COMPACTED TO 95% SPMDD, OR CONSTRUCT IN ACCORDANCE WITH WRITTEN DIRECTION FROM GEOTECHNICAL CONSULTANT
- FROST DEPTH – PROTECT SOIL ZONE UNDER PIPE FROM FREEZING REFER TO OPSD





SERVICE CONCRETE DUCT BANK (4)
N.T.S.
A SPA-1 SPA-1



SERVICE CONCRETE DUCT BANK (6)
N.T.S.
B SPA-1 SPA-1

SITE PLAN - ELECTRICAL

SCALE: 1:300

NOTES:

1. HYDRO ONE WORK TO INCLUDE THE FOLLOWING:
   - REMOVAL OF EXISTING PAD MOUNTED TRANSFORMERS
   - REMOVAL OF EXISTING METERS
   - ISOLATION OF EXISTING POLES ON SCHOOL PROPERTY
   - SUPPLY AND INSTALLATION OF NEW TRANSFORMER
   - PRIMARY CABLE TERMINATIONS
   - SUPPLY AND INSTALLATION OF METERING, INCLUDING CT'S
   - TERMINATIONS OF SECONDARY CABLE WITHIN TRANSFORMER
   - SUPPLY OF REMOTE METERING CABINET
2. CONTRACTOR WORK TO INCLUDE THE FOLLOWING:
   - SECONDARY DUCT BANK
   - SECONDARY CABLES AND TERMINATIONS
   - PRIMARY DUCTBANK, DIRECTIONAL BORING, AND ALL ASSOCIATED PERMITS
   - PRIMARY CABLES
   - TRANSFORMER PAD GROUNDING
   - SUPPLY AND INSTALL OF NEW TRANSFORMER PAD
   - INSTALLATION OF REMOTE METERING CABINET AND 1 1/4"C TO SWITCHGEAR
3. PROVIDE THREE 21MM (3/4") X 3050MM (10') COPPER CLAD GROUND RODS SPACED 4300MM (14') APART, COMPLETE WITH #3/0 BARE COPPER GROUND WIRE TO ELECTRICAL ROOM GROUND BUS.
4. COORDINATE DUCT CONFIGURATION WITH INCOMING UTILITY SERVICES. COORDINATE PATH AND DEPTH OF DUCTBANK ON SITE TO AVOID CONFLICT WITH OTHER SERVICES. REFER TO ARCHITECTURAL AND LANDSCAPE DRAWINGS FOR TREE PROTECTION BOUNDARIES.
5. COORDINATE WITH UTILITY SUPPLIER TO OBTAIN TEMPORARY POWER FOR CONSTRUCTION. PROVIDE UTILITY POLES AS REQUIRED. PAY ALL FEES FOR TEMPORARY SERVICE AND SIZE TO SUIT SITE REQUIREMENTS. A TEMPORARY GENERATOR MAY NOT BE USED IN LIEU OF TEMPORARY POWER FROM UTILITY. COORDINATE LOCATION AND EXTENT OF CONSTRUCTION POWER WITH THE CONSTRUCTION MANAGER. CONTRACTORS ARE TO ALLOW FOR 2 TEMPORARY POLES TO DISTRIBUTE POWER FROM THE UTILITY AND ON TO THE TRAILERS. ALLOW FOR A 400A 120/208V 3PH 4W TEMPORARY SERVICE C/W METERING CABINET.
6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL EXISTING SURFACES/FINISHES TO MATCH EXISTING/ADJACENT.
7. COORDINATE EXACT PATHWAY AND TERMINATION POINT WITH BELL.
8. 2#6 + #6 BND IN 53mm CONDUIT FOR ELECTRICAL. ROUTE ELECTRICAL CABLING AND CONDUIT TO OUTDOOR LIGHTING CONTROLLER IN ELECTRICAL ROOM N024.
9. REFER TO SITE SERVICES DRAWINGS FOR LOCATIONS OF UNDERGROUND UTILITIES.

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER	MOUNTING		LUMENS	VOLTS	WATTS	REMARKS
		TYPE	HEIGHT				
P2X3	LITHONIA CAT # DSX1-LED-P2-30K-80CRI-T3M-MVOLT-SPA-DBLXD LED AREA LUMINAIRE, 3000K COLOUR TEMPERATURE, TYPE 3 MEDIUM DISTRIBUTION, BLACK DIE CAST ALUMINUM HOUSING c/w BLACK SQUARE STRAIGHT ALUMINUM POLE	POLE MOUNTED	6096mm AFG	9368	120	68	
P2X5	LITHONIA CAT # DSX1-LED-P2-30K-80CRI-T5W-MVOLT-SPA-DBLXD LED AREA LUMINAIRE, 3000K COLOUR TEMPERATURE, TYPE 5 WIDE DISTRIBUTION, BLACK DIE CAST ALUMINUM HOUSING c/w BLACK SQUARE STRAIGHT ALUMINUM POLE	POLE MOUNTED	6096mm AFG	9940	120	68	
P1XB	LITHONIA CAT # DSX1-LED-P1-30K-80CRI-BLC4-MVOLT-SPA-DBLXD-HS LED AREA LUMINAIRE, 3000K COLOUR TEMPERATURE, BACKLIGHT CONTROL DISTRIBUTION, BLACK DIE CAST ALUMINUM HOUSING c/w BLACK SQUARE STRAIGHT ALUMINUM POLE c/w HOUSESIDE SHEILD	POLE MOUNTED	6096mm AFG	5474	120	45	
W1	LITHONIA CAT # ARC2-LED-P1-30K-MVOLT-DMG-DBLXD WALL MOUNTED LUMINAIRE, 3000K COLOUR TEMPERATURE, 0-10V DIMMING, BLACK FINISH	WALL	3000mm AFG	1502	120	11	
Y1	LITHONIA CAT # LND4-30/10-L04-LSS-MVOLT-GZ10 100mm LED DOWNLIGHT WITH BLACK TRIM, 3000K, 0-10V DIMMING, WET LOCATION	RECESSED	CANOPY	1045	120	11	

PARKING LOT LIGHTING PHOTOMETRIC SUMMARY

LOCATION	UNITS	TARGET AVERAGE	DESIGN AVERAGE	TARGET MIN	DESIGN MIN	TARGET MAX	DESIGN MAX	TARGET MAX/MIN	DESIGN MAX/MIN
PARKING LOT	FC	1.0	1.1	0.5	0.4	N/A	2.6	10.0	6.5
PROPERTY LINE	FC	N/A	0.0	0.0	0.0	0.5	0.5	N/A	N/A

NOTES:
- LIGHTING LEVELS SHOWN INCLUDE ONLY SITE LIGHTING SYSTEMS AT A LIGHT LOSS FACTOR OF 0.9.
- TARGET = ILLUMINATING ENGINEERING SOCIETY RECOMMENDED LEVELS.
- DESIGN = CALCULATED LIGHTING LEVELS.
- THIS SUMMARY TABLE WAS DEVELOPED WITHOUT CONSIDERATION OF ROADWAY LIGHTING ON BUROAK DRIVE. REFER TO SPA-3 FOR ROADWAY CALCULATIONS.

No.	Revision	Date
2	REISSUED FOR SITE PLAN APPROVAL	10-04-2024
1	ISSUED FOR SITE PLAN APPROVAL	08-23-2024

Orientation

PROJECT NORTH

Seal

LICENCED PROFESSIONAL ENGINEER
M. J. NIERCZYK
100186455
PROVINCE OF ONTARIO
29/07/2024

All dimensions to be checked and verified on the job by the Contractor. Any discrepancies are to be reported to the Consultant prior to action. Only the latest approved drawings to be used for construction in conformance with all applicable codes, by-laws and regulations. All drawings remain the property of the Consultant.

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LONDON ON, N6A 1J1
250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K1R 6K7

Project Information

GEDSB ELGIN AVE. PS. ADDITION & RENOVATION

80 Elgin Ave, Simcoe, ON N3Y 4A8

For

Grand Erie District School Board

Drawing Title

ELECTRICAL SITE PLAN

Date	Project No	Drawing No
SEPTEMBER 2024	10175	SPA-1
Drawn by TJR		
Scale AS NOTED		

CLASS 'B' ESTIMATE

GEDSB - ELGIN AVENUE PUBLIC SCHOOL
ADDITION & RENOVATIONS
SIMCOE, ONTARIO

Prepared for:
Salter Pilon Architecture

August 22, 2024

Hanscomb
QUANTITY SURVEYORS

August 22, 2024 Ref # LON1094

Salter Pilon Architecture
151 Ferris Lane, Suite 400
Barrie, Ontario L4M 6C1
T: (705) 737-3530
E: gpilon@salterpilon.com

Attn: Gerry Pilon

Re: Gedsb - Elgin Avenue Public School, Addition & Renovations, Simcoe, Ontario

Dear Mr. Pilon :

Please find attached our Class 'B' Estimate for Gedsb - Elgin Avenue Public School in Simcoe, Ontario.

This Class 'B' Estimate is intended to provide a realistic allocation of direct construction costs and is a determination of fair market value. Pricing shown reflects probable construction costs obtainable in the Simcoe, Ontario area on the effective date of this report and is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the work.

Hanscomb has prepared this estimate(s) in accordance with generally accepted principles and practices. Our general assumptions are included in Section 3 of this report and any exclusions are identified in Section 1.6. For quality assurance, this estimate has been reviewed by the designated Team Lead as signed below and Hanscomb staff are available and pleased to discuss the contents of this report with any interested party.

Requests for modifications of any apparent errors or omissions to this document must be made to Hanscomb within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

We trust our estimate is complete and comprehensive and provides the necessary information to allow for informed capital decisions for moving this project forward. Please do not hesitate to contact us if you have any questions or require additional information.

Yours truly,

Hanscomb Limited
Team Lead

Nadine Kralj
PQS
Technical Manager

Hanscomb Limited
Principal / Estimate Reviewer

Bob Picken
PQS, GSC
Director

Hanscomb Limited

London, ON
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Documents and Drawings:

AA - Documents and Drawings List
AB - Representative Drawings

1. INTRODUCTION

1.1 PURPOSE

This Class 'B' Estimate is intended to provide a realistic allocation of direct construction costs for the Gedsb - Elgin Avenue Public School Addition & Renovations, located in Simcoe, Ontario with the exception of the items listed in 1.6 Exclusions.

1.2 DESCRIPTION

The Gedsb - Elgin Avenue Public School Addition & Renovations located in Simcoe, Ontario are comprised of the following key elements:

The project comprises approximately 4,873 M2 of redevelopment at the Elgin Avenue Public School, in Simcoe, Ontario. The scope of work includes but is not limited to structure, enclosure, removals and demolition, interior renovations, and mechanical & electrical system upgrades as required along with associated sitework.

1.3 METHODOLOGY

Hanscomb has prepared this estimate(s) in accordance with generally accepted principles and practices. Hanscomb staff are available to discuss its contents with any interested party.

From the documentation and information provided, quantities of all major elements were assessed or measured where possible and priced at rates considered competitive for a project of this type under a stipulated sum form of contract in Simcoe, Ontario.

Pricing shown reflects probable construction costs obtainable in the Simcoe, Ontario area on the effective date of this report. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of a low bid. Pricing assumes competitive bidding for every portion of the work.

1.4 SPECIFICATIONS

For building components and systems where specifications and design details are not available, quality standards have been established based on discussions with the design team.

1. INTRODUCTION

1.5 ESTIMATE CLASSIFICATION AND COST PREDICTABILITY

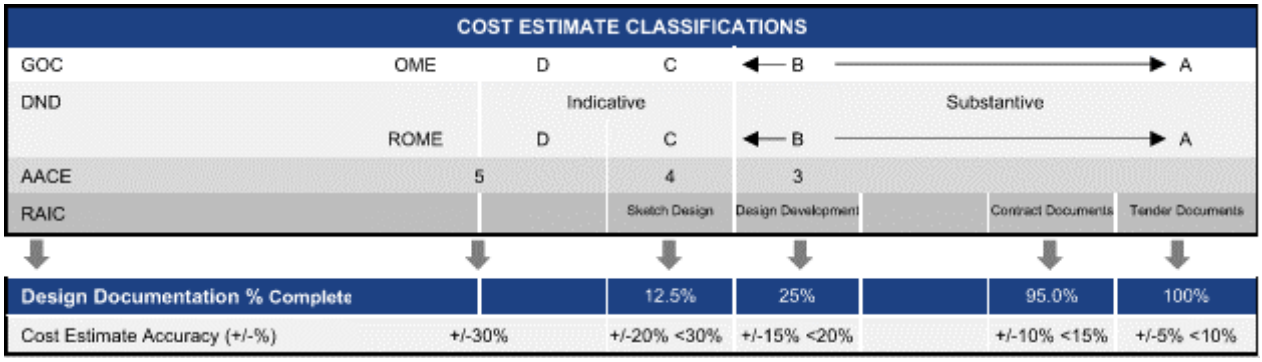
Estimates are defined and classified based on the stage of a project's development and the level of information available at the time of the milestone estimate.

> This Class 'B' Estimate is considered to have an expected degree of accuracy of +/- 15-20%. In other words, bid results might vary by this amount if the construction budget were set at this milestone estimate. Under stable market conditions, fierce competition and scope reduction might result in costs coming in under the milestone estimate. However, in today's market, projects are trending to the higher end of the plus range.

At the initial stages of a contemplated project, the cost accuracy of the estimate is low as there may be little or no information available to inform a first high-level concept estimate or order of magnitude estimate. As a project nears design completion and is ready to be released to market for tender, the level of accuracy of the estimate is high as the detail is generally extensive and typically represents the information on which contractors will bid.

Milestone cost estimates or "checks" are recommended as the project design develops to keep track of scope and budget. Early detection of potential budget overruns will allow for remedial action before design and scope are locked in. The number of milestone estimates will depend on a project's size and schedule and cost predictability will improve as the design advances.

According to the Canadian Joint Federal Government/Industry Cost Predictability Taskforce, industry standards for estimate classification and cost estimate accuracy may be summarized as follows:



Legend

GOC Government of Canada
DND Department of National Defence
AACE Association for the Advancement of Cost Engineering
RAIC Royal Architectural Institute of Canada
OME Order of Magnitude Estimate
ROME Rough Order of Magnitude Estimate

While the classification categories differ from one authority to the next, the overarching principle for cost predictability remains the same – as the level of detail and design development increases, so does the level of accuracy of the estimate.

1. INTRODUCTION

1.6 EXCLUSIONS

This Class 'B' Estimate does not provide for the following, if required:

- Cost of contaminated soil removal
- Equipment beyond that identified in this estimate
- Escalation contingency beyond that identified in this estimate
- Financing costs
- Loose furniture, furnishings and equipment
- Special audio, visual, security equipment or installation other than provision of empty conduit systems carried in electrical division
- Winter construction (concrete foundation and masonry heating & hoarding)
- Value-added tax (e.g. Harmonized Sales Tax, Goods and Services Tax, or other)
- Premiums associated with Public-Private Partnership procurement model
- Soft Costs
  - Building permit
  - Development charges
  - Easement costs
  - Fund raising costs
  - Land acquisition costs and impost charges
  - Legal fees and expenses
  - Owner’s staff and associated management
  - Preventative maintenance contracts
  - Professional fees and expenses
  - Relocation of existing facilities, including furniture and equipment
  - Right of way charges
  - Value-added tax (e.g. Harmonized Sales Tax, Goods and Services Tax, or other)
- Unexpected labour unavailability and productivity disruptions leading to delays and added costs
- Supply chain disruptions leading to delays and added costs
- Non-competitive bidding, sole-sourcing premiums
- Projected current market condition premiums at tender such as:
  - supply chain issues, material cost escalation and labour negotiations are putting unprecedented pressure on fixed pricing
  - market capacity for GCs and subtrades is an issue and the market has done its best to adapt, however, the current global crisis will continue to push other sectors to grow to meet energy demands putting additional stress on an already stressed industry impacting competitive bidding
  - the range of current market outcomes is significant and it is difficult to predict how much a project may be impacted

2. DOCUMENTATION

This Class 'B' Estimate has been prepared from the documentation provided.

The documentation was received from Salter Pilon Architecture and was supplemented with information gathered in meeting(s) and telephone conversations with the design team, as applicable.

Design changes and/or additions made subsequent to this issuance of the documentation noted above have not been incorporated in this report.

See Appendix AA for Documents and Drawings List.

3. COST CONSIDERATIONS

3.1 COST BASE

All costs are estimated on the basis of competitive bids (a minimum of 4 general contractor bids and at least 4 subcontractor bids for each trade) being received in August 2024 from general contractors and all major subcontractors and suppliers based on a stipulated sum form of contract. If these conditions are not met, bids received could be expected to exceed this estimate.

3.2 UNIT RATES

The unit rates in the preparation of this Class 'B' Estimate include labour and material, equipment, subcontractor's overheads and profit. Union contractors are assumed to perform the work with the fair wage policy in effect.

3.3 GENERAL REQUIREMENTS AND FEE

General Requirements and Fee cover the General Contractor's indirect costs which may include but not be limited to supervision, site set up, temporary utilities, equipment, utilities, clean up, etc. as covered in Division 1 General Conditions of the Contract Documents. It also includes the contractor's fees and should not be confused with Design or Consultant fees which are excluded from the Construction Costs and carried separately in the Owner's Total Project Costs.

3.4 DESIGN AND PRICING ALLOWANCE

An allowance of 5.0% has been included to cover design and pricing unknowns. This allowance is not intended to cover any program space modifications but rather to provide some flexibility for the designers and cost planners during the remaining contract document stages.

It is expected that this allowance amount will be absorbed into the base construction costs as the design advances. The amount by which this allowance is reduced corresponds to an increase in accuracy and detailed design information. Hanscomb recommends that careful consideration be made at each milestone estimate to maintain adequate contingency for this allowance.

As a project nears completion of design, Hanscomb recommends retaining some contingency for this allowance for the final coordination of documents.

3.5 ESCALATION ALLOWANCE

All costs are based on August 2024 dollars with no construction cost escalation included to cover increase that may occur between August 2024 and the anticipated bid date for the project. Escalation during construction is included in the unit rates.

3. COST CONSIDERATIONS

3.6 CONSTRUCTION ALLOWANCE

An allowance of 5.0% has been made to cover construction (post contract) unknowns. This allowance, also known as the Post Contract Contingency (PCC), is intended to cover costs for change orders during construction that are not foreseeable. It is not intended to cover scope changes to the contract. The amount carried in a budget for this allowance is typically set at the initial planning stage and should be based on the complexity of the project and the probability of unknowns and retained risks.

3.7 CASH ALLOWANCE

Cash allowances are intended to allow the contractor to include in the bid price the cost for work that is difficult to fully scope at the time of tendering based on factors that are beyond the Owner and Prime Consultant's control. Cash allowances attempt to reduce the risks by dedicating a set amount for use against a certain cost that cannot yet be detailed. The Contractor is obligated to work as best as possible within the limitations of the Cash Allowance.

Examples of Cash Allowances include hardware, inspection and testing, site conditions, replacement of existing elements during demolition for renovation, hazardous materials abatement, signage, etc.

Any Cash Allowances if applicable are included either in the details of this estimate under the appropriate discipline or at the summary level.

3.8 TAXES

No provision has been made for the Harmonized Sales Tax. It is recommended that the owner make separate provision for HST in the project budget.

3.9 SCHEDULE

Pricing assumes a standard schedule of work appropriate to the size and scope of this project. Premiums for off-hour work, working in an operational facility, accelerated schedule, etc., if applicable, are identified separately in the body of the estimate.

3.10 STATEMENT OF PROBABLE COSTS

Hanscomb has no control over the cost of labour and materials, the contractor's method of determining prices, or competitive bidding and market conditions. This opinion of probable cost of construction is made on the basis of experience, qualifications and best judgment of the professional consultant familiar with the construction industry. Hanscomb cannot and does not guarantee that proposals, bids or actual construction costs will not vary from this or subsequent cost estimates.

3. COST CONSIDERATIONS

3.11 ONGOING COST CONTROL

Hanscomb recommends that the Owner and design team carefully review this document, including line item description, unit prices, clarifications, exclusions, inclusions and assumptions, contingencies, escalation, and mark-ups. If the project is over budget, or if there are unresolved budgeting issues, alternative systems/schemes should be evaluated before proceeding into the next design phase.

It is recommended that a final updated estimate at the end of the design stage be produced by Hanscomb using Bid Documents to determine overall cost changes which may have occurred since the preparation of this estimate. The final updated estimate will address changes and additions to the documents, as well as addenda issued during the bidding process. Hanscomb cannot reconcile bid results to any estimate not produced from bid documents including all addenda.

This estimate does not constitute an offer to undertake the work, nor is any guarantee given that an offer, to undertake the work at the estimate(s) price, will subsequently be submitted by a construction contractor. Unless explicitly stated otherwise, it is assumed that competitive bids will be sought when tender documents have been completed. Any significant deviation between bids received and a pre-tender estimate prepared by Hanscomb from the same tender documents, should be evaluated to establish the possible cause(s).

3.12 COVID-19 CLASS A ESTIMATE STATEMENT

Though the World Health Organization has determined that COVID-19 is now an established and ongoing health issue that no longer constitutes a public health emergency of international concern, the impact that this pandemic inflicted on the world economy continues to be felt. Such impact includes:

- Labour shortages due to recent career changes resulting from the pandemic and other reasons
- Resultant delays in the delivery of materials and equipment to the site
- Unavailability of materials due to past factory closures or shipping interruptions that created a massive backlog

The above factors are bound to impact not only the cost but also the completion date for the project, as has been witnessed in the current market. Understanding that contractors, subtrades and suppliers must assume these factors as part of their bid, these potential cost impacts have been considered and captured to the best of our ability in the rates and general requirements included in this estimate.

In the event of a catastrophic global event, all costs will be subject to review.

3. COST CONSIDERATIONS

3.13 OTHER CURRENT RISKS TO THE CONSTRUCTION ESCALATION

THE IMPACT OF THE RUSSIA / UKRAINE WAR:
The impact of the Russia / Ukraine war on the Western economy continues to cause inflationary pressure within the Western economy. Many countries have laid siege to Russia in the form of severe sanctions on most transactions and goods and services that originate from Russia. The impact of these sanctions has reduced normal trade of goods and services within the global economy, affecting construction activity in various ways, including:

- Increases in the cost of oil and natural gas
- Restrictions on the trade of base metal materials (nickel, palladium, iron, zinc, aluminum etc.)
- Continued constraints on the supply of oil-based chemicals and other materials
- Shortages of fertilizers (potash and products made from oil & gas)
- Shortages of wheat and sunflower-based products

The current situation continues to cause inflationary pressure on Western Countries and is fueling higher wages.

THE STATUS OF THE CANADIAN CONSTRUCTION MARKET:
The construction market is relatively heated across the country. Because of the significant volume of activity, Hanscomb has observed that with recent tender closing, the normal number of general contractors and sub-trades bidding on projects has been reduced. Less competition during tendering often results in elevated project pricing. We expect this trend to continue for the following reasons:

- The volume of work exceeds the capacity of available resources
- An aging workforce contributes pressure through the ever-increasing retirement of trade workers
- All members within the construction community are actively looking for new personnel and are having trouble finding new qualified candidates
- Contractors are generally competing for the same tradespeople, offering higher than normal salaries and benefits, translating into higher operating costs, which get transferred to the construction projects

The above risks may be amplified under the following conditions:

- Mega projects that are experiencing limited to no competition with fewer contractors and major subtrades capable of handling the work or acquiring appropriate bonding and insurance
- South-Eastern Ontario and Maritime projects, where general contractors and subtrades from Quebec that traditionally bid projects in the area are not participating because they are also experiencing an active market
- Remote or less densely populated areas where materials and labour cannot be sourced locally and transportation, accommodation and incentives impact schedule and cost

Where any of the above may be a factor, Hanscomb highly recommends conducting appropriate risk analyses, including market sounding. Hanscomb can assist; however this level of risk assessment is outside the scope of this estimate.

4. GROSS FLOOR AND SITE DEVELOPED AREAS

Gross Floor Area

Description	**m2**
New Construction	1,869
Renovation	3,004
Total Gross Floor Area	**4,873**

The above areas have been measured in accordance with the Canadian Institute of Quantity Surveyors' Method of Buildings by Area and Volume.

5.1 COST ESTIMATE SUMMARY BREAKOUTS

Description	Area		Unit Rate	Amount
School Addition	1,211	m2	3,732.92	$4,520,570
Site Development				$1,311,860
Sub-total				$5,832,430
General Requirements	10.0%			$583,200
Fee	3.0%			$192,500
Sub-total	1,211	m2		$6,608,130
Design & Pricing Allowance	5.0%			$330,400
Cash Allowances				see reno
Escalation to Tender *(September 2024)*				nil
Total Construction Cost	**1,211**	**m2**		**$6,938,530**
Construction Allowance	5.0%			$346,900
Total + Construction Allowance	**1,211**	**m2**	**6,016.04**	**$7,285,430**

Description	Area		Unit Rate	Amount
Childcare Addition	658	m2	4,593.33	$2,434,150
Site Development				$327,960
Sub-total				$2,762,110
General Requirements	10.0%			$276,200
Fee	3.0%			$91,100
Sub-total	658	m2		$3,129,410
Design & Pricing Allowance	5.0%			$156,500
Cash Allowances				see reno
Escalation to Tender *(September 2024)*				nil
Total Construction Cost	**658**	**m2**		**$3,285,910**
Construction Allowance	5.0%			$164,300
Total + Construction Allowance	**658**	**m2**	**5,243.48**	**$3,450,210**

Description	Area		Unit Rate	Amount
School Renovation	3,004	m2	1,591.43	$4,780,670
General Requirements	10.0%			$478,100
Fee	3.0%			$157,800
Sub-total	3,004	m2		$5,416,570
Design & Pricing Allowance	5.0%			$270,800
Cash Allowances				$150,000
Escalation to Tender *(September 2024)*				nil
Total Construction Cost	**3,004**	**m2**		**$5,837,370**
Construction Allowance	5.0%			$291,900
Total + Construction Allowance	**3,004**	**m2**	**2,040.37**	**$6,129,270**

Total of Above	**3,004**	**m2**	**5,614.18**	**$16,865,010**

5.2 COST ESTIMATE SUMMARY

	Construction Costs	Area		Unit Rate	Amount
A	Addition	1,869	m2	3,721.09	$6,954,720
B	Renovation	3,004	m2	1,591.43	$4,780,670
C	Site Development				$1,639,820
	General Requirements	10.0%			$1,337,600
	Fee	3.0%			$441,400
	Design & Pricing Allowance	5.0%			$757,700
	Sub-Total	**4,873**	**m2**	**3,265.32**	**$15,911,910**
	Hazardous Materials Abatement / Mould Abatement				incl.
	Cash Allowances				$150,000
	Construction Phasing / Premium Time				nil
	Sub-Total	**4,873**	**m2**	**3,296.10**	**$16,061,910**
	Escalation to Tender ***(September 2024)***				nil
	Sub-Total: Construction Cost	**4,873**	**m2**	**3,296.10**	**$16,061,910**
	Project Ancillaries / Soft Costs / Taxes				by owner
	FF&E Allowance				by owner
	Construction Allowance (PCC for Change Orders)	5.0%			$803,100
	Total: Project Cost	**4,873**	**m2**	**3,460.91**	**$16,865,010**
		52,453	*sf*	*321.53*	

Separate Prices (excluded from above)

SP#1 Library Area Renovation	$1,157,000
SP#2 Exterior Window Replacement *(excludes repairs to stone surround)*	$969,000
SP#3 Second Floor Locker Replacement	$43,000

6. UNDERSTANDING THE ELEMENTAL COST SUMMARY

The cost information prepared and presented by Quantity Surveyors is organized in a form referred to by Quantity Surveyors as an 'Elemental Cost Summary'. In this format, the more 'intuitive' elements (e.g. foundations, exterior cladding, plumbing, etc.) are evaluated rather than materials or trades. Quantity Surveyors track this information consistently from project to project to benchmark not just the overall unit rate of a building type but also rates and ratios for key elements. Below are some key features of the Elementary Cost Summary.

Building components are summarized as elements 'A2 Structure' and then sub-elements 'A23 Roof Construction'. This allows review of Roof Construction costs whether it is steel, concrete or wood - something difficult with a trade summary.

Ratio to GFA evaluates design efficiency and highlights outliers. It is arrived at by dividing the parametric quantity of a sub-element (i.e. overall exterior wall area) by the building gross floor area (GFA). A ratio greater than 0.600 for 'A32 Walls Above Grade' is considered high and may be due to articulation, courtyard design or high floor to floor heights.

The 'Unit Rate' is the blended rate of a sub-element's costs divided by its parametric quantity and allows a review of its reasonableness relative to benchmarks. A rate of $559/m2 indicates a good quality exterior wall cladding.

The last column expresses the cost of each element as a percentage of total construction cost. At 18.7% of total construction costs, mechanical and electrical systems are considered basic.

The 'Rate per SF' (m^2) column converts costs for each element or sub-element to a $/SF ($m^2$) of GFA for comparison to benchmark rates. A rate of $217/m^2$ indicates basic electrical design.

General Requirements & Fee cover General Contractor's overheads (site set up, supervision, etc.) and contractor's expenses. Fee is not for Consultants.

Allowances are critical for estimates. Design & pricing compensates for a lack of detail early in design; escalation considers changes to labour & material; construction allowance is for unforeseen conditions; and, cash allowances offer flexibility for items difficult to detail at bid.

SAMPLE ELEMENTAL SUMMARY

Project :
Location :
Owner :
Consultant :

Report date : 19 Jul 2017
Page No. : A - 1
Bldg Type : 420
C.T. Index : 0.0
GFA : 1,582 m2

Element		Ratio to GFA	Elemental Cost Quantity	Elemental Cost Unit Rate	Elemental Amount Sub-Total	Elemental Amount Total	Rate per m2 Sub-Total	Rate per m2 Total	%
A	**SHELL**		1,582 m2			1,829,900		1,156.70	35.6
A1	**SUBSTRUCTURE**				250,000		158.03	158.03	4.9
A11	Foundations	1.000	1,582 m2	158.03	250,000		158.03		
A12	Basement Excavation	0.001	1 Nil	0.00	0		0.00		
A13	Special Conditions	0.001	1 Sum	0.00	0		0.00		
A2	**STRUCTURE**				468,800		296.33	296.33	9.1
A21	Lowest Floor Construction	1.000	1,582 m2	64.92	102,700		64.92		
A23	**Roof Construction**		1 Nil	0.00	0		0.00		
A23	Roof Construction	1.013	1,602 m2	228.53	366,100		231.42		
A3	**EXTERIOR ENCLOSURE**				1,111,100		702.34	702.34	21.6
A31	Walls Below Grade	0.001	1 Nil	0.00	0		0.00		
A32	**Walls Above Grade**		1,096 m2	**559.22**	612,900		387.42		
A33	Windows & Entrances	0.003	4 Lvs	3,275.00	13,100		8.28		
A34	Roof Coverings	1.013	1,602 m2	220.22	352,800		223.01		
A35	Projections	1.000	1,582 m2	83.63	132,300		83.63		
B	**INTERIORS**		1,582 m2		1,033,400		653.22	653.22	20.1
B1	**PARTITIONS & DOORS**				382,900		242.04	242.04	7.4
B11	Partitions	1.504	2,380 m2	105.29	250,600		158.41		
B12	Doors	0.038	60 Lvs	2,205.00	132,300		83.63		
B2	**FINISHES**				398,400		251.83	251.83	7.7
B21	Floor Finishes	1.000	1,582 m2	75.35	119,200		75.35		
B22	Ceiling Finishes	1.000	1,582 m2	91.28	144,400		91.28		
B23	Wall Finishes	2.314	3,660 m2	36.83	134,800		85.21		
B3	**FITTINGS & EQUIPMENT**				252,100		159.36	159.36	4.9
B31	Fittings & Fixtures	1.000	1,582 m2	159.36	252,100		159.36		
B32	Equipment	1.000	1,582 m2	0.00	0		0.00		
B33	Elevators	0.001	1 Nil	0.00	0		0.00		
B34	Escalators	0.001	1 Nil	0.00	0		0.00		
C	**SERVICES**		1,582 m2		964,400		609.61	**18.7**	
C1	**MECHANICAL**				621,100		392.60	392.60	12.1
C11	Plumbing & Drainage	1.000	1,582 m2	145.26	229,800		145.26		
C12	Fire Protection	1.000	1,582 m2	31.04	49,100		31.04		
C13	HVAC	1.000	1,582 m2	170.35	269,500		170.35		
C14	Controls	1.000	1,582 m2	45.95	72,700		45.95		
C2	**ELECTRICAL**				343,300			**217.00**	6.7
C21	Service & Distribution	1.000	1,582 m2	42.54	67,300		42.54		
C22	Lighting, Devices & Heating	1.000	1,582 m2	116.81	184,800		116.81		
C23	Systems & Ancillaries	1.000	1,582 m2	57.65	91,200		57.65		
	NET BUILDING COST - EXCLUDING SITE					$ 3,827,700		2,419.53	74.4
D	**SITE & ANCILLARY WORK**		1,582 m2			799,800		505.56	15.5
D1	**SITE WORK**					799,800		505.56	15.5
D11	Site Development	6.541	10,348 m2	48.71	504,100		318.65		
D12	Mechanical Site Services	0.001	1 Sum	167,400.00	167,400		105.82		
D13	Electrical Site Services	0.001	1 Sum	126,300.00	126,300		81.10		
D2	**ANCILLARY WORK**				0		0.00	0.00	0.0
D21	Demolitions	0.001	1 Nil	0.00	0		0.00		
D22	Alterations	0.001	1 Nil	0.00	0		0.00		
	NET BUILDING COST - INCLUDING SITE					$ 4,627,500		2,925.09	89.9
Z1	**GENERAL REQUIREMENTS & FEE**				520,100		328.76	10.1	
Z11	General Requirements		**8.0%**		370,200		234.01		
Z12	Fee		**3.0%**		149,900		94.75		
	TOTAL CONSTRUCTION ESTIMATE - EXCLUDING ALLOWANCES					$ 5,147,600		3,253.86	100.0
Z2	**ALLOWANCES**				930,500		588.18		
Z21	Design & Pricing Allowance		**10.0%**		514,800		325.41		
Z22	Escalation Allowance		**2.5%**		141,600		89.51		
Z23	Construction Allowance		**3.0%**		174,100		110.05		
Z24	Cash Allowances		**1 Sum**	100,000.00	100,000		63.21		
	TOTAL CONSTRUCTION ESTIMATE - INCLUDING ALLOWANCES					$ 6,078,100		3,842.04	
	VALUE ADDED TAX (GST/HST)					0		0.00	
	Value Added Tax (GST/HST)		0.0 %		0		0.00		
	TOTAL CONSTRUCTION ESTIMATE					$ 6,078,100	$	3,842.04	

J2351 -Z1 CLASS C ESTIMATE Hanscomb

By using this format consistently across all projects, Quantity Surveyors can compare projects and better understand why the 'roof covering' element may be more on this project if it's fulfilling the same function as a similar project.

Note: The above sample is based on the CIQS Elemental format. The fundamental principles of reading the information are the same for summaries reported based on UNIFORMAT.

Appendix A
Addition

Project	:	GEDSB - ELGIN AVENUE PUBLIC SCHOOL ADDITION & RENOVATIONS					Plan Date	:	August 22, 2024
Location	:	SIMCOE, ONTARIO	**ELEMENTAL COST SUMMARY**				Page	:	A-1
Owner	:	GEDSB - ELGIN AVENUE PUBLIC SCHOOL	**Addition**						
Consultant	:	Salter Pilon Architecture					Area	:	1,869 m2

ELEMENT	Ratio to GFA	Element Cost Quantity	Element Cost Unit Rate	Element Amount Sub-total	Element Amount Total	Rate per m2 of GFA Sub-total	Rate per m2 of GFA Total	
A SHELL		1,869 m2			3,104,930		1,661.28	39.4
A1 SUBSTRUCTURE					783,340		419.12	9.9
A11 Foundations	0.837	1,565 m2	443.84	694,610		371.65		
A12 Basement Excavation	0.001	1 Sum	48,730.00	48,730		26.07		
A13 Special Conditions	0.837	1,565 m2	25.56	40,000		21.40		
A2 STRUCTURE					713,300		381.65	9.1
A21 Lowest Floor Construction	0.837	1,565 m2	109.95	172,070		92.07		
A22 Upper Floor Construction	0.163	304 m2	608.06	184,850		98.90		
A23 Roof Construction	0.837	1,565 m2	227.72	356,380		190.68		
A3 EXTERIOR ENCLOSURE					1,608,290		860.51	20.4
A31 Walls Below Grade	0.042	78 m2	881.67	68,770		36.80		
A32 Walls Above Grade	0.592	1,107 m2	761.63	843,120		451.11		
A33 Entrances	0.009	17 No.	3,894.12	66,200		35.42		
A34 Roof Covering	0.795	1,485 m2	308.20	457,680		244.88		
A35 Projections	0.001	1 Sum	172,520.00	172,520		92.31		
B INTERIORS		1,869 m2			1,780,280		952.53	22.6
B1 PARTITIONS & DOORS					748,150		400.29	9.5
B11 Partitions	1.236	2,310 m2	237.61	548,870		293.67		
B12 Doors	0.028	53 No.	3,760.00	199,280		106.62		
B2 FINISHES					504,210		269.78	6.4
B21 Floor Finishes	1.000	1,869 m2	142.97	267,210		142.97		
B22 Ceiling Finishes	1.000	1,869 m2	86.15	161,020		86.15		
B23 Wall Finishes	1.845	3,449 m2	22.03	75,980		40.65		
B3 FITTINGS & EQUIPMENT					527,920		282.46	6.7
B31 Fittings & Fixtures	1.000	1,869 m2	191.50	357,920		191.50		
B32 Equipment	0.000	0 m2	0.00	0		0.00		
B33 Elevators	0.001	1 No.	170,000.00	170,000		90.96		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		1,869 m2			2,069,510		1,107.28	26.3
C1 MECHANICAL					1,307,890		699.78	16.6
C11 Plumbing & Drainage	1.000	1,869 m2	188.67	352,620		188.67		
C12 Fire Protection	1.000	1,869 m2	28.89	54,000		28.89		
C13 HVAC	1.000	1,869 m2	391.00	730,770		391.00		
C14 Controls	1.000	1,869 m2	91.23	170,500		91.23		
C2 ELECTRICAL					761,620		407.50	9.7
C21 Service & Distribution	1.000	1,869 m2	102.40	191,380		102.40		
C22 Lighting,Devices & Heating	1.000	1,869 m2	175.07	327,210		175.07		
C23 Systems & Ancillaries	1.000	1,869 m2	130.03	243,030		130.03		
NET BUILDING COST - EXCLUDING SITE					**6,954,720**		**3,721.09**	**88.3**
D SITE & ANCILLARY WORK					0		0.00	0.0
D1 SITE WORK					0		0.00	0.0
D11 Site Development	0.000	0 Sum	0	0		0.00		
D12 Mechanical Site Services	0.000	0 Sum	0	0		0.00		
D13 Electrical Site Services	0.000	0 Sum	0	0		0.00		
D2 ANCILLARY WORK					0		0.00	0.0
D21 Demolition	0.000	0 m2	0.00	0		0.00		
D22 Alterations	0.000	0 m2	0.00	0		0.00		
NET BUILDING COST - INCLUDING SITE					**6,954,720**		**3,721.09**	**88.3**
Z GENERAL REQ'S & ALLOWANCES					1,319,000		705.72	11.7
Z1 GENERAL REQUIREMENTS & FEE					925,000		494.92	11.7
Z11 General Requirements	10.0%			695,500		372.12		
Z12 Fee	3.0%			229,500		122.79		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					**7,879,720**		**4,216.01**	**100.0**
Z2 ALLOWANCES					394,000		210.81	
Z21 Design Allowance	5.0%			394,000		210.81		
Z22 Escalation Allowance	0.0%	see summary		0		0.00		
Z23 Construction Allowance	0.0%	see summary		0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					**8,273,720**		**4,426.82**	
Harmonized Sales Tax (HST)	0.0%	see summary			0		0.00	
TOTAL CONSTRUCTION ESTIMATE					**8,273,720**		**4,426.82**	

Addition

A1 SUBSTRUCTURE	Quantity	Unit rate	Amount
A11 Foundations			
1 Strip footings	400 m	368.60	147,440
- Concrete	167 m3	300.00	50,100
- Formwork	264 m2	290.00	76,560
- Reinforcing	6,298 kg	3.30	20,780
2 Pad footings	3 No.	923.33	2,770
- Concrete	1 m3	300.00	300
- Formwork	8 m2	290.00	2,320
- Reinforcing	45 kg	3.30	150
3 Foundation walls	369 m	910.51	335,980
- Concrete	153 m3	300.00	45,900
- Formwork	1,076 m2	260.00	279,760
- Reinforcing	3,126 kg	3.30	10,320
4 Piers	9 No.	1,771.11	15,940
- Concrete	5 m3	300.00	1,500
- Formwork	49 m2	290.00	14,210
- Reinforcing	71 kg	3.30	230
5 Mat footing	17 m2	315.29	5,360
- Concrete	8 m3	300.00	2,400
- Formwork	8 m2	290.00	2,320
- Reinforcing	195 kg	3.30	640
6 Extra/over for	1 Sum	5,180.00	5,180
- Rigid insulation to perimeter foundation	115 m2	45.00	5,180
7 Weeping tile & granular surround	1 Sum	8,230.00	8,230
- Weeping tile & granular surround	175 m	47.00	8,230
8 Earthwork	1 Sum	173,710.00	173,710
- Excavation c/w removal from site	1,462 m3	72.00	105,260
- Backfill c/w granular material	1,104 m3	62.00	68,450
A11 Foundations TOTAL : $	**1,565 m2**	**443.84**	**694,610**

Addition

A1 SUBSTRUCTURE	Quantity		Unit rate	Amount
A12 Basement Excavation				
1 Earthwork	1	Sum	48,730.00	48,730
- Bulk excavation	500	m3	72.00	36,000
- Excavation c/w removal from site (working space)	95	m3	72.00	6,840
- Backfill with granular material	95	m3	62.00	5,890
A12 Basement Excavation TOTAL : $	**1**	**Sum**	**48,730.00**	**48,730**
A13 Special Conditions				
1 Allowance for dewatering, sediment & erosion control	1	Sum	10,000.00	10,000
- Dewatering, sediment & erosion control	1	Sum	10,000.00	10,000
2 Shoring	1	Sum	5,000.00	5,000
- Shoring, allow	1	Sum	5,000.00	5,000
3 Underpinning	1	Sum	0.00	0
- Underpinning (None assumed)		Nil		
4 Allowance for hand excavation at existing foundations	1	Sum	5,000.00	5,000
- Hand excavation, allow	1	Sum	5,000.00	5,000
5 Engineered fill	1	Sum	0.00	0
- Engineered fill (None assumed)		Nil		
6 Tie into existing structure	1	Sum	20,000.00	20,000
- Allow	1	Sum	20,000.00	20,000
A13 Special Conditions TOTAL : $	**1,565**	**m2**	**25.56**	**40,000**

Addition

A2 STRUCTURE		Quantity		Unit rate	Amount
A21 Lowest Floor Construction					
1 Concrete slab on grade		1,565	m2	99.58	155,840
- Concrete, 125mm		196	m3	300.00	58,800
- Welded wire mesh		1,565	m2	10.00	15,650
- Imported granular fill, 200mm		313	m3	65.00	20,350
- Vapour barrier		1,565	m2	15.00	23,480
- Construction joints		1,565	m2	12.00	18,780
- Screed/cure/finish		1,565	m2	12.00	18,780
2 Under slab insulation		1	Sum	9,230.00	9,230
- Rigid insulation to 1220mm wide perimeter		205	m2	45.00	9,230
3 Extra/over for:		1	Sum	7,000.00	7,000
- Extra/over for slab thickening, allow		1	Sum	7,000.00	7,000
A21 Lowest Floor Construction	**TOTAL : $**	**1,565**	**m2**	**109.95**	**172,070**
A22 Upper Floor Construction					
1 Suspended floors (stairs at level 1 & 2)		304	m2	466.61	141,850
- 50mm concrete topping		304	m2	45.00	13,680
- 250mm pre cast hollow core concrete		304	m2	262.00	79,650
- Structural steel		5,342	kg	8.40	44,870
- Screed/cure/finish		304	m2	12.00	3,650
2 Stairs		1	Sum	31,000.00	31,000
- Partial flight of stairs c/w handrails & guardrails		1	Flt	7,000.00	7,000
- Full flight of stairs c/w handrails & guardrails		2	Flt	12,000.00	24,000
3 Spray fireproofing		1	Sum	12,000.00	12,000
- Spray fireproofing, allow		1	Sum	12,000.00	12,000
A22 Upper Floor Construction	**TOTAL : $**	**304**	**m2**	**608.06**	**184,850**

Addition

A2 STRUCTURE	Quantity	Unit rate	Amount
A23 Roof Construction			
1 Roof construction	1,565 m2	227.72	356,380
- Metal deck	1,565 m2	70.00	109,550
- Structural steel	29,384 kg	8.40	246,830
- Loadbearing block walls (incl in B11)	Nil		
2 Spray fireproofing	1 Sum	0.00	0
- Spray fireproofing (Nil)	Nil		
A23 Roof Construction TOTAL : $	**1,565 m2**	**227.72**	**356,380**

Addition

A3 EXTERIOR ENCLOSURE	Quantity	Unit rate	Amount
A31 Walls Below Grade			
1 Cast in place concrete wall	78 m2	746.15	58,200
- Concrete	30 m3	300.00	9,000
- Formwork	156 m2	290.00	45,240
- Rebar	1,200 kg	3.30	3,960
2 Interior furring	78 m2	97.05	7,570
- Metal studs, insulation & gypsum board	78 m2	97.00	7,570
3 Extra/over for:	1 Sum	3,000.00	3,000
- Waterproofing & rigid insulation	1 Sum	3,000.00	3,000
A31 Walls Below Grade TOTAL : $	**78 m2**	**881.67**	**68,770**

Addition

A3 EXTERIOR ENCLOSURE	Quantity	Unit rate	Amount
A32 Walls Above Grade			
1 Exterior wall EW1	872 m2	653.00	569,420
- 90mm brick veneer			
- Air space			
- 90 spray foam insulation			
- Self adhered air/vapour barrier			
- 190mm concrete masonry units	872 m2	653.00	569,420
2 Exterior wall EW2	98 m2	782.96	76,730
- 90mm architectural block			
- Air space			
- 90 spray foam insulation			
- Self adhered air/vapour barrier			
- 190mm concrete masonry units	98 m2	783.00	76,730
3 Curtainwall	64 m2	1,400.00	89,600
- Aluminum framed double glazed curtainwall	64 m2	1,400.00	89,600
4 Aluminum framed double glazed windows	73 m2	1,043.97	76,210
- Aluminum framed punched windows	73 m2	1,044.00	76,210
5 Louvers	1 Sum	6,160.00	6,160
- Louvers	7 m2	880.00	6,160
6 Allowance for lintels, caulking & flashing	1 Sum	25,000.00	25,000
- Allowance for lintels, caulking & flashing	1 Sum	25,000.00	25,000
A32 Walls Above Grade TOTAL : $	**1,107 m2**	**761.63**	**843,120**

Addition

A3 EXTERIOR ENCLOSURE	Quantity	Unit rate	Amount
A33 Entrances			
1 Insulated hollow metal door c/w frame, hardware and paint finish	11 Lvs	3,454.55	38,000
- Single	3 Lvs	3,000.00	9,000
- Double	4 Prs	6,000.00	24,000
- Extra/over for glazing to doors	1 Sum	5,000.00	5,000
2 Aluminum framed glazed doors c/w frame and hardware	6 Lvs	3,600.00	21,600
- Single	6 Lvs	3,600.00	21,600
3 Allow for door hardware upgrades	1 Sum	6,600.00	6,600
- Automatic door operators	2 No.	3,300.00	6,600
A33 Entrances TOTAL : $	**17 No.**	**3,894.12**	**66,200**
A34 Roof Covering			
1 Roof membrane	1,485 m2	308.00	457,380
- Modified bitumen roofing	1,485 m2	308.00	457,380
2 Roof pavers	1 Sum	300.00	300
- Roof pavers	12 No.	25.00	300
A34 Roof Covering TOTAL : $	**1,485 m2**	**308.20**	**457,680**

Addition

A3 EXTERIOR ENCLOSURE	Quantity	Unit rate	Amount
A35 Projections			
1 Parapets	220 m	265.00	58,300
- Parapet metal cap & flashing	220 m	265.00	58,300
2 Canopies	67 m2	1,264.48	84,720
- Canopy - main	44 m2	1,340.00	58,960
- Canopy (4#)	23 m2	1,120.00	25,760
3 Roof ladder	1 Sum	7,000.00	7,000
- Roof access ladder with cage	1 No.	7,000.00	7,000
4 Building signage	1 Sum	15,000.00	15,000
- Building signage	1 Sum	15,000.00	15,000
5 Roof anchors	1 Sum	7,500.00	7,500
- Roof anchors, allow	1 Sum	7,500.00	7,500
A35 Projections TOTAL : $	**1 Sum**	**172,520.00**	**172,520**

Addition

B1 PARTITIONS & DOORS	Quantity	Unit rate	Amount
B11 Partitions			
1 Concrete block partitions	2,267 m2	226.50	513,470
- 90mm concrete block partition (P1)	214 m2	162.00	34,670
- 140mm concrete block partition (P2)	357 m2	178.00	63,550
- 190mm concrete block partition (P3)	1,576 m2	196.00	308,900
- 290mm concrete block partition (P4)	120 m2	225.00	27,000
- Extra/over for reinforcing, allow	2,267 m2	35.00	79,350
2 Standard framed partition c/w acoustic insulation (assumed makeup)	11 m2	190.91	2,100
- 16mm gypsum board			
- 152mm metal studs			
- Sound attenuation batts			
- 16mm gypsum board	11 m2	191.00	2,100
3 Glazed partitions	32 m2	728.13	23,300
- Glazing & hollow metal frame	10 m2	680.00	6,800
- Glazing & prefinished aluminum frame	22 m2	750.00	16,500
4 Allowance for lintels firestopping, sealants & caulking	1 Sum	10,000.00	10,000
- Lintels, firestopping, sealants & caulking	1 Sum	10,000.00	10,000
B11 Partitions TOTAL : $	**2,310 m2**	**237.61**	**548,870**

Addition

B1 PARTITIONS & DOORS	Quantity		Unit rate	Amount
B12 Doors				
1 Hollow metal door c/w hollow metal frame, hardware and paint finish	38	Lvs	3,034.21	115,300
- 950mm x 2150mm	24	Lvs	3,000.00	72,000
- 975mm x 2150mm	1	Lvs	3,000.00	3,000
- 1018mm x 2184mm	4	Lvs	3,100.00	12,400
- 1150mm x 2150mm	1	Lvs	3,100.00	3,100
- Single (not labelled)	2	Lvs	3,100.00	6,200
- 1000mm / 1000mm x 2150mm	1	Prs	6,200.00	6,200
- Double (not labelled)	2	Prs	6,200.00	12,400
2 Aluminum framed glazed door c/w hardware	15	Lvs	3,560.00	53,400
- 879mm x 2072mm	1	Lvs	3,500.00	3,500
- 954mm x 2072mm	1	Lvs	3,500.00	3,500
- 975mm x 2050mm	3	Lvs	3,500.00	10,500
- 992mm x 2072mm	2	Lvs	3,500.00	7,000
- 1000mm x 2250mm	4	Lvs	3,600.00	14,400
- 1013mm x 2050mm	1	Lvs	3,600.00	3,600
- 1026mm x 2060mm	1	Lvs	3,600.00	3,600
- 1049mm x 2060mm	1	Lvs	3,600.00	3,600
- 1161mm x 2150mm	1	Lvs	3,700.00	3,700
3 Extra/over for fire rated	1	Sum	10,000.00	10,000
- Fire rated doors & frames	1	Sum	10,000.00	10,000
4 Extra/over for inset glazing	1	Sum	4,080.00	4,080
- Half glazed	12	No.	260.00	3,120
- Full glazed with divider	2	No.	480.00	960
5 Allowance for door hardware upgrades	1	Sum	16,500.00	16,500
- Automatic door operator	5	No.	3,300.00	16,500
B12 Doors TOTAL : $	**53**	**No.**	**3,760.00**	**199,280**

Addition

B2 FINISHES	Quantity	Unit rate	Amount
B21 Floor Finishes			
1 Ceramic tile flooring	910 m2	150.12	136,610
- Ceramic tile	910 m2	125.00	113,750
- Ceramic tile base	653 m	35.00	22,860
2 Luxury vinyl tile	57 m2	96.67	5,510
- Luxury vinyl tile	57 m2	80.00	4,560
- Rubber base	73 m	13.00	950
3 Rubberized sports flooring	365 m2	148.99	54,380
- Rubberized sports flooring	365 m2	142.00	51,830
- Rubber base	196 m	13.00	2,550
4 Epoxy flooring	390 m2	153.77	59,970
- Epoxy flooring	390 m2	147.00	57,330
- Rubber base	203 m	13.00	2,640
5 Static dissipative vinyl tile	3 m2	213.33	640
- Static dissipative vinyl tile	3 m2	200.00	600
- Rubber base	3 m	13.00	40
6 Sealer to concrete	144 m2	42.36	6,100
- Sealer to concrete	144 m2	30.00	4,320
- Rubber base	137 m	13.00	1,780
7 Allowance for specialty finishes / patterns	1 Sum	4,000.00	4,000
- Allowance for specialty finishes	1 Sum	4,000.00	4,000
B21 Floor Finishes TOTAL : $	**1,869 m2**	**142.97**	**267,210**

Addition

B2 FINISHES		Quantity		Unit rate	Amount
B22 Ceiling Finishes					
1 Suspended acoustical ceiling tile c/w t-bar grid system		1,584	m2	82.00	129,890
- Suspended acoustic ceiling tiles		1,584	m2	82.00	129,890
2 Suspended gypsum board ceiling c/w metal framing system & paint finish		124	m2	145.00	17,980
- Suspended gypsum board ceilings		124	m2	145.00	17,980
3 Exposed paint finish		161	m2	31.99	5,150
- Paint to ceiling		161	m2	32.00	5,150
4 Suspended gypsum board bulkheads c/w metal framing system & paint finish		1	m2	8,000.00	8,000
- Allowance for bulkheads		1	Sum	8,000.00	8,000
B22 Ceiling Finishes	**TOTAL : $**	**1,869**	**m2**	**86.15**	**161,020**
B23 Wall Finishes					
1 Paint to walls		3,449	m2	20.00	68,980
- Paint		3,449	m2	20.00	68,980
2 Allowance for specialty finishes		1	Sum	7,000.00	7,000
- Allowance for specialty finishes		1	Sum	7,000.00	7,000
B23 Wall Finishes	**TOTAL : $**	**3,449**	**m2**	**22.03**	**75,980**

Addition

B3 FITTINGS & EQUIPMENT	Quantity	Unit rate	Amount
B31 Fittings & Fixtures			
1 Millwork	1,869 m2	121.70	227,450
- Base cabinet with plam countertop	23 m	1,080.00	24,840
- Open lower shelves	16 m	500.00	8,000
- Upper cabinet	62 m	450.00	27,900
- Full height cabinet	19 m	970.00	18,430
- Cubbies	182 No.	700.00	127,400
- Island cabinet with plam countertop, 1000mm wide	2 m	2,100.00	4,200
- Reception desk, plam	6 m	1,542.00	9,250
- Windowsill, plam	42 m	177.00	7,430
2 Specialties	1,869 m2	31.78	59,400
- Washroom	1 No.	700.00	700
- Washroom - universal / BF	2 No.	2,000.00	4,000
- Washroom - preschool / toddler	2 No.	3,700.00	7,400
- Washroom - kindergarten	2 No.	5,500.00	11,000
- Washroom - boys	1 No.	9,250.00	9,250
- Washroom - girls	1 No.	10,700.00	10,700
- Paper towel dispenser (SOIC) & soap dispenser at sinks	13 No.	150.00	1,950
- Mop rack & shelf	1 No.	400.00	400
- Metal lockers	5 No.	600.00	3,000
- Whiteboard, 1220mm x 1220mm	4 No.	600.00	2,400
- Whiteboard, 1220mm x 2000mm	4 No.	900.00	3,600
- Tackboard, 2000mm x 900mm	8 No.	500.00	4,000
- Install owner supplied dishwasher, washer and dryer	1 Sum	1,000.00	1,000
3 Rough carpentry	1,869 m2	12.00	22,430
- Allowance for caulking and sealing	1,869 m2	4.50	8,410
- Allowance for rough carpentry	1,869 m2	7.50	14,020
4 Miscellaneous metals	1,869 m2	8.50	15,890
- Allowance for miscellaneous metals	1,869 m2	8.50	15,890
5 Systems furniture	1 Sum	0.00	0
- Systems furniture, chairs, desks, tables, loose furniture (EXCLUDED)	Nil		

Addition

B3 FITTINGS & EQUIPMENT		Quantity		Unit rate	Amount
B31 Fittings & Fixtures (Continued)					
6 Interior signage		1,869	m2	7.00	13,080
- Allowance for interior signage		1,869	m2	7.00	13,080
7 Window coverings		1,869	m2	10.52	19,670
- Window coverings, allow		83	m2	237.00	19,670
B31 Fittings & Fixtures	**TOTAL : $**	**1,869**	**m2**	**191.50**	**357,920**
B33 Elevators					
1 Elevator		1	No.	170,000.00	170,000
- 4 stop elevator		1	No.	170,000.00	170,000
B33 Elevators	**TOTAL : $**	**1**	**No.**	**170,000.00**	**170,000**

Addition

C1 MECHANICAL	Quantity		Unit rate	Amount
C11 Plumbing & Drainage				
1 Fixtures	1,869	m2	35.87	67,050
- Water closet WC-1	8	No.	1,000.00	8,000
- Water closet WC-2	2	No.	1,100.00	2,200
- Water closet WC-4	1	No.	1,100.00	1,100
- Water closet WC-5	13	No.	1,250.00	16,250
- Water closet WC-6	1	No.	1,100.00	1,100
- Lavatory LA	9	No.	1,000.00	9,000
- Lavatory LA1	2	No.	1,000.00	2,000
- Lavatory LA4	3	No.	1,200.00	3,600
- Sink SS-2	2	No.	1,000.00	2,000
- Sink SS-3	4	No.	1,000.00	4,000
- Sink SS-4	9	No.	1,000.00	9,000
- Mop sink MS-1	2	No.	1,500.00	3,000
- Urinal UR-1	2	No.	1,500.00	3,000
- Eye wash	2	No.	1,400.00	2,800
2 Domestic water	1,869	m2	57.10	106,720
- Expansion tank ET3	1	No.	5,500.00	5,500
- Domestic water pipe - 50/40mm	95	m	135.00	12,830
- Domestic water pipe - 30/25mm	195	m	115.00	22,430
- Domestic water pipe - 20/15mm	275	m	85.00	23,380
- Thermal pipe insulation	565	m	30.00	16,950
- Fixture connection	60	No.	350.00	21,000
- Trap seal primer	13	No.	295.00	3,840
- NFHB	2	No.	395.00	790
3 Sanitary waste and vents	1,869	m2	69.86	130,570
- Sanitary drain & vents 100/75mm - below grade	265	m	175.00	46,380
- Sanitary drain & vents 100/75mm - above grade	10	m	175.00	1,750
- Sanitary drain & vents 50/38mm - above grade	325	m	125.00	40,630
- Fixture connection	60	No.	350.00	21,000
- Floor drain	13	No.	185.00	2,410
- Grease interceptor	1	No.	4,500.00	4,500
- Scupper drain / BWV	1	No.	850.00	850
- Excavation and backfill	265	m	40.00	10,600
- Vent flashing through roof	10	No.	245.00	2,450

Addition

C1 MECHANICAL		Quantity		Unit rate	Amount
C11 Plumbing & Drainage (Continued)					
4 Storm drains		1,869	m2	25.83	48,280
- Storm drain 150mm - below grade		75	m	185.00	13,880
- Storm drain 200mm - below grade		25	m	215.00	5,380
- Storm drain 250mm - below grade		15	m	235.00	3,530
- Storm drain 150/100mm - above grade		85	m	175.00	14,880
- Thermal pipe insulation		1	Sum	2,500.00	2,500
- Excavation and backfill		115	m	45.00	5,180
- Roof drain		9	No.	325.00	2,930
C11 Plumbing & Drainage	**TOTAL : $**	**1,869**	**m2**	**188.67**	**352,620**
C12 Fire Protection					
1 Sprinklers		1,869	m2	28.89	54,000
- Connect to renovation system		1	Sum	3,000.00	3,000
- Alarm zone		1	No.	1,500.00	1,500
- Sprinkler head		180	No.	275.00	49,500
C12 Fire Protection	**TOTAL : $**	**1,869**	**m2**	**28.89**	**54,000**

Addition

C1 MECHANICAL	Quantity		Unit rate	Amount
C13 HVAC				
1 Liquid transfer - heating	1,869	m2	91.57	171,150
- Heating water piping - 50/40mm	245	m	145.00	35,530
- Heating water piping - 35/32mm	255	m	125.00	31,880
- Heating water piping - 25/20mm	275	m	85.00	23,380
- Thermal pipe insulation	775	m	35.00	27,130
- Unit ventilator connection	8	No.	1,500.00	12,000
- Radiation	55	m	175.00	9,630
- Radiation connection	9	No.	1,200.00	10,800
- Force flow heater	8	No.	1,600.00	12,800
- Force flow / unit heater connection	8	No.	1,000.00	8,000
2 Air distribution equipment	1,869	m2	201.98	377,500
- AHU-1 c/w split Dx cooling	1	No.	225,000.00	225,000
- Hoisting	1	Sum	10,000.00	10,000
- Unit ventilator UV 401	7	No.	10,500.00	73,500
- Unit ventilator UV 402	1	No.	12,000.00	12,000
- Office /staff VRF system - 5 ton	1	Sum	50,000.00	50,000
- ERV	1	No.	5,000.00	5,000
- Exhaust fan	1	No.	2,000.00	2,000
3 Air distribution ductwork	1,869	m2	56.78	106,120
- Galvanized ductwork	1,985	kg	35.00	69,480
- Thermal insulation	575	m2	35.00	20,130
- Supply SD 3/4	7	No.	245.00	1,720
- Supply SD 9/10	40	No.	235.00	9,400
- Supply SD 1	2	No.	155.00	310
- Return RG 2	16	No.	175.00	2,800
- Exhaust EG	14	No.	145.00	2,030
- Wall box	1	No.	250.00	250
4 Miscellaneous	1,869	m2	5.89	11,000
- Tag and label	1	Sum	1,000.00	1,000
- Sleeving	1	Sum	5,000.00	5,000
- Fire stopping	1	Sum	5,000.00	5,000

Addition

C1 MECHANICAL		Quantity		Unit rate	Amount
C13 HVAC (Continued)					
5 Balancing & commissioning		1,869	m2	34.78	65,000
- Air balancing		1	Sum	30,000.00	30,000
- Water balancing		1	Sum	25,000.00	25,000
- Commissioning		1	Sum	10,000.00	10,000
C13 HVAC	**TOTAL : $**	**1,869**	**m2**	**391.00**	**730,770**
C14 Controls					
1 Controls		1,869	m2	91.23	170,500
- AHU-1		1	No.	30,000.00	30,000
- Radiation CV		9	No.	1,000.00	9,000
- Unit ventilator		8	No.	2,000.00	16,000
- VRF		1	No.	7,500.00	7,500
- FFH		8	No.	1,000.00	8,000
- ERV		1	No.	5,000.00	5,000
- BAS / head end, programing		1	Sum	95,000.00	95,000
C14 Controls	**TOTAL : $**	**1,869**	**m2**	**91.23**	**170,500**

Addition

C2 ELECTRICAL	Quantity		Unit rate	Amount
C21 Service & Distribution				
1 Service & distribution	1,869	m2	102.40	191,380
- 800A 347/600V 3ph 4W SWBD 'SB-0A1' c/w main feeder breakers & DMS	1	No.	45,000.00	45,000
- Metering cabinet	1	No.	2,500.00	2,500
- 225kVA 600-120/208V transformer 'TX-0B1'	1	No.	22,000.00	22,000
- 800A 120/208V 3ph 4W distribution panel 'DP-0B1' c/w breakers	1	No.	24,000.00	24,000
- 200A 120/208V 3ph 4W panel '0.5MB' & '0.5MC'	2	No.	8,000.00	16,000
-100A 120/208V 3ph 4W panel '0.5B', '0.5C', '0C' & '0MC'	4	No.	6,500.00	26,000
- Elevator splitter, allow	1	No.	1,000.00	1,000
- Grounding system c/w ground bus, conduit etc.	1	Sum	2,500.00	2,500
- Allow for feeders to suit	1,869	m2	20.00	37,380
- Arch flash/short circuit study	1	Sum	5,000.00	5,000
- Miscellaneous items including as-builts commissioning etc.	1	Sum	10,000.00	10,000
C21 Service & Distribution TOTAL : $	**1,869**	**m2**	**102.40**	**191,380**

Addition

C2 ELECTRICAL	Quantity		Unit rate	Amount
C22 Lighting, Devices & Heating				
1 Lighting supply, install & wiring	1,869	m2	75.35	140,820
- Type A1 - 2'x4' LED flat panel	98	No.	420.00	41,160
- Type A2 - 2'x4' LED flat panel	43	No.	420.00	18,060
- Type B1 - 1'x4' LED flat panel	32	No.	380.00	12,160
- Type C1 - 2'x2' LED flat panel	8	No.	350.00	2,800
- Type D1 - 4' LED strip	24	No.	390.00	9,360
- Type DW - 4' LED strip	2	No.	450.00	900
- Type F1 - 6" LED downlight	38	No.	500.00	19,000
- Branch wiring - main runs	1,869	m2	20.00	37,380
2 Exit & emergency lighting	1,869	m2	17.76	33,200
- Exit sign	23	No.	400.00	9,200
- Dual remote emergency head	44	No.	250.00	11,000
- Battery unit	5	No.	500.00	2,500
- Battery unit c/w dual remote emergency head	15	No.	700.00	10,500
3 Lighting control	1,869	m2	23.40	43,740
- Single pole switch	6	No.	185.00	1,110
- 2-button LV switch	21	No.	250.00	5,250
- 4-way switch	3	No.	205.00	620
- Occupancy sensor - ceiling	51	No.	285.00	14,540
- Occupancy sensor - switch	12	No.	285.00	3,420
- Room controller - RC1	5	No.	430.00	2,150
- Room controller - RC1a	4	No.	400.00	1,600
- Room controller - RC2	2	No.	450.00	900
- Room controller - RC3	4	No.	500.00	2,000
- Lighting management c/w conduit, wiring & testing	1,869	m2	6.50	12,150

Addition

C2 ELECTRICAL	Quantity		Unit rate	Amount
C22 Lighting, Devices & Heating (Continued)				
4 Power outlets, devices & connections	1,869	m2	38.35	71,670
- 15/20A duplex receptacle	71	No.	195.00	13,850
- 15/20A duplex receptacle - in classroom module	3	No.	195.00	590
- 15/20A duplex receptacle - GFCI	27	No.	205.00	5,540
- 15/20A switched receptacle	12	No.	205.00	2,460
- 15/20A switched receptacle in classroom module	4	No.	205.00	820
- 15/20A duplex receptacle - WG	2	No.	220.00	440
- 15/20A quad receptacle	1	No.	290.00	290
- Door operator c/w PB rough-in	10	No.	550.00	5,500
- Dishwasher connection	1	No.	265.00	270
- Dryer receptacle	1	No.	325.00	330
- Hand dryer connection	4	No.	800.00	3,200
- Range receptacle	1	No.	450.00	450
- Range hood connection	1	No.	550.00	550
- Branch wiring - main runs	1,869	m2	20.00	37,380
5 Mechanical connections	1,869	m2	20.21	37,780
- Boiler connection	3	No.	1,000.00	3,000
- Circ. pump connection c/w VFD (VFD by mech.)	5	No.	1,500.00	7,500
- Circ. pump magnetic starter connection	3	No.	800.00	2,400
- Damper connection	3	No.	800.00	2,400
- DWH connection	2	No.	1,000.00	2,000
- Elevator connection	1	No.	3,000.00	3,000
- Fan forced heater connection	4	No.	800.00	3,200
- Lift connection	1	No.	1,000.00	1,000
- Range hood magnetic starter connection	1	No.	350.00	350
- Split A/C connection	2	No.	1,000.00	2,000
- Plumbing connection	5	No.	265.00	1,330
- Unit ventilator	7	No.	800.00	5,600
- Allow for misc. mechanical connections	1	Sum	4,000.00	4,000
C22 Lighting, Devices & Heating TOTAL : $	**1,869**	**m2**	**175.07**	**327,210**

Addition

C2 ELECTRICAL	Quantity		Unit rate	Amount
C23 Systems & Ancillaries				
1 Fire alarm system	1,869	m2	36.85	68,870
- FACP	1	No.	10,000.00	10,000
- Annunciator	1	No.	2,750.00	2,750
- Passive graphic	1	No.	1,800.00	1,800
- Heat detector - fixed	1	No.	365.00	370
- Heat detector - rate of rise	1	No.	385.00	390
- Horn	2	No.	315.00	630
- Horn/strobe	19	No.	365.00	6,940
- Pull station c/w STI stopper cover	10	No.	375.00	3,750
- Smoke alarm	1	No.	300.00	300
- Smoke detector	14	No.	365.00	5,110
- Smoke detector - relay base	3	No.	450.00	1,350
- Strobe	4	No.	315.00	1,260
- Addressable module	6	No.	250.00	1,500
- Conduit & wiring	1,869	m2	15.00	28,040
- Testing & verification	36	Hrs	130.00	4,680
2 Communications empty conduit system	1,869	m2	19.52	36,490
- Data outlet - 1D	2	No.	185.00	370
- Data outlet - 1D, WG	1	No.	210.00	210
- Data outlet - 2D	1	No.	185.00	190
- Telephone outlet - 1D	1	No.	185.00	190
- Wifi drop - in classroom module	4	No.	185.00	740
- Allow for devices not yet shown	1,869	m2	5.00	9,350
- Cable tray	90	m	210.00	18,900
- Allow for sleeving & firestopping	1,869	m2	3.50	6,540
3 Communications cabling system	1,869	m2	8.48	15,850
- Horizontal data drops c/w terminations	14	No.	275.00	3,850
- Allow for additional horizontal data drops c/w terminations	1	Sum	4,000.00	4,000
- Wire management c/w cable testing	1	Sum	8,000.00	8,000

Addition

C2 ELECTRICAL	Quantity		Unit rate	Amount
C23 Systems & Ancillaries (Continued)				
4 Security access control system	1,869	m2	24.23	45,290
- Security system control panel	3	No.	3,500.00	10,500
- Keypad - WG	1	No.	800.00	800
- Motion detector	22	No.	350.00	7,700
- Door position switch	16	No.	300.00	4,800
- Conduit & wiring	1,869	m2	8.00	14,950
- Testing & integration	1,869	m2	3.50	6,540
5 CCTV system (empty conduit)	1,869	m2	1.07	2,000
- Camera rough-in	8	No.	250.00	2,000
6 Intercom / paging system	1,869	m2	22.06	41,230
- Connect to existing system	1	Sum	3,000.00	3,000
- Paging speaker	26	No.	315.00	8,190
- Paging speaker horn	6	No.	330.00	1,980
- Intercom speaker & call switch	8	No.	375.00	3,000
- Intercom speaker & call switch in classroom module	7	No.	375.00	2,630
- Conduit, wiring & testing	1,869	m2	12.00	22,430
7 Clock system	1,869	m2	3.67	6,850
- Connect to existing system	1	Sum	3,000.00	3,000
- Digital clock c/w calendar display - in classroom module	7	No.	550.00	3,850
8 Audio/Visual system	1,869	m2	5.81	10,850
- Projector outlet rough-in	3	No.	250.00	750
- Smart outlet rough-in	3	No.	250.00	750
- Allow for additional AV rough-ins to suit	1,869	m2	5.00	9,350
- Devices, wiring & testing - by others		Nil		
9 Universal washroom system	1,869	m2	1.61	3,000
- Rough-in to universal washroom system devices	12	No.	250.00	3,000
- Devices, wiring & testing - by others		Nil		
10 Classroom modular panel	1,869	m2	6.74	12,600
- Classroom module	9	No.	1,400.00	12,600
C23 Systems & Ancillaries TOTAL : $	**1,869**	**m2**	**130.03**	**243,030**

Appendix B
Renovation

Project : GEDSB - ELGIN AVENUE PUBLIC SCHOOL
ADDITION & RENOVATIONS
Location : SIMCOE, ONTARIO
Owner : GEDSB - ELGIN AVENUE PUBLIC SCHOOL
Consultant : Salter Pilon Architecture

Plan Date : August 22, 2024
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Area : 3,004 m2

ELEMENTAL COST SUMMARY

Renovation

ELEMENT	Ratio to GFA	Element Cost Quantity	Element Cost Unit Rate	Element Amount Sub-total	Element Amount Total	Rate per m2 of GFA Sub-total	Rate per m2 of GFA Total	
A SHELL		3,004 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations	0.000	0 m2	0.00	0		0.00		
A12 Basement Excavation	0.000	0 m3	0.00	0		0.00		
A13 Special Conditions	0.000	0 m2	0.00	0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction	0.000	0 m2	0.00	0		0.00		
A22 Upper Floor Construction	0.000	0 m2	0.00	0		0.00		
A23 Roof Construction	0.000	0 m2	0.00	0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade	0.000	0 m2	0.00	0		0.00		
A32 Walls Above Grade	0.000	0 m2	0.00	0		0.00		
A33 Entrances	0.000	0 m2	0.00	0		0.00		
A34 Roof Covering	0.000	0 m2	0.00	0		0.00		
A35 Projections	0.000	0 Sum	0.00	0		0.00		
B INTERIORS		3,004 m2			940,130		312.96	17.4
B1 PARTITIONS & DOORS					162,330		54.04	3.0
B11 Partitions	0.023	68 m2	229.71	15,620		5.20		
B12 Doors	0.014	41 Sum	3,578.29	146,710		48.84		
B2 FINISHES					377,840		125.78	7.0
B21 Floor Finishes	0.619	1,859 m2	88.80	165,070		54.95		
B22 Ceiling Finishes	0.559	1,679 m2	95.85	160,930		53.57		
B23 Wall Finishes	0.663	1,992 m2	26.02	51,840		17.26		
B3 FITTINGS & EQUIPMENT					399,960		133.14	7.4
B31 Fittings & Fixtures	1.000	3,004 m2	107.18	321,960		107.18		
B32 Equipment	0.000	0 m2	0.00	0		0.00		
B33 Elevators	0.001	2 No.	39,000.00	78,000		25.97		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		3,004 m2			2,959,400		985.15	54.6
C1 MECHANICAL					2,122,870		706.68	39.2
C11 Plumbing & Drainage	1.000	3,004 m2	77.94	234,140		77.94		
C12 Fire Protection	1.000	3,004 m2	40.74	122,380		40.74		
C13 HVAC	1.000	3,004 m2	507.44	1,524,350		507.44		
C14 Controls	1.000	3,004 m2	80.56	242,000		80.56		
C2 ELECTRICAL					836,530		278.47	15.4
C21 Service & Distribution	1.000	3,004 m2	44.43	133,460		44.43		
C22 Lighting,Devices & Heating	1.000	3,004 m2	137.43	412,850		137.43		
C23 Systems & Ancillaries	1.000	3,004 m2	96.61	290,220		96.61		
NET BUILDING COST - EXCLUDING SITE					**3,899,530**		**1,298.11**	**72.0**
D SITE & ANCILLARY WORK					881,140		293.32	16.3
D1 SITE WORK					0		0.00	0.0
D11 Site Development	0.000	0 Sum	0	0		0.00		
D12 Mechanical Site Services	0.000	0 Sum	0	0		0.00		
D13 Electrical Site Services	0.000	0 Sum	0	0		0.00		
D2 ANCILLARY WORK					881,140		293.32	16.3
D21 Demolition	1.000	3,004 m2	79.27	238,140		79.27		
D22 Alterations	1.000	3,004 m2	214.05	643,000		214.05		
NET BUILDING COST - INCLUDING SITE					**4,780,670**		**1,591.43**	**88.3**
Z GENERAL REQ'S & ALLOWANCES					906,700		301.83	11.7
Z1 GENERAL REQUIREMENTS & FEE					635,900		211.68	11.7
Z11 General Requirements	10.0%			478,100		159.15		
Z12 Fee	3.0%			157,800		52.53		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					**5,416,570**		**1,803.12**	**100.0**
Z2 ALLOWANCES					270,800		90.15	
Z21 Design Allowance	5.0%			270,800		90.15		
Z22 Escalation Allowance	0.0%	see summary		0		0.00		
Z23 Construction Allowance	0.0%	see summary		0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					**5,687,370**		**1,893.27**	
Harmonized Sales Tax (HST)	0.0%	see summary			0		0.00	
TOTAL CONSTRUCTION ESTIMATE					**5,687,370**		**1,893.27**	

Renovation

B1 PARTITIONS & DOORS	Quantity	Unit rate	Amount
B11 Partitions			
1 Concrete block partitions	68 m2	217.94	14,820
- 90mm concrete block partition (P1)	26 m2	162.00	4,210
- 190mm concrete block partition (P3)	42 m2	196.00	8,230
- Extra/over for reinforcing, allow	68 m2	35.00	2,380
2 Allowance for lintels firestopping, sealants & caulking	1 Sum	800.00	800
- Lintels, firestopping, sealants & caulking	1 Sum	800.00	800
B11 Partitions TOTAL : $	**68 m2**	**229.71**	**15,620**

Hanscomb
QUANTITY SURVEYORS

Renovation

B1 PARTITIONS & DOORS	Quantity	Unit rate	Amount
B12 Doors			
1 Hollow metal door c/w hollow metal frame, hardware and paint finish	1 Lvs	3,000.00	3,000
- 950mm x 2150mm	1 Lvs	3,000.00	3,000
2 Solid core wood door c/w hollow metal frame, hardware and stain finish	1 Lvs	3,200.00	3,200
- 950mm x 2150mm	1 Lvs	3,200.00	3,200
3 New solid core wood door c/w hardware and stain finish to existing door frame to be painted	39 Lvs	2,900.00	113,100
- 815mm x 2150mm	4 Lvs	2,900.00	11,600
- 915mm x 2150mm	35 Lvs	2,900.00	101,500
4 Extra/over for fire rated	1 Sum	12,000.00	12,000
- Fire rated doors & frames	1 Sum	12,000.00	12,000
5 Extra/over for inset glazing	1 Sum	10,400.00	10,400
- Half glazed	40 No.	260.00	10,400
6 Allowance for door hardware upgrades	1 Sum	3,300.00	3,300
- Automatic door operator	1 No.	3,300.00	3,300
7 Paint existing doors	1 Sum	1,710.00	1,710
- Paint existing doors	19 Lvs	90.00	1,710
B12 Doors TOTAL : $	**41 Sum**	**3,578.29**	**146,710**

Renovation

B2 FINISHES		Quantity		Unit rate	Amount
B21 Floor Finishes					
1 Ceramic tile flooring		31	m2	168.06	5,210
- Ceramic tile		31	m2	125.00	3,880
- Ceramic tile base		38	m	35.00	1,330
2 Luxury vinyl tile		1,827	m2	86.08	157,260
- Luxury vinyl tile		1,827	m2	80.00	146,160
- Rubber base		854	m	13.00	11,100
3 Sealer to concrete		1	m2	100.00	100
- Sealer to concrete		1	m2	30.00	30
- Rubber base		5	m	13.00	70
4 Allowance for specialty finishes / patterns		1	Sum	2,500.00	2,500
- Allowance for specialty finishes		1	Sum	2,500.00	2,500
B21 Floor Finishes	**TOTAL : $**	**1,859**	**m2**	**88.80**	**165,070**
B22 Ceiling Finishes					
1 Suspended acoustical ceiling tile c/w t-bar grid system		1,679	m2	82.00	137,680
- Suspended acoustic ceiling tiles		1,679	m2	82.00	137,680
2 Suspended gypsum board bulkheads c/w metal framing system & paint finish		111	m2	170.00	18,870
- Suspended gypsum board bulkheads		111	m2	170.00	18,870
3 Exposed paint finish		137	m2	31.97	4,380
- Paint to ceiling		137	m2	32.00	4,380
B22 Ceiling Finishes	**TOTAL : $**	**1,679**	**m2**	**95.85**	**160,930**

Renovation

B2 FINISHES		Quantity		Unit rate	Amount
B23 Wall Finishes					
1 Paint to walls		1,992	m2	20.00	39,840
- Paint		1,992	m2	20.00	39,840
2 Allowance for specialty finishes		1	Sum	12,000.00	12,000
- Allowance for specialty finishes		1	Sum	12,000.00	12,000
B23 Wall Finishes	**TOTAL : $**	**1,992**	**m2**	**26.02**	**51,840**

Renovation

B3 FITTINGS & EQUIPMENT	Quantity		Unit rate	Amount
B31 Fittings & Fixtures				
1 Millwork	3,004	m2	75.88	227,930
- Base cabinet with plam countertop	77	m	1,080.00	83,160
- Island cabinet with plam countertop	2	m	2,100.00	4,200
- Open lower shelves	72	m	500.00	36,000
- Upper cabinet	76	m	450.00	34,200
- Full height cabinet	46	m	970.00	44,620
- Full height open shelving	5	m	722.00	3,610
- Bench at changeroom	20	m	390.00	7,800
- Lower cabinet with upper mailbox slots	3	m	1,580.00	4,740
- Two tier reception millwork	5	m	1,920.00	9,600
2 Specialties	3,004	m2	26.30	79,010
- Washroom - 2pc staff	2	No.	1,460.00	2,920
- Hand dryer to washrooms	10	No.	650.00	6,500
- Mirror to washrooms	10	No.	350.00	3,500
- Metal railing, 1100mm ht (gym)	20	m	377.00	7,540
- Tackboard, 3660mm x 1220mm	21	No.	950.00	19,950
- Whiteboard, 4880mm x 1220mm	20	No.	1,800.00	36,000
- Remove and reinstall toilet partitions	8	No.	250.00	2,000
- Reinstall existing lockers	6	No.	100.00	600
3 Second floor locker replacement	1	Sum	0.00	0
- Removal of existing lockers, allow				
- New coat rack and bench	51	m		
- All of the above (see summary sheet Separate price)		Nil		
4 Rough carpentry & miscellaneous metals	3,004	m2	5.00	15,020
- Allowance for caulking and sealing, rough carpentry and miscellaneous metals	3,004	m2	5.00	15,020
5 Systems furniture	1	Sum	0.00	0
- Systems furniture, chairs, desks, tables, loose furniture (EXCLUDED)		Nil		

Renovation

B3 FITTINGS & EQUIPMENT		Quantity		Unit rate	Amount
B31 Fittings & Fixtures (Continued)					
6 Interior signage		1	Sum	0.00	0
- Allowance for interior signage (existing to remain)		Nil			
7 Window coverings		1	Sum	0.00	0
- Window coverings (existing to remain)		Nil			
B31 Fittings & Fixtures	**TOTAL : $**	**3,004**	**m2**	**107.18**	**321,960**
B33 Elevators					
1 New lift		2	No.	39,000.00	78,000
- New lift at gym (L0 to L1)		1	No.	40,000.00	40,000
- New lift near library (L0 to L0.5)		1	No.	38,000.00	38,000
B33 Elevators	**TOTAL : $**	**2**	**No.**	**39,000.00**	**78,000**

Renovation

C1 MECHANICAL	Quantity		Unit rate	Amount
C11 Plumbing & Drainage				
1 Fixtures	3,004	m2	12.48	37,500
- Water closet WC-3	10	No.	1,000.00	10,000
- Water closet WC-4	4	No.	1,100.00	4,400
- Lavatory LA1	6	No.	1,000.00	6,000
- Sink - single	3	No.	900.00	2,700
- Sink SS-1	1	No.	1,000.00	1,000
- Urinal UR-1	8	No.	1,500.00	12,000
- Eye wash EW-1	1	No.	1,400.00	1,400
2 Domestic water	3,004	m2	42.75	128,430
- New service / BFP / meter bypass 100mm	1	No.	12,500.00	12,500
- Domestic heater 521/522	2	No.	17,500.00	35,000
- Recirculation pump	1	No.	4,500.00	4,500
- Expansion tank ET2	1	No.	5,500.00	5,500
- Domestic water pipe - 100mm	25	m	195.00	4,880
- Domestic water pipe - 75/65mm	65	m	155.00	10,080
- Domestic water pipe - 50/40mm	75	m	135.00	10,130
- Domestic water pipe - 30/25mm	95	m	115.00	10,930
- Domestic water pipe - 20/15mm	125	m	85.00	10,630
- Thermal pipe insulation	385	m	30.00	11,550
- Fixture connection	33	No.	350.00	11,550
- Trap seal primer	4	No.	295.00	1,180
3 Sanitary waste and vents	3,004	m2	17.31	52,000
- Sanitary drain & vents 100/75mm - below grade	35	m	175.00	6,130
- Sanitary drain & vents 100/75mm - above grade	55	m	175.00	9,630
- Sanitary drain & vents 50/38mm - above grade	95	m	125.00	11,880
- Condensate drain	20	m	115.00	2,300
- Fixture connection	33	No.	350.00	11,550
- Floor drain	4	No.	185.00	740
- Excavation and backfill	35	No.	40.00	1,400
- Scan, concrete cut and patch	35	No.	225.00	7,880
- Vent flashing through roof	2	No.	245.00	490

Renovation

C1 MECHANICAL		Quantity		Unit rate	Amount
C11 Plumbing & Drainage (Continued)					
4 Storm drain		3,004	m2	2.65	7,960
- Storm drain 150/200mm - below grade		10	m	175.00	1,750
- Storm drain 150/100mm - above grade		15	m	185.00	2,780
- Thermal pipe insulation		1	Sum	75.00	80
- Connect to existing		1	No.	750.00	750
- Excavation and backfill		10	m	35.00	350
- Scan, concrete cut and patch		10	m	225.00	2,250
5 Natural gas pipe		3,004	m2	2.75	8,250
- Natural gas pipe		1	Sum	5,000.00	5,000
- Connect to existing		1	No.	1,000.00	1,000
- Boiler connection		3	No.	750.00	2,250
C11 Plumbing & Drainage	**TOTAL : $**	**3,004**	**m2**	**77.94**	**234,140**
C12 Fire Protection					
1 Sprinklers		3,004	m2	40.74	122,380
- New service / BFP		1	Sum	19,500.00	19,500
- Sprinkler header / siamese		1	Sum	7,500.00	7,500
- Connect to addition		1	Sum	1,500.00	1,500
- Alarm zone		3	No.	1,500.00	4,500
- Sprinkler head		325	No.	275.00	89,380
C12 Fire Protection	**TOTAL : $**	**3,004**	**m2**	**40.74**	**122,380**

Renovation

C1 MECHANICAL	Quantity		Unit rate	Amount
C13 HVAC				
1 Liquid transfer - heating	3,004	m2	243.03	730,060
- Boiler BLR 501 A/B/C	3	No.	125,000.00	375,000
- Boiler venting / combustion duct	3	No.	10,000.00	30,000
- Boiler circ 301 A/B/C	3	No.	7,500.00	22,500
- Circulation pump 302 A/B	2	No.	8,500.00	17,000
- VFD	2	No.	3,000.00	6,000
- Chemical feeder	1	No.	4,000.00	4,000
- Expansion tank ET 1	1	No.	5,500.00	5,500
- Air separator	1	No.	7,500.00	7,500
- VFD	2	No.	3,000.00	6,000
- Heating water piping - 100mm	185	m	215.00	39,780
- Heating water piping - 75/65mm	55	m	175.00	9,630
- Heating water piping - 50/40mm	245	m	145.00	35,530
- Heating water piping - 35/32mm	255	m	125.00	31,880
- Heating water piping - 25/20mm	275	m	85.00	23,380
- Thermal pipe insulation	1,015	m	35.00	35,530
- Unit ventilator connection	21	No.	1,500.00	31,500
- Re-heat coil	2	No.	1,000.00	2,000
- Re-heat coil connection	2	No.	1,200.00	2,400
- Radiation	75	No.	175.00	13,130
- Radiation connection	13	No.	1,200.00	15,600
- Unit heater	3	No.	1,800.00	5,400
- Force flow heater	3	No.	1,600.00	4,800
- Force flow / unit heater connection	6	No.	1,000.00	6,000
2 Air distribution equipment	3,004	m2	91.05	273,500
- Unit ventilator UV 401	21	No.	10,500.00	220,500
- Office /staff VRF system - 4 ton	1	Sum	40,000.00	40,000
- ERV-2	1	No.	5,000.00	5,000
- ERV-3	1	No.	5,000.00	5,000
- Electric re-heat coil	1	No.	2,000.00	2,000
- Range hood RH-1	1	No.	1,000.00	1,000

Renovation

C1 MECHANICAL	Quantity		Unit rate	Amount
C13 HVAC (Continued)				
3 Air distribution ductwork	3,004	m2	102.29	307,290
- Galvanized ductwork	5,850	kg	35.00	204,750
- Thermal insulation	2,000	m2	35.00	70,000
- Supply SA 3	2	No.	245.00	490
- Supply SD 10	84	No.	235.00	19,740
- Supply SG 1	3	No.	155.00	470
- Supply SL 2	2	No.	275.00	550
- Return RG 2	38	No.	175.00	6,650
- Return RG 3/4	5	No.	165.00	830
- Exhaust EG	9	No.	145.00	1,310
- Louvre	2	No.	750.00	1,500
- Wall box	4	No.	250.00	1,000
4 Miscellaneous	3,004	m2	9.49	28,500
- Tag and label	1	Sum	1,000.00	1,000
- Cutting and patching	1	Sum	20,000.00	20,000
- Fire stopping	1	Sum	7,500.00	7,500
5 Balancing & commissioning	3,004	m2	28.30	85,000
- Air balancing	1	Sum	35,000.00	35,000
- Water balancing	1	Sum	40,000.00	40,000
- Commissioning	1	Sum	10,000.00	10,000
6 Demolition	3,004	m2	33.29	100,000
- Remove plant / radiation / pipe	1	Sum	45,000.00	45,000
- Remove ductwork / fans	1	Sum	55,000.00	55,000
C13 HVAC **TOTAL : $**	**3,004**	**m2**	**507.44**	**1,524,350**

Renovation

C1 MECHANICAL	Quantity		Unit rate	Amount
C14 Controls				
1 Controls	3,004	m2	80.56	242,000
- Unit htr / FFH	6	No.	1,000.00	6,000
- Radiation CV	13	No.	1,000.00	13,000
- Re-heat coil	3	No.	1,500.00	4,500
- Unit ventilator	21	No.	2,000.00	42,000
- VRF system	1	No.	7,500.00	7,500
- Boiler plant	1	No.	30,000.00	30,000
- ERV	2	No.	5,000.00	10,000
- Pump VFD	2	No.	2,000.00	4,000
- BAS / head end, programing	1	Sum	125,000.00	125,000
C14 Controls TOTAL : $	**3,004**	**m2**	**80.56**	**242,000**

Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C21 Service & Distribution				
1 Service & Distribution	3,004	m2	44.43	133,460
- 600A 600V 3ph 3W splitter	1	No.	1,700.00	1,700
- 600V-277/480V transformer, allow	1	No.	15,000.00	15,000
- 250A 120/208V 3ph 4W panel '1MA' & '2MA'	2	No.	9,000.00	18,000
- 150A 120/208V 3ph 4W panel '2A'	1	No.	7,200.00	7,200
-100A 120/208V 3ph 4W panel '0A', '0A2', '0B', '0MA' & '1A'	5	No.	6,500.00	32,500
- Remove & re-install disconnect switch	2	No.	750.00	1,500
- Allow for feeders to suit	3,004	m2	15.00	45,060
- Grounding system c/w ground bus, conduit etc.	1	Sum	2,500.00	2,500
- Miscellaneous items including as-builts, commissioning etc.	1	Sum	10,000.00	10,000
C21 Service & Distribution TOTAL : $	**3,004**	**m2**	**44.43**	**133,460**

Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C22 Lighting, Devices & Heating				
1 Lighting supply, install & wiring	3,004	m2	62.85	188,810
- Type A1 - 2'x4' LED flat panel	261	No.	420.00	109,620
- Type B1 - 1'x4' LED flat panel	1	No.	380.00	380
- Type D1 - 4' LED strip	7	No.	390.00	2,730
- Type F1 - 6" LED downlight	2	No.	500.00	1,000
- Remove & re-install fixture	60	No.	250.00	15,000
- Branch wiring - main runs	3,004	m2	20.00	60,080
2 Exit & emergency lighting	3,004	m2	9.03	27,130
- Exit sign	22	No.	400.00	8,800
- Dual remote emergency head	45	No.	250.00	11,250
- Battery unit	4	No.	500.00	2,000
- Battery unit c/w dual remote emergency head	6	No.	700.00	4,200
- Single remote emergency head	5	No.	175.00	880
3 Lighting control	3,004	m2	20.03	60,170
- Single pole switch	1	No.	185.00	190
- 2-button LV switch	63	No.	250.00	15,750
- Occupancy sensor - ceiling	47	No.	285.00	13,400
- Room controller - RC1a	2	No.	400.00	800
- Room controller - RC3	21	No.	500.00	10,500
- Lighting management c/w conduit, wiring & testing	3,004	m2	6.50	19,530
4 Power outlets, devices & connections	3,004	m2	34.06	102,320
- 15/20A duplex receptacle	119	No.	195.00	23,210
- 15/20A duplex receptacle - in classroom module	19	No.	195.00	3,710
- 15/20A duplex receptacle - GFCI	24	No.	205.00	4,920
- 15/20A quad receptacle	3	No.	290.00	870
- Direct connection	2	No.	265.00	530
- Range receptacle	2	No.	450.00	900
- Hand dryer connection	10	No.	350.00	3,500
- Range hood connection	2	No.	550.00	1,100
- Remove & re-install receptacle	14	No.	250.00	3,500
- Branch wiring - main runs	3,004	m2	20.00	60,080

Renovation

C2 ELECTRICAL		Quantity		Unit rate	Amount
C22 Lighting, Devices & Heating (Continued)					
5 Mechanical motor connections		3,004	Sum	11.46	34,420
- Chair lift connection		1	No.	1,000.00	1,000
- Plumbing connection		3	No.	265.00	800
- Unit heater		2	No.	800.00	1,600
- Unit ventilator		20	No.	800.00	16,000
- Allow for misc. mechanical connections		3,004	m2	5.00	15,020
C22 Lighting, Devices & Heating	**TOTAL : $**	**3,004**	**m2**	**137.43**	**412,850**

Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C23 Systems & Ancillaries				
1 Fire alarm system	3,004	m2	34.27	102,950
- Heat detector - fixed	3	No.	365.00	1,100
- Heat detector - rate of rise	11	No.	385.00	4,240
- Heat detector - rate of rise, WG	5	No.	400.00	2,000
- Horn	21	No.	315.00	6,620
- Horn/strobe	17	No.	365.00	6,210
- Horn/strobe - WG	1	No.	365.00	370
- Pull station c/w STI stopper cover	8	No.	375.00	3,000
- Smoke detector	27	No.	365.00	9,860
- Smoke detector - relay base	8	No.	450.00	3,600
- Strobe	8	No.	315.00	2,520
- Allow for various modules, EOL's etc.	3,004	m2	3.00	9,010
- Conduit & wiring	3,004	m2	15.00	45,060
- Testing & verification	72	Hrs	130.00	9,360
2 Communications empty conduit system	3,004	m2	6.85	20,580
- Data outlet - 1D	4	No.	185.00	740
- Data outlet - 2D	3	No.	185.00	560
- Wifi drop	4	No.	185.00	740
- Wifi drop - in classroom module	19	No.	185.00	3,520
- Cable tray - assume existing to be re-used		Nil		
- Allow for zone conduit, sleeving & firestopping	3,004	m2	5.00	15,020
3 Communications cabling system	3,004	m2	9.29	27,900
- Horizontal data drops c/w terminations	56	No.	275.00	15,400
- Wire management c/w cable testing	1	Sum	12,500.00	12,500
4 Security access control system	3,004	m2	2.26	6,800
- Motion detector	8	No.	350.00	2,800
- Remove & re-install camera	1	No.	250.00	250
- Remove & re-install motion detector	1	No.	250.00	250
- Conduit & wiring	8	No.	250.00	2,000
- Testing & integration	1	Sum	1,500.00	1,500

Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C23 Systems & Ancillaries (Continued)				
5 Intercom / paging system	3,004	m2	7.34	22,040
- Paging speaker	4	No.	315.00	1,260
- Remove & re-install paging speaker	2	No.	250.00	500
- Intercom speaker & call switch	3	No.	375.00	1,130
- Intercom speaker & call switch in classroom module	19	No.	375.00	7,130
- Conduit, wiring & testing	3,004	m2	4.00	12,020
6 Clock system	3,004	m2	4.21	12,650
- Digital clock c/w calendar display	4	No.	550.00	2,200
- Digital clock c/w calendar display - in classroom module	19	No.	550.00	10,450
7 Audio/Visual system	3,004	m2	5.86	17,610
- Projector outlet rough-in	10	No.	250.00	2,500
- Smart outlet rough-in	19	No.	250.00	4,750
- Relocate projector outlet	9	No.	250.00	2,250
- Relocate sib system speaker	2	No.	300.00	600
- Allow for additional AV rough-ins to suit	3,004	m2	2.50	7,510
- Devices, wiring & testing - by others		Nil		
8 Classroom modular panel	3,004	m2	8.85	26,600
- Classroom module	19	No.	1,400.00	26,600

Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C23 Systems & Ancillaries (Continued)				
9 Demolition	3,004	m2	17.67	53,090
- AV	11	No.	40.00	440
- Clock	6	No.	40.00	240
- Communication	31	No.	40.00	1,240
- Disconnect	13	No.	75.00	980
- Distribution panel	2	No.	500.00	1,000
- Exit sign	27	No.	40.00	1,080
- Fire alarm	44	No.	40.00	1,760
- FACP	1	No.	150.00	150
- Lighting	501	No.	40.00	20,040
- Lighting control	92	No.	40.00	3,680
- Metering cabinet	1	No.	50.00	50
- Paging	11	No.	40.00	440
- Panel	17	No.	200.00	3,400
- Power	55	No.	40.00	2,200
- Security	3	No.	40.00	120
- Splitter	5	No.	100.00	500
- Starters	3	No.	50.00	150
- Transformer	3	No.	200.00	600
- Allow for miscellaneous demolition	3,004	m2	5.00	15,020
C23 Systems & Ancillaries TOTAL : $	**3,004**	**m2**	**96.61**	**290,220**

Renovation

D2 ANCILLARY WORK	Quantity		Unit rate	Amount
D21 Demolition				
1 Remove stairwell	1	Sum	30,000.00	30,000
- Remove 2 storey stairwell c/w foundations, 26m2 footprint	1	Sum	30,000.00	30,000
2 Removals	1	Sum	171,280.00	171,280
- Framed partitions	205	m2	45.00	9,230
- Folding partitions	15	m2	43.00	650
- Floor finishes	1,859	m2	35.00	65,070
- Ceiling finishes	1,790	m2	30.00	53,700
- Door, frame to remain	39	No.	80.00	3,120
- Door and frame	23	No.	110.00	2,530
- Millwork	253	m	75.00	18,980
- Wall mounted accessories & specialties	1	Sum	10,000.00	10,000
- Stairs	1	No.	3,000.00	3,000
- Miscellaneous removals and alterations	1	Sum	5,000.00	5,000
3 Remove and replace existing suspended ACT	1	Sum	33,110.00	33,110
- R&R suspended acoustic ceiling tile	481	m2	60.00	28,860
- Allow to replace existing tiles, allow 15%	72	m2	59.00	4,250
4 Carefully remove and turn over to owner	1	Sum	3,750.00	3,750
- Smart boards	15	No.	250.00	3,750
5 Remove and replace wall accessories for painting	1	Sum	0.00	0
- Remove and replace wall accessories for painting (excluded)		Nil		
D21 Demolition TOTAL : $	**3,004**	**m2**	**79.27**	**238,140**

Renovation

D2 ANCILLARY WORK	Quantity		Unit rate	Amount
D22 Alterations				
1 Alterations	1	Sum	633,000.00	633,000
- Allowance for hazardous material abatement	3,004	m2	150.00	450,600
- Grind and prep existing floor	1,859	m2	11.00	20,450
- Allowance to make good areas affected by renovations / cut and patch for M&E	1	Sum	50,000.00	50,000
- Alterations for new lifts at gym and library	1	Sum	40,000.00	40,000
- Break thru existing exterior curtain wall and install new louvers (19#)	26	m2	1,152.00	29,950
- Remove existing louvers and patch and make good (44#)	1	Sum	22,000.00	22,000
- Allowance for repairs to existing precast sills	1	Sum	20,000.00	20,000
2 Remove and replace exterior glazing	1	Sum	0.00	0
- Exterior glazing & frame including removal of existing (see summary sheet Separate price)	546	m2		
3 Allowance for dust / infection control measures	1	Sum	10,000.00	10,000
- Dust / infection control measures	1	Sum	10,000.00	10,000
D22 Alterations TOTAL : $	**3,004**	**m2**	**214.05**	**643,000**

Appendix C
Site Development

Project	:	GEDSB - ELGIN AVENUE PUBLIC SCHOOL ADDITION & RENOVATIONS				Plan Date	:	August 22, 2024
Location	:	SIMCOE, ONTARIO	**ELEMENTAL COST SUMMARY**			Page	:	C-1
Owner	:	GEDSB - ELGIN AVENUE PUBLIC SCHOOL	**Site Development**					
Consultant	:	Salter Pilon Architecture				Area	:	3,179 m2

ELEMENT	Ratio to GFA	Element Cost Quantity	Element Cost Unit Rate	Element Amount Sub-total	Element Amount Total	Rate per m2 of GFA Sub-total	Rate per m2 of GFA Total	
A SHELL		3,179 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations	0.000	0 m2	0.00	0		0.00		
A12 Basement Excavation	0.000	0 m3	0.00	0		0.00		
A13 Special Conditions	0.000	0 m2	0.00	0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction	0.000	0 m2	0.00	0		0.00		
A22 Upper Floor Construction	0.000	0 m2	0.00	0		0.00		
A23 Roof Construction	0.000	0 m2	0.00	0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade	0.000	0 m2	0.00	0		0.00		
A32 Walls Above Grade	0.000	0 m2	0.00	0		0.00		
A33 Entrances	0.000	0 No.	0.00	0		0.00		
A34 Roof Covering	0.000	0 m2	0.00	0		0.00		
A35 Projections	0.000	0 Sum	0.00	0		0.00		
B INTERIORS		3,179 m2			0		0.00	0.0
B1 PARTITIONS & DOORS					0		0.00	0.0
B11 Partitions	0.000	0 m2	0.00	0		0.00		
B12 Doors	0.000	0 No.	0.00	0		0.00		
B2 FINISHES					0		0.00	0.0
B21 Floor Finishes	1.000	3,179 m2	0.00	0		0.00		
B22 Ceiling Finishes	1.000	3,179 m2	0.00	0		0.00		
B23 Wall Finishes	1.000	3,179 m2	0.00	0		0.00		
B3 FITTINGS & EQUIPMENT					0		0.00	0.0
B31 Fittings & Fixtures	1.000	3,179 m2	0.00	0		0.00		
B32 Equipment	1.000	3,179 m2	0.00	0		0.00		
B33 Elevators	0.000	0 No.	0.00	0		0.00		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		3,179 m2			0		0.00	0.0
C1 MECHANICAL					0		0.00	0.0
C11 Plumbing & Drainage	1.000	3,179 m2	0.00	0		0.00		
C12 Fire Protection	1.000	3,179 m2	0.00	0		0.00		
C13 HVAC	1.000	3,179 m2	0.00	0		0.00		
C14 Controls	1.000	3,179 m2	0.00	0		0.00		
C2 ELECTRICAL					0		0.00	0.0
C21 Service & Distribution	1.000	3,179 m2	0.00	0		0.00		
C22 Lighting,Devices & Heating	1.000	3,179 m2	0.00	0		0.00		
C23 Systems & Ancillaries	1.000	3,179 m2	0.00	0		0.00		
NET BUILDING COST - EXCLUDING SITE					**0**		**0.00**	**0.0**
D SITE & ANCILLARY WORK					1,639,820		515.83	88.3
D1 SITE WORK					1,639,820		515.83	88.3
D11 Site Development	0.000	1 Sum	1,228,880	1,228,880		386.56		
D12 Mechanical Site Services	0.000	1 Sum	265,060	265,060		83.38		
D13 Electrical Site Services	0.000	1 Sum	145,880	145,880		45.89		
D2 ANCILLARY WORK					0		0.00	0.0
D21 Demolition	1.000	3,179 m2	0.00	0		0.00		
D22 Alterations	1.000	3,179 m2	0.00	0		0.00		
NET BUILDING COST - INCLUDING SITE					**1,639,820**		**515.83**	**88.3**
Z GENERAL REQ'S & ALLOWANCES					311,000		97.83	11.7
Z1 GENERAL REQUIREMENTS & FEE					218,100		68.61	11.7
Z11 General Requirements	10.0%			164,000		51.59		
Z12 Fee	3.0%			54,100		17.02		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					**1,857,920**		**584.44**	**100.0**
Z2 ALLOWANCES					92,900		29.22	
Z21 Design Allowance	5.0%			92,900		29.22		
Z22 Escalation Allowance	0.0%	see summary		0		0.00		
Z23 Construction Allowance	0.0%	see summary		0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					**1,950,820**		**613.66**	
Harmonized Sales Tax (HST)	0.0%	see summary			0		0.00	
TOTAL CONSTRUCTION ESTIMATE					**1,950,820**		**613.66**	

Site Development

D1 SITE WORK	Quantity		Unit rate	Amount
D11 Site Development				
1 Site removals	1	Sum	98,920.00	98,920
- Asphalt paving	2,630	m2	22.00	57,860
- Concrete paving	189	m2	32.00	6,050
- Extra/over for steps and guardrails	1	Sum	3,000.00	3,000
- Retaining wall, 9m	1	Sum	2,000.00	2,000
- Concrete curb	22	m	18.00	400
- Fencing, 108m	1	Sum	1,800.00	1,800
- Sod	5,003	m2	3.00	15,010
- Trees and bushes	1	Sum	10,000.00	10,000
- Signage, guardrails & parking bumpers	1	Sum	800.00	800
- Allowance for misc. site demolitions	1	Sum	2,000.00	2,000
2 Erosion & sediment control	1	Sum	12,000.00	12,000
- Allowance for erosion & sediment control incl mud mat	1	Sum	12,000.00	12,000
3 Tree protection	1	Sum	1,200.00	1,200
- Allowance for tree protection	1	Sum	1,200.00	1,200
4 Earthwork	1	Sum	30,000.00	30,000
- Allowance for earthwork	1	Sum	30,000.00	30,000
5 Asphalt paving	4,654	m2	89.33	415,750
- Asphalt paving - medium duty	1,423	m2	85.00	120,960
- Asphalt paving - fire route	2,526	m2	98.00	247,550
- Asphalt paving - light duty	705	m2	67.00	47,240
6 Concrete paving	761	m2	114.18	86,890
- Concrete paving	761	m2	107.00	81,430
- Extra/over for frost slab	45	m2	88.00	3,960
- Extra/over for tactile plates, allow	1	Sum	1,500.00	1,500
7 Concrete curbs	427	m	81.99	35,010
- Concrete curbs	427	m	82.00	35,010

Site Development

D1 SITE WORK	Quantity		Unit rate	Amount
D11 Site Development (Continued)				
8 Stairs	1	Sum	7,580.00	7,580
- Handrails to stair area	21	m	361.00	7,580
9 Line painting	1	Sum	1,600.00	1,600
- Allowance for linepainting	1	Sum	1,600.00	1,600
10 Fencing	171	m	135.61	23,190
- 1.2m black vinyl chain link fence to play areas	171	m	89.00	15,220
- Extra/over for single gates	3	No.	350.00	1,050
- Extra/over for double gates	2	No.	700.00	1,400
- 1.8m wood fence	30	m	184.00	5,520
11 Retaining walls	1	Sum	256,640.00	256,640
- PIP retaining wall beside walkway	23	m	3,176.00	73,050
- 1.2m ht sienna stone retaining wall with guard at garbage area	15	m	2,231.00	33,470
- 2.0m to 2.6m ht sienna stone retaining wall with guard at parking lot	52	m	2,887.00	150,120
- 1.9m PIP concrete retaining wall c/w railings at stairs (incl in Addn.)		Nil		
12 Site signage	1	Sum	6,500.00	6,500
- Parking lot signs	13	No.	500.00	6,500
- Monumental building signage (Nil)		Nil		
13 Sod and topsoil	3,144	Sum	18.00	56,590
- Sod and topsoil	3,144	m2	18.00	56,590
14 Curbs at planting areas	1	Sum	5,000.00	5,000
- 150mm PIP concrete curbs	51	m	98.00	5,000
15 Plantings	1	Sum	35,800.00	35,800
- Trees	32	No.	650.00	20,800
- Planting beds & plantings, 64m2	1	Sum	15,000.00	15,000

Site Development

D1 SITE WORK	Quantity		Unit rate	Amount
D11 Site Development (Continued)				
16 Bollards	1	Sum	10,000.00	10,000
- Concrete filled steel bollard c/w paint finish, allow	4	No.	2,500.00	10,000
17 Garbage enclosure	1	Sum	3,440.00	3,440
- Garbage enclosure (Nil)		Nil		
- Concrete pad for garbage area	20	m2	172.00	3,440
18 Site furnishings	1	Sum	5,850.00	5,850
- Bench, 1.8m	1	No.	3,600.00	3,600
- Bike racks	5	No.	450.00	2,250
19 Gas meter enclosure	1	Sum	1,700.00	1,700
- Gas meter fenced enclosure	1	Sum	1,700.00	1,700
20 Play area	1	Sum	127,720.00	127,720
- Artificial turf areas	253	m2	134.00	33,900
- Sand play area, 450mm depth	62	m2	68.00	4,220
- Sand box curbs, 400mm PIP concrete curb	48	m	213.00	10,220
- Wood fibre surfacing	110	m2	57.00	6,270
- Play curbs, 400mm PIP concrete curb	57	m	213.00	12,140
- 12" dia. softwood fallen logs	3	No.	790.00	2,370
- Log clusters	2	No.	1,500.00	3,000
- Umbrella shades	5	No.	4,500.00	22,500
- Concrete pads for storage sheds at play area (3#)	18	m2	172.00	3,100
- Storage sheds	3	No.	10,000.00	30,000
21 Patch and repair to existing surfaces affected by construction	1	Sum	7,500.00	7,500
- Patch and repair to existing, allow	1	Sum	7,500.00	7,500
D11 Site Development TOTAL : $	**1**	**Sum**	**1,228,880.00**	**1,228,880**

Site Development

D1 SITE WORK	Quantity		Unit rate	Amount
D12 Mechanical Site Services				
1 Water main	1	Sum	48,050.00	48,050
- 150mm water main	80	m	245.00	19,600
- Connect to existing with shut off valve	2	No.	7,500.00	15,000
- 150mm valve	2	No.	2,975.00	5,950
- Fire hydrant	1	No.	7,500.00	7,500
2 Sanitary drains	1	Sum	34,000.00	34,000
- 100 mm sanitary drain	100	m	225.00	22,500
- Manhole	1	No.	6,000.00	6,000
- Connect to existing	1	No.	5,500.00	5,500
3 Storm drains	1	Sum	183,010.00	183,010
- 525 mm storm drain	80	m	425.00	34,000
- 450 mm storm drain	135	m	315.00	42,530
- 375 mm storm drain	95	m	285.00	27,080
- 250 mm storm drain	20	m	245.00	4,900
- Manhole	5	No.	6,000.00	30,000
- Manhole catch basin	4	No.	6,000.00	24,000
- Catch basin	3	No.	2,000.00	6,000
- Area drain	1	No.	1,000.00	1,000
- Orifice plate	1	No.	1,500.00	1,500
- Insulate pipe	65	m	100.00	6,500
- Connect to existing	1	No.	5,500.00	5,500
D12 Mechanical Site Services TOTAL : $	**1**	**Sum**	**265,060.00**	**265,060**

Site Development

D1 SITE WORK	Quantity		Unit rate	Amount
D13 Electrical Site Services				
1 Incoming power	1	Sum	51,480.00	51,480
- Primary duct bank, allow	5	m	435.00	2,180
- Primary cabling in above duct bank - by Hydro One		Nil		
- Secondary duct bank concrete encased, 4-103mmC	30	m	435.00	13,050
- Secondary cabling in above duct bank, allow	35	m	750.00	26,250
- Hydro pole - by Hydro One		Nil		
- Padmount transformer - by Hydro One		Nil		
- Transformer pad c/w grounding	1	Sum	10,000.00	10,000
2 Site lighting	1	Sum	80,600.00	80,600
- Type W1 - exterior wall mount	16	No.	750.00	12,000
- Type X3B - single head pole mount	9	No.	2,800.00	25,200
- Type X4 - single head pole mount	8	No.	3,000.00	24,000
- Type X4 - double head pole mount	2	No.	3,800.00	7,600
- Type Y1 - LED downlight	8	No.	500.00	4,000
- Conduit & wiring	130	m	60.00	7,800
3 Demolition	1	Sum	13,800.00	13,800
- Remove camera	2	No.	150.00	300
- Remove lighting	12	No.	500.00	6,000
- Remove U/G conductors	1	Sum	2,500.00	2,500
- Allow for misc. demolition	1	Sum	5,000.00	5,000
D13 Electrical Site Services TOTAL : $	**1**	**Sum**	**145,880.00**	**145,880**

Appendix D
SP#1 - Library Renovation

Project	: GEDSB - ELGIN AVENUE PUBLIC SCHOOL ADDITION & RENOVATIONS			Plan Date	: August 22, 2024
Location	: SIMCOE, ONTARIO	**ELEMENTAL COST SUMMARY**		Page	: D-1
Owner	: GEDSB - ELGIN AVENUE PUBLIC SCHOOL	**SP#1 - Library Renovation**			
Consultant	: Salter Pilon Architecture			Area	: 313 m2

ELEMENT	Ratio to GFA	Element Cost Quantity	Element Cost Unit Rate	Element Amount Sub-total	Element Amount Total	Rate per m2 of GFA Sub-total	Rate per m2 of GFA Total	
A SHELL		313 m2			0		0.00	0.0
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations	0.000	0 m2	0.00	0		0.00		
A12 Basement Excavation	0.000	0 m3	0.00	0		0.00		
A13 Special Conditions	0.000	0 m2	0.00	0		0.00		
A2 STRUCTURE					0		0.00	0.0
A21 Lowest Floor Construction	0.000	0 m2	0.00	0		0.00		
A22 Upper Floor Construction	0.000	0 m2	0.00	0		0.00		
A23 Roof Construction	0.000	0 m2	0.00	0		0.00		
A3 EXTERIOR ENCLOSURE					0		0.00	0.0
A31 Walls Below Grade	0.000	0 m2	0.00	0		0.00		
A32 Walls Above Grade	0.000	0 m2	0.00	0		0.00		
A33 Entrances	0.000	0 m2	0.00	0		0.00		
A34 Roof Covering	0.000	0 m2	0.00	0		0.00		
A35 Projections	0.000	0 Sum	0.00	0		0.00		
B INTERIORS		313 m2			69,630		222.46	6.6
B1 PARTITIONS & DOORS					3,960		12.65	0.4
B11 Partitions	0.000	0 m2	0.00	0		0.00		
B12 Doors	0.003	1 No.	3,960.00	3,960		12.65		
B2 FINISHES					65,670		209.81	6.3
B21 Floor Finishes	0.904	283 m2	106.25	30,070		96.07		
B22 Ceiling Finishes	0.949	297 m2	82.83	24,600		78.59		
B23 Wall Finishes	1.677	525 m2	20.95	11,000		35.14		
B3 FITTINGS & EQUIPMENT					0		0.00	0.0
B31 Fittings & Fixtures	1.000	313 m2	0.00	0		0.00		
B32 Equipment	0.000	0 m2	0.00	0		0.00		
B33 Elevators	0.000	0 No.	0.00	0		0.00		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		313 m2			291,590		931.60	27.8
C1 MECHANICAL					143,270		457.73	13.7
C11 Plumbing & Drainage	1.000	313 m2	0.00	0		0.00		
C12 Fire Protection	1.000	313 m2	40.73	12,750		40.73		
C13 HVAC	1.000	313 m2	343.51	107,520		343.51		
C14 Controls	1.000	313 m2	73.48	23,000		73.48		
C2 ELECTRICAL					148,320		473.87	14.1
C21 Service & Distribution	1.000	313 m2	282.62	88,460		282.62		
C22 Lighting,Devices & Heating	1.000	313 m2	120.22	37,630		120.22		
C23 Systems & Ancillaries	1.000	313 m2	71.02	22,230		71.02		
NET BUILDING COST - EXCLUDING SITE					**361,220**		**1,154.06**	**34.4**
D SITE & ANCILLARY WORK					565,110		1,805.46	53.8
D1 SITE WORK					0		0.00	0.0
D11 Site Development	0.000	0 Sum	0	0		0.00		
D12 Mechanical Site Services	0.000	0 Sum	0	0		0.00		
D13 Electrical Site Services	0.000	0 Sum	0	0		0.00		
D2 ANCILLARY WORK					565,110		1,805.46	53.8
D21 Demolition	1.000	313 m2	81.53	25,520		81.53		
D22 Alterations	1.000	313 m2	1,723.93	539,590		1,723.93		
NET BUILDING COST - INCLUDING SITE					**926,330**		**2,959.52**	**88.3**
Z GENERAL REQ'S & ALLOWANCES					175,700		561.34	11.7
Z1 GENERAL REQUIREMENTS & FEE					123,200		393.61	11.7
Z11 General Requirements	10.0%			92,600		295.85		
Z12 Fee	3.0%			30,600		97.76		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					**1,049,530**		**3,353.13**	**100.0**
Z2 ALLOWANCES					52,500		167.73	
Z21 Design Allowance	5.0%			52,500		167.73		
Z22 Escalation Allowance	0.0%	see summary		0		0.00		
Z23 Construction Allowance	0.0%	see summary		0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					**1,102,030**		**3,520.86**	
Harmonized Sales Tax (HST)	0.0%	see summary			0		0.00	
TOTAL CONSTRUCTION ESTIMATE					**1,102,030**		**3,520.86**	

SP#1 - Library Renovation

B1 PARTITIONS & DOORS	Quantity	Unit rate	Amount
B12 Doors			
1 Hollow metal door c/w hollow metal frame, hardware and paint finish	1 Lvs	3,600.00	3,600
- 950mm x 2150mm	1 Lvs	3,000.00	3,000
- Extra/over for sidelite	1 No.	600.00	600
2 Paint existing doors and frames	1 Sum	360.00	360
- Paint existing doors and frames	3 No.	120.00	360
B12 Doors TOTAL : $	**1 No.**	**3,960.00**	**3,960**

SP#1 - Library Renovation

B2 FINISHES		Quantity		Unit rate	Amount
B21 Floor Finishes					
1 Ceramic tile flooring		41	m2	164.39	6,740
- Ceramic tile		41	m2	125.00	5,130
- Ceramic tile base		46	m	35.00	1,610
2 Luxury vinyl tile		242	m2	86.07	20,830
- Luxury vinyl tile		242	m2	80.00	19,360
- Rubber base		113	m	13.00	1,470
3 Allowance for specialty finishes / patterns		1	Sum	2,500.00	2,500
- Allowance for specialty finishes		1	Sum	2,500.00	2,500
B21 Floor Finishes	**TOTAL : $**	**283**	**m2**	**106.25**	**30,070**
B22 Ceiling Finishes					
1 Suspended acoustical ceiling tile c/w t-bar grid system		252	m2	81.98	20,660
- Suspended acoustic ceiling tiles		252	m2	82.00	20,660
2 Exposed paint finish		45	m2	32.00	1,440
- Paint to ceiling		45	m2	32.00	1,440
3 Suspended gypsum board bulkheads c/w metal framing system & paint finish		1	Sum	2,500.00	2,500
- Suspended gypsum board bulkheads, allow		1	Sum	2,500.00	2,500
B22 Ceiling Finishes	**TOTAL : $**	**297**	**m2**	**82.83**	**24,600**

SP#1 - Library Renovation

B2 FINISHES		Quantity		Unit rate	Amount
B23 Wall Finishes					
1 Paint to walls		525	m2	20.00	10,500
- Paint		525	m2	20.00	10,500
2 Allowance for specialty finishes		1	Sum	500.00	500
- Allowance for specialty finishes		1	Sum	500.00	500
B23 Wall Finishes	**TOTAL : $**	**525**	**m2**	**20.95**	**11,000**

SP#1 - Library Renovation

C1 MECHANICAL		Quantity		Unit rate	Amount
C12 Fire Protection					
1 Sprinklers		313	m2	40.73	12,750
- Connect to renovation system		1	No.	3,000.00	3,000
- Alarm zone		1	m2	1,500.00	1,500
- Sprinkler head		30	No.	275.00	8,250
C12 Fire Protection	**TOTAL : $**	**313**	**m2**	**40.73**	**12,750**

SP#1 - Library Renovation

C1 MECHANICAL	Quantity		Unit rate	Amount
C13 HVAC				
1 Liquid transfer - heating	313	m2	64.38	20,150
- Connect to existing	14	No.	125.00	1,750
- Heating water piping - 35/32mm	50	m	95.00	4,750
- Heating water piping - 25/20mm	50	m	75.00	3,750
- Thermal pipe insulation	100	m	30.00	3,000
- Unit ventilator connection	1	No.	1,500.00	1,500
- Unit heater	1	No.	1,800.00	1,800
- Force flow heater	1	No.	1,600.00	1,600
- Force flow / unit heater connection	2	No.	1,000.00	2,000
2 Air distribution equipment	313	m2	38.34	12,000
- Unit ventilator UV 402	1	No.	12,000.00	12,000
3 Air distribution ductwork	313	m2	186.49	58,370
- Galvanized ductwork	425	kg	35.00	14,880
- Thermal insulation	110	m2	35.00	3,850
- Supply SD 1/2	2	No.	245.00	490
- Supply SD 9	84	No.	235.00	19,740
- Supply SL 1	3	No.	285.00	860
- Return RG 2	38	No.	175.00	6,650
- Cap duct	2	No.	200.00	400
- Connect to existing	10	No.	150.00	1,500
- Demolition ductwork/fan	2	No.	5,000.00	10,000
4 Miscellaneous	313	m2	11.18	3,500
- Tag and label	1	Sum	500.00	500
- Cutting and patching	1	Sum	2,000.00	2,000
- Fire stopping	1	Sum	1,000.00	1,000
5 Balancing & commissioning	313	m2	43.13	13,500
- Air balancing	1	Sum	5,000.00	5,000
- Water balancing	1	Sum	5,000.00	5,000
- Commissioning	1	Sum	3,500.00	3,500
C13 HVAC TOTAL : $	**313**	**m2**	**343.51**	**107,520**

SP#1 - Library Renovation

C1 MECHANICAL	Quantity	Unit rate	Amount
C14 Controls			
1 Controls	313 m2	73.48	23,000
- Unit ventilator	1 No.	2,000.00	2,000
- Unit htr / FFH	6 No.	1,000.00	6,000
- BAS / head end, programming	1 Sum	15,000.00	15,000
C14 Controls TOTAL : $	**313 m2**	**73.48**	**23,000**

Hanscomb
QUANTITY SURVEYORS

SP#1 - Library Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C21 Service & Distribution				
1 Service & distribution	313	m2	282.62	88,460
- 300kVA 600-120/208V transformer 'TX-0.5B1'	1	No.	28,000.00	28,000
- 1200A120/208V 3ph 4W distribution panel 'DP-0.5B1' c/w breakers	1	No.	30,000.00	30,000
-100A 120/208V 3ph 4W panel '0,5A' & '0.5MA'	2	No.	6,500.00	13,000
- Allow for feeders to suit	313	m2	35.00	10,960
- Grounding system c/w ground bus, conduit etc.	1	Sum	1,000.00	1,000
- Miscellaneous items including as-builts, commissioning etc.	1	Sum	5,500.00	5,500
C21 Service & Distribution TOTAL : $	**313**	**m2**	**282.62**	**88,460**

SP#1 - Library Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C22 Lighting, Devices & Heating				
1 Lighting supply, install & wiring	313	m2	64.15	20,080
- Type A1 - 2'x4' LED flat panel	20	No.	420.00	8,400
- Type D1 - 4' LED strip	3	No.	390.00	1,170
- Type F1 - 6" LED downlight	4	No.	500.00	2,000
- Remove & re-install fixture	9	No.	250.00	2,250
- Branch wiring - main runs	313	m2	20.00	6,260
2 Exit & emergency lighting	313	m2	22.52	7,050
- Exit sign	6	No.	400.00	2,400
- Dual remote emergency head	9	No.	250.00	2,250
- Battery unit	2	No.	500.00	1,000
- Battery unit c/w dual remote emergency head	2	No.	700.00	1,400
3 Lighting control	313	m2	16.84	5,270
- Single pole switch	3	No.	185.00	560
- 2-button LV switch	3	No.	250.00	750
- Occupancy sensor - ceiling	5	No.	285.00	1,430
- Room controller - RC3	1	No.	500.00	500
- Lighting management c/w conduit, wiring & testing	313	m2	6.50	2,030
4 Power outlets, devices & connections	313	m2	9.58	3,000
- Remove & re-install receptacle	12	No.	250.00	3,000
5 Mechanical motor connections	313	m2	7.12	2,230
- Unit heater	1	No.	350.00	350
- Allow for misc. mechanical connections	313	m2	6.00	1,880
C22 Lighting, Devices & Heating TOTAL : $	**313**	**m2**	**120.22**	**37,630**

SP#1 - Library Renovation

C2 ELECTRICAL	Quantity		Unit rate	Amount
C23 Systems & Ancillaries				
1 Fire alarm system	313	m2	28.95	9,060
- Horn	2	No.	315.00	630
- Horn/strobe	5	No.	365.00	1,830
- Pull station c/w STI stopper cover	3	No.	375.00	1,130
- Smoke detector	2	No.	365.00	730
- Smoke detector - relay base	1	No.	450.00	450
- Conduit & wiring	13	No.	250.00	3,250
- Testing & verification	8	Hrs	130.00	1,040
2 Communications empty conduit system	313	m2	3.99	1,250
- Remove & re-install data outlet	4	No.	250.00	1,000
- Remove & re-install wifi drop	1	No.	250.00	250
- Cable tray - assume existing to be re-used		Nil		
3 Communications cabling system	313	m2	3.99	1,250
- Assume existing data drops to be -reused		Nil		
- Wire management c/w cable testing	313	m2	4.00	1,250
4 Security / CCTV system	313	m2	3.61	1,130
- Remove & re-install motion detector	2	No.	250.00	500
- Testing & integration	313	m2	2.00	630
5 Intercom / paging system	313	m2	9.01	2,820
- Paging speaker	1	No.	315.00	320
- Remove & re-install paging speaker	5	No.	250.00	1,250
- Conduit, wiring & testing	313	m2	4.00	1,250
6 Clock system	313	m2	0.80	250
- Remove & re-install clock	1	No.	250.00	250
7 Audio/Visual system	313	m2	1.60	500
- Remove & re-install projector outlet	1	No.	250.00	250
- Remove & re-install smart outlet	1	No.	250.00	250

SP#1 - Library Renovation

C2 ELECTRICAL	Quantity	Unit rate	Amount
C23 Systems & Ancillaries (Continued)			
8 Classroom modular panel	313 m2	4.47	1,400
- Classroom module	1 No.	1,400.00	1,400
9 Demolition	313 m2	14.60	4,570
- Communication	1 No.	40.00	40
- Disconnect	6 No.	75.00	450
- Metering cabinet	1 No.	40.00	40
- Panel	1 No.	200.00	200
- Power	2 No.	40.00	80
- Splitter	3 No.	75.00	230
- Transformer	2 No.	200.00	400
- Allow for miscellaneous demolition	313 No.	10.00	3,130
C23 Systems & Ancillaries TOTAL : $	**313 m2**	**71.02**	**22,230**

SP#1 - Library Renovation

D2 ANCILLARY WORK	Quantity		Unit rate	Amount
D21 Demolition				
1 Removals	1	Sum	18,120.00	18,120
- Floor finishes	283	m2	35.00	9,910
- Ceiling finishes	252	m2	30.00	7,560
- Projector screen	1	No.	150.00	150
- Misc. demolitions and removals	1	Sum	500.00	500
2 Carefully remove and turn over to owner	1	Sum	350.00	350
- Teacher's closet	1	No.	150.00	150
- Refrigerator	1	No.	200.00	200
3 Remove and reinstall	1	Sum	7,050.00	7,050
- Millwork	43	m	164.00	7,050
D21 Demolition TOTAL : $	**313**	**m2**	**81.53**	**25,520**

SP#1 - Library Renovation

D2 ANCILLARY WORK	Quantity		Unit rate	Amount
D22 Alterations				
1 Alterations	1	Sum	57,060.00	57,060
- Allowance for hazardous material abatement	313	m2	150.00	46,950
- Grind and prep existing floor	283	m2	11.00	3,110
- Allowance to make good areas affected by renovations / cut and patch for M&E	1	Sum	7,000.00	7,000
2 Allowance for dust / infection control measures	1	Sum	2,500.00	2,500
- Dust / infection control measures	1	Sum	2,500.00	2,500
3 Exterior alterations	1	Sum	480,030.00	480,030
- Remove exterior brick cladding & insulation down to existing block wall	301	m2	59.00	17,760
- Remove exterior wall completely	62	m2	86.00	5,330
- Allowance for shoring	1	Sum	15,000.00	15,000
- Remove curtainwall	31	m2	48.00	1,490
- Remove exterior door and frame	8	No.	150.00	1,200
- Remove roof covering and insulation	311	m2	32.00	9,950
- Remove parapet	111	m	22.00	2,440
- Remove cladding to canopies	20	m2	37.00	740
- New aluminum framed glazed door c/w hardware	4	Lvs	3,600.00	14,400
- New aluminum framed glazed doors c/w hardware	2	Prs	7,200.00	14,400
- New exterior wall EW1 (90mm brick veneer, air space, 90mm spray foam insulation, self adhered AVB & 190mm concrete block)	301	m2	653.00	196,550
- New exterior wall EW3 (90mm brick veneer, air space, 90mm spray foam insulation & self adhered AVB) to existing backup	62	m2	417.00	25,850
- New aluminum framed double glazed curtainwall	28	m2	1,400.00	39,200
- New prefinished aluminum composite cladding to canopies	20	m2	592.00	11,840
- New roof membrane	311	m2	308.00	95,790
- New parapet metal cap & flashing	106	m2	265.00	28,090
D22 Alterations TOTAL : $	**313**	**m2**	**1,723.93**	**539,590**

Appendix AA
Documents and Drawings List

DOCUMENTS AND DRAWING LIST

DOCUMENTS

Number / Title	Dated	Received
Project Manual	Jul. 26, 2024	Aug. 1, 2024
Room Finish & Colour Schedule	Jul. 26, 2024	Aug. 1, 2024

ARCHITECTURAL DRAWINGS

Number / Title	Dated	Received
A101 to A104, A200, A200a, A201 to A208	Jun. 28, 2024	Aug. 1, 2024
A209	-	Aug. 1, 2024
A210, A301 to A304	Jun. 28, 2024	Aug. 1, 2024
A306	Jul. 26, 2024	Aug. 1, 2024
A401 to A406, A408, A501 to A503, A601 to A604	Jun. 28, 2024	Aug. 1, 2024
A701 to A704, A800 to A803	Jun. 28, 2024	Aug. 1, 2024
A804 to A806	-	Aug. 1, 2024

STRUCTURAL DRAWINGS

Number / Title	Dated	Received
S0.0, S1.0, S1.2 & S1.3	Jul. 26, 2024	Aug. 1, 2024
S2.0, S3.0, S4.0, S4.1, S4.2, S5.0, S5.1, S5.2 & S7.0	Jul. 26, 2024	Aug. 1, 2024

MECHANICAL DRAWINGS

Number / Title	Dated	Received
M101 & M102	Jul. 26, 2024	Aug. 1, 2024
M201 to M206, M301 to M303, M401 to M403	Jul. 25, 2024	Aug. 1, 2024
M404 & M405	Jul. 26, 2024	Aug. 1, 2024
M501 to M504	Jul. 25, 2024	Aug. 1, 2024
M505	Jul. 26, 2024	Aug. 1, 2024
M601, M701 to M705	Jul. 25, 2024	Aug. 1, 2024

DOCUMENTS AND DRAWING LIST

ELECTRICAL DRAWINGS

Number / Title	Dated	Received
E101 to E106	Jul. 26, 2024	Aug. 1, 2024
E201 to E204, E301 to E305, E401 & E501	Jul. 25, 2024	Aug. 1, 2024
E503	Jul. 26, 2024	Aug. 1, 2024
E601 to E604, E701 to E704	Jul. 25, 2024	Aug. 1, 2024
E801 to E804, E901 to E905	Jul. 26, 2024	Aug. 1, 2024

CIVIL / LANDSCAPE DRAWINGS

Number / Title	Dated	Received
C1.1, C2.1, C2.2 & C2.3	Apr. 25, 2024	Aug. 1, 2024
L2 to L4	Jul. 29, 2024	Aug. 1, 2024

Appendix AB
Representative Drawings

GENERAL ABBREVIATION LIST:

ABOVE FINISH FLOOR
ACOUSTIC CEILING TILE
ALUMINUM COMPOSITE PANEL
ADULT CHANGE STATION
ALUMINUM COMPOSITE PLATE
ALUMINUM
ARCHITECTURAL
AIR WATER BARRIER
BARRIER FREE
BACK OF HOUSE PUSH BUTTON
BLOCK
BLOCKING
BOTTOM
BOLLARD
BRICK/BLOCK
CEMENT BOARD
CORNER GUARD
CONSTRUCTION
CAULK
CEILING
CLOSET
CONCRETE
CONSTRUCTION
CERAMIC TILE
CARD READER
COLUMN
CONCRETE TOP
COMPLETE WITH
CURTAIN WALL
CONCRETE WOOD PANELS
DEPTH DIAMETER STATION
DRAWING
DIMENSION
DRAWING
DOOR STOP
ELECTRONIC CARD READER
EMERGENCY CALL STATION
ELECTRICAL
ELECTRIC
EXPOSED
EXISTING
EXPOSED STRUCTURE
EXTERIOR
EYE WASH
FLOOR DRAIN
FIRE EXTINGUISHER CABINET
FINISH
FLOOR
FIRE RESISTANCE RATING
FOUNDATION
FOLDING SHELF
GALVANIZED
GLASS
GYPSUM WALL BOARD
HAND DRYER
HOSE BIBB
HARDWOOD
HOLLOW METAL
HANDRAIL
HEIGHT
HEAVY DUTY
HEAVY DUTY LAMINATE
HOT WATER
HAND DRYER
MANUAL SHAKESPEARE HARDWARE
HEAVY DUTY STEEL SECTION
INSULATION
INTERIOR
INTERIOR WALL CLADDING
JANITOR
KNOX BOX
EXPOSED CONCRETE
PLASTERBOARD/PAINTBOARD
KNOCK DOWN
LIGHT FIXTURE
LOCK PLATE
MIRROR
MANHOLE
MECHANICAL
MEDIUM
MID LANDING
MOP SINK
METAL STUD
METAL
NOSING
NOT IN CONTRACT
NOT TO SCALE
ON CENTRE
ON RANGE
OPEN WEB STEEL JOIST
PUSH BUTTON, LOCK
PROTECTION
PAINT
PLASTIC LAMINATE
PLASTIC LAMINATE (SOLID CORE)
PAINTBOARD
PREMANUFACTURED
PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
PRESSURE TREATED
RADIUS
ROOF DRAIN
ROOF FLASHING
ROOM
ROOF OPENING
RUBBER BASE
ROLLER SHADES
SOLID SURFACE MATERIAL
SHOWER HEAD
SHOWER CURTAIN
SHOWER CONTROLS
SHOWER HEAD & CONTROL
SHOWER HEAD & CONTROL SET
SANITARY NAPKIN DISPOSAL UNIT
SPECIFIED
SOLID SURFACE
STAINLESS STEEL
STEEL
STONE
STRUCTURAL
SUSPENDED
TACK BOARD
TELEPHONE
TOILET PAPER DISPENSER
TOILET SEAT COVER DISPENSER
TRADE
TYPICAL
UNLESS NOTED OTHERWISE
UNDERSIDE
UNDERWRITERS LABORATORIES
VINYL BASE
VESTIBULE
VINYL COMPOSITE TILE
WITH
WATER CLOSET
WALL HUNG
WATER CLOSET
WOOD
WATERPROOFING
WALL Protection Cladding

DRAWING SYMBOL LEGEND:

REFERENCE BUBBLE
- DETAIL NUMBER (TOP)
- SHEET NUMBER (BOTTOM)

ELEVATION BUBBLE
- ELEVATION NUMBER (MIDDLE)
- SHEET NUMBERS (A2, PG24 SHOWN)

SECTION BUBBLE
- DETAIL NUMBER (TOP)
- SHEET NUMBER (BOTTOM)

ROOM TAG
- ROOM NAME (ABOVE SYMBOL)
- ROOM NUMBER (WITHIN SYMBOL)

CURTAIN WALL TAG
- CURTAIN WALL NUMBER (WITHIN SYMBOL)

INTERIOR SCREEN TAG
- SCREEN NAME (ABOVE BUBBLE)
- SCREEN NUMBER (WITHIN SYMBOL)

WINDOW TAG
- WINDOW NUMBER (WITHIN SYMBOL)

CEILING TAG
- CEILING HEIGHT A.F.F. (BOTTOM)

WALL TAG (REFER TO WALL TYPE SCHEDULE)
- WALL TYPE (WITHIN SYMBOL)

PATH OF TRAVEL TAG
- DISTANCE/LENGTH (TOP)
- TRAVEL MEANS ON FLOOR (BOTTOM)

EXTERIOR WALL TYPES:

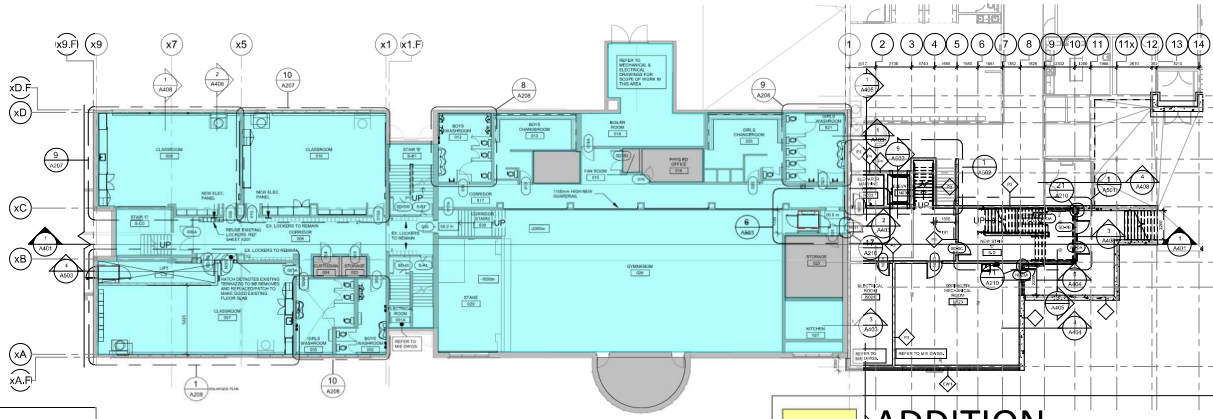
SYMBOL	WALL TYPE	
EW1		MASONRY WALL TYPE (EW1) 90 FACE VENEER (BRICK) 50 AIR SPACE/BRG - SMART VAPOUR PERMEABLE AIR MEMBRANE - CONTINUOUS RIGID INSULATION - CONTINUOUS HARDENED AIR/VAPOUR BARRIER MEMBRANE 150 CONCRETE BLOCK (TO BE CONFIRMED BY STRUCTURAL ENGINEER)
EW2		EXTERIOR WALL TYPE (EW2) - ACOUSTICAL SEALANT - 12.7 GYPSUM BOARD - 92 METAL STUD W/ INSULATION - CONTINUOUS HARDENED AIR/VAPOUR BARRIER MEMBRANE 150 CONCRETE BLOCK (TO BE CONFIRMED BY STRUCTURAL ENGINEER)
EW3		EXTERIOR WALL TYPE (EW3) 90 FACE VENEER 200 AIR SPACE/BRG - SMART VAPOUR PERMEABLE AIR MEMBRANE - CONTINUOUS RIGID INSULATION - CONTINUOUS HARDENED AIR/VAPOUR BARRIER MEMBRANE - EXISTING CONCRETE BLOCK TO REMAIN

EXTERIOR WALL CONSTRUCTION NOTES:
- METAL STUD SUPPLIER TO PROVIDE FOR ANY & ALL DEFLECTION IN THE DESIGN OF ALL METAL STUD PARTITIONS OR WALLS THROUGHOUT THE ENTIRE PROJECT.
- UNLESS INDICATED OTHERWISE, EXISTING ALL NON-STRUCTURAL HEIGHT TO LOS OF STRUCTURE.

INTERIOR WALL TYPES:

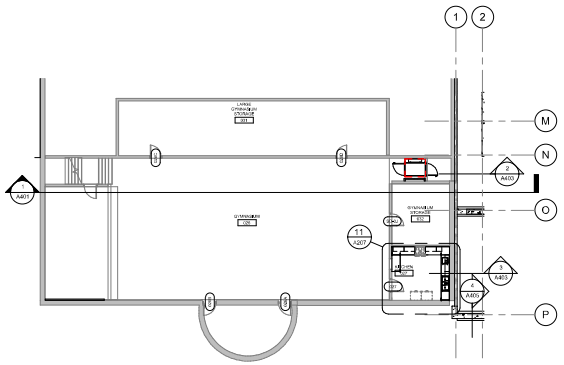
SYMBOL	WALL TYPE	
P1		PARTITION TYP. P1 - GWB (FULL HEIGHT) 92mm CAN/FUL-FACED BOTH SIDES PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P2		PARTITION TYP. P2 - GWB (FULL HEIGHT) 142mm GWB (FULL FACED BOTH SIDES) PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P3		PARTITION TYP. P3 - GWB (FULL HEIGHT) 168mm GWB (FULL FACED BOTH SIDES) PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P4		PARTITION TYP. P4 - GWB (FULL HEIGHT) 203mm CAN/FUL-FACED BOTH SIDES PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS

CAULKING NOTES:
- METAL STUD SUPPLIER TO PROVIDE FOR ANY & ALL DEFLECTION IN THE DESIGN OF ALL METAL STUD PARTITIONS OR WALLS THROUGHOUT THE ENTIRE PROJECT.
- UNLESS INDICATED OTHERWISE, EXISTING ALL NON-STRUCTURAL HEIGHT TO LOS OF STRUCTURE.

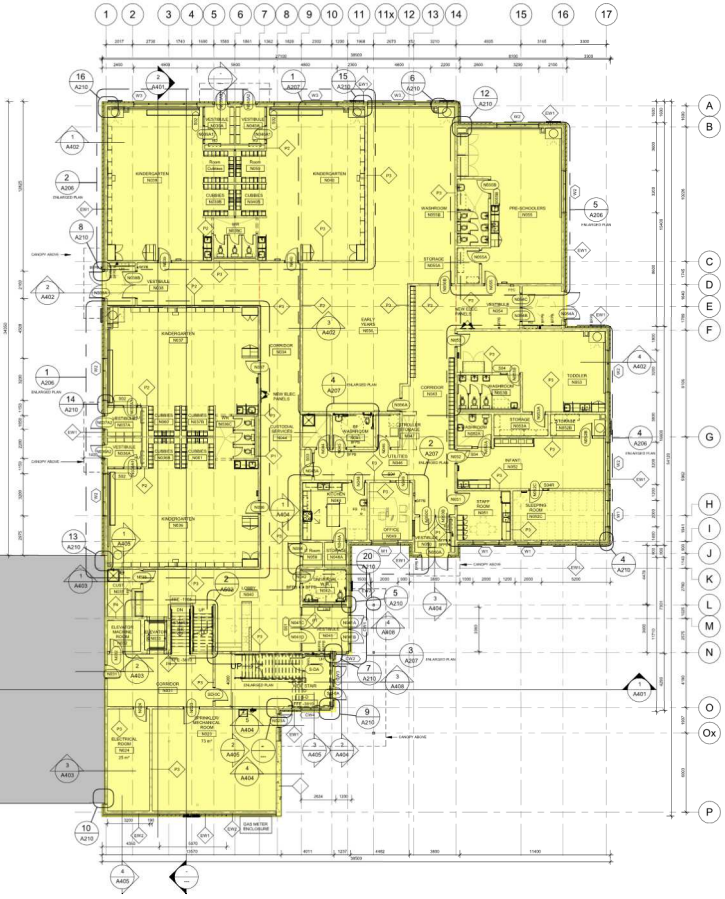


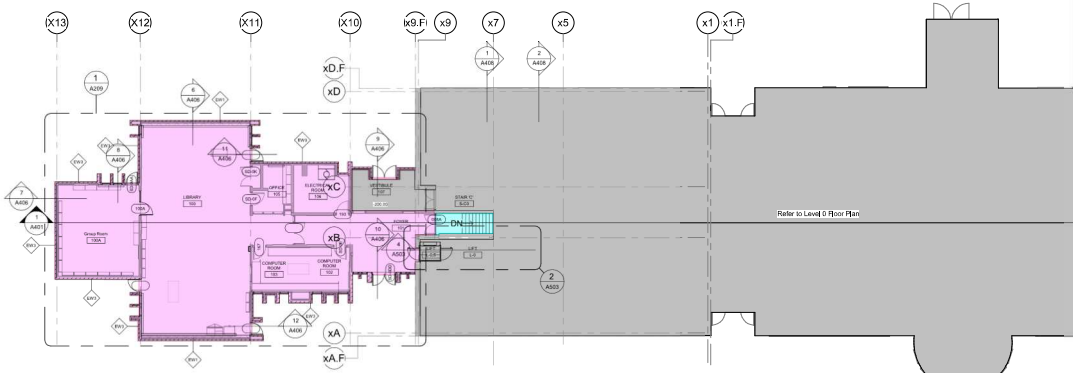
1 A203 Level 0 Floor Plan - Reno
1 : 150

ADDITION
RENOVATION
SP#1 - RENO LIBRARY



4 A203 Level 0 - Lower Gym
1 : 150





2 A203 Level 0.5 Floor Plan (Parking Level) - New
1 : 150

GENERAL NOTES:

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO THE COMMENCEMENT OF WORK.

CONCRETE MASONRY UNITS (CMU) (INTERIOR)

THE NUMBER OF STRUCTURAL COURSES OF CONCRETE MASONRY UNIT (CMU) EXCEEDS THE STRUCTURAL DRAWINGS, HEIGHT OF CONCRETE MASONRY UNIT WALLS TO BE TO UNDERSIDE OF ROOF DECK AND/OR UNLESS OTHERWISE NOTED.

WHERE GWB PARTITION IS A STRUCTURAL BEARING WALL REFER ALSO TO THE STRUCTURAL DRAWINGS FOR DESIGN.

CONCRETE MASONRY UNIT WALL

WHERE CONCRETE UNIT MASONRY WALLS ARE REINFORCED CONCRETE WALLS AND PIERS, MAKE BACK MORTAR JOINT WHERE THE TWO MATERIALS MEET AND PROVIDE CONTINUOUS BOND.

FIRE RATED WALL & PARTITION ASSEMBLIES

FINAL REPORT TO WALLS, PARTITIONS, FLOORS, AND CEILINGS THAT HAVE A FIRE RESISTANCE RATING.

AT RECESSED PANEL INSTALLATIONS IN FULL ELECTRICAL RATED WALLS FOR CONTINUITY OF THE REQUIRED RATING FOR THE PANEL REFER TO THE ONTARIO BUILDING CODE OR BUILDING SECTION 3.1.9.2 FOR REQUIREMENTS FOR CONSTRUCTION OF RATED WALL ASSEMBLIES AND SECTION 3.1.9.7 FOR OPENINGS IN RATED WALLS.

JOINT PROTECTION TO FINISH BLOCK WALLS AT FLOOR ASSEMBLIES

WHERE DUCTS, PIPES, AND CONDUITS PENETRATE EXPOSED CONCRETE UNIT MASONRY WALLS, CUT BLOCKS TO SUIT REQUIRED OPENINGS TO MINIMIZE PATCHING.

MOISTURE BARRIER

ENSURE THAT A CONTINUOUS AIR MEMBRANE IS MAINTAINED WHERE BRICK TIES PENETRATE EXTERIOR SHEATHING OR CONCRETE MASONRY UNIT.

WHERE WITH STRUCTURAL ENGINEER IF SHEAR CONNECTORS ARE REQUIRED FOR BRICK TIES.

ROOF ASSEMBLIES

UPON CHOICE ON ROOF FOR MECHANICAL UNITS, PARAPETS, BOX LIGHTS TO COME COMPLETE WITH CURB STRIPS.

COUNTERFLOOR MEMBRANE BETWEEN MEMBRANE COMPONENT OF ROOF ASSEMBLIES TO BE WRAPPED AT ALL PARAPETS, CURBS, INTERIOR WALL ASSEMBLIES BY 300MM (12") OR AS DETAILED ON DRAWINGS. TAPED FOR MEMBRANE ADHERENCE ON ALL SURFACES. PROVIDE METAL FLASHING AS REQUIRED.

REFLECTED CEILING PLANS MAY NOT SHOW ALL MECHANICAL AND ELECTRICAL FIXTURES.

WHERE MECHANICAL AND ELECTRICAL TRADES PENETRATE AN ACOUSTICAL PARTITION AND PROVIDE AN AIR TIGHT SEAL AROUND THE PENETRATION, THE TRADE SHALL USE A RESILIENT MATERIAL, A FOAM GASKET OR THE LIKE, BETWEEN THE BACK OF THE ESCUTCHEON PLATE AND THE PARTITION, WALL, OR FLOOR ASSEMBLY.

COORDINATE ALL EQUIPMENT INSTALLED WITHIN THE CEILING SYSTEM, COORDINATE ALL PENETRATIONS AND ACCESS PANELS WITH THE CEILING SUPPLIER SYSTEM.

REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR FIRE ALARM.

REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOCATIONS AND SIZES OF ACCESS PANELS.

LOCATE DETECTORS, SPRINKLERS, ETC., ON CENTRE LINE OR MIDPOINT OF ACT CEILING PANELS (U.O.N.).

LOCATE LIGHT FIXTURES ON CENTRE OF ACOUSTIC CEILING TILES (U.N.O.).

FLOOR PLAN GENERAL NOTES:

1. DIMENSIONS SHOWN ARE TAKEN TO FACE OF CMU, POURED CONCRETE, OR METAL STUD (UNLESS NOTED OTHERWISE). ALL DIMENSIONS PERTAINING TO CERAMIC WORK TO BE OF FLOOR OR BODY (UNLESS NOTED OTHERWISE).
2. REFER TO FIRE SEPARATION DETAILS AND FOR LOCATIONS OF ALL RATED WALLS.
3. WHERE EXISTING OCCUR WITH WALLS CONSTRUCTED AS FIRE SEPARATIONS, THE WALL ASSEMBLY SUCH SURFACES OR DOORS SHALL BE CONSTRUCTED TO PROVIDE THE REQUIRED FIRE RESISTANCE RATING INDICATED.
4. WHERE FIRE RATED PARTITIONS MEET NON-RATED PARTITIONS THE FIRE RATED ASSEMBLY SHALL BE CONTINUOUS AND UNINTERRUPTED BY THE ABUTTING WALLS TO MAINTAIN A CONTINUOUS FIRE SEPARATION.
5. SEAL PERIMETER OF FIRE RATED WALLS AND AROUND PENETRATIONS THROUGH FIRE RATED WALLS WITH APPROVED FIRESTOPPING MATERIALS.
7. REFER TO STRUCTURAL DRAWINGS FOR LATERAL SUPPORT AT TOP OF CMU WALLS.
8. UNLESS EXPOSED CORNERS OF EXPOSED MASONRY WALLS PROVIDE BULLNOSE BLOCK UNLESS NOTED OTHERWISE.
9. REFER TO ELECTRICAL DWGS FOR LOCATIONS OF PANELS, DOOR CONTROLS, SECURITY DEVICES ETC NOT SHOWN ON ARCHITECTURAL DRAWINGS.

No.	Revision	Date
1	50% CD	June 28th, 2024

Orientation

Seal

All dimensions to be checked and verified on the job by the Contractor. Any discrepancies are to be reported to the Consultant prior to action. Only the latest approved drawings to be used for construction in conformance with all applicable codes, by-laws and regulations. All drawings remain the property of the Consultant.

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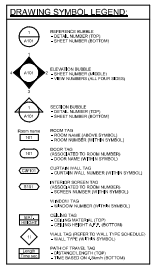
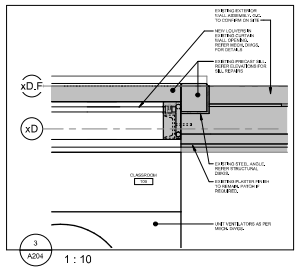
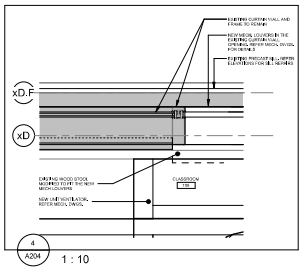
Project Information
Elgin Ave PS - Addition
80 Elgin Ave, Simcoe ON
For
Grand Erie District School Board
Drawing Title
Level 0 - Reno & 0.5 - Addition

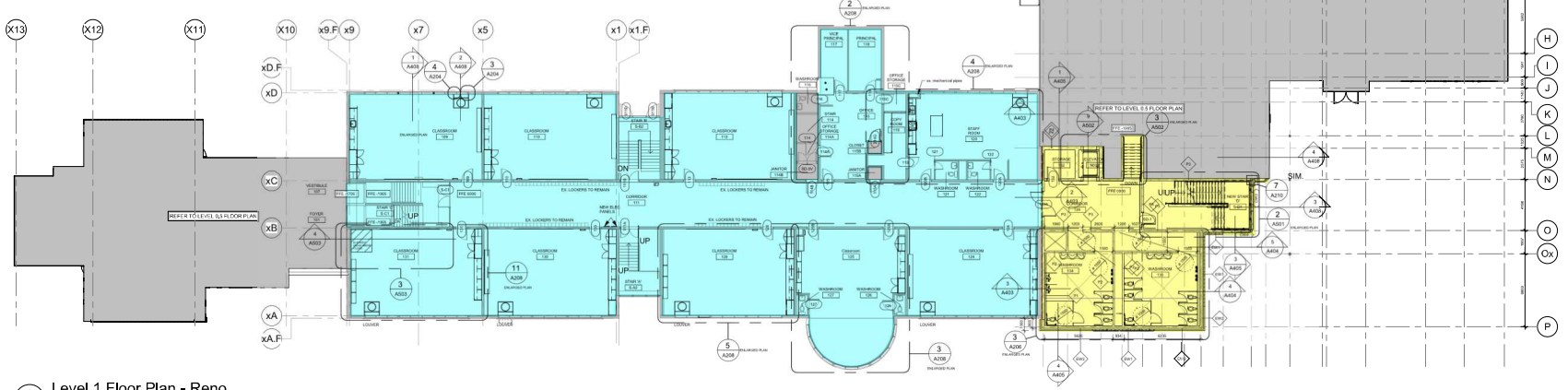
Date	Project No	Drawing No
June 28th, 2024	22017	A203
Drawn by Author		
Scale As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_RDS_Central_NEW.rvt
7/5/2024 11:14:47 PM

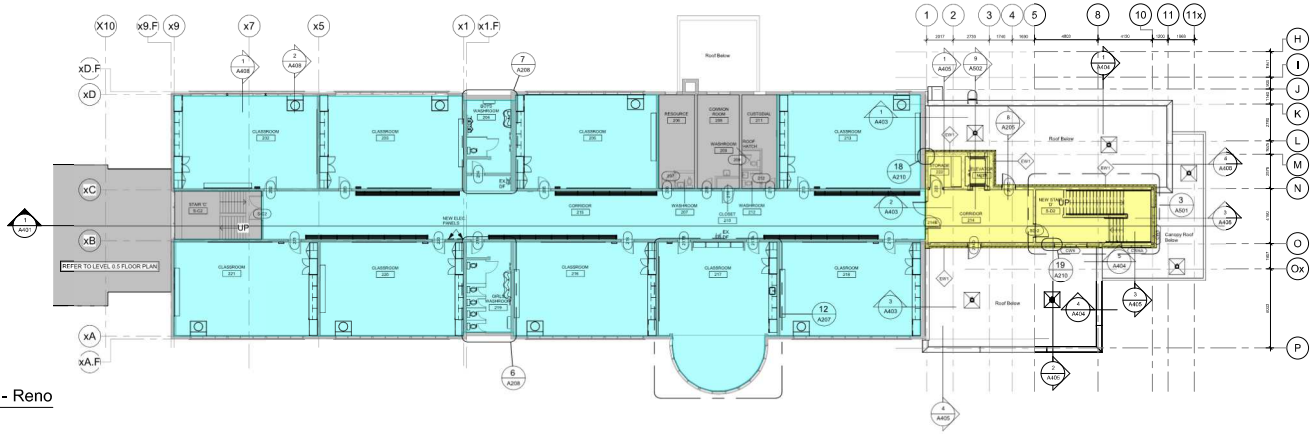








1 A204 Level 1 Floor Plan - Reno
1 : 150



2 A204 Level 2 Floor Plan - Reno
1 : 150

GENERAL NOTES:

ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL VERIFY THE ARCHITECTS OF ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO THE COMMENCEMENT OF WORK.

CONCRETE MASONRY UNIT WALLS (CMU) (MASONRY)

THICKNESS OF STRUCTURAL CONCRETE MASONRY UNIT WALL SHOWN IN STRUCTURAL DRAWINGS, HEIGHT OF CONCRETE MASONRY UNIT WALLS TO BE TO UNDERSIDE OF ROOF DECK ABOVE UNLESS OTHERWISE NOTED.

WHERE CMU PARTITIONS IN STRUCTURAL BEARING WALL REFER ALSO TO THE STRUCTURAL DRAWINGS FOR DESIGN.

CONCRETE MASONRY UNIT WALL

WHERE CONCRETE UNIT MASONRY WALLS ADJOIN REINFORCED CONCRETE WALLS AND PIERS, MAKE BACK MORTAR JOINT WHERE THE TWO MATERIALS MEET AND PROVIDE CONTINUOUS BEND AND.

WALL MOUNTED ELECTRICAL EQUIPMENT

F.U.R. REFERS TO WALLS, PARTITIONS, FLOORS, AND CEILINGS THAT HAVE A FIRE RESISTANCE RATING.

AT RECESSED PANEL INSTALLATIONS (U.N.O.) ELECTRICAL PANELS IN FIRE RATED WALLS PROVIDE FOR CONTINUITY OF THE FIRE RATING OF THE WALL. PROVIDE FIRE RATED ENCLOSURE AS REQUIRED BY THE ELECTRICAL SECTION. CLOSE OUT FOR COMPONENTS FOR ACCESS ONLY AT DOOR OPENINGS TO MAINTAIN FIRE RATING AS REQUIRED BY CONSULTANT DRAWINGS.

WALL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION

WHERE DUCTS, PIPES, AND CONDUITS PENETRATE EXPOSED CONCRETE UNIT MASONRY WALLS, CUT BLOCKS TO BUT REQUIRED OPENINGS TO NEATLY MATCH CMU.

PACKAGE UNITS

ENSURE THAT A CONTINUOUS AIR MEMBRANE IS MAINTAINED WHEREVER BRICK TIES PENETRATE EXTERIOR SHEATHING OR CONCRETE MASONRY UNIT.

VERIFY WITH STRUCTURAL ENGINEER IF SHEAR CONNECTORS ARE REQUIRED FOR BRICK/BLOCK TIES.

ROOF ASSEMBLY

UPSTANDS OR ROOF FOR MECHANICAL UNITS, PARAPETS, SKYLIGHTS TO CORE COMPLETE WITH CAVE STRIPS.

CONTINUOUS VAPOUR RETARDER MEMBRANE COMPONENT OF ROOF ASSEMBLIES TO BE MAINTAINED AT ALL PARAPETS, CURBS, EXTERIOR WALL ASSEMBLIES, ETC. WHERE OPENINGS OCCUR IN THE MEMBRANE, THE INTO VAPOUR BARRIER IS ALSO MAINTAINED TO PROVIDE A CONTINUOUS VAPOUR BARRIER. PROVIDE PIPES, & ROOF TOP TRANSITION MEMBRANES AS NEEDED TO ENSURE CONTINUITY OF AIR AND VAPOUR BARRIER ENVIRONMENT.

EXPANSION CONTROL JOINTS

COORDINATE ALL MECHANICAL AND ELECTRICAL SERVICES AND FIXTURES WITH MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. LOCATIONS AND TYPES OF PLUMBING SHALL BE AS INDICATED ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. EXACT LOCATION SHALL BE AS PER ARCHITECTURAL REFLECTED CEILING PLANS AND.

REFLECTED CEILING PLANS MAY NOT SHOW ALL MECHANICAL AND ELECTRICAL FIXTURES.

WHERE MECHANICAL AND ELECTRICAL PENETRATIONS AN ASSEMBLY PENETRATES, PATCH AND PROVIDE AN AIR-TIGHT SEAL. ADDITIONAL DETAILS ARE SHOWN FOR USE OF BEST OF MATERIAL AT PENETRATIONS TO MATCH THE FIRE RATING OF THE MATERIAL THAT GET FOUND ADDRESS.

COORDINATE ALL SERVICES INSTALLED WITHIN THE CEILING SYSTEM. COORDINATE ALL PENETRATIONS AND ACCESS PANELS WITH THE CEILING SUPPORT SYSTEM.

REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR PRIMARY DRAWING.

REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOCATIONS AND SIZES OF ACCESS PANELS.

LOCATE DETECTORS, SPEAKERS, ETC. ON CENTRE LINE OF MAJOR PART OF ACT CEILING PANELS (U.N.O.

LOCATE LIGHT FIXTURES ON CENTRE OF ACOUSTIC CEILING TILES (U.N.O.

FLOOR PLAN GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, TAKEN TO FACE OF CMU, POURED CONCRETE, ORIENTAL STUD UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO BE STRICTLY ADHERED TO. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH CONSTRUCTION.
2. REFER TO TYPE SEPARATION KEYPLANS FOR LOCATIONS OF ALL RATED WALLS.
3. WHERE DOORS OCCUR WITHIN WALLS CONSTRUCTED AS FIRE SEPARATIONS, THE FIRE RATING OF THE DOOR SHALL BE EQUAL TO THE RATING REQUIRED TO PROVIDE THE TOTAL FIRE PROTECTION RATING IN THE WALL.
4. UNLESS FIRE RATED PARTITIONS ARE NOT INTERRUPTED THE FIRE RATED ASSEMBLY SHALL BE CONTINUOUS AND UNINTERRUPTED BY THE ABUTTING WALLS TO WHICH IT IS CONTINUOUS TO BE SEPARATED.
5. SEAL PERIMETER OF FIRE RATED WALLS AND AROUND PENETRATIONS THROUGH FIRE RATED WALLS WITH APPROVED FIRESTOPPING MATERIALS.
6. REFER TO STRUCTURAL DRAWINGS FOR LATERAL SUPPORT AT THE TOP OF CMU WALLS.
7. ON ALL EXPOSED CORNERS OF EXPOSED MASONRY WALLS PROVIDE BULLNOSE BLOCK UNLESS NOTED OTHERWISE.
8. REFER TO ELECTRICAL DWGS FOR LOCATIONS OF PANELS, DOOR CONTROLS, SECURITY DEVICES ETC NOT SHOWN ON ARCHITECTURAL DRAWINGS.

No.	Revision	Date
1	RFA/ CD	June 28th, 2024

Orientation

Seal

All dimensions to be checked and verified on this job by the Contractor. Any discrepancies are to be reported to the Consultant prior to action. Only the latest approved drawings to be used for construction in conformance with all applicable codes, by-laws and regulations. All drawings remain the property of the Consultant.

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Project Information
Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For
Grand Erie District School Board

Drawing Title
Level 1 & 2 - Reno

Date	Project No	Drawing No
June 28th, 2024	22017	A204
Drawn by Author		
Scale As indicated		

BIM 360/22017 - Elgin Avenue Public School\22017_Elgin Ave PS_R20_Central_LEW.rvt
6/28/2024 1:41:49 PM

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REPLACE EXISTING CB. CONTRACTOR TO FIELD INVESTIGATE TO DETERMINE IF EXISTING CB CAN BE REUSED.

EXISTING 400mmø STM TO BE REMOVED

EXISTING FENCE TO BE REMOVED

EXISTING CB AND 100mmø STM TO BE REMOVED

EXISTING CB TO BE REMOVED

EXISTING ASPHALT AREA TO BE REMOVED

EXISTING TRANSFORMER TO BE REMOVED, REFER TO ELECTRICAL PLANS.

EXISTING FENCE POST TO BE REMOVED AND REINSTATE, REFER TO SITE PLAN

EXISTING FENCE POST & GATE TO BE REMOVED AND REINSTATE, REFER TO SITE PLAN

EXISTING STAIRS AREA TO BE DEMOLISHED

EXISTING CONCRETE AREA TO BE REMOVED

EXISTING 400mmø STM TO BE REMOVED

EXISTING CB AND 400mmø STM TO BE REMOVED

EXISTING HAND RAIL TO BE REMOVED

EXISTING RETAINING WALL AND STAIRS TO BE DEMOLISHED

SURFACE TO BE REINSTATED TO EXISTING CONDITIONS OR BETTER.

EXISTING 400mmø PIPE TO BE PLUGGED AND SOLID GROUTED.

LIMIT OF PROPOSED GRADING. REFER TO C2.1 FOR FURTHER DETAILS.

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD

EXISTING GUARD RAIL TO BE REMOVED.

CONTRACTOR TO LOCATE AND REMOVE APPROXIMATELY 43m OF EX. 100mmø WTM AND REPLACE WITH 150mmø PVC WTM

CONTRACTOR TO LOCATE AND REMOVE APPROXIMATELY 15m OF EX. 250mmø STM AND REPLACE WITH 375mmø STM

SAW CUT AND REMOVE EX. BOULEVARD, CURB, SIDEWALK AND ASPHALT. RESTORE TO PREVIOUS CONDITIONS OR BETTER AND IN ACCORDANCE WITH COUNTY OF SIMCOE SPECIFICATIONS

EXISTING SIGN TO BE REMOVED

EXISTING FRENCH DRAIN TO BE REMOVED

EXISTING SIGN TO BE REMOVED

EXISTING CONCRETE SIDEWALK AND CURB TO BE REMOVED

CONTRACTOR TO REMOVE EXISTING 100mmø WTM CONNECTION AND REPLACE WITH 150mmø WTM CONNECTION

REMOVE EXISTING CONCRETE WALKWAY. REFER TO C2.1 FOR MORE DETAILS.

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD

LIMIT OF PROPOSED GRADING. REFER TO C2.1 FOR FURTHER DETAILS.

EXISTING TV AND BELL CABLE TO BE REMOVED AND RELOCATED WITHIN LIMIT OF PROPOSED DEVELOPMENT. TO BE DESIGNED AND COMPLETED BY OTHERS.

EXISTING TREES TO BE REMOVED (TYP.)

EXISTING VEGETATION TO BE REMOVED

EXISTING PEDB TO BE REMOVED

EXISTING TREES TO BE REMOVED (TYP.)

EXISTING FENCE TO BE REMOVED

NOTE: RESTORE DISTURBED AREAS TO EX. CONDITIONS OR BETTER. REFER TO GRADING PLAN FOR RESTORATION WORKS.

NOTE: ROAD RESTORATION ON ELGIN AVENUE TO CONFORM TO COUNTY OF SIMCOE STANDARDS.

ELGIN AVENUE

MARSHALL LANE

SCALE 1 : 250

5 0 5 10 15 metres

LEGEND

- SITE BOUNDARY
- EXISTING ELEVATIONS
- EXISTING DIRECTION OF DRAINAGE
- EXISTING CURB
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING MAN DOOR
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- REMOVALS
- ASPHALT REMOVALS
- BUILDING REMOVALS
- CONCRETE REMOVALS
- PROPOSED HEAVY DUTY ASPHALT
- SIDEWALK RESTORATION
- SOD RESTORATION
- LIMIT OF GRADING WORK
- SAW CUT c/w LAP JOINT (SEE DETAIL ON C2.3)

GEODETIC BENCHMARK ELEV. =222.264m
SITE B.M.#1 SPIKE IN NORTH FACE OF HYDRO POLE
(JEWITT AND DIXON LTD, 2018)

SITE BENCHMARK ELEV. =222.745m
TOP OF SPINDLE OF FIRE HYDRANT
(MTE, 2024)

No.	Revision	Date
1.	ISSUED FOR SPA	OCT. 11/2024

Seal

MTE
Engineers, Scientists, Surveyors
905-639-2552

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Project Information

ELGIN AVENUE PUBLIC SCHOOL ADDITION

80 ELGIN AVENUE, SIMCOE ON

For

SMCDSB

Drawing Title

EXISTING CONDITIONS AND REMOVALS PLAN

Date	2024-04-25	Project No	Drawing No
Design by	CKM	Checked by	RNC/KRR	43581-101	C1.1
Scale	1:250		

October 11, 2024 - 10:35:34 AM - Plotted By: Rosie Colagero

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GEODETIC BENCHMARK ELEV. =222.264m
SITE B.M.#1 SPIKE IN NORTH FACE OF HYDRO POLE
(JEWITT AND DIXON LTD, 2018)

SITE BENCHMARK ELEV. =222.745m
TOP OF SPINDLE OF FIRE HYDRANT
(MTE, 2024)

RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD
MATCH TO EX. GRADES (TYP.)
LIMIT OF PROPOSED GRADING WORK
PROP. 30.2m SWALE @ 0.5% c/w SUBDRAIN. SUBDRAIN TO CONNECT INTO CBMH5 (REFER TO DETAIL ON C2.3)
PROP. 14.4m SWALE @ 0.5% c/w SUBDRAIN. SUBDRAIN TO CONNECT INTO CBMH5. (REFER TO DETAIL ON C2.3)
PROP. 48.8m SWALE @ 0.5% c/w SUBDRAIN
100-YEAR PONDING ELEV.=224.65 PONDING VOLUME=37.43m³ PONDING DEPTH=0.23m PONDING AREA=362m²
PROPOSED SILT FENCE TO BE INSTALLED INSIDE THE PROPERTY LINE AS PER THE DETAIL (SEE DETAIL ON C2.3)
RETAINING WALL TRANSITION TO FULL HEIGHT BARRIER CURB T/W=225.45 B/W=225.30 HEIGHT=0.15m
CB6.1 T/G=224.66
MH6 T/G=224.89
CBMH5 T/G=224.42
LANDSCAPE AREA
KINDERGARTEN PLAY AREA
CHILDCARE PLAY AREA
LIGHT DUTY ASPHALT
PROP. BIKE RACK
PROPOSED DROP CURB
KISS & RIDE
PROPOSED CONCRETE BARRIER CURB AS PER OPSD 600.110 (TYP.)
100-YEAR PONDING ELEV.=224.65 PONDING VOLUME=88.33m³ PONDING DEPTH=0.25m PONDING AREA=891m²
100-YEAR PONDING ELEV.=224.65 PONDING VOLUME=40.03m³ PONDING DEPTH=0.20m PONDING AREA=467m²
PROP. SNOW STORAGE
PROP. PLAY CURB. REFER TO LANDSCAPE PLANS.
PROP. RAISED 150mm HIGH PLANTER BED. REFER TO LANDSCAPE PLAN.
PROPOSED FENCE. REFER TO ARCHITECTURAL PLAN FOR DETAILS.
PROPOSED ASPHALT TO MATCH INTO EXISTING ASPHALT c/w SAW CUT AND LAP JOINT. REFER TO DETAIL ON C2.3.
PROP. ARTIFICIAL TURF. REFER TO LANDSCAPE PLANS.
CB6.2 T/G=224.62
PROPOSED SINGLE STOREY BUILDING FFE=225.10
PROP. PLANTER
PAINTED LINES (TYP.) REFER TO ARCHITECTURAL PLAN FOR DETAILS.
PROPOSED MEDIUM DUTY ASPHALT
PROPOSED HEAVY DUTY ASPHALT
CBMH4 T/G=224.40
CBMH7 T/G=224.45
PROPOSED 50.1m RETAINING WALL MAX HEIGHT=2.6m c/w GUARD RAILING PER OPSD 980.101 (OR APPROVED EQUIVALENT) RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW. ARMOUR STONE WALL ALTERNATIVE TO BE PRICED.
T/W=226.00 B/W=225.45 HEIGHT=0.55m
MATCH TO EX. GRADES ALONG PROPERTY LINE (TYP.)
T/W=227.90 B/W=225.35 HEIGHT=2.55m
T/W=228.10 B/W=225.50 HEIGHT=2.60m
T/W=227.65 B/W=225.70 HEIGHT=1.95m
POTENTIAL FOR EX. TREES WITHIN 3:1 EMBANKMENT ON SITE TO BE REMOVED.
RETAINING WALL TRANSITION TO FULL HEIGHT BARRIER CURB T/W=225.60 B/W=225.45 HEIGHT=0.15m
EXISTING TRANSFORMER TO BE REMOVED. REFER TO ELECTRICAL PLANS.
EXISTING FENCE POST & GATE TO BE REMOVED AND REINSTATE. REFER TO SITE PLAN
PROP. LIGHT DUTY ASPHALT. REFER TO SITE PLAN
EXISTING FENCE POST TO BE REMOVED AND REINSTATE. REFER TO SITE PLAN
MATCH INTO EXISTING GRADES (TYP.)
PROP. RAMP TO MATCH NEW DOOR ELEVATION. REFER TO SITE PLAN.
PROP. SAND BOX WITH CURB. REFER TO LANDSCAPE PLANS.
RAISED FOUNDATION WALL TO BE 0.15m ABOVE OUTSIDE ELEVATION
PROPOSED 4.9m RETAINING WALL MAX HEIGHT=1.9m c/w GUARD RAILING PER OPSD 980.101 (OR APPROVED EQUIVALENT) RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW.
T/W=225.10 B/W=223.10
CANOPY ABOVE
PROP. RAISED 150mm High PLANTER BED. REFER TO LANDSCAPE PLAN.
TERMINATE RETAINING WALL TO BE FLUSH WITH CONCRETE SURFACE.
PROP. 4.5m CURB CUT
PROPOSED 3 STOREY BUILDING FFE=223.10
AD2 T/G=223.05
AD1 T/G=223.05
PROPOSED 13.3m RETAINING WALL MAX HEIGHT=1.55m c/w PEDESTRIAN SAFETY RAILING PER OPSD 980.101 (OR APPROVED EQUIVALENT) RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW.
TRANSITION RETAINING WALL TO FULL HEIGHT BARRIER CURB
PROP. LIGHT STANDARDS (TYP.) REFER TO ELECTRICAL PLANS
PROP. SIGN (TYP.) REFER TO ARCHITECTURAL PLANS
MH3 T/G=224.32
T/W=224.65 B/W=223.10 HEIGHT=1.55
T/W=224.85 B/W=223.87 HEIGHT=0.98m
T/W=224.85 B/W=223.63 HEIGHT=1.22m
PROP. GARBAGE
PROP. FIRE HYDRANT
PROPOSED 14.7m RETAINING WALL MAX HEIGHT=1.22m c/w GUARD RAILING RETAINING WALL TO BE DESIGNED BY STRUCTURAL ENGINEER. SHOP DRAWING TO BE SUBMITTED TO CIVIL FOR REVIEW.
PROP. 9.0m SWALE @ 11.1%
PROP. 18.4m SWALE @ 1.8% c/w SUBDRAIN TO CONNECT TO CB2.1
PROPOSED 7m x 14m CONSTRUCTION ACCESS (SEE DETAIL ON C2.3)
CB2.1 T/G=222.15
CBMH2 T/G=222.55
MH9 EF06 T/G=222.30 EX.
CONTROL MH8 T/G=222.28 EX.
MH1 T/G=222.23 EX.
MH1A T/G=222.94 EX.
MH2A T/G=223.22
SURFACE TO BE REINSTATED TO EXISTING CONDITIONS DUE TO PROPOSED WTM AND SANITARY SERVICING. REFER TO C2.2 FOR DETAILS ON SERVICING.
PROP. GAS METER ON CONCRETE PAD. REFER TO MECHANICAL PLANS FOR GAS METER DETAILS.
PROPOSED TREE PROTECTION FENCE (TYP.) REFER TO LANDSCAPE PLANS
PROPOSED BOLLARD
RAISED BARRIER CURB
PROPOSED ASPHALT
RE-GRADED LANDSCAPE AREA TO BE COMPLETE WITH 150mm TOPSOIL AND SOD
LIMIT OF PROPOSED GRADING WORK
PROP. TRANSFORMER REFER TO ELECTRICAL PLANS. TRANSFORMER TO SIT ON CONCRETE PAD. CONCRETE PAD TO BE 0.15m ABOVE PERIMETER ELEVATIONS.
MATCH TO EX. GRADES (TYP.)
9.7m RAMP MAX 12:1
POTENTIAL FOR EXISTING TREE REMOVAL DUE TO LIMIT OF WTM UPGRADE WORKS.
PROP. LIGHT DUTY ASPHALT. REFER TO SITE PLAN
EXISTING GARDEN TO REMAIN AND RECONDITIONED. REFER TO SITE PLAN.
PROPOSED SILT FENCE (SEE DETAIL ON C2.3)
SILT SACK (TYP.) (SEE DETAIL ON C2.3)
SAW CUT AND REMOVE EX. BOULEVARD, CURB, SIDEWALK AND ASPHALT. RESTORE TO PREVIOUS CONDITIONS OR BETTER AND IN ACCORDANCE WITH COUNTY OF SIMCOE SPECIFICATIONS.
MATCH INTO EX. MUNICIPAL SIDEWALK
NEW HYDRO POLE. REFER TO ELECTRICAL PLANS. GENERAL CONTRACTOR TO COORDINATE WITH UTILITIES.
TAPER CURB AT EX. SIDEWALK
TAPER CURB AT EX. SIDEWALK
MATCH INTO EX. MUNICIPAL SIDEWALK
22.5± WIDE DROP CURB PER OPSD 600.040 (SEE DETAIL ON C2.3)
REMOVE AND RESTORE EXISTING SIDEWALK TO EXISTING CONDITIONS OR BETTER
NEW 150mm TOPSOIL AND SOD TO MATCH EXISTING CONDITIONS OR BETTER.
NEW CONCRETE WALKWAY TO MATCH EXISTING CONDITIONS OR BETTER.
NOTE: ROAD RESTORATION ON ELGIN AVENUE TO CONFORM TO COUNTY OF SIMCOE STANDARDS.
MATCH TO EX. GRADES ALONG PROPERTY LINE (TYP.)
RETAINING WALL TRANSITION TO FULL HEIGHT BARRIER CURB T/W=225.60 B/W=225.45 HEIGHT=0.15m
ELGIN AVENUE
MARSHALL LANE
SITE BENCH MARK ELEVATION=222.745 TOP OF SPINDLE OF FIRE HYDRANT

SCALE 1 : 250
5 0 5 10 15 metres

LEGEND OF EXISTING FEATURES

- SITE BOUNDARY
- EXISTING SPOT ELEVATIONS
- EXISTING DIRECTION OF DRAINAGE
- EXISTING CURB
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING MAN DOOR
- EXISTING TREES
- EASEMENT

LEGEND OF PROPOSED FEATURES

- PROPOSED SPOT ELEVATIONS
  EX =MAINTAIN EXISTING
  T/G =TOP OF CASTING/GRATE
  INV =INVERT ELEVATION
  FFE =FINISHED FLOOR ELEVATION
- DIRECTION OF DRAINAGE/SWALE
- DRAINAGE SPLIT
- EMBANKMENT (SLOPE AS NOTED)
- PROPOSED BUILDING
- MAN DOOR
- CONCRETE CURB
- RETAINING WALL
- OVERLAND FLOW ROUTE (MAJOR STORM)
- SEDIMENT CONTROL FENCE (SEE DETAIL ON C2.3)
- SILT SACK (SEE DETAIL ON C2.3)
- CONSTRUCTION ACCESS (SEE DETAIL ON C2.3)
- RAISED FOUNDATION WALL
- LIMIT OF GRADING WORK
- CANOPY ABOVE
- FENCE
- BARRIER FREE PARKING REFER TO ARCHITECTURAL PLANS
- 100 YEAR PONDING LIMIT
- GUARDRAIL
- PROP. SIGN REFER TO ARCHITECTURAL PLANS
- PROP. LIGHT STANDARD REFER TO ELECTRICAL PLANS
- PROPOSED HEAVY DUTY ASPHALT
- SIDEWALK RESTORATION
- SOD RESTORATION
- SAW CUT c/w LAP JOINT (SEE DETAIL ON C2.3)
- PROP TREE PROTECTION FENCE (REFER TO LANDSCAPE PLAN)
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED BOLLARD

No.	Revision	Date
1.	ISSUED FOR SPA	OCT. 11/2024

LICENSED PROFESSIONAL ENGINEER K.R.RAMSEWAK 100100928 2024-10-11 PROVINCE OF ONTARIO
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MTE
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Project Information
ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE ON
For
SMCDSB

Drawing Title
SITE GRADING AND EROSION & SEDIMENT CONTROL PLAN

Date	Project No	Drawing No
2024-04-25	43581-101	C2.1
Design by CKM / Checked by RNC/KRR		
Scale 1:250		

October 11, 2024 - 10:37:24 AM - Plotted By: Rocio Cologero

P:\P_43581\101\43581-101-C2.DWG

GEODETIC BENCHMARK ELEV. =222.264m
SITE B.M.#1 SPIKE IN NORTH FACE OF HYDRO POLE
(JEWITT AND DIXON LTD, 2018)

SITE BENCHMARK ELEV. =222.745m
TOP OF SPINDLE OF FIRE HYDRANT
(MTE, 2024)

PROPOSED SINGLE STOREY BUILDING
FFE=225.10

PROPOSED 3 STOREY BUILDING
FFE=223.10

ELGIN AVENUE

MARSHALL LANE

CB6.1
T/G=224.66
(OPSD 705.010)
N INV.=223.05

MH6
T/G=224.89
1200mmø (OPSD 701.010)
S INV.=222.89
E INV.=222.90
N INV.=222.83

CBMH5
T/G=224.42
1200mmø (OPSD 701.010)
S INV.=222.49
NE INV.=222.41

CBMH4
T/G=224.40
1200mmø (OPSD 701.010)
SW INV.=222.23
N INV.=222.20
SE INV.=222.15

CBMH7
T/G=224.45
1200mmø (OPSD 701.010)
S INV.=222.53

CB6.2
T/G=224.62
(OPSD 705.010)
W INV.=223.07

AD1
T/G=223.05
E INV.=221.62

AD2
T/G=223.05
W INV.=221.62

MH3
T/G=224.32
1800mmø (OPSD 701.012)
NW INV.=221.93
W INV.=221.60
SE INV.=221.55

MH2A
T/G=223.22
1200mmø (OPSD 701.010)
W INV.=220.36
S INV.=220.30

MH1A
T/G=222.94 EX.
1200mmø (OPSD 701.010)
N INV.=219.84

MH1
T/G=222.23 EX.
1200mmø
(OPSD 701.010)
N INV.=220.49
W INV.=220.43

MH9 EFO6
T/G=222.30 EX.
1800mmø (OPSD 701.012)
NW INV.=221.12
S INV.=221.10

CONTROL MH8
T/G=222.28 EX.
1200mmø (OPSD 701.010)
N INV.=221.07
S INV.=220.83

CBMH2
T/G=222.55
1200mmø (OPSD 701.010)
W INV.=221.31
NW INV.=221.31
SE INV.=221.22

CB2.1
T/G=222.15
(OPSD 705.010)
SE INV.=221.37

- REPLACE EXISTING CB. CONTRACTOR TO FIELD INVESTIGATE TO DETERMINE IF EXISTING CB CAN BE REUSED
- PROP. PLAY CURB. REFER TO LANDSCAPE PLANS.
- PROPOSED FENCE. REFER TO ARCHITECTURAL PLAN FOR DETAILS
- PROPOSED INSULATION (TYP.) (SEE DETAIL ON C2.3)
- 5.0m PERFORATED SUBDRAIN (TYP.) REFER TO C2.3 FOR DETAIL.
- PROP. ARTIFICIAL TURF. REFER TO LANDSCAPE PLANS.
- EXISTING TRANSFORMER TO BE REMOVED. REFER TO ELECTRICAL PLANS.
- PROP. RAMP
- PROP. LIGHT DUTY ASPHALT
- PROP. SAND BOX WITH CURB. REFER TO LANDSCAPE PLANS.
- PROP. RETAINING WALL. REFER TO C2.1 FOR MORE INFORMATION.
- PROP. GAS METER ON CONCRETE PAD. REFER TO MECHANICAL PLANS FOR GAS METER DETAILS.
- WTM TO SPLIT INTO FIRE AND DOMESTIC INTERNALLY. REFER TO MECHANICAL PLANS FOR DETAIL ON INTERNAL WTM SPLIT, BACKFLOW PREVENTOR AND METER.
- EX. 100mmø WTM CONNECTION TO EX. BUILDING TO REMAIN AT THIS LOCATION
- CONTRACTOR TO PROVIDE BEST EFFORTS TO LIMIT DISTURBANCE WITHIN THE EX. TREE DRIPLINE.
- 150mm TO 100mm WATERMAIN REDUCER. CONNECT 150mm WTM TO EXISTING 100mm WTM VIA TEE. CONTRACTOR TO CUT AND REMOVE EX. 100mm WTM DOWNSTREAM OF CONNECTION POINT AND REPLACE WITH 150mm WTM. CONTRACTOR TO CONFIRM SIZE, LOCATION, MATERIAL AND CONDITION OF EXISTING WTM.
- CONNECT 100mmø SAN TO EXISTING 200mmø SANITARY VIA MH CONNECTION. CONTRACTOR TO CONFIRM SIZE, LOCATION, MATERIAL AND CONDITION OF EXISTING SAN SEWER.
- ***CAUTION***: CROSSING MAINTAIN MIN 0.3m VERTICAL CLEARANCE BETWEEN STM. & EX.SAN. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND ELEVATION OF EX. SAN SEWER. STM.INV=220.41
- CONNECT PROP. 375mmø STM TO EXISTING 250mmø STM VIA NEW 'DOG HOUSE' METHOD MH. CONTRACTOR TO CUT AND REMOVE EX. 250mmø STM DOWNSTREAM OF CONNECTION POINT AND REPLACE WITH 375mmø STM. CONNECT AT INV.=220.49 CONTRACTOR TO CONFIRM LOCATION, SIZE, ELEVATION, MATERIAL AND CONDITION OF EXISTING STM SEWER.
- CONTRACTOR TO REMOVE EXISTING 100mmø WTM CONNECTION AND REPLACE WITH 150mmø WTM CONNECTION VIA CUT-IN-TEE.
- ***CAUTION***: CROSSING MAINTAIN MIN 0.5m VERTICAL CLEARANCE BETWEEN WTM & EX. SAN, EX. STM. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND ELEVATION OF EX. SAN & EX. STM SEWER.
- ***CAUTION***: CROSSING MAINTAIN MIN 0.5m VERTICAL CLEARANCE BETWEEN WTM & SAN. SAN OBV=220.51 WTM INV=221.30±
- CONTRACTOR TO CONFIRM LOCATION, SIZE, CONDITION, MATERIAL AND CONNECTIVITY OF SEWER AND INFORM CIVIL ENGINEER OF FINDINGS. CUT AND CAP EX. 400mm STM FULLY GROUT END.
- PROP. TRANSFORMER ON CONCRETE PAD
- PROP. HP GENERAL CONTRACTOR TO COORDINATE WITH UTILITIES
- CONTRACTOR TO REMOVE EXISTING STM IN THIS LOCATION IF IN CONFLICT WITH TRANSFORMER OR PROP. ELECTRICAL LINES. CONTRACTOR TO FIRST CONFIRM LOCATION, SIZE, CONDITION, MATERIAL AND CONNECTIVITY OF SEWER AND INFORM CIVIL ENGINEER OF FINDINGS BEFORE CUTTING STM SEWER.
- ***CAUTION***: CROSSING MAINTAIN MIN 0.3m VERTICAL CLEARANCE BETWEEN STM. & EX.STM. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND ELEVATION OF EX. STM SEWER. IF EX. STM SEWER IN CONFLICT, ADVISE CIVIL ENGINEER. STM.OBV=220.91 EX. STM INV.=221.09±
- EX. UTILITY POLE TO REMAIN. CONTRACTOR TO SUPPORT UTILITY POLE AND GUY WIRES DURING INSTALLATION OF STORM SEWER.
- CONTRACTOR TO CONFIRM LOCATION, SIZE, MATERIAL AND CONDITION OF EXISTING STM SEWER
- CONTRACTOR TO REMOVE EXISTING 250mmø STM CONNECTION AND REPLACE WITH 375mmø STM CONNECTION.
- PROPOSED 185mmø ORIFICE PLATE (REFER TO DETAIL ON C2.3)
- PROP. 30.6m SUBDRAIN UNDERLYING SWALE. SUBDRAIN TO CONNECT INTO CBMHS. REFER TO C2.1 FOR GRADING OF SWALE. (REFER TO DETAIL ON C2.3)
- PROP. 63.2m SUBDRAIN UNDERLYING SWALE. SUBDRAIN TO CONNECT INTO CBMHS. REFER TO C2.1 FOR GRADING OF SWALE. (REFER TO DETAIL ON C2.3)
- PROP. 17.7m SUBDRAIN UNDERLYING SWALE SUBDRAIN TO CONNECT INTO CB2.1. REFER TO C2.1 FOR GRADING OF SWALE. (REFER TO DETAIL ON C2.3)
- DRAINAGE FROM AD1 TO CONNECT TO INTERNAL PLUMBING SYSTEM. REFER TO MECHANICAL PLANS.
- REFER TO MECHANICAL PLANS FOR DETAILS ON BACKFLOW PREVENTOR
- PROP. BOLLARD
- PROP. FIRE HYDRANT
- PROPOSED RETAINING WALL. REFER TO C2.1 FOR MORE INFORMATION.
- PROP. GARBAGE
- PROP. BOLLARD (TYP.)
- PROP. SNOW STORAGE
- PROP. DROP CURB
- KISS & RIDE
- PROP. BIKE RACK
- PROP. PLANTER
- PROP. CANOPY ABOVE
- PROPOSED MEDIUM DUTY ASPHALT
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED PAINTED BARRIER FREE PARKING SPACES
- PROP. LIGHT STANDARDS (TYP.) REFER TO ELECTRICAL PLANS
- PROP. SIGN (TYP.) REFER TO ARCHITECTURAL PLANS
- PROP. RETAINING WALL. REFER TO C2.1 FOR MORE INFORMATION.
- KINDERGARTEN PLAY AREA
- CHILDCARE PLAY AREA
- LIGHT DUTY ASPHALT
- LANDSCAPE AREA
- CSW
- CONC.
- 15.5m–450mmø STM @ 1.0%
- 40.4m–450mmø STM @ 0.8%
- 31.4m–450mmø STM @ 0.5%
- 30.2m–450mmø STM @ 0.5%
- 34.6m–525mmø STM @ 1.0%
- 44.8m–525mmø STM @ 0.5%
- 0.8m–250mmø STM @ 2.6%
- 15.0m–250mmø STM @ 2.0%
- 6.5m–100mmø SAN @ 2.0%
- 22.9m–100mmø SAN @ 2.0%
- 14.5m–375mmø STM @ 2.0%
- 4.0m–375mmø STM @ 0.7%
- 14.3m–375mmø STM @ 0.7%
- 33.6m–375mmø STM @ 0.7%
- 6.5m–250mmø STM @ 1.0%
- 14.5m–375mmø STM @ 2.0%
- 22.6m–375mmø STM @ 1.5%
- 150mmø WTM
- 2.5m
- 45° BEND
- TEE
- SAN STUB INV.=220.49
- WTM STUB
- STM STUB INV.=221.90
- STM STUB INV.=221.65
- STM STUB INV.=221.60
- SITE BENCH MARK ELEVATION=222.745 TOP OF SPINDLE OF FIRE HYDRANT

LEGEND OF EXISTING FEATURES

- SITE BOUNDARY
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- EXISTING CURB
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING MAN DOOR
- EXISTING TREES
- EASEMENT

LEGEND OF PROPOSED FEATURES

- PROPOSED BUILDING
- MAN DOOR
- CONCRETE CURB
- RETAINING WALL
- EMBANKMENT (SLOPE AS NOTED)
- SANITARY SEWER
- STORM SEWER
- PERFORATED BIG 'O' SUBDRAIN (SEE DETAIL ON C2.3)
- WATERMAIN
- SHALLOW PIPE INSULATION (SEE DETAIL ON C2.3)
- FENCE
- GUARDRAIL
- BARRIER FREE PARKING REFER TO ARCHITECTURAL PLANS
- PROP. SIGN REFER TO ARCHITECTURAL PLANS
- PROP. LIGHT STANDARD REFER TO ELECTRICAL PLANS
- PROP. BACKFLOW PREVENTOR
- SIDEWALK RESTORATION
- PROPOSED HEAVY DUTY ASPHALT
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED BOLLARD

SCALE 1 : 250
5 0 5 10 15 metres

No.	Revision	Date
1.	ISSUED FOR SPA	OCT. 11/2024

LICENSED PROFESSIONAL ENGINEER
K.R.RAMSEWAK
100100928
2024-10-11
PROVINCE OF ONTARIO
Seal

MTE
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Project Information
ELGIN AVENUE PUBLIC SCHOOL ADDITION
80 ELGIN AVENUE, SIMCOE ON
For
SMCDSB

Drawing Title
SITE SERVICING PLAN

Date	Project No	Drawing No
2024-04-25	43581-101	C2.2
Design by CKM / Checked by RNC/KRR		
Scale 1:250		

October 11, 2024 – 10:38:19 AM – Plotted By: Rovie Cologero

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CONSTRUCTION NOTES AND SPECIFICATIONS

1. GENERAL

1.1. THESE PLANS ARE NOT FOR CONSTRUCTION UNTIL SIGNED AND SEALED BY ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.

1.2. THESE PLANS ARE TO BE USED FOR SERVICING AND GRADING ONLY; ANY OTHER INFORMATION SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THESE PLANS MUST NOT BE USED TO SITE THE PROPOSED BUILDING.

1.3. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.

1.4. THESE PLANS ARE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF MTE CONSULTANTS INC.

1.5. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST:

1.5.1. CHECK AND VERIFY ALL EXISTING CONDITIONS, LOCATIONS AND ELEVATIONS WHICH INCLUDES BUT IS NOT LIMITED TO THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING.

1.5.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.

1.5.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND BASEMENT FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.

1.5.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.

1.6. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR ANY DAMAGE TO EXISTING WORKS. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO LOCAL MUNICIPALITY STANDARDS

1.7. ALL WORKS ON A MUNICIPAL RIGHT-OF-WAY WITH THE EXCEPTION OF WATERMAIN TAPPING, TO BE INSTALLED BY THE OWNER'S CONTRACTOR AT OWNER'S EXPENSE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY'S "PROCEDURE FOR OFF-SITE WORKS BY PRIVATE CONTRACTOR". THE OWNER AND CONTRACTOR ARE TO ENSURE OFF-SITE WORKS PERMIT IS IN PLACE PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL AFFECTED PROPERTY TO ORIGINAL CONDITION. ALL BOULEVARD AREAS SHALL BE RESTORED WITH 150mm TOPSOIL AND SOD.

1.8. ALL UNDERGROUND SERVICES ARE TO BE CONSTRUCTED IN FULL COMPLIANCE WITH THE ONTARIO PROVINCIAL BUILDING CODE (PART 7, PLUMBING), THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND THE REGIONAL MUNICIPALITY OF NORFOLK COUNTY; WHICH CODES AND REGULATIONS SHALL SUPERSEDE ALL OTHERS.

1.9. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE, DIVISION C, PART 1, SECTION 1.2.2. GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.

1.10. STORM SEWERS AND SERVICES TO HAVE A MINIMUM 1.2m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. CONTACT DESIGN ENGINEER FOR "SEWER PIPE INSULATION DETAIL" IF REQUIRED.

1.11. PLAN TO BE READ IN CONJUNCTION WITH MTE DRAWING C1.1, C2.1, C2.2, C2.3, FUNCTIONAL SERVICING AND SWM REPORT.

1.12. SITE PLAN INFORMATION TAKEN FROM PLAN PREPARED BY SALTER PILON ARCHITECTURE DATED OCTOBER 2024.

1.13. EXISTING TOPOGRAPHIC AND LEGAL INFORMATION TAKEN FROM PLAN PREPARED BY JEWITT AND DIXON LTD, DATED APRIL 2018 AND MTE DATED JUNE 2024. MTE ASSUMES THAT ALL TOPOGRAPHICAL INFORMATION IS AN ACCURATE REPRESENTATION OF CURRENT CONDITIONS.

1.14. CONTRACTOR TO OBTAIN WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNER PRIOR TO ENTERING UPON NEIGHBOURING LANDS TO UNDERTAKE ANY WORK. COPIES OF THESE LETTERS OF CONSENT SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT CONTRACTOR'S OWN RISK.

1.15. RETAINING WALLS TO BE DESIGNED BY OTHERS. FOR WALLS EXCEEDING 1.0m IN HEIGHT, SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW AND APPROVAL AND BUILDING PERMIT MUST BE OBTAINED. WALLS OVER 0.6m IN HEIGHT REQUIRE HIGH SIDE OF RETAINING WALLS TO BE BACKFILLED WITH FREE DRAINING MATERIAL.

1.16. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1 METRE FROM FOUNDATION WALL.

1.17. FILTER FABRIC TO BE TERRAFIX 270R OR APPROVED EQUAL.

1.18. MAXIMUM GRASSED SLOPE TO BE 3:1. SLOPES GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND COVER.

1.19. SIDE SLOPES OF ALL STOCKPILES OR EXTRACTION FACES TO BE MAINTAINED AT 70 DEGREES OR LESS BETWEEN EARLY APRIL AND LATE AUGUST TO DETER BANK SWALLOWS FROM NESTING.

1.20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS. ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE LOCAL MUNICIPALITY AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

1.21. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECCESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

1.22. CONTRACTOR TO MAINTAIN A 'CONFINED TRENCH CONDITION' IN ALL SEWER AND SERVICE TRENCHES.

1.23. FOLLOWING COMPLETION OF PROPOSED WORKS AND PRIOR TO OCCUPANCY INSPECTION, ALL STORM AND SANITARY SEWERS ARE TO BE FLUSHED, AND ALL CATCHBASIN AND CATCHBASIN MANHOLE SUMPS ARE TO BE CLEANED OF DEBRIS AND SILT.

2. STORM SEWERS

2.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030, 802.031, OR 802.032. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010, BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

2.2. STORM SEWERS, 150mm∅ AND SMALLER, SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

2.3. STORM SEWERS 200mm∅ TO 375mm∅ SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 OR RIBBED PVC SEWER PIPE CSA B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS. RIBBED PVC NOT TO BE USED WITHIN RIGHT-OF-WAY.

2.4. STORM SEWERS, 450mm∅ AND LARGER, SHALL BE CONCRETE PIPE, CSA-A257.2 65-D WITH RUBBER GASKET JOINT OR RIBBED PVC SEWER PIPE CSA B182.4-M90 ASTM-F794 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC RIBBED PVC NOT TO BE USED WITHIN RIGHT-OF-WAY.

2.5. MANHOLES AND MANHOLE CATCHBASINS TO BE 1200mm∅ PRECAST WITH ALUMINUM STEPS AT 300mm CENTRES AS PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.

2.6. CATCHBASINS TO BE 600mm SQUARE PRECAST AS PER OPSD 705.010.

2.7. ALL STORM STRUCTURES TO HAVE A MINIMUM 600mm DEEP SUMP.

2.8. MANHOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.

2.9. STORM MANHOLE LIDS TO BE PER OPSD 401.010 – TYPE 'B' CATCHBASIN AND CATCHBASIN MANHOLE GRATES TO BE PER OPSD 400.110.

2.10. ADJUSTMENT UNITS FOR STORM STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011.

2.11. STORM SEWERS AND SERVICES TO HAVE MINIMUM 1.2m COVER TO TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL". CONTACT DESIGN ENGINEER FOR "SEWER PIPE INSULATION DETAIL" IF REQUIRED.

2.12. UNDER NO CIRCUMSTANCES SHALL THE BUILDING FOUNDATION DRAINS BE CONNECTED DIRECTLY TO THE STORM SEWER SYSTEM.

2.13. ALL WEEPING TILE DRAINAGE TO BE PUMPED TO THE STORM SEWER SYSTEM.

3. SANITARY SEWERS

3.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010, BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

3.2. SANITARY SEWERS 150mm∅ AND SMALLER SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR28 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.3. SANITARY SEWERS 200mm∅ TO 600mm∅ INCLUSIVE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.4. SANITARY SEWERS GREATER THAN 600mm∅ SHALL BE POLYVINYL CHLORIDE (PVC) PIPE DR35 ASTM-D3034 WITH INTEGRAL BELL AND SPIGOT UTILIZING FLEXIBLE ELASTOMERIC SEALS.

3.5. MANHOLES TO BE 1200mm∅ PRECAST WITH ALUMINIUM STEPS AT 300mm CENTRES AS PER OPSD 701.010 UNLESS OTHERWISE SPECIFIED.

3.6. MANHOLES TO BE BENCHED PER OPSD 701.021.

3.7. SANITARY MANHOLE LIDS TO BE PER OPSD 401.010 – TYPE 'A'.

3.8. MANHOLE FRAMES, CASTINGS AND LIDS TO BE QUALITY GREY IRON ASTM A48 CLASS 30B.

3.9. ADJUSTMENT UNITS FOR SANITARY STRUCTURES TO BE IN ACCORDANCE WITH OPSD 704.010 OR 704.011.

3.10. FACTORY FABRICATED WYES SHALL BE USED FOR ALL SERVICE CONNECTIONS.

3.11. SANITARY SEWERS AND SERVICES TO HAVE MINIMUM 1.4m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "SEWER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI-1.76 (R10) INSULATING FACTOR (TYPICALLY 50-65mm). INSULATION BOARD WIDTH SHALL BE 1.8m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 2.4m FOR 201mm-800mm DIAMETER AND 3.0m FOR 801mm-1.600mm. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME. ACCEPTABLE PRODUCTS ARE DOW STYROFOAM-SM OR -HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD-M28 OR OTHER ENGINEER-APPROVED EQUIVALENT.

3.12. PVC FORCEMAIN SHALL HAVE TWU STRANDED COPPER, AWG8 TRACER WIRE STRAPPED TO TOP AT 5 METRE INTERVALS.

3.13. CONTRACTOR RESPONSIBLE FOR TESTING OF SANITARY SEWERS IN ACCORDANCE WITH OPSS 410.

4. WATERMAINS

4.1. PIPE BEDDING FOR RIGID PIPE TO BE CLASS "B" AS PER OPSD 802.030. PIPE BEDDING FOR FLEXIBLE PIPE TO BE AS PER OPSD 802.010, BEDDING MATERIAL AND COVER MATERIAL TO BE GRANULAR "A". TRENCH BACKFILL TO BE NATIVE MATERIAL REPLACED IN 300mm LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.

4.2. WATER SERVICE CONNECTIONS 50mm∅ AND SMALLER, SHALL BE TYPE "K" SOFT COPPER ASTM B88, ALUMINUM COMPOSITE CSA B137.10, OR HDPE SERIES 160 AWWA C 901 WITH SERVICE SADDLE. COPPER SERVICE SHALL HAVE 5.5Kg ANODE.

4.3. WATERMAINS 100mm∅ AND LARGER SHALL BE PVC C900 CLASS 150 INSTALLED WITH MINIMUM 2.0 METRES OF COVER. FITTINGS 100mm∅ AND LARGER SHALL BE PVC CLASS 150 (DR18) CSA B137.3.

4.4. WATERMAIN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS. FOR WATERMAIN PIPE SIZES 150mm∅ OR LESS ALL PIPE JOINTS TO BE RESTRAINED WITHIN 5.0m FROM ALL FITTINGS, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. FOR WATERMAIN PIPE SIZES GREATER THAN 150mm∅ ALL PIPE JOINTS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTINGS, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. ALL TEES TO HAVE MINIMUM 2.0m SOLID PIPE LENGTH ON EACH RUN OF THE TEE, OR PROVIDE A THRUST BLOCK PER OPSD 1103.010.

4.5. ALL METALLIC FITTINGS (EXCLUDING CURB/MAIN STOP AND BRASS FITTINGS) AND APPURTENANCES INCLUDING SADDLES, VALVES, TEES, BENDS ETC ARE TO BE WRAPPED WITH AN APPROVED PETROLATUM SYSTEM CONSISTING OF PASTE, MASTIC AND TAPE. PARTICULAR ATTENTION SHALL BE PAID TO ANODE INSTALLATION. CONTRACTOR TO REFER TO THE MOST RECENT EDITION OF THE LOCAL MUNICIPALITY AND AREA MUNICIPALITIES DESIGN GUIDELINES AND SUPPLEMENTAL SPECIFICATIONS FOR MUNICIPAL SERVICES.

4.6. WATERMAIN VALVES 100mm∅ AND LARGER SHALL BE AS PER AWWA C509 – MUELLER A2360-23 OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND 2.3Kg ANODE INCLUDING ANODE PROTECTION INSTALLED PER LOCAL MUNICIPALITY STANDARDS.

4.7. PVC WATERMAIN SHALL HAVE TWU STRANDED COPPER, AWG8 TRACER WIRE STRAPPED TO TOP AT 5 METRE INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CAD WELDED TO THE LOWER FLANGE OF THE HYDRANT.

4.8. HYDRANTS SHALL BE CANADA VALVE "CENTURY" OR APPROVED EQUIVALENT WITH 2-64mm HOSE CONNECTIONS INCLUDING 5.5Kg ANODE.

4.9. MAIN STOPS, CURB STOPS AND COUPLINGS SHALL BE AWWA C-800 COPPER TO COPPER FLANGED OR COMPRESSION CONNECTION OR APPROVED EQUIVALENT.

4.10. SERVICE BOXES TO BE FERGUSON ECLIPSE TYPE FIGURE 222 SIZE NO. 9 OR APPROVED EQUIVALENT COMPLETE WITH ROD AND PLUG.

4.11. WATER CONNECTIONS MAY BE PLACED IN THE SAME TRENCH WITH A STORM OR SANITARY CONNECTION ONLY IF A MINIMUM VERTICAL SEPARATION OF 500mm IS MAINTAINED BETWEEN THE WATER SERVICE AND ANY OTHER PIPE, IN ACCORDANCE WITH SECTION 7.3.5.7.(2)(a)(i) OF THE ONTARIO BUILDING CODE.

4.12. ALL WATERMAINS AND SERVICES TO HAVE MINIMUM 2.0m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL CONTACT DESIGN ENGINEER FOR "WATER PIPE INSULATION DETAIL".

4.13. ALL WATERMAINS AND SERVICES TO HAVE MINIMUM 2.0m COVER ON TOP OF PIPE. WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED PIPE IN ACCORDANCE WITH APPLICABLE "WATER PIPE INSULATION DETAIL" INDICATED IN DRAWING DETAILS. INSULATION SHALL BE RIGID EXTRUDED POLYSTYRENE (EPS) BOARD, WITH A THICKNESS SUFFICIENT TO PROVIDE AN RSI-3.52 (R20) INSULATING FACTOR (TYPICALLY 100-130mm). INSULATION BOARD WIDTH SHALL BE 2.4m FOR UP TO 200mm NOMINAL PIPE DIAMETER, 3.0m FOR 201mm-305mm DIAMETER. INSULATION BOARD SHALL BE INSTALLED WITH MINIMUM2-LAYERS, OVERLAPPED MINIMUM 300mm AT ALL JOINTS. ALL JOINTS SHALL BE TIGHTLY BUTTED TOGETHER (TAPE OR OTHERWISE SECURE JOINTS TO RESIST MOVEMENT DURING BACKFILL PLACEMENT). RIGID EPS BOARD SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 140kPa (20psi), AND A MAXIMUM WATER ABSORPTION RATE OF 2.0% BY VOLUME.ACCEPTABLE PRODUCTS ARE DOW STYROFOAM-SM OR -HI (FULL LINE), OWENS CORNING FOAMULAR (200, 250, OR HIGHER), PLASTISPAN HD-M28 OR OTHER ENGINEER-APPROVED EQUIVALENT.

4.14. ALL WATERMAIN TO BE PRESSURE TESTED IN ACCORDANCE WITH OPSS 441. DISINFECT ALL WATERMAIN IN ACCORDANCE WITH AWWA C 651-99 INCLUDING CHLORINATION, BACKFLOW PREVENTOR AND 24 HOUR DUPLICATE SAMPLING. ALL TESTING AND DISINFECTION TO BE COMPLETED UNDER THE SUPERVISION OF THE ENGINEER. **(CONTRACTOR TO SUBMIT WATER COMMISSIONING PLAN IN ACCORDANCE WITH OPSS.MUNI. THIS PLAN MUST BE APPROVED BY THE LOCAL MUNICIPALITY PRIOR TO ANY WATERMAIN WORK).**

4.15. PRIOR TO OCCUPANCY, CONTRACTOR MUST COMMISSION FIRE FLOW TEST FOR PRIVATE ON-SITE HYDRANT. PROVIDE RESULT TO DESIGN ENGINEER.

5. EROSION AND SEDIMENT CONTROL

5.1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES AS SHOWN PRIOR TO CONSTRUCTION AND MAINTAIN IN GOOD CONDITION UNTIL CONSTRUCTION IS COMPLETED AND ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE COVER.

5.2. ALL SEDIMENT CONTROL FENCING TO BE INSTALLED PRIOR TO ANY AREA GRADING, EXCAVATING OR DEMOLITION COMMENCING.

5.3. EROSION CONTROL FENCING TO BE INSTALLED AROUND BASE OF ALL STOCKPILES. ALL STOCKPILES TO BE KEPT 2.5m MINIMUM FROM PROPERTY LINE.

5.4. EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM AND SANITARY MHs AND CBs.

5.5. CONSTRUCTION ACCESS (MUD MAT) TO BE PROVIDED ON-SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES EXIT THE SITE. CONSTRUCTION ACCESS (MUD MAT) SHALL BE A MINIMUM OF 7.0m WIDE, 14.0m LONG (LENGTH MAY VARY DEPENDING ON SITE LAYOUT) AND 0.3m DEEP AND SHALL CONSIST OF 200mm CLEAR STONE MATERIAL OR APPROVED EQUIVALENT. PROPOSED EROSION FENCING TO TIE INTO MUD MAT. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAXIMIZE EFFECTIVENESS AT ALL TIMES.

5.6. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.

5.7. EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED.

5.8. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND THE LOCAL MUNICIPALITY'S DEPARTMENT OF PUBLIC WORKS.

5.9. CONTRACTOR TO CLEAN ROADWAY AND SIDEWALKS OF SEDIMENTS RESULTING FROM CONSTRUCTION TRAFFIC FROM THE SITE EACH DAY.

5.10. CONTRACTOR MUST REMOVE EROSION AND SEDIMENTATION FENCING PRIOR TO COMPLETION OF PROJECT. CONTRACTOR TO HAVE EROSION AND SEDIMENTATION FENCE INSPECTED WHEN VEGETATION HAS ESTABLISHED, BUT PRIOR TO FENCE BECOMING OVERGROWN. ENGINEER'S REPRESENTATIVE TO DETERMINE IF VEGETATION HAS REACHED THE CRITICAL POINT AND WILL THEN INSTRUCT CONTRACTOR TO REMOVE FENCE.

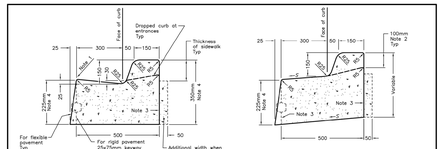
6. MAINTENANCE RECOMMENDATIONS

6.1. DURING THE COURSE OF CONSTRUCTION CONTRACTOR TO REMOVE SEDIMENT AND CONTAMINANTS FROM STORMWATER MANAGEMENT FACILITIES MONTHLY. FOLLOWING CONSTRUCTION CONTRACT COMPLETION, OWNER TO HIRE QUALIFIED CONTRACTOR TO REMOVE SEDIMENT AND CONTAMINANTS ANNUALLY AND REINSTATE STORMWATER MANAGEMENT FACILITIES ACCORDING TO THE DESIGN OUTLINED ON THIS PLAN, AS REQUIRED.

6.2. EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF 1/3 THE HEIGHT OF THE FENCE.

6.3. OWNER'S REPRESENTATIVE TO MONITOR EROSION CONTROL STRUCTURES TO ENSURE FENCING IS INSTALLED AND MAINTENANCE IS PERFORMED TO CITY REQUIREMENTS.

6.4. THE PROPOSED STORMCEPTOR(STC) WILL REQUIRE REGULAR ANNUAL MAINTENANCE. OWNER TO ENTER INTO A MAINTENANCE AGREEMENT WITH A SUITABLE CONTRACTOR TO COMPLETE THIS WORK.

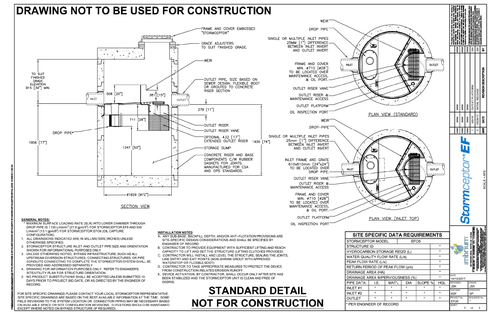


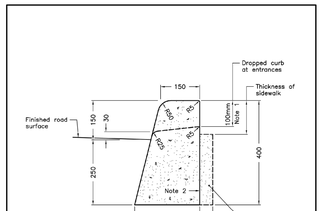
LEGEND:
S = Rate of pavement superelevation in percent, %.

NOTES:
1 Flexible and composite pavement shall be placed 5mm above the adjacent edge of gutter.
2 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
3 For slipforming procedure a 5% batter is acceptable.
4 For composite pavement the depth of concrete curb shall be adjusted to depth of concrete pavement.
5 When tie bars are specified, refer to OPSD 552.010 and 552.020 for details.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB WITH STANDARD GUTTER		OPSD 600.040

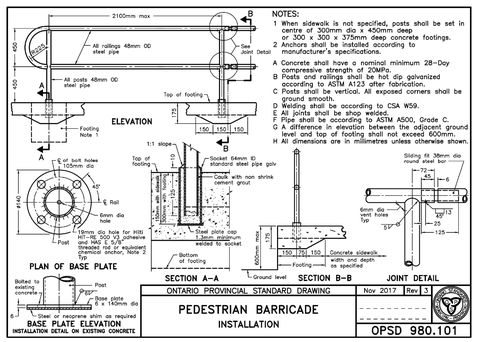
DRAWING NOT TO BE USED FOR CONSTRUCTION



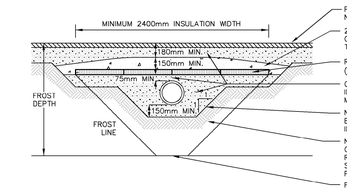


NOTES:
1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
2 For slipforming procedure a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSD 351.010.
B Outlet treatment shall be according to the OPSD 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
CONCRETE BARRIER CURB		OPSD 600.110

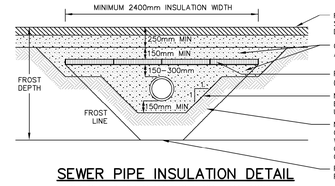


ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2017	Rev 3
PEDESTRIAN BARRICADE INSTALLATION		OPSD 980.101



SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 615mm COVER AND MINIMUM 470mm
N.T.S.



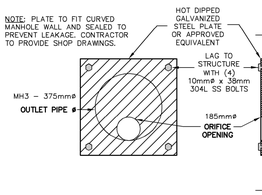
SEWER PIPE INSULATION DETAIL

FOR SEWER PIPES HAVING LESS THAN 1200mm COVER AND MINIMUM 615mm COVER
N.T.S.

PAVEMENT STRUCTURE FOR ON SITE

MATERIAL		RECOMMENDED THICKNESS	
		CAR PEKING ONLY	GENERAL USE
ASPHALTIC CONCRETE	HL8	40mm	40mm
	HL8	50mm	60mm
GRANULAR 'A' BASE		150mm	150mm
GRANULAR 'B' SUBBASE		300mm	400mm

BASED ON GEOTECHNICAL INVESTIGATION PREPARED BY: TERRAPROBE INC, DATED MAY 23, 2018.



ELGIN AVENUE P.S. - ADDITION & RENOVATIONS

80 Elgin Ave, Simcoe, Ontario N3Y 4A8

ISSUED FOR SITE PLAN APPROVAL - OCT. 21, 2024

CONSULTING TEAM

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L4M 6C1
T: 705-737-3530
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STRUCTURAL/CIVIL

MTE CONSULANTS INC.
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BURLINGTON, ONTARIO
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T: 905-639-2552

MECHANICAL / ELECTRICAL

CHORLEY+BISSET CONSULTING ENGINEERS
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LONDON, ONTARIO
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T: 519-679-8660

LANDSCAPE

HILL DESIGN STUDIO
1601 RIVER ROAD EAST, #303
KITCHENER, ONTARIO
N2A 3Y4
T: 226-686-0700

Drawing List - Architectural

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A102	Site Plan - Demolition
A103	Site Plans Details
A200	Fire Separation Plans
A200a	Fire Separation Plans
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A202	Level 1 & 2 - Existing/Demo
A203	Level 0 - Reno & 0.5 - Addition
A204	Level 1 & 2 - Reno
A205	Roof Plan
A206	Enlarged Plans
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A404	Wall Sections & Details
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A602	Interior Elevations
A603	Interior Elevations
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A704	RCP Level 1 & 2 - Reno
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A801	Level 0 Floor Finishes
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A803	Level 1 & 2 Floor Finishes
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S1.2	LOADING DIAGRAMS
S1.3	TYPICAL DETAILS
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S3.0	FOUNDATION DETAILS
S4.0	FRAMING PLANS
S4.1	FRAMING PLANS AND STEEL ELEVATION
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S5.1	FRAMING DETAILS
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C2.2	SITE SERVICING PLAN
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M202	LEVEL 0.5 ADDITION BELOW GRADE DRAINAGE
M203	LEVEL 0 & 0.5 RENOVATION PLUMBING
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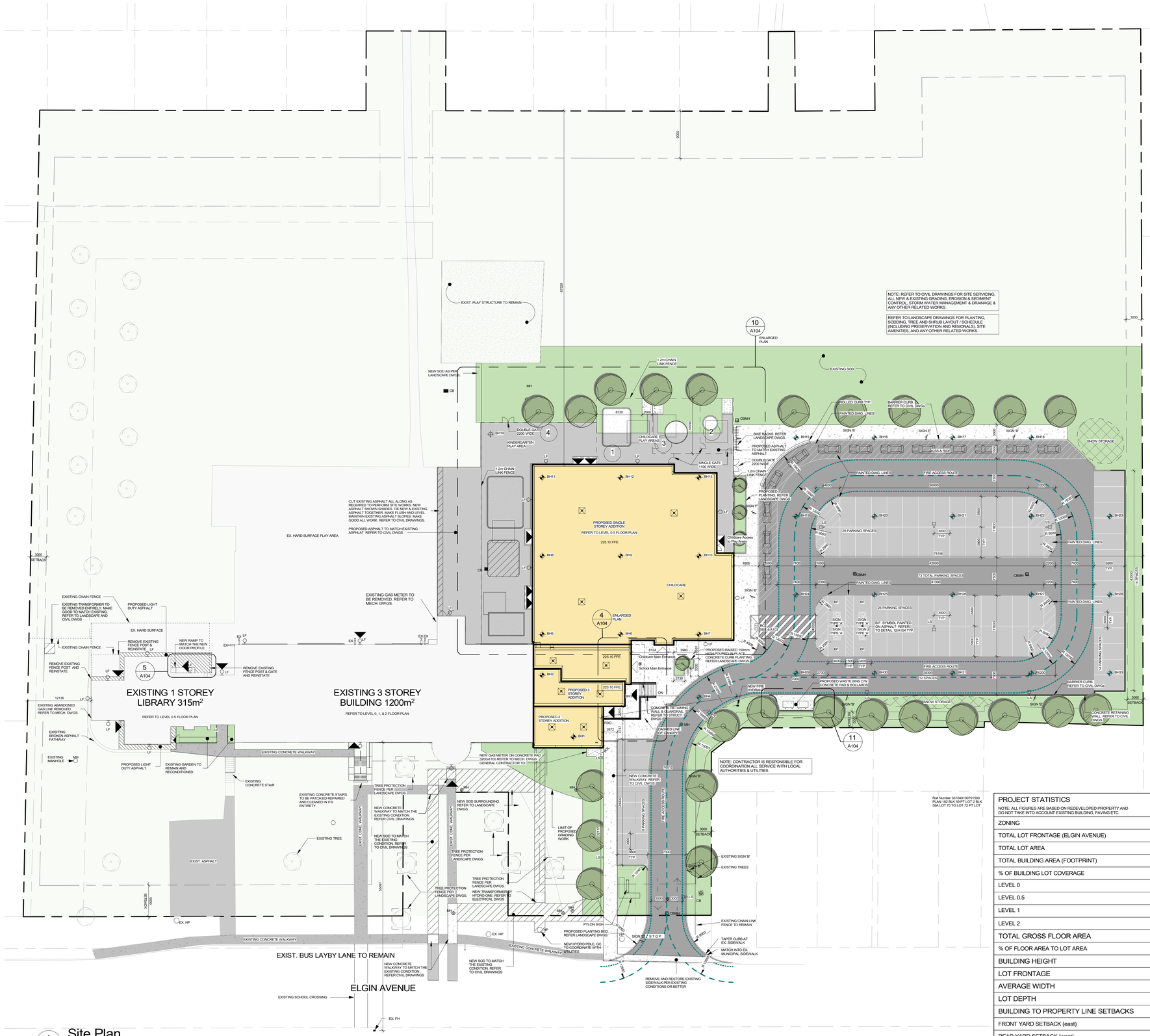
E601	LEVEL 0 FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION
E602	LEVEL 0.5 FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION
E603	LEVEL 1 FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION
E604	LEVEL 2 FLOOR PLAN - LIGHTING AND FIRE ALARM DEMOLITION
E701	LEVEL 0 FLOOR PLAN - POWER AND SYSTEMS DEMOLITION
E702	LEVEL 0.5 FLOOR PLAN - POWER AND SYSTEMS DEMOLITION
E703	LEVEL 1 FLOOR PLAN - POWER AND SYSTEMS DEMOLITION
E704	LEVEL 2 FLOOR PLAN - POWER AND SYSTEMS DEMOLITION
E801	SINGLE LINE DIAGRAM
E802	SINGLE LINE DIAGRAM DEMOLITION
E803	ELECTRICAL RISERS
E804	ELECTRICAL RISERS
E901	ELECTRICAL DETAILS
E902	ELECTRICAL DETAILS
E903	ELECTRICAL DETAILS
E904	ELECTRICAL DETAILS
E905	ELECTRICAL DETAILS
E906	SECUTRITY PANEL SCHEDULES

Drawing List - Landscape

Sheet Number	Sheet Name
L2	LANDSCAPE PLAN
L3	LANDSCAPE DETAILS
L4	LANDSCAPE DETAILS



1 / A101 **Site Plan**
1 : 300

SITE PLAN LEGEND

- LS — INDICATES POLE MOUNTED LIGHT STANDARD BY ELECTRICAL
- PROPERTY LINE
- PART LOT / EASEMENT LINE
- EXTENT OF CONTRACT
- FIRE ACCESS ROUTE
- INDICATES BIKE RACK PER LANDSCAPE
- MH — INDICATES MANHOLE PER CIVIL
- CB — INDICATES CATCH BASIN PER CIVIL
- CB/MH — INDICATES CATCH BASIN / MANHOLE PER CIVIL
- FH&V — INDICATES FIRE HYDRANT PER CIVIL
- BOL — INDICATES METAL BOLLARD PER DETAIL 3/A104
- INDICATES POST MOUNTED SIGN
- BH1 — INDICATES BOREHOLE LOCATION. REFER TO GEOTECHNICAL INVESTIGATION REPORT.
- INDICATES IB / SIB PER SURVEY
- BCC — INDICATES BARRIER FREE CUT CURB
- TCB — INDICATES TRAFFIC CALMING BUMP
- OS — OUTDOOR STORAGE AREA
- BUILDING ENTRANCE
- BARRIER FREE BUILDING ENTRANCE
- INDICATES NEW U/G ELECTRICAL / TELECOM SERVICE - REFER TO ELECTRICAL PLANS
- INDICATES NEW U/G INCOMING WATER SERVICE - REFER TO SITE SERVICES PLAN
- INDICATES NEW PLANTING PER LANDSCAPE DRAWINGS

1. CHILD CARE - PRESCHOOL PLAY YARD
Area Required = 134.4 m2 (24 x 5.6 m2)
Area Provided = 138.2 m2
2. CHILD CARE - INFANT PLAY YARD
Area Required = 56.0 m2 (10 x 5.6 m2)
Area Provided = 59.4 m2
3. CHILD CARE - TODDLER PLAY YARD
Area Required = 84.0 m2 (15 x 5.6 m2)
Area Provided = 89.7 m2
4. KINDERGARTEN - PLAY YARD
= 513.5 m2

- HEAVY-DUTY ASPHALT
- MEDIUM-DUTY ASPHALT
- LIGHT-DUTY ASPHALT
- CONCRETE PAVING / SIDEWALK
- GRAVEL SHOULDER / PATH
- GRASS / SOD

ITEM	ONTARIO BUILDING CODE DATA MATRIX PARTS 3 & 9			OBC REFERENCE
1	PROJECT DESCRIPTION	☐ NEW ■ ADDITION ■ ALTERATION ☐ CHANGE OF USE		■ PART 3
2	MAJOR OCCUPANCY(S)	GROUP A, DIVISION 2 - Elementary School & Child Care Facility		3.2.2.24
3	BUILDING AREA (m²)	3,048.4m²		1.1.3.2.
4	GROSS AREA (m²)	5379.2 m²		1.1.3.2.
5	NUMBER OF STOREYS	3		3.2.1.1. & 1.1.3.2.
6	HEIGHT OF BUILDING (m)	13.335 m		
7	NUMBER OF STREETS/ACCESS ROUTES	1 - Fire Route Indicated on Drawings		3.2.2.10. & 3.2.5.5.
8	BUILDING CLASSIFICATION	Group A, Division 2, Up to 6 Storeys, Any Area, Sprinklered		3.2.2.24
9	SPRINKLER SYSTEM PROPOSED	☐ ENTIRE BUILDING ■ ADDITION	☐ IN LIEU OF ROOF RATING ☐ NOT REQUIRED	3.2.2.24
10	STANDPIPE REQUIRED	☐ YES	☐ NO	3.2.9.
11	FIRE ALARM REQUIRED	■ YES	☐ NO	3.2.4.
12	WATER SERVICE/SUPPLY IS ADEQUATE	☐ YES	☐ NO	3.2.5.7.
13	HIGH BUILDING	☐ YES	☐ NO	3.2.6.
14	PERMITTED CONSTRUCTION ACTUAL CONSTRUCTION	☐ COMBUSTIBLE ☐ COMBUSTIBLE	☐ NON- COMBUSTIBLE ■ BOTH ☐ NON- COMBUSTIBLE ■ BOTH	3.2.2.24
15	MEZZANINE(S) AREA (m²)			3.2.1.1.
16	OCCUPANT LOAD BASED ON	☐ m² / PERSON ☐ DESIGN OF BUILDING		3.1.17.
17	BARRIER FREE DESIGN	■ YES	☐ NO (EXPLAIN)	3.8.
18	HAZARDOUS SUBSTANCES	☐ YES	☐ NO	M.2.1.2(1) & 3.3.1.19(1)
19	REQUIRED FIRE RESISTANCE RATING (FRR)	FLOOR ASSEMBLIES LOAD BEARING WALLS & COLUMNS ROOF RATING		3.2.2.24
20	SPATIAL SEPARATION			3.2.3.

ITEM	ONTARIO BUILDING CODE DATA MATRIX PART 11			OBC REFERENCE
1	BUILDING CLASSIFICATION DESCRIBE EXISTING USE Elementary School CONSTRUCTION INDEX HAZARD INDEX ■ NOT APPLICABLE			11.2.1. T 11.2.1.1A T 11.2.1.1B TO N
2	ALTERATION TO EXISTING BUILDING IS	☐ BASIC RENO ■ EXTENSIVE RENO		11.3.3.1. 11.3.3.2.
3	REDUCTION IN PERFORMANCE LEVEL			11.4.2.
	STRUCTURAL	☐ YES	■ NO	11.4.2.1.
	BY INCREASE IN OCCUPANT LOAD	☐ YES	■ NO	11.4.2.2.
	BY CHANGE OF MAJOR OCCUPANCY	☐ YES	■ NO	11.4.2.3.
	PLUMBING	☐ YES	■ NO	11.4.2.4.
	SEWAGE SYSTEM	☐ YES	■ NO	11.4.2.5.
4	COMPENSATING CONSTRUCTION			11.4.3.
	STRUCTURAL	☐ YES	■ NO	11.4.3.2.
	BY INCREASE IN OCCUPANT LOAD	☐ YES	■ NO	11.4.3.3.
	BY CHANGE OF MAJOR OCCUPANCY	☐ YES	■ NO	11.4.3.4.
	PLUMBING	☐ YES	■ NO	11.4.3.5.
	SEWAGE SYSTEM	☐ YES	■ NO	11.4.3.6.
5	COMPLIANCE ALTERNATIVES PROPOSED	☐ YES	■ NO	11.5.1.

GFA + FOOTPRINT

GROSS FLOOR AREA (GFA):
RENO: 3,687m²
ADDITION: 1,701.2m²

BUILDING AREA (FOOTPRINT):
RENO: 1,549.9m²
ADDITION: 1,498.5m²

PROJECT STATISTICS NOTE: ALL FIGURES ARE BASED ON REDEVELOPED PROPERTY AND DO NOT TAKE INTO ACCOUNT EXISTING BUILDING, PAVING ETC.	EXISTING	REQUIRED	PROVIDED
ZONING	IN	IN	IN
TOTAL LOT FRONTAGE (ELGIN AVENUE)	131.55m	15m	Existing
TOTAL LOT AREA	31,039m²	450m2	Existing
TOTAL BUILDING AREA (FOOTPRINT)	1,564.6m²	--	3,006.16m²
% OF BUILDING LOT COVERAGE	5.0%	--	9.68%
LEVEL 0	1,133.4m²	--	1,112.6m²
LEVEL 0.5	295.7m²	--	1,692.5m²
LEVEL 1	1,133.4m²	--	1,287.6m²
LEVEL 2	1,115.5m²	--	1,194m²
TOTAL GROSS FLOOR AREA	3,678m²	--	5,286.7m²
% OF FLOOR AREA TO LOT AREA	11.9%	--	17.03%
BUILDING HEIGHT	13.335m	11m	Existing
LOT FRONTAGE	131.55m	15m	Existing
AVERAGE WIDTH	Existing	--	Existing
LOT DEPTH	169.19m	--	Existing
BUILDING TO PROPERTY LINE SETBACKS			
FRONT YARD SETBACK (east)	4.89m	6m	Existing
REAR YARD SETBACK (west)	96.25m	7.5m	67.61m
INTERIOR SIDE YARD SETBACK (north)	27.38m	3m	16.51m
INTERIOR SIDE YARD SETBACK (south)	12.25m	3m	Existing
PARKING STALLS			
ELEMENTARY SCHOOLS REQUIRE 1.5 PARKING STALLS PER CLASSROOM INCLUDING LABORATORIES, LIBRARIES AND WORKSHOPS. 27 CLASSROOMS CHILDCARES, AS AN "OTHER NON-RESIDENTIAL USE", REQUIRE 1 PARKING STALL PER 30m² OF FLOOR AREA PARKING SPACE DIMENSIONS (3m x 5.8m)	X STALLS	60 SCHOOL: 27 x 1.5 = 40.5 CHILDCARE: 662 / 35 = 18.9	73
BARRIER FREE PARKING STALLS 51-75 Total number of parking space = 3 total number of accessible spaces (1 Type A & 2 Type B) Where an uneven number of accessible parking spaces are required, the extra Type B space may be changed toType A space.	2 BARRIER FREE STALLS	3 BARRIER FREE STALLS 1 Type A (3.4m x 5.8m) & 2 Type B (2.4m x 5.8m)	4 BARRIER FREE STALLS 4 Type 'A' (3.4m x 5.8m)

No.	Revision	Date
4	Issued for Site Plan Approval	October 21, 2024
3	Issued for 85% CD	July 26, 2024
2	50% CD	June 28th, 2024
1	Reissued for Childcare Submission	April 4, 2024

Orientation — PROJECT NORTH

Seal

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Project Information
Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For
Grand Erie District School Board

Drawing Title
Site Plan

Date	Project No	Drawing No
October 21, 2024	22017	A101
Drawn by JJ		
Scale As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
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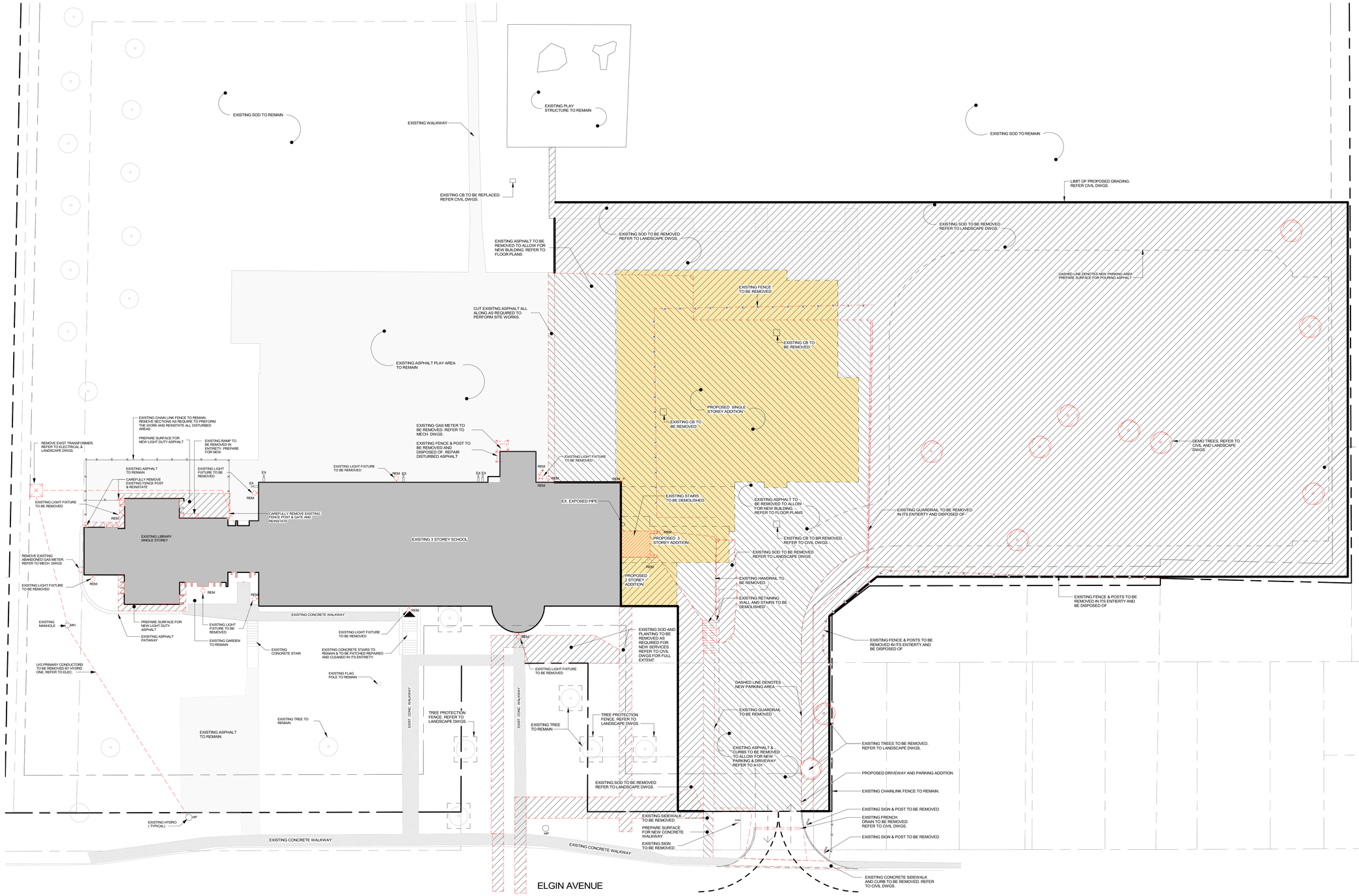

1 / A102 Site Plan - Demolished

1 : 250

DEMOLITION PLAN LEGEND:

- EXIST. TREES TO BE REMOVED.
- EXIST. VEGETATION TO BE REMOVED
- EXIST. FENCE POST TO BE REMOVED
- EXISTING ASPHALT PAVEMENT TO BE REMOVED
- EXISTING CONCRETE PAVING / SIDEWALK TO REMAIN
- EXISTING GRASS / SOD TO BE REMOVED
- EXISTING GRASS / SOD TO REMAIN

SITE PLAN GENERAL NOTES:

1. THE CONTRACT CONSISTS OF ALL WORK WITHIN THE 'EXTENT OF CONTRACT LINE INDICATED ON THE SITE PLAN PLUS ANY WORK SPECIFICALLY NOTED OUTSIDE OF THAT LINE. ALL WORK DONE OUTSIDE OF THESE LIMITS MUST BE EXECUTED IN STRICT ACCORDANCE WITH THE STANDARDS OF THE MUNICIPALITY AND ALL OTHER AUTHORITIES HAVING JURISDICTION. MAKE GOOD AT NO ADDITIONAL COST TO THE OWNER OR MUNICIPALITY ANY DAMAGE CAUSED BY THIS CONSTRUCTION TO MATERIALS OR FINISHES BEYOND THE EXTENT OF CONTRACT LINE.
2. CONTRACTOR IS TO RESTRICT ALL WORK, EQUIPMENT, AND MATERIALS STORAGE TO AREAS WITHIN 'EXTENT OF CONTRACT LINE EXCEPT WHERE NOTED OTHERWISE. PRIMARY SITE ACCESS POINT & CONSTRUCTION PARKING AREA TO BE CONFIRMED WITH BUILDER, NO PARKING IN MUNICIPALITY RIGHT-OF-WAY.
3. LOCATE EXCAVATED MATERIALS & TOPSOIL PILES AS DIRECTED. AT COMPLETION OF PROJECT ANY EXCESS MATERIAL IS TO BE REMOVED AND AREA MADE GOOD ARCHITECTS SATISFACTION.
4. FOR TRENCHING & BACKFILLING OF ALL SERVICE LINES AND DIVISION OF RESPONSIBILITY, REFER TO APPROPRIATE SECTIONS IN SPECIFICATIONS.
5. SUPPLY AND PLACE TOPSOIL TO THICKNESS SPECIFIED OVER ALL SODDED AND PLANTER AREAS INDICATED ON DRAWINGS. PROVIDE ADDITIONAL TOPSOIL AS REQUIRED OVER AND ABOVE TOPSOIL TAKEN FROM SITE. PROVIDE SODDING TO AREAS INDICATED AND TERMINATE AT 'EXTENT OF CONTRACT' LINE. EXTEND SODDING BEYOND PROPERTY LINES TO ROADWAYS WHERE INDICATED.
6. NOTE THAT EXACT LOCATIONS OF ALL NEW MECHANICAL & ELECTRICAL ITEMS ARE APPROXIMATE UNLESS DIMENSION GIVEN. ADJUST LOCATION AS REQUIRED AND AS APPROVED BY CONSULTANT TO SUIT SITE CONDITIONS.
7. NOTE THAT ALL MECHANICAL AND ELECTRICAL UNDERGROUND SERVICE LINES INDICATED ON DRAWINGS ARE APPROXIMATE ONLY AND ARE INDICATED AS ACCURATELY AS POSSIBLE FROM INFORMATION SUPPLIED. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT TYPES, LOCATIONS AND DEPTHS OF ALL UNDERGROUND SERVICES IN AREA OF CONSTRUCTION, INCLUDING GAS LINES, TELEPHONE, CABLE TV, ETC. AND VERIFY THEIR LOCATION WITH THE APPROPRIATE AUTHORITIES BEFORE EXCAVATING.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE RECORDS OF CONSTRUCTION TO FACILITATE AS-CONSTRUCTED DRAWINGS.
9. REFER TO CIVIL DRAWINGS FOR SITE SERVICING AND GRADING, EROSION AND SEDIMENT CONTROL, STORM WATER MANAGEMENT AND DRAINAGE, AND ANY OTHER RELATED WORKS.
10. REFER TO LANDSCAPE DRAWINGS FOR PLANTING, SODDING, TREE AND SHRUB LAYOUT / SCHEDULE (INCLUDING PRESERVATION AND REMOVALS), PAVER LAYOUTS, SITE AMENITIES, AND ANY OTHER RELATED WORKS.
11. REFER TO M&E DRAWINGS FOR SITE LIGHTING / POWER, CISTERNS, AND ANY OTHER RELATED WORKS.
12. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS FROM ALL DISCIPLINES. ALL DIMENSIONS ARE TO BE CHECKED AND VERIFIED ON THE JOB. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT. ALL DRAWINGS REMAIN THE PROPERTY OF THE CONSULTANT. ONLY LATEST APPROVED DRAWINGS ARE TO BE USED FOR CONSTRUCTION.
13. CONTRACTOR TO REPAIR ANY DAMAGED EXISTING ASPHALT, CONCRETE & SOD NOT INDICATED TO BE REMOVED OR REPLACED.

No.	Revision	Date
3	Issued for Site Plan Approval	October 21, 2024
2	Issued for 85% CD	July 26, 2024
1	50% CD	June 28th, 2024

Orientation

PROJECT NORTH

Seal

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For

Grand Erie District School Board

Drawing Title

Site Plan - Demolition

Date	Project No	Drawing No
October 21, 2024	22017	A102
Drawn by SP		
Scale As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
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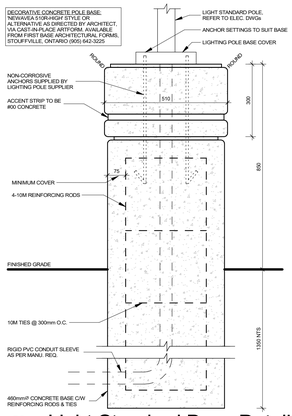
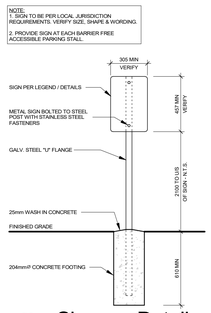


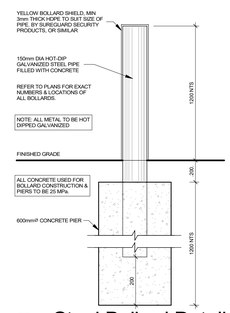
1 A103 **Light Standard Base Detail**

1 : 10



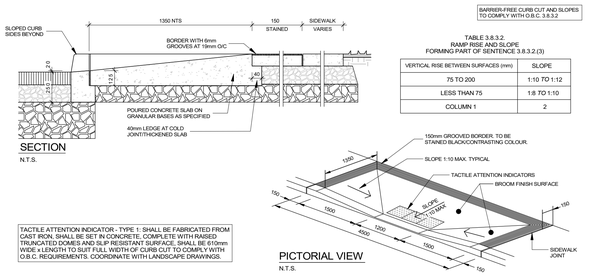
2 A103 **Signage Detail**

1 : 20



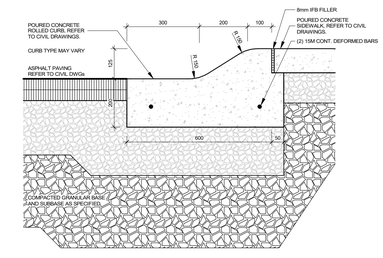
3 A103 **Steel Bollard Detail**

1 : 10



4 A103 **B.F. Curb Cut Detail**

Scale as Noted



5 A103 **Rolled Curb At Sidewalk**

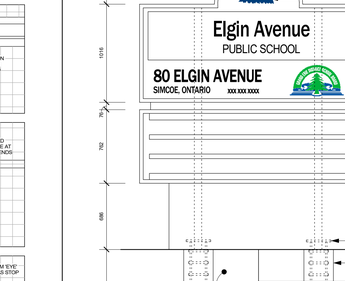
1 : 10

6 A103 **Rolled Curb At Sodding**

1 : 10

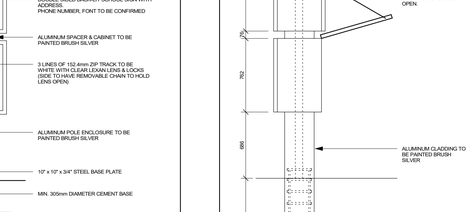
7 A103 **Barrier Curb At Sidewalk**

1 : 10



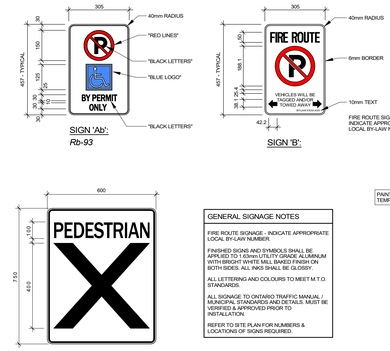
8 A103 **Barrier Curb At Sodding**

1 : 10



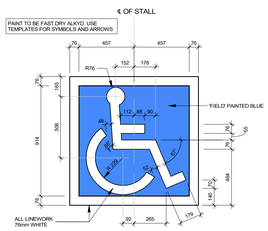
9 A103 **Concrete Sidewalk Edge**

1 : 10



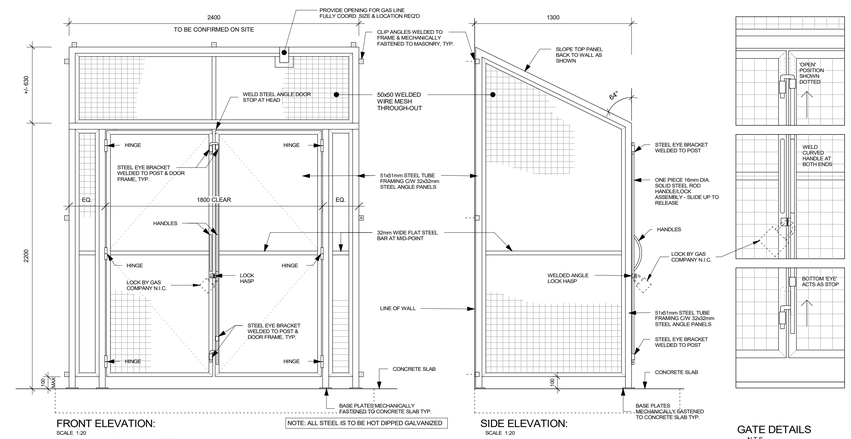
10 A103 **Exterior Site Signage**

1 : 10



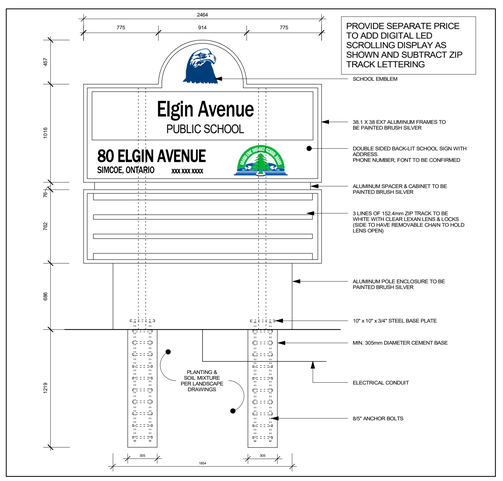
11 A103 **B.F. Pavement Logo**

1 : 20



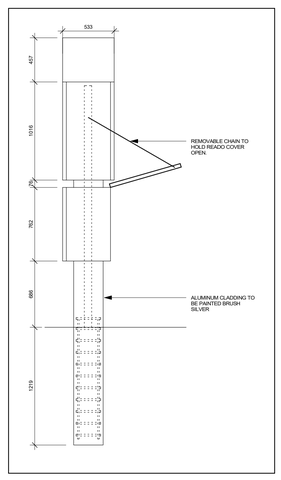
12 A103 **Gas Meter Enclosure**

1 : 20



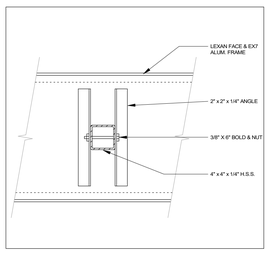
15 A103 **Pylon Sign Elevation**

1 : 25



16 A103 **Pylon Sign Section**

1 : 25



17 A103 **Pylon Sign Plan**

1 : 10

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No.	Revision	Date
3	Issued for Site Plan Approval	October 21, 2024
2	Issued for 85% CD	July 26, 2024
1	50% CD	June 28th, 2024

Orientation

PROJECT NORTH

Seal

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

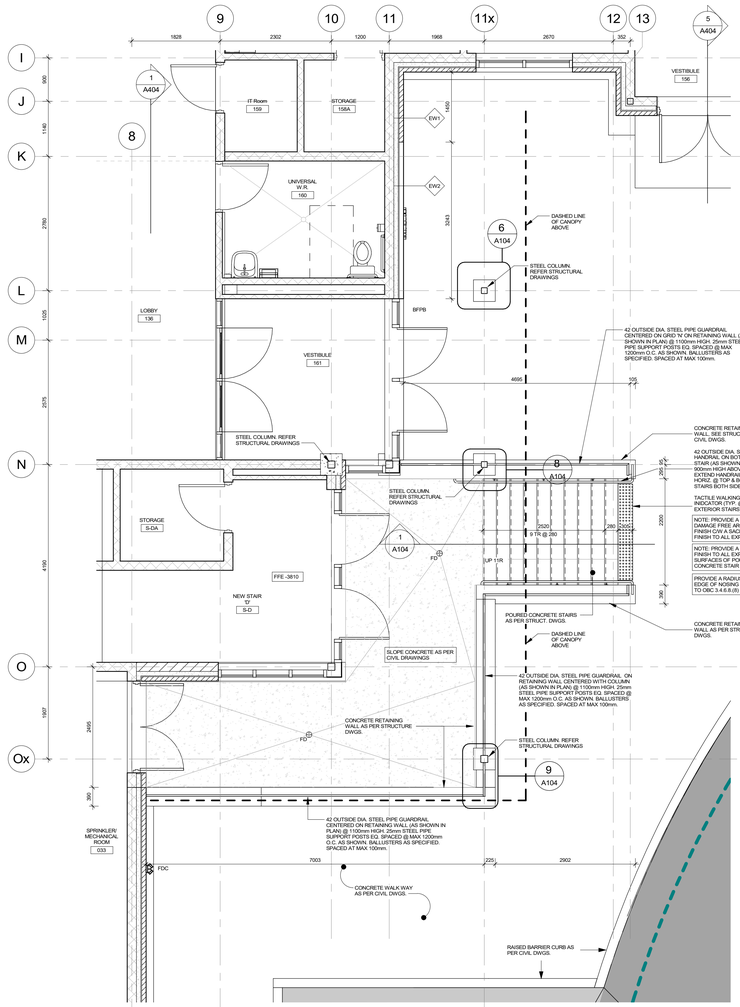
For

Grand Erie District School Board

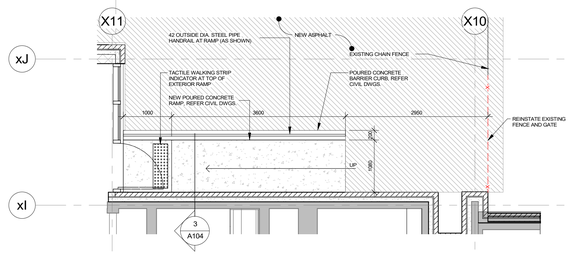
Drawing Title

Site Plans Details

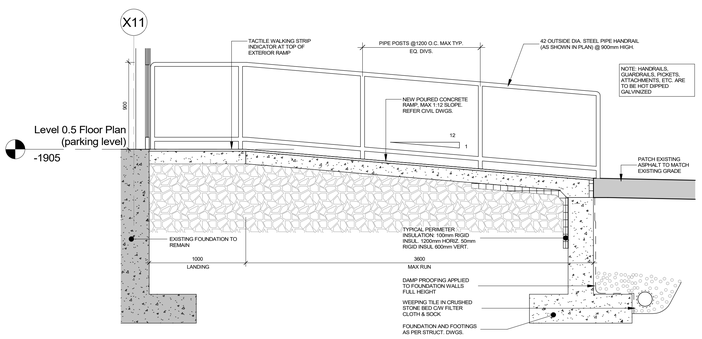
Date	Project No	Drawing No
October 21, 2024	22017	A103
Drawn by: Author		
Scale: As indicated		



4 A104 Enlarged Exterior Stairs
1 : 50

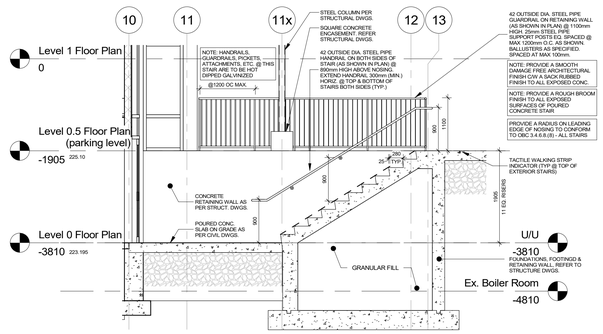


5 A104 Enlarged Exterior Ramp
1 : 50

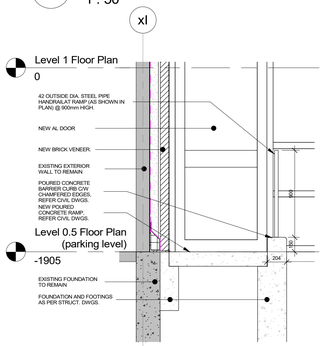


2 A104 Section - Ramp
1 : 25

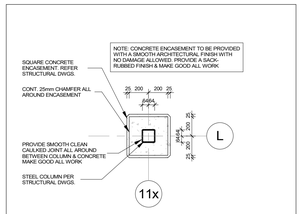
10 A104 Site Plan - Kindergarten / Childcare Play Area
1 : 150



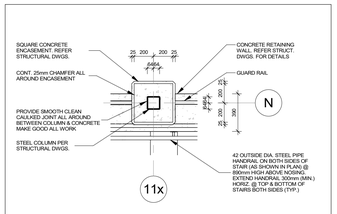
1 A104 Section - Exterior Stairs
1 : 50



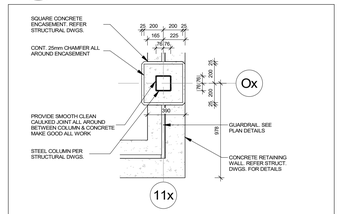
3 A104 Section- Exterior Ramp
1 : 25



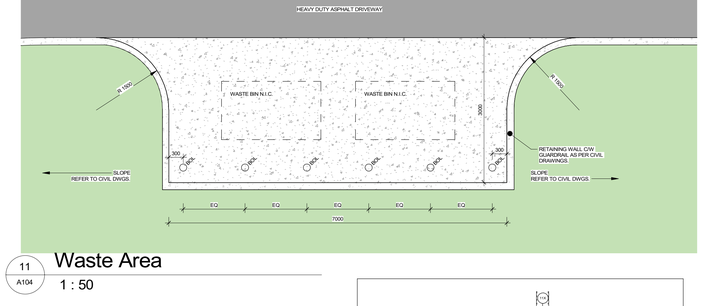
6 A104 Canopy Column L / 11x
1 : 25



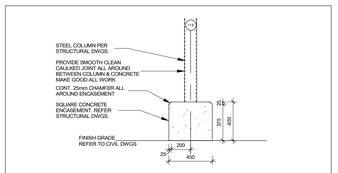
8 A104 Canopy Column N / 11x
1 : 25



9 A104 Canopy Column 0x / 11x
1 : 25



11 A104 Waste Area
1 : 50



7 A104 Canopy Column
1 : 25

No.	Revision	Date
1	Issued for Site Plan Approval	October 21, 2024

Orientation

Seal

All dimensions to be checked and verified on the job by the Contractor. Any discrepancies are to be reported to the Consultant prior to action. Only the latest approved drawings to be used for construction in conformance with all applicable codes, by-laws and regulations. All drawings remain the property of the Consultant.

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For

Grand Erie District School Board

Drawing Title

Site Plan Details

Date	Project No	Drawing No
October 21, 2024	22017	A104
Drawn by: Author		
Scale: As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
2024-10-21 3:10:01 PM

GENERAL ABBREVIATION LIST:

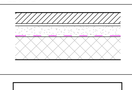
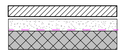
(NOTE: NOT ALL ABBREVIATIONS ARE USED ON THIS PROJECT)

ACT	ACOUSTIC CEILING TILE
ACP	ALUMINUM COMPOSITE PANEL
ACS	ADULT CHANGE STATION
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
ARCH	ARCHITECTURAL
AVB	AIR VAPOUR BARRIER
BF	BARRIER FREE
BFPB	BARRIER FREE PUSH BUTTON
BLK	BLOCK
BLKG	BLOCKING
BN	BULLNOSE
BOL	BOLLARD
BRK/BLK	BRICK/BLOCK
CBD	CEMENT BOARD
CG	CORNER GUARD
CH	COAT HOOK
CK	CAULK
CLG	CEILING
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CR	CARD READER
CRS	COURSE
CT	CERAMIC TILE
CTSK	COUNTERSUNK
C.W.	CURTAIN WALL
CWD	COMPOSITE WOOD PANELS
DCS	DIAPER CHANGE STATION
DET	DETAIL
DIM	DIMENSIONS
DIVS.	DIVISIONS
DN	DOWN
DWGS	DRAWINGS
DS	DOOR STOP
ECR	ELECTRONIC CARD READER
ECS	EMERGENCY CALL STATION
EHO	ELECTRONIC HOLD OPEN
ELECT	ELECTRICAL
EPX	EPOXY FLOORING
EQ	EQUAL
ES	EXPOSED STRUCTURE
EXT	EXTERIOR
EW	EYE WASH
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FIN.	FINISH
FLR	FLOOR
FRR	FIRE RESISTANCE RATING
FND	FOUNDATION
FS	FOLDING SEAT
GALV.	GALVANIZED
GB	GRAB BAR
GWB	GYPSUM WALL BOARD
HD	HAND DRYER
HB	HOSE BIBB
HDWD	HARDWOOD
HM	HOLLOW METAL
HMMF	HOLLOW METAL
HP	HIGH POINT
HPL	HIGH PRESSURE LAMINATE
HR	HAND RAIL
HRD	HAIR DRYER
HS	HAND SANITIZER DISPENSER
HSS	HOLLOW STEEL SECTION
HT	HEIGHT
HW	HEADWALL
HWC	HYGENIC WALL CLADDING
HWS	HAND WASH SINK
IC	INTUMESCENT COATING
IFB	IMPREGNATED FIBREBOARD
INSUL.	INSULATION
JT	JOINT
JS	JANITOR SHELF
LF	LIGHT FIXTURE
LP	LOW POINT
M	MIRROR
MAX.	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MM	MILLIMETERS
MSB	MOP SINK
MS	METAL STUD
MTL	METAL
NC	NURSE CALL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTRE
O.H.	OVERHEAD
OWSJ	OPEN WEB STEEL JOIST
PBL	PUSH BUTTON LOCK
PB	PANIC BUTTON
PCS	PIECES
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD (VENEER CORE)
PREFIN	PRE-FINISHED
PREMANUF	PREMANUFACTURED
PRIVANUF	PRIVACY CURTAIN & ROD
PS	PULL STATION
PT	PAINT
PTD	PAPER TOWEL DISPENSER
PTD/WR	PAPER TOWEL DISPENSER & WASTE RECEPTACLE
PRESS	PRESERVATIVE PRESSURE TREATED
R	RADIUS
RA	RETURN AIR
RA.A	RETURN ANCHOR
RBS	ROOM BOOKING SYSTEM
RC	SHOWER ROD & CURTAIN
RCB	RUBBER COVE BASE
RD	ROOF DRAIN
REINF	REINFORCED
RELOCD	RELOCATED
REQ'D	REQUIRED
RH	ROBE HOOK
RSD	RELIEF SCUPPER DRAIN
RS	ROLLER SHADES
S	LIQUID SOAP DISPENSER
SD	SOAP DISPENSER
SH	SHOWER HEAD
SHC	SHOWER CONTROLS
SHC	SHOWER HEAD & CONTROL
SVC	SHOWER VALVE CONTROL BOX
SND	SANITARY NAPKIN DISPOSAL UNIT
SPEC'D	SPECIFIED
SPS	SOLID POLYMER SURFACE
S.S.	STAINLESS STEEL
STL	STEEL
STN	STONE
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
TB	TACK BOARD
TEL	TELEPHONE
T.O.S.	TOP OF STRUCTURE
TP	TOILET TISSUE HOLDER
TWB	TOWEL BAR
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
UR	URINAL
U/S	UNDERSIDE
AVB	VAPOUR BARRIER
VERT	VERTICAL
VEST	VESTIBULE
VPAB	VAPOUR PERMEABLE AIR BARRIER
W/	WITH
WB	WHITE BOARD
WB2	WALLTALKER WHITE BOARD
WC	WATER CLOSET
WD	WOOD
WR	WASHROOM
WRP	Wall Protection Cladding

DRAWING SYMBOL LEGEND:

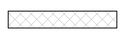
- 1 / A101 — REFERENCE BUBBLE - DETAIL NUMBER (TOP) - SHEET NUMBER (BOTTOM)
- 4 / A101 / 3 — ELEVATION BUBBLE - SHEET NUMBER (MIDDLE) - VIEW NUMBERS (ALL FOUR SIDES)
- 1 / A101 — SECTION BUBBLE - DETAIL NUMBER (TOP) - SHEET NUMBER (BOTTOM)
- Room name / 101 — ROOM TAG - ROOM NAME (ABOVE SYMBOL) - ROOM NUMBER (WITHIN SYMBOL)
- 101 — DOOR TAG (ASSOCIATED TO ROOM NUMBER) - DOOR NAME (WITHIN SYMBOL)
- CW101 — CURTAIN WALL TAG - CURTAIN WALL NUMBER (WITHIN SYMBOL)
- S101 — INTERIOR SCREEN TAG (ASSOCIATED TO ROOM NUMBER) - SCREEN NUMBER (WITHIN SYMBOL)
- WINDOW TAG - WINDOW NUMBER (WITHIN SYMBOL)
- MAT / HEIGHT — CEILING TAG - CEILING MATERIAL (TOP) - CEILING HEIGHT A.F.F. (BOTTOM)
- 9 — WALL TAG (REFER TO WALL TYPE SCHEDULE) - WALL TYPE (WITHIN SYMBOL)
- Length / Time, sec — PATH OF TRAVEL TAG - DISTANCE/LENGTH (TOP) - TIME BASED ON 4.8km/h (BOTTOM)

EXTERIOR WALL TYPES:

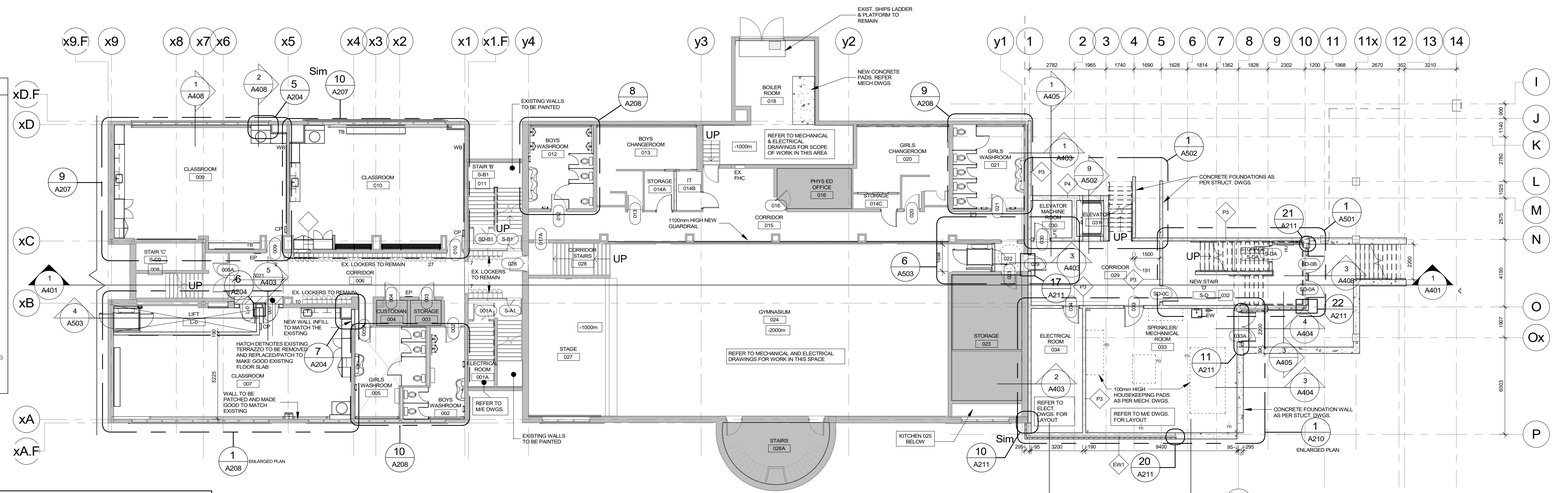
SYMBOL	WALL TYPE	
EW1		**EXTERIOR WALL TYPE EW1:** 90 BRICK VENEER (BR) 20 AIR SPACE MAX. 50 SPRAY FOAM INSULATION -- CONT. SELF-ADHERED AIR/VAPOUR BARRIER MEMBRANE 190 MIN. 190mm CONC. BLOCK (140,190 OR 240 CMU AS PER PLANS)
EW2		**EXTERIOR WALL TYPE EW2:** 90 ARCHITECTURAL BLOCK (AB) 20 AIR SPACE MAX. 50 SPRAY FOAM INSULATION -- CONT. SELF-ADHERED AIR/VAPOUR BARRIER MEMBRANE 190 MIN. 190mm CONC. BLOCK (140,190 OR 240 CMU AS PER PLANS)
EW3		**EXTERIOR WALL TYPE EW3:** 90 BRICK VENEER 200 AIR SPACE MAX. 50 SPRAY FOAM INSULATION -- CONT. SELF-ADHERED AIR/VAPOUR BARRIER MEMBRANE -- EXISTING CONCRETE BLOCK TO REMAIN

EXTERIOR WALL TYPE NOTES:
- METAL STUD SUPPLIER TO PROVIDE FOR ANY & ALL DEFLECTION IN THE DESIGN OF ALL METAL STUD PARTITIONS OR WALLS THROUGH-OUT THE ENTIRE PROJECT.
- UNLESS INDICATED OTHERWISE, EXTEND ALL PARTITIONS FULL HEIGHT TO U/S OF STRUCTURE.
- WALL TAGS WITH 'P' DESIGNATION DENOTES THE WALL TYPE IS SIMILAR AND IS USED IN PARAPET FRAMING

INTERIOR WALL TYPES:

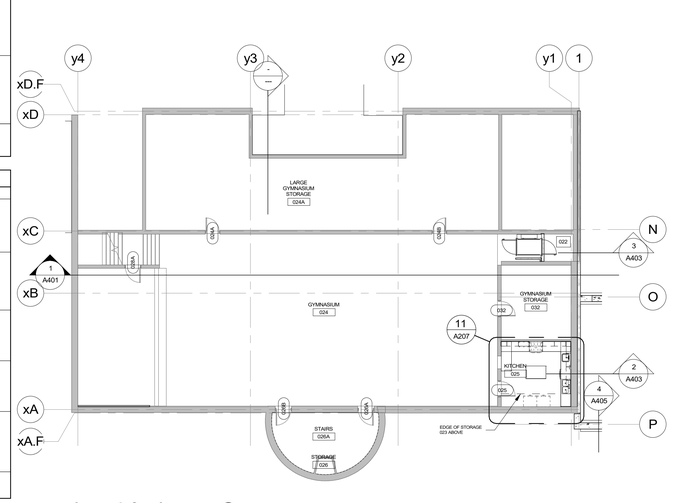
SYMBOL	WALL TYPE	
P1		**PARTITION TYPE P1 - CMU PLAIN FACED:** 90mm CMU PLAIN FACED BOTH SIDES PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P2		**PARTITION TYPE P2 - CMU PLAIN FACED:** 140mm CMU PLAIN FACED BOTH SIDES PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P3		**PARTITION TYPE P3 - CMU PLAIN FACED:** 190mm CMU PLAIN FACED BOTH SIDES PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P4		**PARTITION TYPE P4 - CMU PLAIN FACED:** 290mm CMU PLAIN FACED BOTH SIDES PROVIDE BULLNOSE EDGE AT ALL EXPOSED CORNERS
P5		**PARTITION TYPE P5 - GWB ON 64 STUD:** 16mm ABUSE RESISTANT GYPSUM WALL BOARD 64mm METAL STUD 400mm O/C MAX. (92 METALSTUD PER PLANS)

PARTITION TYPE NOTES:
- METAL STUD SUPPLIER TO PROVIDE FOR ANY & ALL DEFLECTION IN THE DESIGN OF ALL METAL STUD PARTITIONS OR WALLS THROUGH-OUT THE ENTIRE PROJECT.
- UNLESS INDICATED OTHERWISE, EXTEND ALL PARTITIONS FULL HEIGHT TO U/S OF STRUCTURE.



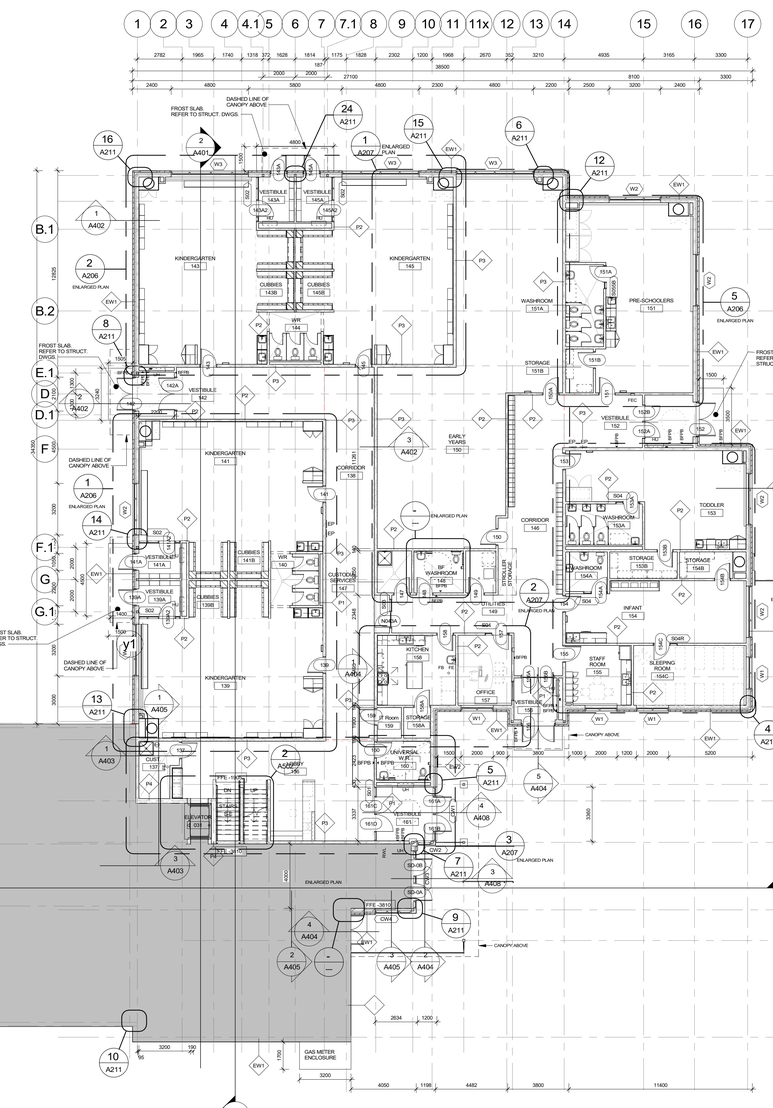
Level 0 Floor Plan - Reno

1 / A203 — 1 : 150



Level 0 - Lower Gym

4 / A203 — 1 : 150



Level 0.5 Floor Plan (Parking Level) - New

2 / A203 — 1 : 150

GENERAL NOTES:

ALL DIMENSIONS ARE IN MILLIMETERS [mm] UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO THE COMMENCEMENT OF WORK.

CONCRETE MASONRY UNITS (CMU) [INTERIOR]

THICKNESS OF STRUCTURAL CONCRETE MASONRY UNIT WALLS NOTED IN STRUCTURAL DRAWINGS. HEIGHT OF CONCRETE MASONRY UNIT WALLS TO BE TO UNDERSIDE OF ROOF DECK ABOVE UNLESS OTHERWISE NOTED.

WHERE CMU PARTITION IS A STRUCTURAL BEARING WALL REFER ALSO TO THE STRUCTURAL DRAWINGS FOR DESIGN.

CONCRETE MASONRY UNIT (CMU)

WHERE CONCRETE UNIT MASONRY WALLS ABUT REINFORCED CONCRETE WALLS AND PIERS, RAKE BACK MORTAR JOINT WHERE THE TWO MATERIALS MEET AND PROVIDE CONTINUOUS SEALANT.

FIRE RATED WALL & PARTITION ASSEMBLIES

F.R.R. REFERS TO WALLS, PARTITIONS, FLOORS, AND CEILINGS THAT HAVE A FIRE RESISTANCE RATING.

AT RECESSED PANEL INSTALLATIONS (E.G. ELECTRICAL PANELS) WITHIN RATED WALLS, PROVIDE FOR CONTINUITY OF THE REQUIRED RATING BEHIND THE PANEL. REFER TO THE ONTARIO BUILDING CODE DIVISION B, SECTION 3.1.9.2 FOR REQUIREMENTS FOR COMBUSTIBILITY OF SERVICE PENETRATIONS AND SECTION 3.1.10.2 FOR RATING OF FIREWALLS.

DUCT PENETRATIONS THROUGH BLOCK WALLS & FLOOR ASSEMBLIES

WHERE DUCTS, PIPES, AND CONDUITS PENETRATE EXPOSED CONCRETE UNIT MASONRY WALLS, CUT BLOCKS TO SUIT REQUIRED OPENINGS TO MINIMIZE PATCHING.

MASONRY VENEER

ENSURE THAT A CONTINUOUS AVB MEMBRANE IS MAINTAINED WHEREVER BRICK TIES PENETRATE EXTERIOR SHEATHING OR CONCRETE MASONRY UNIT.

VERIFY WITH STRUCTURAL ENGINEER IF SHEAR CONNECTORS ARE REQUIRED FOR BRICK/BLOCK TIES.

ROOF ASSEMBLIES

UPSTANDS ON ROOF FOR MECHANICAL UNITS, PARAPETS, SKYLIGHTS TO COME COMPLETE WITH CANT STRIPS.

CONTINUOUS VAPOUR RETARDER MEMBRANE COMPONENT OF ROOF ASSEMBLIES TO BE WRAPPED UP AT ALL PARAPETS, CURBS, EXTERIOR WALL ASSEMBLIES BY A MIN. 200mm OR AS DETAILED ON DRAWINGS. TIE INTO VAPOUR BARRIER & AVB MEMBRANES ON ALL VERTICAL SURFACES. PROVIDE TRISL & STUCK TYPE TRANSITION MEMBRANES IN ORDER TO ENSURE CONTINUITY OF AVB AND AIR BARRIER MEMBRANES.

REFLECTED CEILING PLAN NOTES

CONFIRM ALL MECHANICAL AND ELECTRICAL SERVICES AND FIXTURES WITH MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. QUANTITIES AND TYPES OF FIXTURES SHALL BE AS PER MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. EXACT LOCATION SHALL BE AS PER ARCHITECTURAL REFLECTED CEILING PLANS U.N.O.

REFLECTED CEILING PLANS MAY NOT SHOW ALL MECHANICAL AND ELECTRICAL FIXTURES.

WHERE MECHANICAL AND ELECTRICAL FIXTURES PENETRATE AN ACOUSTIC PARTITION, PATCH AND PROVIDE AN AIR-TIGHT SEAL AROUND PENETRATION. AT FIRE SEPARATIONS USE FIRESTOP MATERIAL AT PENETRATIONS TO MATCH THE FIRE RATING OF THE PARTITION, WALL, OR FLOOR ASSEMBLY.

COORDINATE ALL SERVICES INSTALLED WITHIN THE CEILING SYSTEM. COORDINATE ALL PENETRATIONS AND ACCESS PANELS WITH THE CEILING SUPPORT SYSTEM.

REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR FIRE EXIT SIGNAGE.

REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOCATIONS AND SIZES OF ACCESS PANELS.

LOCATE DETECTORS, SPEAKERS, ETC. ON CENTRE LINE OR MID-POINT OF ACT CEILING PANELS U.N.O.

LOCATE LIGHT FIXTURES ON CENTRE OF ACOUSTIC CEILING TILES U.N.O.

FLOOR PLAN GENERAL NOTES:

1. DIMENSIONS SHOWN ARE TAKEN TO FACE OF CMU, POURED CONCRETE, OR METAL STUD UNLESS NOTED OTHERWISE. ALL GWB OR CMU PARTITIONS TO EXTEND TIGHT TO U/S OF FLOOR OR ROOF DECKS UNLESS NOTED OTHERWISE.
2. REFER TO FIRE SEPARATION KEYPLANS FOR LOCATIONS OF ALL RATED WALLS.
3. WHERE DOORS OCCUR WITHIN WALLS CONSTRUCTED AS FIRE SEPARATIONS, THE WALL ABOVE SUCH SCREENS OR DOORS SHALL BE CONSTRUCTED TO PROVIDE THE REQUIRED FIRE RESISTANCE RATING INDICATED.
4. WHERE FIRE RATED PARTITIONS ABUT NON-RATED PARTITIONS THE FIRE RATED ASSEMBLY SHALL BE CONTINUOUS AND UNINTERRUPTED BY THE ABUTTING WALLS TO MAINTAIN A CONTINUOUS FIRE SEPARATION.
5. SEAL PERIMETER OF FIRE RATED WALLS AND AROUND PENETRATIONS THROUGH FIRE RATED WALLS WITH APPROVED FIRESTOPPING MATERIALS.
7. REFER TO STRUCTURAL DRAWINGS FOR LATERAL SUPPORT AT THE TOP OF CMU WALLS.
8. ON ALL EXPOSED CORNERS OF EXPOSED MASONRY WALLS PROVIDE BULLNOSE BLOCK UNLESS NOTED OTHERWISE.
9. REFER TO ELECTRICAL DWGS FOR LOCATIONS OF PANELS, DOOR CONTROLS, SECURITY DEVICES ETC NOT SHOWN ON ARCHITECTURAL DRAWINGS.

No.	Revision	Date
3	Issued for Site Plan Approval	October 21, 2024
2	Issued for 85% CD	July 26, 2024
1	50% CD	June 28th, 2024

Orientation — PROJECT NORTH

Seal

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For

Grand Erie District School Board

Drawing Title

Level 0 - Reno & 0.5 - Addition

Date	Project No	Drawing No
October 21, 2024	22017	A203
Drawn by: Author		
Scale: As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
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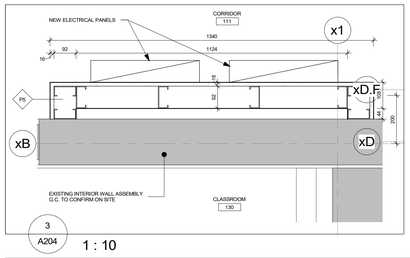
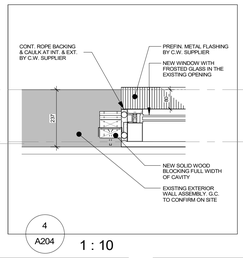


3 A204 1 : 10



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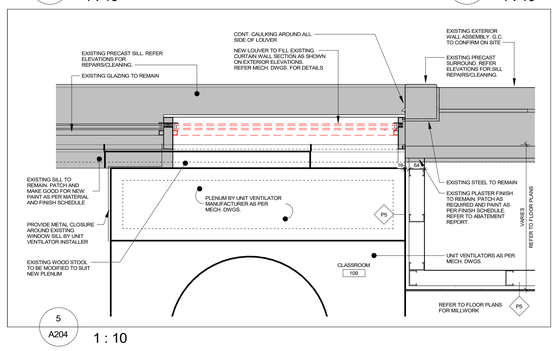

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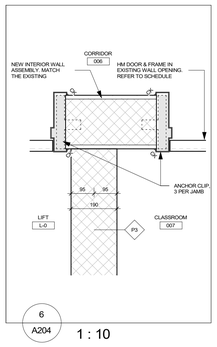
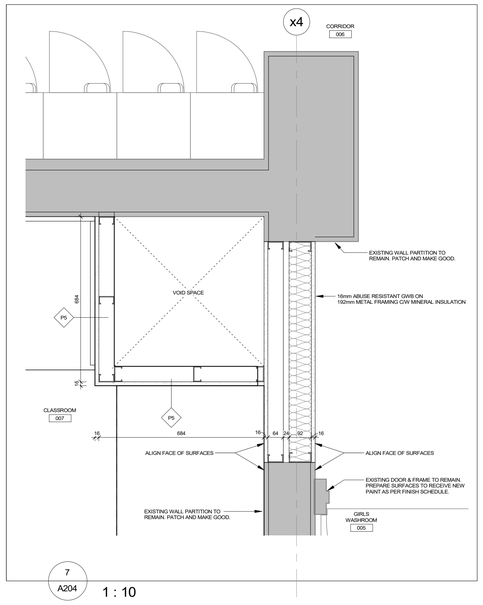
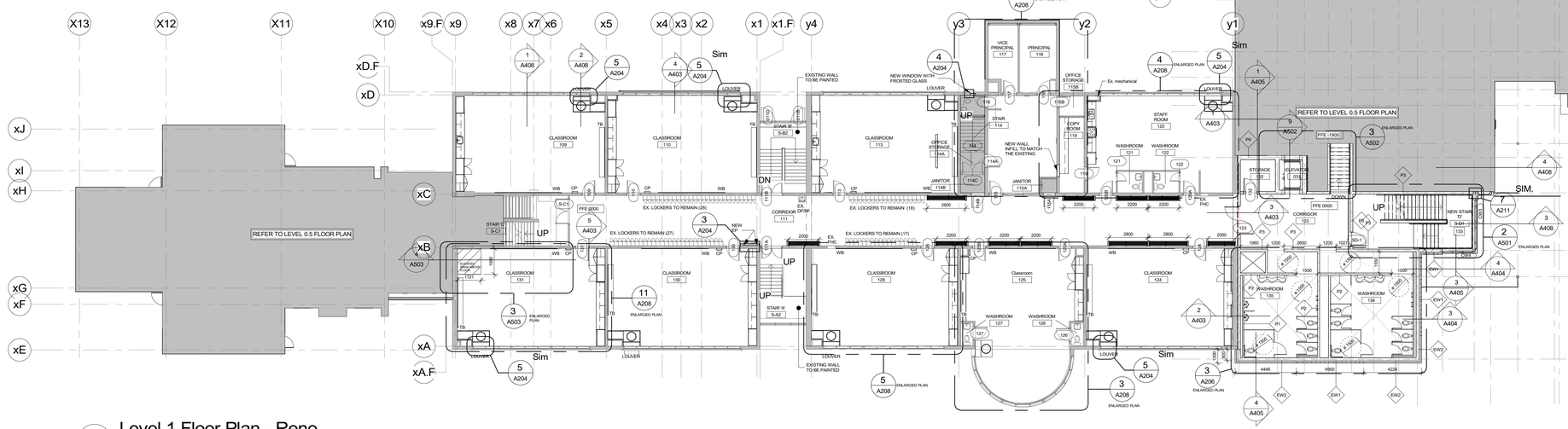


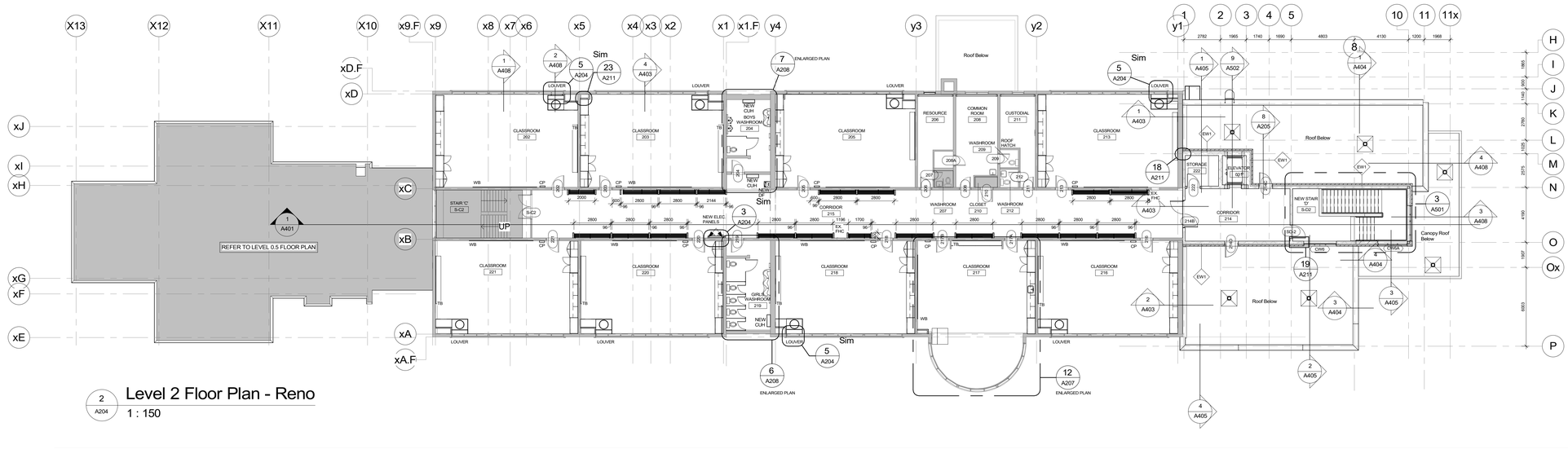
6 A204 1 : 10



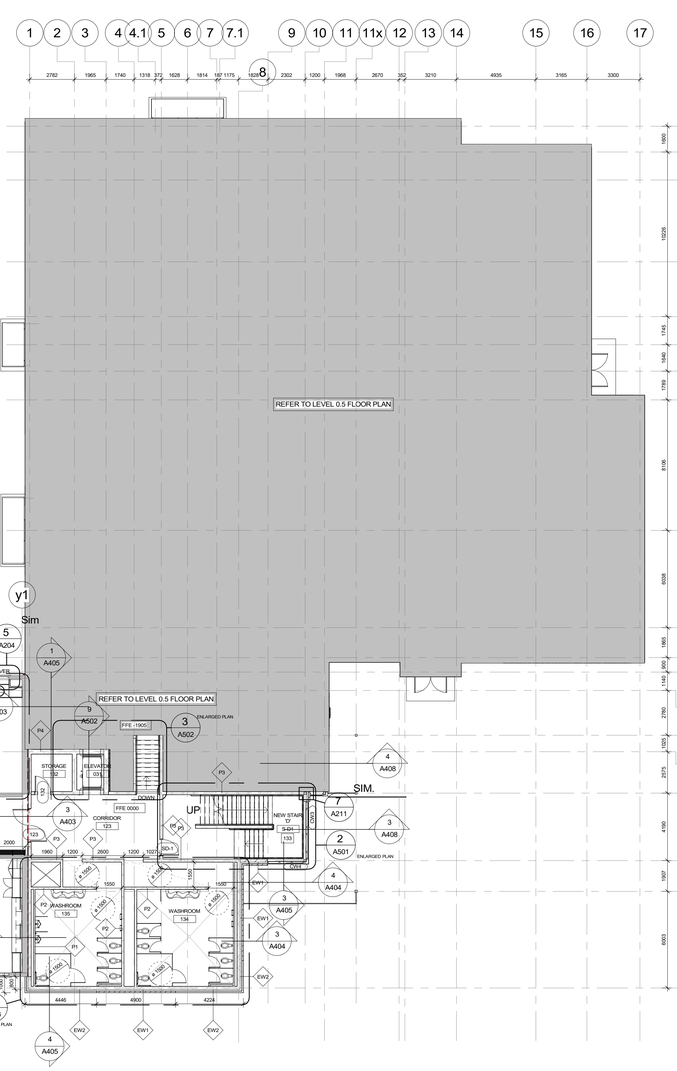
7 A204 1 : 10



1 A204 Level 1 Floor Plan - Reno
1 : 150



2 A204 Level 2 Floor Plan - Reno
1 : 150



GENERAL NOTES:

ALL DIMENSIONS ARE IN MILLIMETERS [mm] UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO THE COMMENCEMENT OF WORK.

CONCRETE MASONRY UNITS (CMU) (INTERIOR)

THICKNESS OF STRUCTURAL CONCRETE MASONRY UNIT WALLS NOTED IN STRUCTURAL DRAWINGS. HEIGHT OF CONCRETE MASONRY UNIT WALLS TO BE TO UNDERSIDE OF ROOF DECK ABOVE UNLESS OTHERWISE NOTED.

WHERE CMU PARTITION IS A STRUCTURAL BEARING WALL REFER ALSO TO THE STRUCTURAL DRAWINGS FOR DESIGN.

CONCRETE MASONRY UNIT (CMU)

WHERE CONCRETE UNIT MASONRY WALLS ABUT REINFORCED CONCRETE WALLS AND PIERS, RAKE BACK MORTAR JOINT WHERE THE TWO MATERIALS MEET AND PROVIDE CONTINUOUS SEALANT.

FIRE RATED WALL & PARTITION ASSEMBLIES

F.R.R. REFERS TO WALLS, PARTITIONS, FLOORS, AND CEILINGS THAT HAVE A FIRE RESISTANCE RATING.

AT RECESSED PANEL INSTALLATIONS (E.G. ELECTRICAL PANELS) WITHIN RATED WALLS PROVIDE FOR CONTINUITY OF THE REQUIRED RATING BEHIND THE PANEL. REFER TO THE ONTARIO BUILDING CODE DIVISION B, SECTION 3.1.9.2 FOR REQUIREMENTS FOR COMBUSTIBILITY OF SERVICE PENETRATIONS AND SECTION 3.1.10.2 FOR RATING OF FIREWALLS.

DUCT PENETRATIONS THROUGH BLOCK WALLS & FLOOR ASSEMBLIES

WHERE DUCTS, PIPES, AND CONDUITS PENETRATE EXPOSED CONCRETE UNIT MASONRY WALLS, CUT BLOCKS TO SUIT REQUIRED OPENINGS TO MINIMIZE PATCHING.

MASONRY VENEER

ENSURE THAT A CONTINUOUS AVB MEMBRANE IS MAINTAINED WHEREVER BRICK TIES PENETRATE EXTERIOR SHEATHING OR CONCRETE MASONRY UNIT.

VERIFY WITH STRUCTURAL ENGINEER IF SHEAR CONNECTORS ARE REQUIRED FOR BRICK/BLOCK TIES.

ROOF ASSEMBLIES

UPSTANDS ON ROOF FOR MECHANICAL UNITS, PARAPETS, SKYLIGHTS TO COME COMPLETE WITH CANT STRIPS.

CONTINUOUS VAPOUR RETARDER MEMBRANE COMPONENT OF ROOF ASSEMBLIES TO BE WRAPPED UP AT ALL PARAPETS, CURBS, EXTERIOR WALL ASSEMBLIES BY A MIN. 200mm OR AS DETAILED ON DRAWINGS. TIE INTO VAPOUR BARRIER & AVB MEMBRANES ON ALL VERTICAL SURFACES. PROVIDE 'PEEL & STICK' TYPE TRANSITION MEMBRANES IN ORDER TO ENSURE CONTINUITY OF AVB AND AIR BARRIER MEMBRANES.

REFLECTED CEILING PLAN NOTES

CONFIRM ALL MECHANICAL AND ELECTRICAL SERVICES AND FIXTURES WITH MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. LOCATIONS AND TYPES OF FIXTURES SHALL BE AS PER MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. EXACT LOCATION SHALL BE AS PER ARCHITECTURAL REFLECTED CEILING PLANS U.N.O.

REFLECTED CEILING PLANS MAY NOT SHOW ALL MECHANICAL AND ELECTRICAL FIXTURES.

WHERE MECHANICAL AND ELECTRICAL FIXTURES PENETRATE AN ACOUSTIC PARTITION, PATCH AND PROVIDE AN AIR-TIGHT SEAL AROUND PENETRATION. AT FIRE SEPARATIONS USE FIRESTOP MATERIAL AT PENETRATIONS TO MATCH THE FIRE RATING OF THE PARTITION, WALL, OR FLOOR ASSEMBLY.

COORDINATE ALL SERVICES INSTALLED WITHIN THE CEILING SYSTEM. COORDINATE ALL PENETRATIONS AND ACCESS PANELS WITH THE CEILING SUPPORT SYSTEM.

REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR FIRE EXIT SIGNAGE.

REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOCATIONS AND SIZES OF ACCESS PANELS.

LOCATE DETECTORS, SPEAKERS, ETC. ON CENTRE LINE OR MID-POINT OF ACT CEILING PANELS U.N.O.

LOCATE LIGHT FIXTURES ON CENTRE OF ACOUSTIC CEILING TILES U.N.O.

FLOOR PLAN GENERAL NOTES:

1. DIMENSIONS SHOWN ARE TAKEN TO FACE OF CMU. POLIRED CONCRETE, OR METAL STUD UNLESS NOTED OTHERWISE. ALL GWB OR CMU PARTITIONS TO EXTEND TIGHT TO U/S OF FLOOR OR ROOF DECKS UNLESS NOTED OTHERWISE.
2. REFER TO FIRE SEPARATION KEYPLANS FOR LOCATIONS OF ALL RATED WALLS.
3. WHERE DOORS OCCUR WITHIN WALLS CONSTRUCTED AS FIRE SEPARATIONS, THE WALL ABOVE SUCH SCREENS OR DOORS SHALL BE CONSTRUCTED TO PROVIDE THE REQUIRED FIRE RESISTANCE RATING INDICATED.
4. AND WHERE FIRE RATED PARTITIONS ABUT NON-RATED PARTITIONS THE FIRE RATED ASSEMBLY SHALL BE CONTINUOUS UNINTERUPTED BY THE ABUTTING WALLS TO MAINTAIN A CONTINUOUS FIRE SEPARATION.
5. SEAL PERIMETER OF FIRE RATED WALLS AND AROUND PENETRATIONS THROUGH FIRE RATED WALLS WITH APPROVED FIRESTOPPING MATERIALS.
7. REFER TO STRUCTURAL DRAWINGS FOR LATERAL SUPPORT AT THE TOP OF CMU WALLS.
8. ON ALL EXPOSED CORNERS OF EXPOSED MASONRY WALLS PROVIDE BULLNOSE BLOCK UNLESS NOTED OTHERWISE.
9. REFER TO ELECTRICAL DWGS FOR LOCATIONS OF PANELS, DOOR CONTROLS, SECURITY DEVICES ETC NOT SHOWN ON ARCHITECTURAL DRAWINGS.

No.	Revision	Date
3	Issued for Site Plan Approval	October 21, 2024
2	Issued for 85% CD	July 26, 2024
1	50% CD	June 28th, 2024

Orientation

PROJECT NORTH

Seal

All dimensions to be checked and verified on the job by the Contractor. Any discrepancies are to be reported to the Consultant prior to action. Only the latest approved drawings to be used for construction in conformance with all applicable codes, by-laws and regulations. All drawings remain the property of the Consultant.

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DRAWING SYMBOL LEGEND:

- 1 / A101 — REFERENCE BUBBLE — DETAIL NUMBER (TOP) — SHEET NUMBER (BOTTOM)
- 4 / A101 / 3 — ELEVATION BUBBLE — SHEET NUMBER (MIDDLE) — VIEW NUMBERS (ALL FOUR SIDES)
- 1 / A101 — SECTION BUBBLE — DETAIL NUMBER (TOP) — SHEET NUMBER (BOTTOM)
- Room name / 101 — ROOM TAG — ROOM NAME (ABOVE SYMBOL) — ROOM NUMBER (WITHIN SYMBOL)
- 101 — DOOR TAG (ASSOCIATED TO ROOM NUMBER) — DOOR NAME (WITHIN SYMBOL)
- CW101 — CURTAIN WALL TAG — CURTAIN WALL NUMBER (WITHIN SYMBOL)
- S101 — INTERIOR SCREEN TAG (ASSOCIATED TO ROOM NUMBER) — SCREEN NUMBER (WITHIN SYMBOL)
- MAT / HEIGHT — WINDOW TAG — WINDOW NUMBER (WITHIN SYMBOL)
- 1 — CEILING TAG — CEILING MATERIAL (TOP) — CEILING HEIGHT A.F.F. (BOTTOM)
- 1 — WALL TAG (REFER TO WALL TYPE SCHEDULE) — WALL TYPE (WITHIN SYMBOL)
- Length / Time (etc) — PATH OF TRAVEL TAG — DISTANCE/LENGTH (TOP) — TIME BASED ON 4.8km/h (BOTTOM)

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For

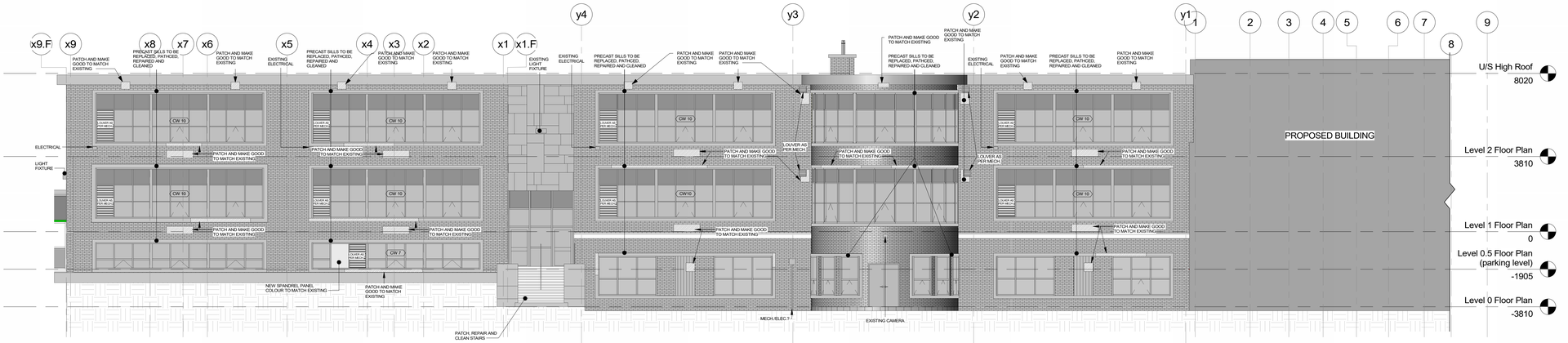
Grand Erie District School Board

Drawing Title

Level 1 & 2 - Reno

Date	October 21, 2024	Project No	Drawing No
Drawn by	Author	22017	A204
Scale	As indicated		

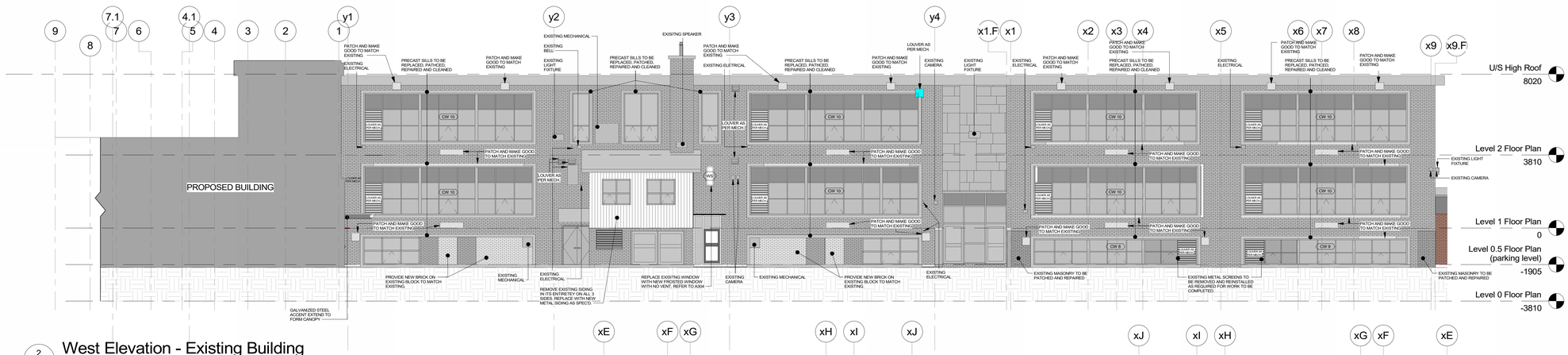
BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
2024-10-21 3:10:14 PM



1 / A301

East Elevation - Existing Building

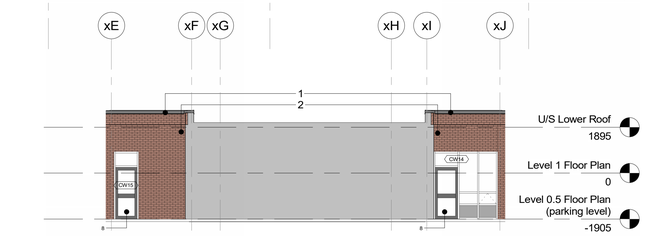
1 : 100



2 / A301

West Elevation - Existing Building

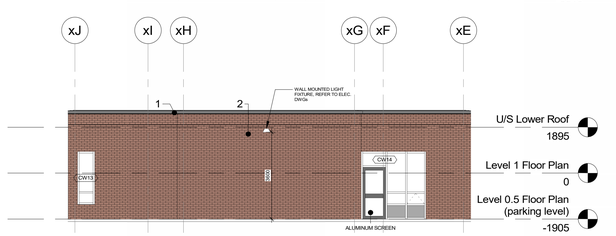
1 : 100



6 / A301

North Elevation - Existing Library

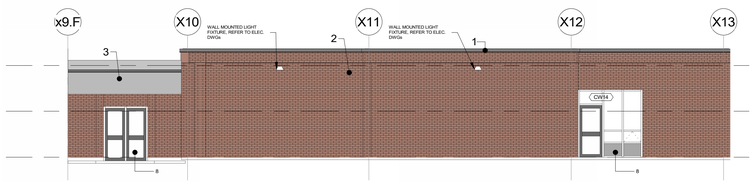
1 : 100



5 / A301

South Elevation - Existing Library

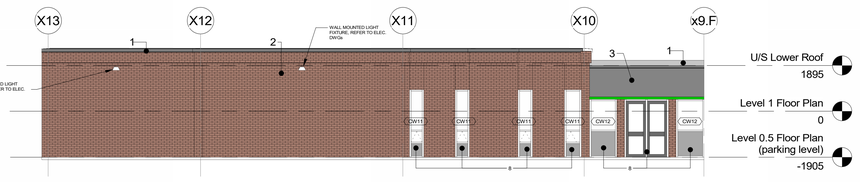
1 : 100



4 / A301

West Elevation - Existing Library

1 : 100



3 / A301

East Elevation - Existing Library

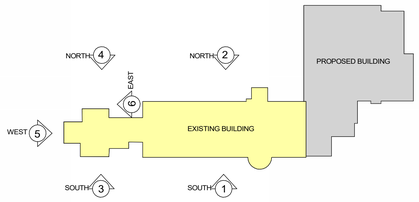
1 : 100

EXTERIOR ELEVATIONS GENERAL NOTES:

1. FOUNDATION WALL & FOOTINGS ARE PER THE STRUCTURAL DRAWINGS. REFER TP THE STRUCTURAL DRAWINGS FOR THE REQUIRED DEPTHS, SIZES, REINFORCED ETC.

2. LOCATIONS OF ALL MECHANICAL & ELECTRICAL ITEMS MUST BE COORDINATED WITH THE MECHANICAL AND ELECTRICAL DRAWINGS. (ie. HOSEBIBS, GRILLES, LIGHTS etc.) ON SITE WITH ALL TRADES INVOLVED IN THE WORK

3. CJ - CONTROL JOINT LOCATIONS.



ELEVATION KEY PLAN: N.T.S

EXTERIOR FINISHES LEGEND:

1. PREFINISHED METAL ROOF EDGE FLASHING
2. BRICK BR1
3. PREFINISHED ALUMINUM COMPOSITE PANELS
4. DOOR AND FRAME PER SCHEDULE
6. HOLLOW METAL SCREEN
7. PREFINISHED VERTICAL METAL SIDING
8. PREFINISHED ALUMINUM DOOR & FRAME
9. NEW CANOPY
10. ARCHITECTURAL BLOCK AB-1

No.	Revision	Date
3	Issued for Site Plan Approval	October 21, 2024
2	Issued for 85% CD	July 26, 2024
1	50% CD	June 28th, 2024

Orientation

PROJECT NORTH

Seal

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For

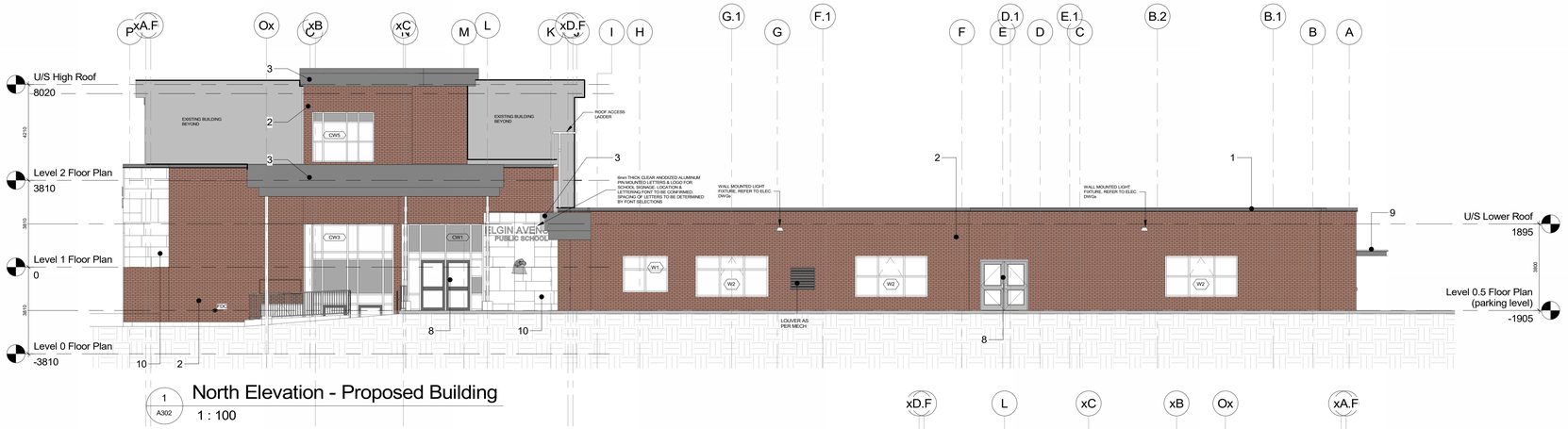
Grand Erie District School Board

Drawing Title

Exterior Elevations

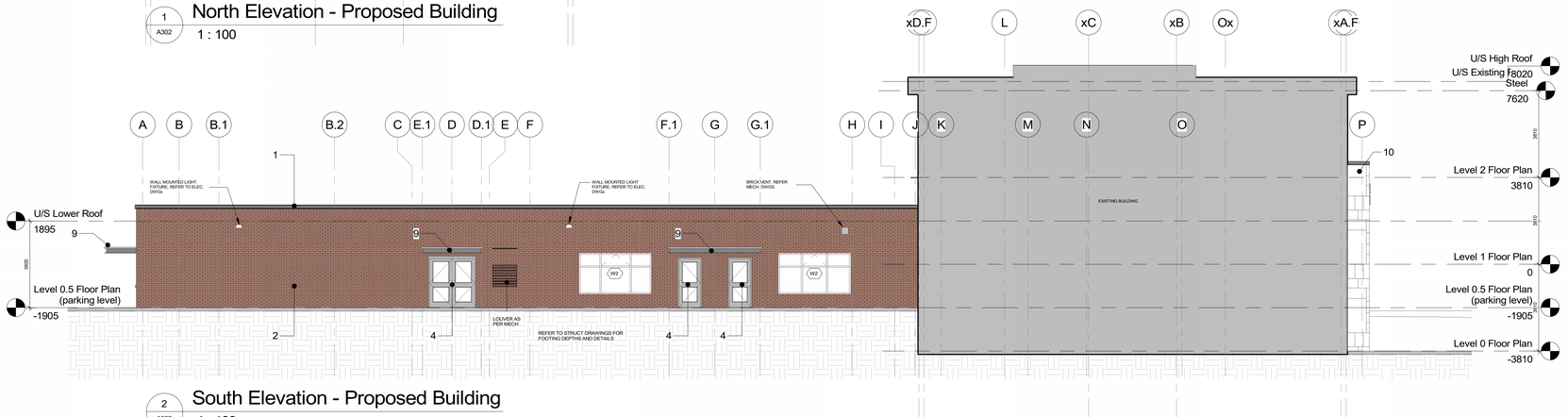
Date	Project No	Drawing No
October 21, 2024	22017	A301
Drawn by: Author		
Scale: As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
2024-10-21 3:10:18 PM



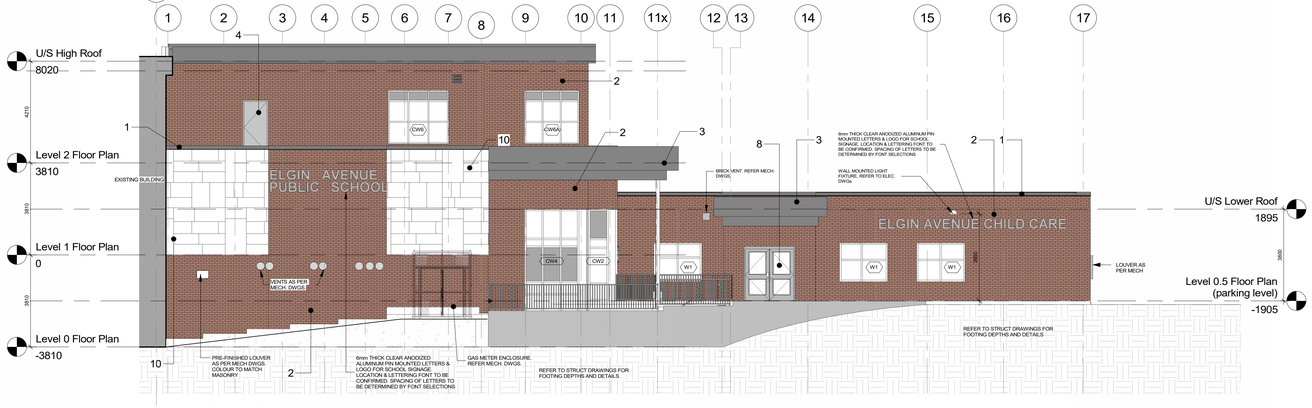
1 / A302 — North Elevation - Proposed Building

1 : 100



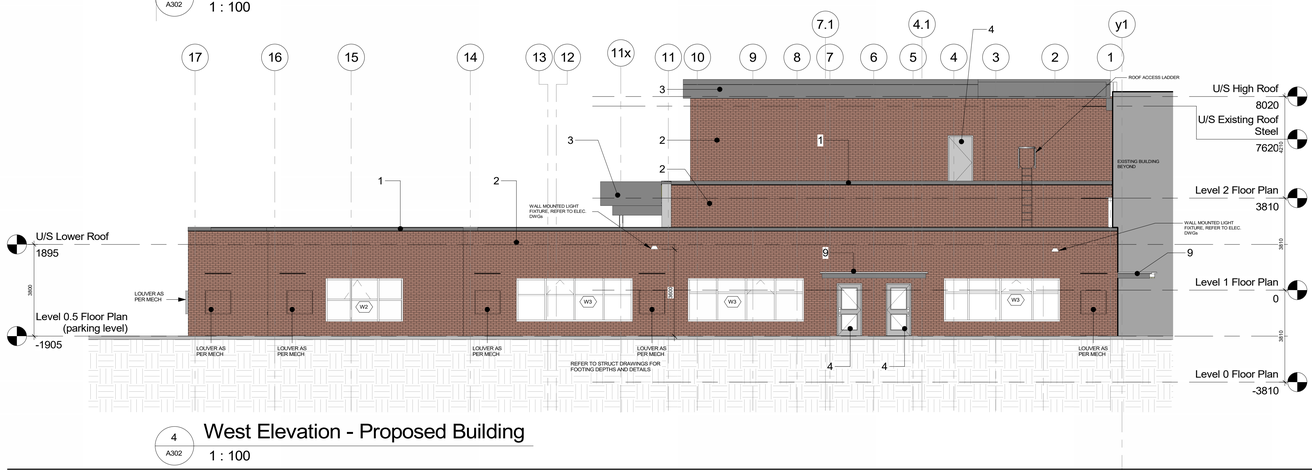
2 / A302 — South Elevation - Proposed Building

1 : 100



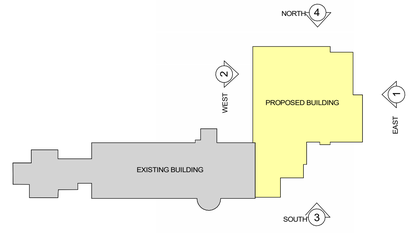
3 / A302 — East Elevation - Proposed Building

1 : 100



4 / A302 — West Elevation - Proposed Building

1 : 100



ELEVATION KEY PLAN: N.T.S

EXTERIOR ELEVATIONS GENERAL NOTES:

1. FOUNDATION WALL & FOOTINGS ARE PER THE STRUCTURAL DRAWINGS. REFER TP THE STRUCTURAL DRAWINGS FOR THE REQUIRED DEPTHS, SIZES, REINFORCED ETC.

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EXTERIOR FINISHES LEGEND:

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2. BRICK BR1
3. PREFINISHED ALUMINUM COMPOSITE PANELS
4. DOOR AND FRAME PER SCHEDULE
6. HOLLOW METAL SCREEN
7. PREFINISHED VERTICAL METAL SIDING
8. PREFINISHED ALUMINUM DOOR & FRAME
9. NEW CANOPY
10. ARCHITECTURAL BLOCK AB-1

No.	Revision	Date
3	Issued for Site Plan Approval	October 21, 2024
2	Issued for 85% CD	July 26, 2024
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Orientation

PROJECT NORTH

Seal

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Project Information

Elgin Ave PS - Addition

80 Elgin Ave, Simcoe ON

For

Grand Erie District School Board

Drawing Title

Exterior Elevations

Date	Project No	Drawing No
October 21, 2024	22017	A302
Drawn by: Author		
Scale: As indicated		

BIM 360://22017 - Elgin Avenue Public School/22017_Elgin Ave PS_R20_Central_NEW.rvt
2024-10-21 3:10:21 PM

TOPOGRAPHIC SKETCH

OF PART OF

ELGIN ELEMENTARY SCHOOL

(80 ELGIN AVENUE)

IN THE

CITY OF SIMCOE

COUNTY OF NORFOLK

MTE OLS LTD.
ONTARIO LAND SURVEYORS

SCALE 1 : 250

5m 0 5 10 15 20m

METRIC:

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.
AREAS SHOWN ON THIS PLAN ARE IN SQUARE METRES AND CAN BE CONVERTED TO SQUARE FEET BY MULTIPLYING BY 10.7639.

BENCH MARK:

BENCHMARK No. OD1197ZU340
SOURCE: ONTARIO CONTROL SURVEY INFORMATION EXCHANGE (COSINE)
VERTICAL DATUM: CGVD28:78

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO A GEODETIC SURVEY OF CANADA TABLET AT SIMCOE NORFOLK GENERAL HOSPITAL ON WEST STREET, DOCTOR'S OFFICES IMMEDIATELY SOUTHWEST OF EMERGENCY ADMITTANCE, TABLET IN SOUTHWEST CONCRETE FOUNDATION WALL (WALL IN LINE WITH 348 WEST STREET), 36 CM NORTHWEST OF SOUTH CORNER AND 12 CM BELOW BRICKWORK.

ELEVATION = 228.276 METRES

TOPOGRAPHIC LEGEND:

□	*DENOTES PLANTED MONUMENT*
■	*DENOTES FOUND MONUMENT*
SIB	*DENOTES STANDARD IRON BAR*
SSIB	*DENOTES SHORT STANDARD IRON BAR*
IB	*DENOTES IRON BAR*
IB⊕	*DENOTES ROUND IRON BAR*
CC	*DENOTES CUT CROSS*
CM	*DENOTES CONCRETE MONUMENT*
WF	*DENOTES WIRE FENCE*
BF	*DENOTES BOARD FENCE*
CLF	*DENOTES CHAIN LINK FENCE*
C&G	*DENOTES CURB AND GUTTER*
CSW	*DENOTES CONCRETE SIDEWALK*
BB	*DENOTES BOTTOM OF SLOPE*
TB	*DENOTES TOP OF SLOPE*
CL	*DENOTES CENTRELINE OF ROAD*
RET	*DENOTES RETAINING WALL*
FF	*DENOTES FINISHED FLOOR ELEVATION*
TFDN	*DENOTES TOP OF FOUNDATION*
UP	*DENOTES UTILITY POLE*
GW	*DENOTES GUY WIRE*
OHU	*DENOTES OVERHEAD UTILITY WIRES*
GV	*DENOTES GAS VALVE*
WV	*DENOTES WATER VALVE*
ST	*DENOTES STORM SEWER*
SAN	*DENOTES SANITARY SEWER*
CB	*DENOTES CATCH BASIN*

TRDEC 300 3000 — *DENOTES DECIDUOUS TREE (CALIPER mm CANOPY mm RADIUS)*

TRCON 300 3000 — *DENOTES CONIFEROUS TREE (CALIPER mm CANOPY mm RADIUS)*

SHR — *DENOTES SHRUBS*

CAUTION:

THE OWNER SHALL HAVE LOCATES COMPLETED PRIOR TO CONSTRUCTION.

SERVICES SHOWN ON THIS PLAN ARE BASED ON AS BUILT DRAWINGS PROVIDED BY THE CITY OF LONDON.

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MTE ONTARIO LAND SURVEYORS LTD.
1016 SUTTON DRIVE, UNIT A
BURLINGTON, ONTARIO, L7L 6B8
TEL: (905) 639-2552

CAD File : P:\P\43581\300\SUPERSEDED\43581-300 TOPO.DWG		
Surveyed by : A. Muhammed	Checked by : S. Davidson	File No : 43581-300
Drawn by : R. Crowell/GE	Date : June 20, 2024	

Norfolk County Pre-Consultation Checklist

Please select the type of application required:

☐ Official Plan Amendment

☐ Zoning By-law Amendment

☐ Draft Plan of Subdivision

☐ Draft Plan of Condominium

☒ Site Plan

Please read all the information in this document on the requirements for future development planning applications. As a result of the information shared at the pre-consultation meeting dated June 26, 2024, the following applications and qualified professional documents/reports are required as part of a complete application. Please include all listed items with the application to ensure a complete application. The County reserves the right to change, reduce or add requirements for a complete application, particularly if the submission does not match the proposal as reviewed during the pre-submission consultation meeting.

Please note that various fees are associated with each application, and there are also costs for qualified professionals retained to complete various documents/reports. All requirements identified are minimum and determined as of the date of the pre- consultation meeting, with the information available at that time. As the proposal proceeds, more information is made public, additional applications, studies, reports, etc., may be required**. The information in this document is applicable for a maximum of one (1) year from the meeting date.**

Before you submit your application, please contact the assigned Planner to confirm submission requirements and the applicable fee. Fees will not be accepted until the submission has been reviewed and confirmed by the Planning Department.

1. Property Information and Proposal Summary

Registered owner: Grand Erie District School Board

Applicant/agent (if different than owner): Frank Mesicek, Manager of Facilities, GEDSB

Property address: 80 Elgin Avenue, Simcoe

Legal description: Plan 182, Block 59, Part Lot 2, Block 59A, Lot 70 to Lot 72, Part Lot 73
Current Official Plan designation and Zoning: Major Institutional OP Designation, Community Institutional Zone and Neighbourhood Institutional Zone
Proposal: The applicant proposes an expansion to the school to include Kindergarten and Childcare spaces.

2. Assigned File Planner

Name and Title: Andrew Wallace, Planner

Phone Number: 519-426-5870 ext. 1059

E-mail: Andrew.wallace@norfolkcounty.ca

3. Required Studies and Plans for Complete Application

Submission Materials	Required?	Notes:
Planning Requirements		
Completed Application Form	☑	
Concept Plan	☑	
Draft Plan of Subdivision	☐	
Building Elevations	☐	
Building Floor Plans and Roof Plans	☐	
Landscaping Plan	☐	
Minimum Distance Separation Schedule	☐	
Photometrics (Lighting) Plan	☑	
Site Plan and Site Plan Details	☑	
Survey/Legal Plan	☑	
Topographical Survey	☑	
Agricultural Impact Assessment	☐	
Air Treatment Control Study	☐	
Archeological Assessment		
Marine Archeological Assessment	☐	
Draft Official Plan Amendment	☐	

Submission Materials	Required?	Notes:
Draft Zoning By-law Amendment	☐	
Dust, Noise and Vibration Study	☐	Note for Applicants: This report shall be peer reviewed at the owner's expense.
Environmental Impact Study	☐	Note for Applicants: This report shall be peer reviewed at the owner's expense.
Environmental Site Assessment and Record of Site Condition	☐	RSC not required for first submission for a draft plan of subdivision but will be required as a condition of approval
Farm Business Registration		
Heritage Impact Assessment	☐	
Land Use Compatibility Study	☐	Note for Applicants: This report shall be peer reviewed at the owner's expense.
Market Impact Analysis	☐	Note for Applicants: This report shall be peer reviewed at the owner's expense.
On-Site Sewage Evaluation	☐	
Parking Plan	☑	
Planning Justification Report		Not Required for site plan applications or standard draft plan of condominium
Planning Justification Brief/Letter		For minor applications.
Restricted Land Use Screening Form	☐	
Shadow Study	☐	
Urban Design Brief	☐	
Other:	☐	
Engineering Requirements		
	☐	**Comments Pending – at such time as they are completed, the Pre-Consultation meeting notes will be updated and circulated immediately.**

4. Detailed Comments Pertinent to the Application:

i. Norfolk County Planning and Agreement

Contact Name(s) and Title(s): Andrew Wallace, Planner and Annette Helmig, Agreements Coordinator
Email: andrew.wallace@norfolkcounty.ca; annette.helmig@norfolkcounty.ca

Comments:

Planning

The property at 80 Elgin Avenue, Simcoe is designated Major Institutional in the Norfolk County Official Plan and is currently zoned Institutional (IC) in the Norfolk County Zoning By-Law 1-Z-2014. The land has been a public school for many years.

The proposed extension to the existing school is a permitted use in the IC Zone. As such, a Site plan application is required. A zoning table is to be provided indicating the proposed works vs. the required setbacks to show zoning compliance (this includes parking requirements). If Zoning conformity cannot be achieved, a zoning by-law amendment is required (this would also require trigger the requirement for a planning justification report).

The following elements are to be shown on the site plan:

Site Plan Control:

1. Concept/Layout Plan
2. All measurements in metric
3. Key map
4. Scale, legend and north arrow
5. Legal description and municipal address
6. Development name
7. Drawing title, number, original date and revision dates
8. Owner's name, address and telephone number
9. Engineer's name, address and telephone number
10. Professional engineer's stamp
11. Existing and proposed easements and right of ways
12. Zoning compliance table – required versus proposed
13. Parking space totals – required and proposed
14. All entrances to parking areas marked with directional arrows
15. Loading spaces, facilities and routes (for commercial developments)
16. All dimensions of the subject lands
17. Dimensions and setbacks of all buildings and structures
18. Location and setbacks of septic system and well from all existing and proposed lot lines, and all existing and proposed structures
19. Gross, ground and useable floor area
20. Lot coverage
21. Floor area ratio
22. Building entrances, building type, height, grades and extent of overhangs
23. Names, dimensions and location of adjacent streets including daylighting triangles
24. Driveways, curbs, drop curbs, pavement markings, widths, radii and traffic directional signs
25. All exterior stairways and ramps with dimensions and setbacks
26. Retaining walls including materials proposed

27. Fire access and routes
28. Location, dimensions and number of parking spaces (including visitor and accessible) and drive aisles
29. Location of mechanical room, and other building services (e.g. A/C, HRV)
30. Refuse disposal and storage areas including any related screening (if indoors, need notation on site plan)
31. Winter snow storage location
32. Landscape areas with dimensions
33. Natural features, watercourses and trees
34. Fire hydrants and utilities location
35. Fencing, screening and buffering – size, type and location
36. All hard surface materials
37. Light standards and wall mounted lights (plus a note on the site plan that all outdoor lighting is to be dark sky compliant)
38. Business signs (make sure they are not in sight lines)
39. Sidewalks and walkways with dimensions
40. Pedestrian access routes into site and around site
41. Bicycle parking
42. Architectural elevations of all building sides
43. All other requirements as per the pre-consultation meeting

The question was asked about lighting requirements. Below is the only high-level reference to this in the Zoning By-laws: “Where private lighting facilities, whether internal or external to any building or structure, are provided in any Zone to illuminate buildings, structures or uses, they shall be designed to be energy efficient, be directed downwards, and located or arranged to deflect glare away from adjacent residential uses, streets and the night sky and to avoid causing nuisance to adjacent property owners, or any confusion with traffic signals.”

Agreements
If performance securities are required for your development a condition of your approval will be to enter into a development agreement with the County. The agreement will be registered on title at the property owner’s expense. The owner will also be required to secure and keep in force commercial general liability insurance coverage, prior to and during the duration of construction until after a successful site inspection and release of the performance securities. The attached information sheet will assist you with a complete submission if an agreement is required.
All the best on your expansion.

ii. Norfolk County Building
Contact Name(s) and Title(s): Jonathan Weir, Building Inspector III
Email: jonathan.weir@norfolkcounty.ca
Comments:

The proposed construction is considered an A2 Assembly type occupancy for the

school and the child care uses as defined by the Ontario Building Code (OBC). You will need to retain the services of an Architect and a Professional Engineer to complete the design documentation for this application.

The Designer will need to provide a Part 3 Building Code matrix for the addition to the school. This matrix represents selected elements from your detailed code analysis and presents a quick overview to the municipal building official of the key OBC factors concerning your design. The matrix will identify OBC review items such as occupant loads, fire separations, project description, building size, building classification, fire alarms, type of construction, barrier free requirements, plumbing fixture requirements and spatial separations.

The designer will need to focus on OBC Sections 3.2. Building Fire Safety, 3.3 Safety Within Floor Areas, 3.4 Exits and 3.8 Barrier-Free Design.

In regards to the renovation the Designer will need to provide a Part 11 Building Code matrix. This matrix will identify OBC review items such as identifying the classification of the existing building in regards to the construction index and the hazard index, determining if the renovation is basic or extensive, changes in occupant loads, note any compensating construction and list any compliance alternatives used.

MULTI LEVEL ROOFS AND SNOW LOADS

A letter signed by a Professional Engineer licensed in the Province of Ontario regarding multi-level roof drifting snow load is required. Provide calculations as required by Ontario Building Code Part 4 Subsections 4.1.6.5. – 4.1.6.15. If additional snow load is calculated to fall on neighboring structures, an engineered analysis of the neighboring is required. Completion of compensating construction to the neighboring structure may also be required. Separate building permit required for compensating construction.

No Ontario Building Code review has been completed at this time and will be done at permit application stage.

Building permit fees are required to be paid in full and a complete permit application is to be submitted in order to start the OBC review process. OBC review **may** begin while the site plan approval process is underway, this is dependent on our operational loads at the time.

Items for Site Plan

Site plan drawings need to have enough detail, to determine compliance with the code references listed.

1) Indicate location of access route and access route design [OBC 3.2.5.4 to 3.2.5.6]
2) Indicate location of existing and new fire department connections. Dimensions between hydrants and building entrances is required. [OBC 3.2.5.16]
3) Location and specifications of exterior lighting. Lighting to be included in SB-10 report – energy efficiency
4) Indicate barrier free path of travel from parking area to building entrance. Construction of curb cuts and location of tactile attention indicators is required. [OBC 3.8.1.3, & 3.8.3.2]
5) Provide building elevations and cross section, showing building massing, location of proposed entrances and exits, barrier free controls, exterior lighting locations, and exterior signage. [Planning Act 41(4).2]

Items for Building Permit

"-Industrial Commercial Institutional (ICI)" & "Applicable Law Checklist" Step by Step Guide Building Permit Package has been attached to the minutes herein, this contains information on drawing requirements, designers, forms, contact information for Building Department etc.

If you have any questions on the building permit process or plans required, please contact permits@norfolkcounty.ca or 226-NORFOLK (226-667-3655) ext. 6016

iii. Norfolk County Zoning

Contact Name(s) and Title(s):
Andrew Johnston, Building Inspector III
Email: andrew.johnston@norfolkcounty.ca
Comments:

Project Info:
School expansion to include Kindergarten and Childcare spaces

Zoning of Property:
Neighbourhood Institutional Zone – (IN)
Community Institutional Zone – (IC)
Under Site Plan Control

- Well Head Protection Area (WHPA B)

Zone Provisions:

- Elementary School allowed in both IN zone and IC Zone.
  - Setbacks meet requirements of the IC zone

Parking:

- Parking to be represented based off bylaw 1-Z-2014 section 4.0
- Section 4.9 pp) school, elementary

1.5 parking spaces per classroom including laboratories, libraries, and workshops
Floor 0 - 3 classrooms, Floor .5 – 9 classrooms, Floor 1 – 8 classrooms, Floor 2 – 9 classrooms
29 Total classrooms = 29 x 1.5 spaces per classroom = 43.5 spaces required – 74 Provided – meets requirements

- Accessible Parking spaces 4.3.3 - 1 Type A required + 2 Type B required – 4 Type A provided – meets requirements
- Parking aisles meet requirements of Section 4.1.4 b in main parking lot

Requests:

- Driveway Entrance with parking on south side required to be 7.3m in width to meet requirements of Section 4.1.4 b

iv. Norfolk County Engineering and Infrastructure Services
Contact Name and Title: Stephen Gradish, Development Technologist & Robert Bardaloo, Jr. Development Technologist
Email: Stephen.gradish@norfolkcounty.ca &
Robert.bardaloo@norfolkcounty.ca
Comments:

Comments Pending – at such time as they are completed, the Pre-Consultation meeting notes will be updated and circulated immediately.

v. Norfolk County Realty Services
Contact Name and Title: Alisha O'Brien, Corporate Services Generalist
Email: realty.services@norfolkcounty.ca
Comments:

If you are required to enter into a Development Agreement, this Agreement will be registered on title. Please note there is an old Construction Lien registered against the property as Instrument NR573459, and a Certificate of Action registered as Instrument NR574352 that would be required to be deleted from title prior to registration of the Development Agreement.

vi. Norfolk County Accessibility:
Contact Name and Title: Sam McFarlane, Manager, Accessibility and Special Projects
Email: sam.mcfarlane@norfolkcounty.ca
Comments:

No comments at this time

vii. Norfolk County Fire Services
Contact Name and Title: Katie BALLANTYNE, Community Safety Officer
Email: katie.ballantyne@norfolkcounty.ca
Comments:

Norfolk County Fire Department has the following comments for this proposal:
- Ensure all fire and life safety requirements under the Ontario Building Code are complied with
- Fire Safety Plan to be updated and submitted to the Fire Prevention Officer for review and approval

viii. Haldimand Norfolk Health Unit
Contact Name and Title: Alex Dobias, Health Promoter; Laura Goyette, Dietitian; Jessica Horton, Program Manager, Housing Services; & Matthew Harrington, Senior Public Health Inspector.
Email: alex.dobias@hnhss.ca; laura.goyette@hnhss.ca; jessica.horton@hnhss.ca; matthew.harrington@hnhss.ca
Comments:

Built Environment & Active Transportation:
No comments at this time.

Access to Healthy Foods:
The Haldimand-Norfolk Health Unit encourages developments that support the health of the community. The applicant could consider the addition of a garden into the new area to support both curricular and extra-curricular activities related to agriculture, food and nutrition. For additional information on the health benefits of gardens where young people learn and play, visit our website at Gardening at Your Child Care Centre | HealthUnit Haldimand-Norfolk (hnhu.org).

Housing Services:

No Comments.

Environmental Health:

The facility referenced in this proposal is subject to one or more regulations under the Health Protection and Promotion Act which is enforced by Public Health Inspectors with the Haldimand-Norfolk Health Unit. Prior to the design, building, and operation of the proposed development, the Health Unit strongly suggests that the applicant contact the Environmental Health Team at 519-426-6170 ext. 3477 or ehthotline@hnhss.ca to be connected with a Public Health Inspector who can discuss the applicable requirements. Failure to do so could result in delays to the regulatory approval process.

ix. Mississaugas of the Credit First Nation
Contact Name and Title: Abby Lee LaForme, Consultation Officer

Email: Abby.laforme@mncfn.ca
Comments:

The Mississaugas of the Credit First Nation (MCFN), Department of Consultation and Accommodation (DOCA) submit the following comments:

The Mississaugas of the Credit First Nation hereby notify you that we are the Treaty Holders of the land on which the development of a school expansion will be taking place. This project is located on the Between the Lakes Treaty No. 3, 1792.

Therefore, the MCFN Department of Consultation and Accommodation (DOCA) has no comments or concerns at this time. Please notify MCFN DOCA if the scope of the project changes.

Thank you

5. Notes and Clauses:

1. The purpose of this document is to identify the information required to commence processing a complete application as set out in the Planning Act, R.S.O. 1990, CHAPTER P.13, as amended and the County's Official Plan.
2. Pre-consultation does not imply or suggest any decision whatsoever on behalf of staff or the County to either support or refuse the application.
3. The application should be aware that the information provided is accurate as of the date of the pre-consultation meeting. Should an application not be submitted within a year, and should other policies, by-laws or procedures be approved by the Province, County, or other agencies prior to the submission of a formal application, the applicant will be subject to any new policies, by-laws or procedures that are in effect at the time of the submission of a formal application. **If an application is not submitted within one (1) year, another pre-consultation meeting shall be required, unless an exception is granted in writing by the Director of Planning**
4. It is hereby understood that during the review of the application additional studies or information may be required as a result of issues arising during the processing of the application or the review of the submitted studies.
5. If the County does not have sufficient expertise to review and determine that a study is acceptable, the County may require a peer review. The terms of reference for a peer review is determined by the County and paid for by the applicant.

6. Please note if performance securities are required by the County to secure any internal and external development works, a recommended condition for your planning application approval will be to enter into a development agreement with the County. The agreement will be registered on title to the subject lands, at the owner's expense. The additional requirements for an agreement could include, but are not limited to the following:
    - Engineering drawing review
    - Engineer's schedule of costs for the works
    - Clearance letter and supporting documentation to support condition clearance
    - User fees and performance securities
    - Current property identification number (PIN printout)
    - Owner's commercial general liability insurance certificate
    - Professional liability insurance certificate
    - Postponement of interest
    - Transfers and / or transfer easements along with registered reference plan

6. Signatures

Staff Signatures

County Planning Staff : Date:

Planning Staff Signature:

Applicant/Owner Signature

Owner Name (print): Applicant Name (Print):

Owner Signature: Applicant Signature:

Date:

Appendix A: Planning Reference Materials
Following is a summary of some land use planning reference materials. It is the requirement of the applicant to ensure compliance with applicable legislation, policies, and regulations.

Provincial Policy Statement, 2020
https://www.ontario.ca/page/provincial-policy-statement-2020

Norfolk County Official Plan
https://www.norfolkcounty.ca/government/planning/official-plan/

Section 9.6.1 outlines requirements in relation to requests to amend the Official Plan. Section 9.6.2 outlines requirements in relation to requests to amend the Zoning By-law.

It is the responsibility of the proponent to review and ensure relevant Official Plan policies are addressed in any future development application.

Norfolk County Zoning By-Law 1-Z-2014
https://www.norfolkcounty.ca/government/planning/new-zoning-by-law/

The provisions of the Norfolk County Zoning By-Law shall apply to all lands within the boundaries of Norfolk County. No land, building or structure shall be used, erected, or altered in whole or in part except in conformity with the provisions of this By-Law. No land, building or structure shall be used or occupied except for uses that are specifically identified in the By-Law as permitted uses by the relevant zoning category.

It is the responsibility of the proponent to review and ensure relevant Zoning By- law provisions are addressed in any future development application.

Endangered and Threatened Species:
Endangered and threatened species and their habitat are protected under the provinces Endangered Species Act, 2007 (ESA), O. Reg. 242/08 and O. Reg. 830/21. The Act prohibits development or site alteration within areas of significant habitat for endangered or threatened species without demonstrating that no negative impacts will occur. The Ministry of the Environment, Conservation and Parks ("MECP") provides the service of responding to species at risk information requests and project screenings. The proponent is responsible for discussing the proposed activity and having their project screened with MECP (Ministry of Environment, Conservation and Parks).

Please be advised that it is the owner's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws, or other agency approvals.

Summary of Fees, Forms, and other information pertaining to the planning process can found by visiting https://www.norfolkcounty.ca/government/planning/

Norfolk County Engineering Design Standards

All applicants must adhere to Norfolk County's Design Criteria when undertaking a development project. Please contact Engineering and Infrastructure Services directly for a copy of Norfolk County's Design Criteria .

REQUIRED INFORMATION

Name of Owner: Grand Erie District School Board

Property Legal Description: Part of Lot 2, Block 59 and All of Lot 70, Block 59A and Part of Lot 71, 72 & 73, Block 59A, Registered Plan 182 (Town of Simcoe), Norfolk County

Roll Number: 3310401007015000000

PIN Number: _____

Type and Number of Units

Single Detached: n/a

Semi-Detached: n/a

Duplex: n/a

Triplex: n/a

Four-plex: n/a

Street Townhouse: n/a

Stacked Townhouse: n/a

Apartment: n/a

Transfer Easements Block Number and Purpose: _____

Transfer Block Number and Purpose: _____

Geotechnical Report prepared for Lands	○ YES	○ NO	○ UNKNOWN
Lands are Within the Source Water Protection Area	○ YES	○ NO	○ UNKNOWN
Lands Contain any Contaminated or Impacted Soil	○ YES	○ NO	○ UNKNOWN
Lands Contain any Natural Watercourse	○ YES	○ NO	○ UNKNOWN
Lands Contain any Wetlands	○ YES	○ NO	○ UNKNOWN
Lands Contain any Archaeological Sites	○ YES	○ NO	○ UNKNOWN
Lands Contain an Existing Well and or Septic Field	○ YES	○ NO	○ UNKNOWN
Species at Risk Branch MECP Screening	○ YES	○ NO	○ UNKNOWN
Lands Contain any Endangered Species	○ YES	○ NO	○ UNKNOWN

OWNER INFORMATION

NAME AND CONTACT: Rafal Wyszynski (GEDSB)

ADDRESS WITH POSTAL CODE: Education Centre | 349 Erie Avenue, Brantford, Ontario, N3T 5V3

PHONE NUMBER: 519-756-6301, ext. 281142

EMAIL: Rafal.Wyszynski@granderie.ca

AGENT INFORMATION

NAME AND CONTACT: James Jeffery (Salter Pilon Architecture Inc.)

ADDRESS WITH POSTAL CODE: 151 Ferris Lane, Suite 400, Barrie, ON L4M 6C1

PHONE NUMBER: 705.737.3530 x 246

EMAIL: jjeffery@salterpilon.com

ENGINEER INFORMATION

NAME AND CONTACT MTE Consulting (Rosie Calogero)

ADDRESS WITH POSTAL CODE 1016 Sutton Drive, Unit A, Burlington, Ontario L7L 6B8

PHONE NUMBER 905-639-2552 x2425

EMAIL RCalogero@mte85.com

LAWYER INFORMATION

NAME AND CONTACT MHN Lawyers LLP, Maria Kinkel

ADDRESS WITH POSTAL CODE 39 Colborne St N. Simcoe, ON N3Y 3T8

PHONE NUMBER 519 426 6763

EMAIL kinkel@mhnlaywers.com

INSURANCE PROVIDER INFORMATION

NAME AND CONTACT Ontario School Boards' Insurance Exchange

ADDRESS WITH POSTAL CODE 91 Westmount Road, Guelph, ON N1H 5J2

PHONE NUMBER 519 767 2182

EMAIL info@osbie.ca

FINANCIAL INSTITUTION INFORMATION (IF APPLICABLE)

NAME AND CONTACT

ADDRESS WITH POSTAL CODE

PHONE NUMBER

EMAIL

MORTGAGEE INFORMATION (IF APPLICABLE)

NAME AND CONTACT

ADDRESS WITH POSTAL CODE

PHONE NUMBER

EMAIL

SPECIES AT RISK SCREENING

The Ontario Endangered Species Act inquiries and Species at Risk screening are now handled by the Ministry of the Environment, Conservation and Parks, specifically the "Species at Risk Branch" and the new e-mail address for handling these inquiries is now SAROntario@ontario.ca.

TRANSFERS, EASEMENTS AND POSTPONEMENT OF INTEREST

The owner acknowledges and agrees that, it is their solicitor's responsibility on behalf of the owner for the registration of all transfer(s) of land to the County, free and clear of any charges or encumbrances, and/or transfer(s) of easement in favour of the County and/or utilities at no cost to the County. In addition, the owner further acknowledges and agrees that it is their solicitor's responsibility on behalf of the owner for the registration of postponements of any charges to the County's agreements.

INSURANCE CERTIFICATES

Prior to the execution of the development agreement, the owner shall at their expense obtain and keep in force, during the term of this development agreement, commercial general liability insurance coverage satisfactory to the County. The owner further acknowledges and agrees that he/she has authorized the County to discuss with their insurance provider the specific insurance requirements of the County for agreement purposes. In addition, the County will require any professionals hired to carry professional liability insurance to provide coverage for acts, errors and omissions arising from their professional services performed.

OWNER'S AUTHORIZATION

I/We Grand Erie District School Board am/are the registered owner(s) of the lands that is the subject of this site plan agreement.

I/We authorize our Agent Salter Pilon Architecture Inc. to provide information on my/our behalf and to provide any of my/our personal information necessary for the processing of this site plan agreement. Moreover, this shall be your good and sufficient authorization for so doing.

I/We authorize the Agreement Administrator to provide and receive information on my/our behalf in connection to the insurance coverage, letter of credit and agreement registration of my/our development.

I/We acknowledge that if there are any new charges or mortgage holders on the property they will be added to the development agreement and will be required to postpone their interest on the property to the County's development conformity interest.

November 14, 2024

Owner Signature Date

To start your agreement, please return the required supporting information and fees along with the first three pages of this document completed and signed. Provide your payments by the mail or courier to the address below or drop off at ServiceNorfolk customer service desk on the first floor 185 Robinson Street, Simcoe ON N3Y 5L6 Monday to Friday from 9 am to 4 pm. Please make your cheque payable to the Corporation of Norfolk County. If paying by credit card please contact ServiceNorfolk at 519 426-5870 Ext. 4636.

CONTACT FOR FURTHER INFORMATION AND QUESTIONS

Annette Helmig, Agreement and Development Coordinator
Norfolk County, Community Development Division, Planning Department, Agreement Services
185 Robinson Street Suite 200, Simcoe ON N3Y 5L6
226.777.1445
annette.helmig@norfolkcounty.ca

The information submitted on this form is collected under the authority of the *Freedom of Information and Protection of Privacy Act* (FIPPA) and *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA) for Norfolk County employees to use for the purpose of preparing and registering a development agreement. Questions about the collection of personal information through this form may be directed to the Agreement and Development Coordinator or Information and Privacy Coordinator, Corporation of Norfolk County, 50 Colborne Street South, Simcoe ON N3Y 4H3.

DOCUMENTATION AND FEES REQUIRED

- [x] Owner's agreement authorization
- [ ] Postponement of interest from mortgagee / chargee (if applicable)
- [ ] Current parcel register (property identifier or PIN printout)
- [ ] Owner's commercial general liability certificate of insurance
- [x] Construction estimates (100% for external works and landscaping with 10% of internal works)
- [ ] Professional liability insurance for surveyor and / or engineer
- [ ] Final reference plan for any easements and lands to be conveyed
- [ ] Letter from owner requesting holding (H) symbol be removed from the subject lands
- [ ] Letter of credit or certified cheque for performance securities
- [ ] Current property taxes paid
- [ ] User fees (according to the By-Law in effect at the time that payment is made). If time is of the essence, a certified cheque is requested otherwise it will take three weeks for the cheque to clear our financial institution.

  $2,919 for preparation of the site plan agreement
  $971 to remove the holding from the zoning on the property (if applicable)
  $470 for financial administration of this agreement
  $570 per tree cash-in-lieu of trees (if applicable)
  2% or 5% land appraisal cash-in-lieu of parkland as per consolidated by-law 2016-126 (if applicable)

APPLICABLE LAW CHECKLIST

The Building Code Act prohibits the issuance of a building permit if the proposed construction or demolition will contravene an applicable law as defined by the Building Code. The questions below will help you to determine if an applicable law applies to your project. No timeframe for building permit review can be established until all required applicable law approvals are completed and the approval documents are submitted to the Building Division.

If the answer is **YES** to any question, the relevant approval documents must be submitted with this permit application. Where any required approval has **NOT** been obtained, the agencies listed on the back of this form must be contacted to obtain approval, and the declaration on the bottom of this form must state accordingly.

Property Address: 80 Elgin Ave, Simcoe, ON **Permit Number** (office use)_____

Zoning By-Laws – *Norfolk County Planning Department*	YES	NO
Is/was relief required to permit a minor zoning variance in your proposal?		X
Is/was rezoning required to permit the proposed building or land use?		X
Is a land division or subdivision required and not yet fully completed?		X
Are municipal services required but not yet completed or available?		X

Planning Approval - *Norfolk County Planning Department*	YES	NO
Is this property regulated by Site Plan Control under Section 41 of the Planning Act?	X	

Heritage - N*orfolk County Heritage and Culture Department*	YES	NO
Are you demolishing a building that is listed on the County's heritage inventory?		X
Is the building designated or in the process of being designated?		X
Is the property located in a heritage district or study area?		X

Construction and Fill Permits – *Long Point Regional or Grand River Conservation Authority*	YES	NO
Is the property located within a regulated area (i.e. abutting a ravine, watercourse, wetland, or shoreline)?		X

Building and Land Use Permits - *Ontario Ministry of Transportation*	YES	NO
Is the property within 45m of a highway or 180 m from any highway intersection?		X
Is the property within 395m of a controlled highway intersection? (applies to Sign Permits)		X
Is this a major traffic generating project located within 800m of a highway?		X

Clean Water Act – *Public Works*	YES	NO
Is the property located within a Source Water Protection regulated area?	X	
If yes: does a Water Source Protection Plan restrict the land use you are proposing? (s.59 screening form may be required)	X	

Community Development Division- Building Department
185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6 • 519-426-5870 Ext. 6016

Agriculture and Farms - *Ontario Ministry of Agriculture and Food*	YES	NO
Is this a farm building that will house animals or manure?		X
Is this a milk processing plant?		X

Crown Lands Work Permit – *Ministry of Natural Resources*	YES	NO
Are you proposing to construct or place a structure or combination of structures that are in physical contact with more than 15 square meters of shore lands?		X
Are you proposing to build on Crown Land?		X

Electrical Conductor Clearances - *Electrical Safety Authority*	YES	NO
Are any overhead power lines located above or within 5.5 metres of the proposed building?		X

Environmental Approvals - *Ministry of Environment, Conservation, Parks*	YES	NO
Is a Record of Site Condition required to be filed because of a change to more sensitive land use? Is the property a former waste disposal site?		X
Is this project a major industrial, commercial, or government project?		X
Is this a renewable energy project?		X
Does this property have a Certificate of Property Use under the Environmental Protection Act?		X

Child Care Centres - *Ministry of Education*	YES	NO
Is a daycare proposed in any part of the building?	X	

Seniors Centres - Ministry of Children, Community and Social Services	YES	NO
Is this a seniors project where Ontario Government funding is being sought?		X

Long Term Care Centres – *Ministry of Health & Long Term Care*	YES	NO
Construction, alteration or conversion of building used for a nursing home?		X

Education Act - *Ministry of Education*	YES	NO
Is the project being carried out on the property of an educational facility?	X	
If so, is any or all building on the property being fully or partially demolished?	X	

DELCARATION – I have considered the list of applicable laws in the Ontario Building Code as described above, and do hereby declare that:

	None of these applicable law approvals apply to this project
X	Applicable laws check 'yes' apply to this project, and approval documents are submitted with this application.
	Applicable laws checked 'yes' apply to this project; however, all approval documents have not yet been obtained

The information provided on this form is true to the best of my knowledge. I have authority to act on behalf of the owner, corporation, or partnership with respect to this application (if applicable).

Name: James Jeffery (Salter Pilon Architecture) Signature: _____ Date: November 14, 2024

Approvals from other agencies are required in many instances before a building permit can be processed and issued. These approvals are **NOT** administered by the Building Department. The fastest way to obtain a building permit is to ensure that all other required approvals are completed prior to permit application. The Building Department is required by law to prioritize applications that are fully complete in terms of applicable law approvals and document submissions. Building permit documents must be consistent with applicable law approvals. If you answer yes to any of the following question please reach out to these agencies for approvals.

Zoning and Planning – Community Services Division – Norfolk County

Zoning 519-426-5870 ext. 6064 or zoning@norfolkcounty.ca
Planning 519-426-5870 ext. 1842 or planning@norfolkcounty.ca

Planning Act, s.34, 34(5), 45, and Part VI
Zoning By-laws restrict such things as land use, lot size, building size, and setbacks. If your project does not comply with any part of the Zoning By-law, a minor variance or rezoning must be obtained before any building permit can be issued. Zoning By-laws also restrict the issuance of permits until any associated land division, subdivision, or municipal servicing is complete.
Planning Act, s.41
Site Plan Approval applies to commercial, industrial, institutional, multi-residential and intensive livestock site plans. The site plan agreement must be registered before site plans will be approved.

Conservation Authority Permits

Grand River Conservation Authority (GRCA)1-866-900-4722 or grca@grandriver.ca
Long Point Regional Conservation Authority (LPRCA) 1-888-231-5408 or conservation@lprca.on.ca

Conservation Authorities Act s. 28 (1)(c), regulation 166/06
Development within certain conservation regulated areas requires a construction and fill permit from the conservation authority before any building permit can be issued. GRCA or LPRCA will confirm if your property falls within their jurisdiction.

Highway Corridor Building & Land Use Permits

Ministry of Transportation (MTO) 1-800-268-4686 or
www.mto.gov.on.ca/english/highway-bridges/highway-corridor-management/index.shtml

Public Transportation and Highway Improvement Act, s.34, 38
Ministry authorization is required for construction of all buildings within certain distances of a highway or intersection. The requirement for Ministry authorization extents to 800m from a highway where development will generate major traffic, such as a shopping centre.

Environmental Approvals

Ministry of the Environment, Conservation and Parks (MECP)1-800-461-6290 or www.ontario.ca

Environmental Protection Act s. 46, 47.3, 168 and the Environmental Assessment Act s 5.
Ministry of Environment approvals are required where a property of industrial or commercial use is changed to more sensitive residential or parkland use, for major government, industrial and commercial projects where defined by regulation, properties formerly used for landfill or waste disposal, or renewable energy projects.

Electrical Conductor Clearances

Electrical Safety Authority 1-877-372-7233 or www.esasafe.com

Subsection 3.1.19. of the Ontario Building Code prohibits buildings being located beneath or within a certain minimum distances of overhead electrical conductor wires, other than the power feed to the building.

Source Water Protection – Environmental and Infrastructure Services – Norfolk County

Environmental Services – Stephanie Davis- Manager, Water & Wastewater Compliance- 519-426-5870 ext. 8037 or Stephanie.Davis@norfolkcounty.ca
Cambium Inc. Racheal Doyle – sourcewaterprotection@cambium-inc.com

Clean Water Act s. 59
Special land use restrictions may apply if a water source protection plan is in effect in the area where the building is located. Uses affected by these restrictions require the approval of the designated Risk Management Official

Agriculture and Farms

Ministry of Agriculture Food and Rural Affairs 1-877-424-1300 or www.omafra.gov.on.ca

Nutrient Management Act 2002 s.11 reg 267/03, Milk Act s.14
Buildings or structures that house animals or store manure may trigger a requirement for a nutrient management strategy approved by the Ministry. The Ministry must determine that a milk processing plant is necessary and authorize it before a building permit can be issued.

Child Care Centres

Ministry of Education (905) 895-9192 or www.ontario.ca

Child Care and Early Years Act, s. 14 reg 137/15
Ministry plan approval is required if a new building is proposed to be used as a day nursery, an existing building is proposed to be used, altered or renovated for a day nursery, or if an existing day nursery is altered or renovated.

Seniors Centres

Ministry of Children, Community and Social Services 1-888-789-4199 or www.mcss.gov.on.ca

Elderly Persons Centres Act s. 6 of reg 314
Reports must be submitted to the Minister and approval obtained for all seniors centres to which government funding applies.

Long Term Care Homes

Ministry of Health & Long Term Care 1-800-387-5559 or www.health.gov.on.ca

Nursing Home Act s. 4, 5 reg 832
Homes for the Aged & Rest Homes Act s. 14
The Long Term Heath Care Act is designed to help ensure that residents of long-term care homes receive safe, consistent, high-quality, resident-centred care.

Education

Ministry of Education (905) 895-9192 or www.ontario.ca

Education Act s. 194
The board shall obtain approval from the Minister for the demolition of any buildings located on a school site regulated by the Education Act. App

Crown Lands Works Permits

Ministry of Natural Resources www.ontario.ca/page/crown-land-work-permits

Ontario Regulation 239/13 s. 2, s. 5
Ministry approval is required to construct a building on crown lands or to construct or place a structure along shorelines.

INDUSTRIAL
COMMERCIAL
INSTITUTIONAL

Building Permit Package

A step by step guide for making a building permit application

Norfolk County Building Department
Community Development Division
185 Robinson Street, Suite 200 Simcoe, Ontario, N3Y 5L6
norfolkcounty.ca

Industrial, Commercial, Institutional Large Residential Permit Package

Building permits help protect you, your home, and the interests of your community by making sure the project is structurally sound and follows the Ontario Building Code, municipal zoning and other applicable laws.

There are multiple steps to the building permit process. The purpose of this permit package is to highlight these steps and provide guidance to the building permit process.

STEP 1: Applicable Law.

Approvals from other agencies are required in many instances before a building permit can be processed and issued. These approvals are **NOT** administered by the Building Department. The fastest way to obtain a building permit is to ensure that all other required approvals are completed prior to permit application.

An Applicable Law Checklist is required as part of a complete application. Agency contacts are attached with this form. Our community mapping has many of these layers mapped to help you determine if additional approvals are required for your application.

Community Development Division - Building Department
185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6 • 519-426-5870 Ext. 6016

Pre-consultation meeting – Site plan approval.

Most industrial, commercial and institutional buildings are located on properties where a site plan approval is required through the Planning Act. Before you submit a planning application, please contact our office about the necessity of a pre-consultation meeting.

These confidential meetings are hosted by the Planning Department with staff from various departments (and agencies, as applicable) who will provide valuable feedback on your proposal and outline what will be required as part of a complete planning application. After the meeting, you will receive a detailed summary of the meeting which will summarize the feedback from each department. The document will also include a clear list of what you need to submit as part of a complete planning application form.

To request a pre-consultation meeting, please email the Planning Department at precon@norfolkcounty.ca. You can also call us at (519) 426-5870 ext. 1842.

For more information on the process, please see the Norfolk County Planning Website.

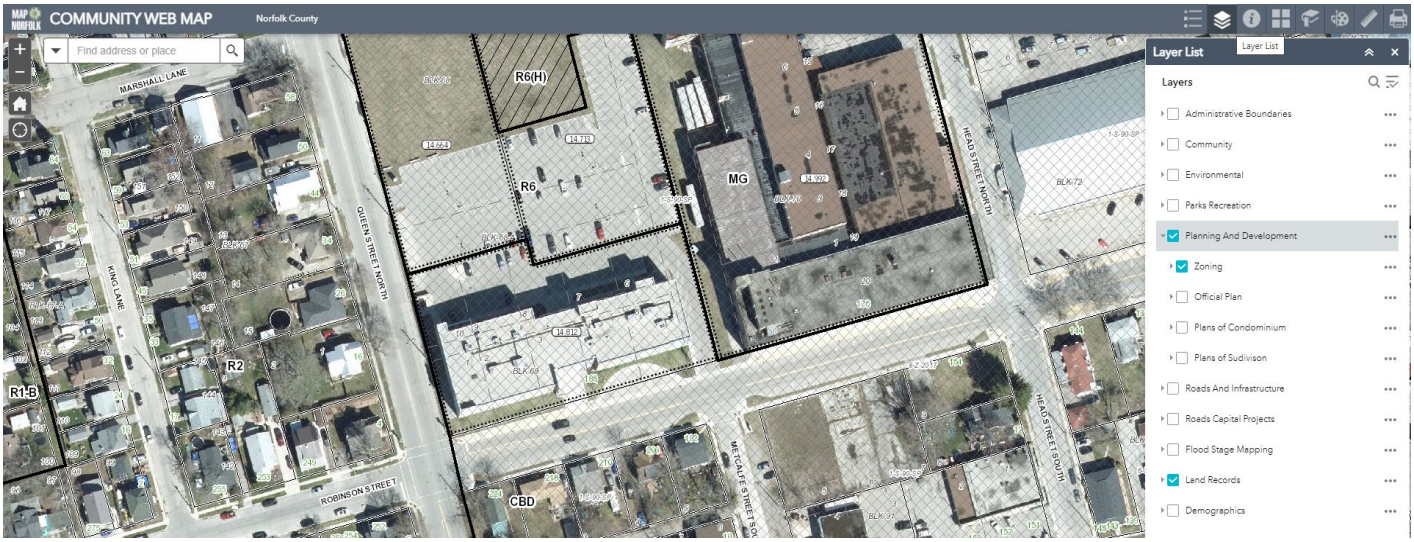
Site Plan Control.

Site Plan Control is a tool utilized by the County to ensure that specific development proposals meet the Official Plan and Zoning By-law objectives. Essentially, site plans approved under this process are very detailed and outline precisely how a particular property will be developed. Site Plan Approval is typically the last planning approval necessary before the Building Permit process.

A Site Plan Agreement is sometimes required for more complicated developments. Where a property has site plan control designation, but the proposed construction is deemed minor in nature, the applicant will need to provided a site plan waiver from the Planning Department as part of an Applicable Law review.

Zoning Requirements.

Finding the zoning associated with your property is easy with our GIS Community Web Map, position over your property and turn on the zoning layer by clicking layer list, planning, zoning. Norfolk County Zoning Bylaw is available online.



To confirm your project conforms to the Zoning By-law you will need to provide a plot plan indicating:

- Property lines and lot dimension,
- Location of building and all other structures on the lot,
- Location of all steps and landings,
- Distance from dwelling to property lines,
- Parking spots with dimensions,
- Location of septic system.

If your proposed building / structure does not comply with the zoning requirements, a planning application will be required. Zoning and Planning approval is required as part of a complete permit application.

Planning Department: planning@norfolkcounty.ca or 519-426-5870 ext. 1842.
Zoning: zoning@norfolkcounty.ca or 519-426-5870 ext. 1000.

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Lot Grading.

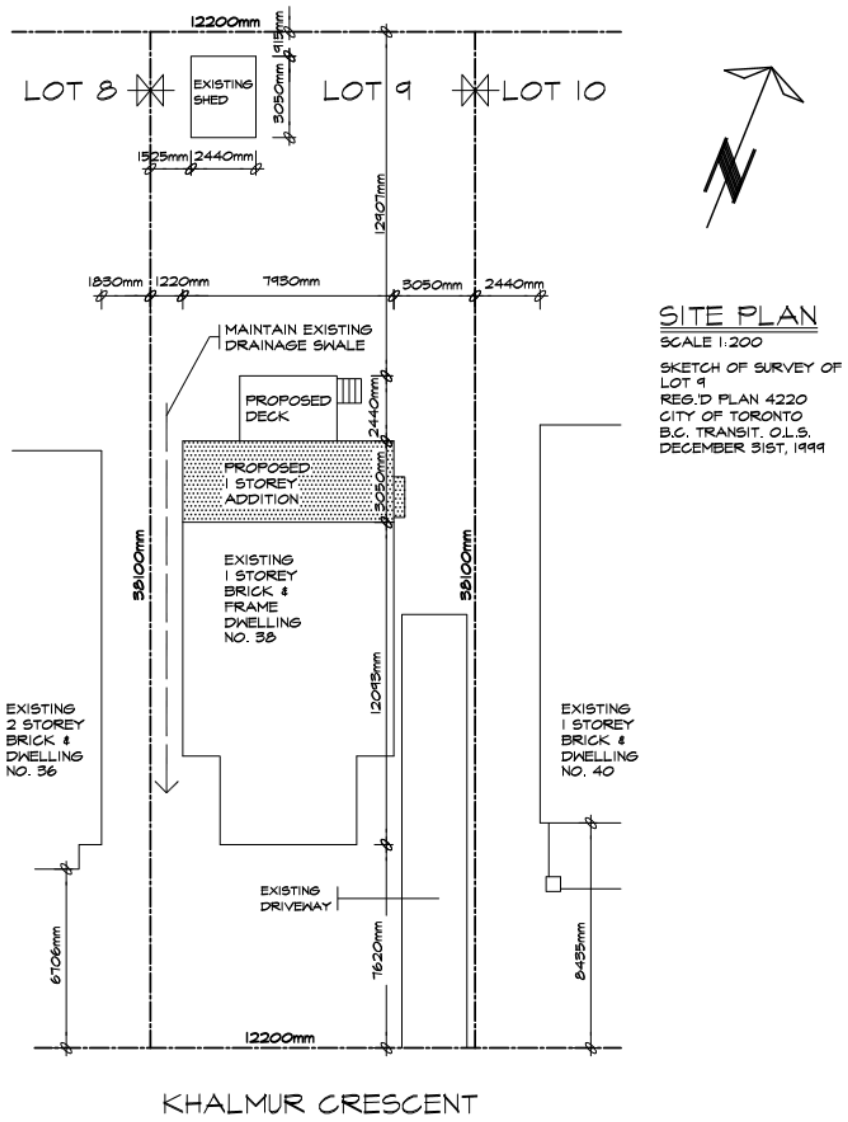
Where a property has been issued a site plan waiver, and the footprint of the building is increasing in size, a lot grading is required.

Proposed grading plans and lot grading form shall be submitted with all building permit applications, under Norfolk County Grading and Drainage By-law.

Proposed grading plans needs to identify:

- all surface features;
- existing and proposed structures;
- changes in grade and slopes in percent between such changes; and
- include sufficient information regarding adjacent properties to confirm conformance with this By-Law with respect to drainage onto those properties.

An exemption may be considered for a lot in a rural area (complete form, fee applies)



STEP 2: Preparing your application.

A building permit application consists of many documents. The forms attached are to be completed, signed, and dated.

Who can design the building?

There are many factors to determine who can complete drawings and design documents for these types of buildings. Your design team can be made up of qualified individuals with a Building Code Identification number (BCIN), an architect, and/or Professional Engineers. If you are unsure what qualifications a designer needs for your specific project, reach out to a building inspector for more information.

Building Department staff cannot make recommendation on a specific designer or design company.

Drawings and Documents.

Drawings are to be legible and to scale. Use a ruler or computer aided drafting (CAD) software to complete your drawings. Provide enough information and detail to ensure compliance with the Ontario Building Code.

The Ontario Building Code is available online under the 'regulations under this act' tab.

Building Department staff are not permitted by law to provide design advice. It is the responsibility of the property owner or authorized agent to complete a design that meets the requirements of the Ontario Building Code (OBC) and the Building Code Act (BCA).

Building Permits – Application Checklist.

Completed Forms.

- ☐ Building Permit Application Form.
- ☐ Signed Commitment to General Review.
- ☐ Property Owner Consent Form, if application is not completed by the property owner,
- ☐ Applicable Law Checklist and supporting documents.
- ☐ Lot grading form (projects with a site plan waiver).

Required Documents.

- ☐ Approved Site Plan approval plot plan.
- ☐ Drawings of the building.
  - Architectural,
  - Structural,
  - Electrical,
  - Mechanical,
  - Plumbing.
- ☐ Building Code Matrix.
- ☐ Completed SB-10 report (energy efficiency).

- ☐ Septic System or Sewage Works.
  - Sewage system is under 10,000 litres/day daily design flow for the whole site. (separate application through Norfolk County)
  - Sewage Works is over 10,000 litres/day daily design flow for the whole site. ECA to be obtained from The Ministry of Environment, Conservation, Parks.
    Contact: *Christopher O'Connor.*
    Phone: 1-800-668-4557, Cell: 905-515-9618
    Email: Chris.O'Connor2@ontario.ca

Fees.

- ☐ Building Permit fee.
- ☐ Plumbing fee.
- ☐ Occupancy fee.
- ☐ Civic address (where applicable).
- ☐ Water / Sanitary / Storm Connection Permit (where applicable).
- ☐ Development charges (if applicable).

Septic Permits - Application Checklist.

Completed Forms.

- ☐ Building Permit Application Form.
- ☐ Schedule 1: Designer Information.
- ☐ Schedule 2: Sewage System Installer Information.

Required Documents.

- ☐ Septic System Permit Application Information Package / Worksheets.
- ☐ Percolation time ('T' time) report from a licensed testing agency.

Fees.

- ☐ Septic Permit fee.

STEP 3: Applying.

Online Portal: Visit Norfolk Permits Portal and make your application online.

Building Department

Apply for a Building Permit
Status and Fees

In Person: Visit our service counter located at 185 Robinson Street, Suite 200 Simcoe Ontario.

Our Permit Coordinators will review your application and provide in writing any item which may be missing from the application and a cost break down for the permit fees and payment options.

Step 4: Plans Review.

A Building Inspector will contact you in writing if there are building code concerns or missing information from your application.

A building permit is issued once all documentation has been received, fees are paid in full, and your plans are check for compliance with zoning by-law and the building code.

Step 5: Inspections

Once you have obtained a building permit, a building inspector needs to attend your site at several milestones in the construction process. For more information, please check the inspection section of Norfolk County's Building Department website. Once all inspections are complete and passed your permit is closed.

Need Help? If you have any question on the building permit process or plans required, please contact permits@norfolkcounty.ca or 519-426-5870 ext. 6016

Updated October 2022