

re: Geotechnical Grading and Site Servicing Plans Review
Proposed Industrial Development
295 Roger Neilson Way - Ottawa, Ontario

to: 1850591 Ontario Ltd. – Patrick Hunter – hunterpat111@gmail.com

date: August 27, 2026

file: PG7845-MEMO.02

Further to your request and authorization, Paterson Group (Paterson) has prepared this memorandum to provide a review from a geotechnical perspective for the grading and site servicing plans for the proposed industrial development at the aforementioned site. This memorandum should be read in conjunction with Paterson Group Geotechnical Investigation Report PG7845-1, Revision 1, dated August 27, 2026, which has been prepared for the proposed development at the aforementioned site.

1.0 Grading Plan Review

Paterson reviewed the following conceptual grading plan prepared by Egis Group in preparation of the current memorandum:

- ☐ Lot Grading, Drainage, Erosion & Sediment Control Plan – Industrial Building – 259 Roger Neilson Way – Project No. CCO-26-1863 – Drawing No. C101 – Revision 2, dated August 6, 2026.

Paterson has reviewed the subsurface conditions within the footprint(s) of the proposed building. Based on our review, **a permissible grade raise restriction of 0.5 m** is recommended in the proposed building footprint and within 3 m of the building perimeter. This accounts for a live load on the slab-on-grade of 12 kPa. If the actual live load on the slab-on-grade differs from this value, then this permissible grade raise value would need to be adjusted. Beyond the 3 m distance from the proposed building perimeter, **a permissible grade raise restriction of 1.2 m** is recommended.

Based on our review of the above-noted drawing, the proposed grading for the parking areas, access roads, and landscaped areas beyond 3 m of the proposed building footprint is within the permissible 1.2 m grade raise. However, based on the finished floor elevations and proposed grading around the building, lightweight fill (LWF) should be placed below and around the proposed building footprint. The LWF should be installed at the minimum thickness, locations, and extents shown on Figure 2 attached to this memorandum.



Reference should be made to Figure 1 – EPS Block Installation Recommendations and Figure 2 – Marked-Up Grading Plan, which indicate the required locations, extents, and thicknesses of the LWF.

It shall be noted that the LWF shall not extend vertically below the USF. The LWF should consist of EPS (expanded polystyrene) geofoam blocks, which allow for raising the grade without adding a significant load to the underlying soils. For this application, EPS type 15 should be used.

2.0 Site Servicing Plan Review

Paterson reviewed the following conceptual site servicing plan prepared by LRL Engineering regarding the aforementioned development:

- ❑ Site Servicing Plan – Industrial Building – 259 Roger Neilson Way – Project No. CCO-26-1863 – Drawing No. C102 – Revision 2, dated August 6, 2026.

Based on our review of the above-noted site service plans, it should be noted that all services will be constructed outside the lateral zones of the proposed footings of the building and are considered to be acceptable from a geotechnical perspective. However, insufficient frost protection has been provided for all proposed storm sewer pipes throughout the subject site. The proposed services are located within the frost zone, approximately 2.1 m below the finished grade. In the following section, frost protection of the site servicing is recommended where insufficient frost cover has been provided.

Reference should be made to Figure 3 – Marked-Up Site Servicing Plan, attached to the current memorandum, for the location of pipes where insulation will be required.

Any portion of the services installed at a depth of 2.1 m below finished grade or deeper is considered to have sufficient soil cover for frost protection. Where insufficient soil cover is present above the invert of storm sewer pipe, the following frost protection criteria should be followed:



Table 1 - Rigid Insulation Recommendations for Pipes with Reduced Soil Cover			
Thermal Condition	Soil Cover Provided (mm)	Insulation Dimensions	
		Thickness (mm)	Extension (mm)
Unheated	600 to 900	125	Extend 1200 mm horizontally beyond edge face of the pipe
	900 to 1200	100	Extend 1200 mm horizontally beyond edge face of the pipe
	1200 to 1500	75	Extend 900 mm horizontally beyond edge face of the pipe
	1500 to 1800	50	Extend 600 mm horizontally beyond edge face of the pipe
	1800 to <2100	25	Extend 300 mm horizontally beyond edge face of the pipe
Notes: All designs are based on a freezing index of 1000°C-days			

All rigid insulation should consist of either Dow Chemical High-Load 40 (HI-40), Styro Rail SR.P400, or equivalent approved by Paterson. The placement of all insulation within the service trenches must be reviewed and approved by Paterson personnel at the time of construction. Reference should be made to Figure 4 – Typical Frost Insulation Detail, attached to this memorandum.

It should be noted that the invert elevation of the watermain pipes has not been presented in the above-noted site servicing drawings. Therefore, if insufficient soil cover is provided for watermain pipes, rigid insulation should be installed for the proposed watermain pipes as recommended in the above table (Table 1).

In addition, to reduce long-term lowering of the groundwater at this site, clay seals should be provided within the service trenches excavated through the silty clay deposit. The seals should be at least 1.5 m long (in the trench direction) and should extend from trench wall to trench wall. The seals should extend from the frost line and fully penetrate the bedding, subbedding, and cover material. The barriers should consist of relatively dry and compactable brown silty clay placed in maximum 300 mm thick loose layers and compacted to a minimum of 95% of the SPMDD. The clay seals should be placed at the site boundaries and at strategic locations at no more than 60 m intervals in the service trenches excavated through the silty clay deposit.

Reference should be made to Figure 3 – Marked-Up Site Servicing Plan, attached to the current memorandum, for the approximate location of clay seals at the subject site.



We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Yashar Ziaimehr, M.A.Sc., P.Eng.

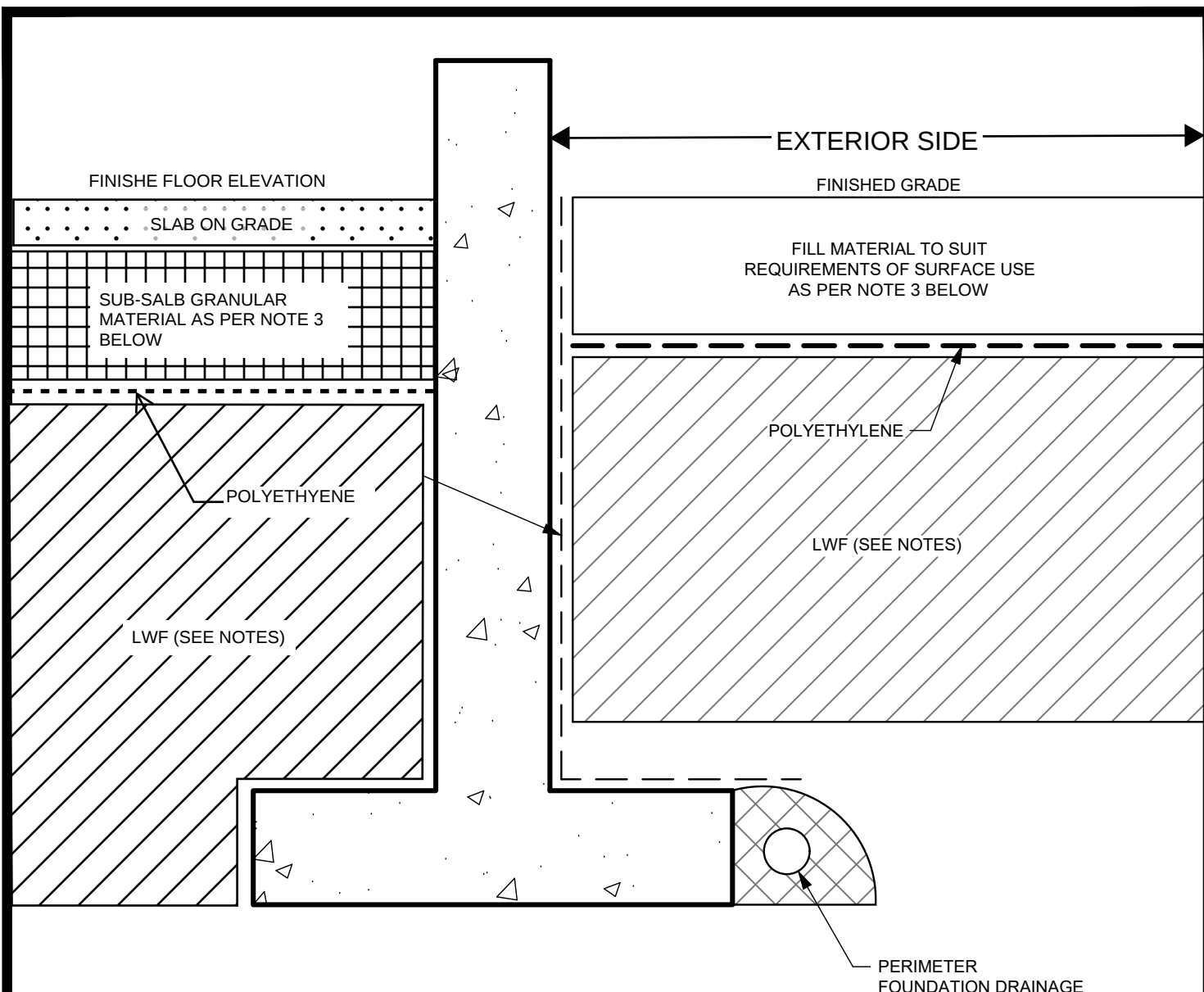


Faisal I. Abou-Seido, P.Eng.

Attachments:

- ☐ Figure 1 – EPS Block Installation Recommendations.
- ☐ Figure 2 – Marked-Up Grading Plan.
- ☐ Figure 3 – Marked-Up Site Servicing Plan.
- ☐ Figure 4 – Typical Frost Insulation Detail.





NOTES:

1. USE EPS12 BELOW LANDSCAPED AREAS
2. USE EPS15 BELOW GARAGE DRIVEWAY AND INTERIOR AREA
3. MINIMUM GRANULAR THICKNESS OVER LWF SHOULD BE AS FOLLOWS:

FRONT PORCH	150mm OF OPSS GRANULAR A
GARAGE	300mm OF OPSS GRANULAR A
DRIVEWAY	450mm OF OPSS GRANULAR A
LANDSCAPED	500mm OF APPROVED BACKFILL SOIL
INTERIOR AREA	300mm OF OPSS GRANULAR A
4. PLACEMENT OF LWF SHOULD BE ON A LEVELED SURFACE (SAND CAN BE USED TO PROVIDE AN ADEQUATE LEVELLING SURFACE).



Title:

**EPS BLOCK INSTALLATION
FOR SLAB ON GRADE BUILDINGS**

Scale:

N.T.S.

Date:

08/2026

Drawn by:

NFRV

Checked by:

FA

Drawing No.:

FIGURE 1

GENERAL NOTES

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED FROM INFORMATION SUPPLIED BY (OR SHOWN ON) AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLE SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
7. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
8. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
9. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND REINSTATEMENT WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR ADEQUATELY REINSTATING THE AREA TO

- PRE-CONSTRUCTION CONDITIONS OR BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.
10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
 12. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
 13. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
 14. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
 15. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
 16. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
 - ELECTRICAL SERVICE - HYDRO ONE
 - GAS SERVICE - ENBRIDGE
 - TELEPHONE SERVICE - BELL CANADA
 - TELEVISION SERVICE - ROGERS
 17. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
 18. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION
 19. ALL PROPOSED CURBS TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.

Figure 2 – Marked-Up Grading Plan

LEGEND:

- Minimum 1.1 m thick layer of EPS 15 geofam lightweight fill blocks should be placed and extend horizontally a minimum 3 m beyond foundation walls.
- Minimum 0.9 m thick layer of EPS 15 geofam lightweight fill blocks should be placed and extend horizontally a minimum 3 m beyond foundation walls.
- Minimum 0.7 m thick layer of EPS 15 geofam lightweight fill blocks should be placed and extend horizontally a minimum 3 m beyond foundation walls.

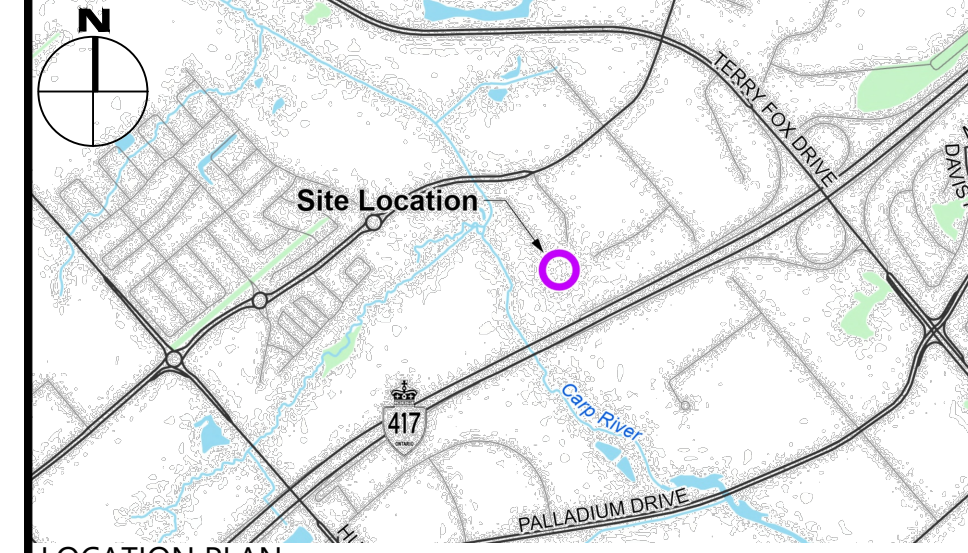
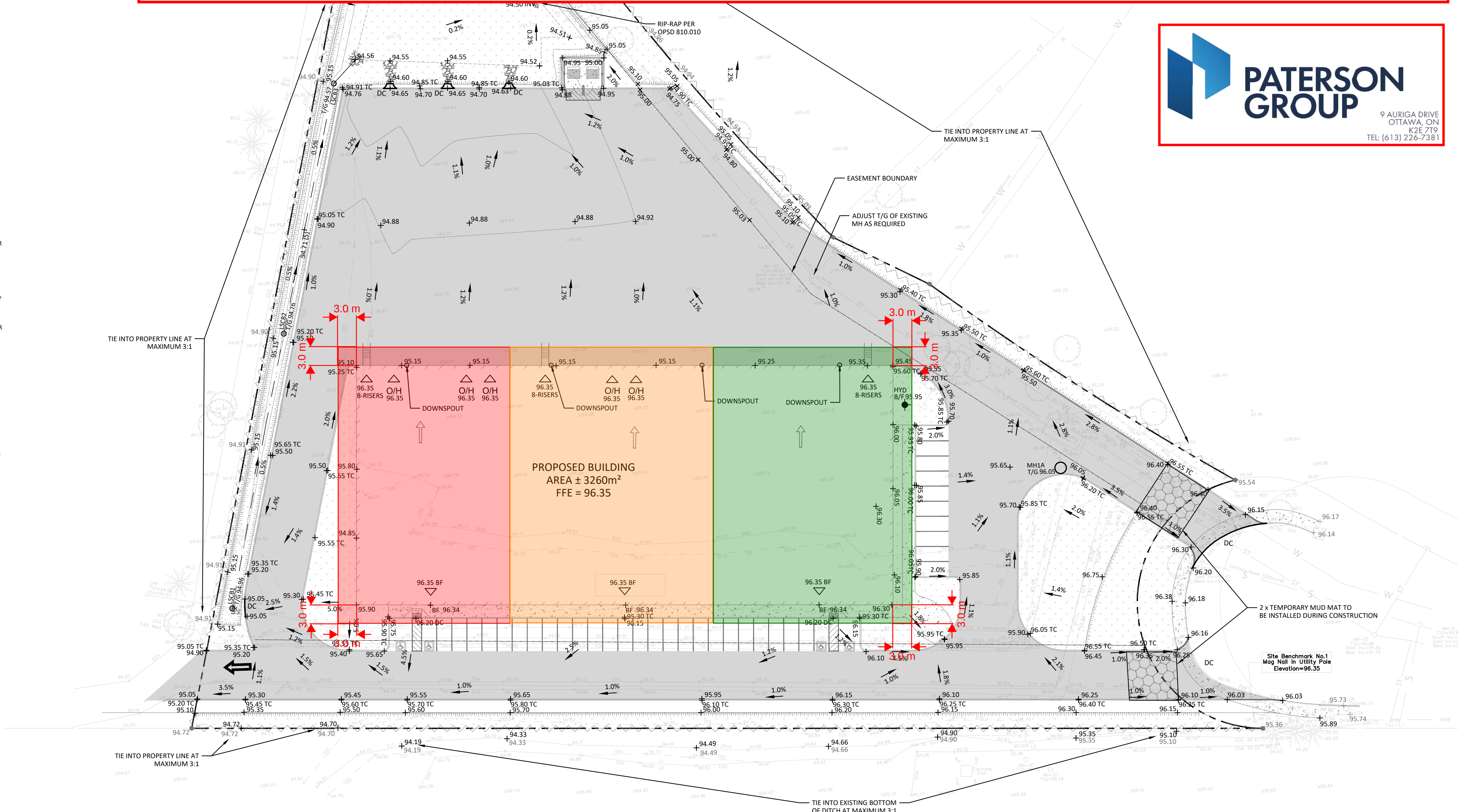
EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, TEMPORARY SEDIMENT CONTROL (GEOSOCK INSERTS WITH AN OVERFLOW UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL EXISTING AND PROPOSED CATCHBASINS, REARWARD CATCHBASINS AND CATCHBASIN MANHOLES AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSOCK MATERIAL SHALL BE PERMITTED FOR USE ON SITE. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
2. AT THE DISCRETION OF THE PROJECT MANAGER OR MUNICIPAL STAFF, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
3. FOR SILT FENCE BARRIER, USE OPSD 219.110. GEOTEXTILE FOR SILT FENCE AS PER OPSD 1860, TABLE 3.
4. EXCEPT AS PROVIDED IN PARAGRAPHS 4.1. and 4.2. BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
- 4.1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
- 4.2. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
5. SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
 - 5.1. FOR LIGHT-DUTY SEDIMENT BARRIERS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
 - 5.1.1. A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.

- 5.1.2. A DEPTH OF 300 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
- 5.2. FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
- 5.3. ACCUMULATED SEDIMENT SHALL BE REMOVED PRIOR TO THE REMOVAL OF THE CONTROL MEASURE.
- 5.4. ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSD 180.
6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED PRIOR TO ANY FORECAST STORM EVENT AND FOLLOWING A STORM EVENT.
7. DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPSD 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
8. ALL 'GREEN AREAS' TO BE TREATED WITH 150mm TOPSOIL AND SOD AS SOON AS FEASIBLE, AS PER OPSD 570.
9. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
10. STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. STORM CATCHBASINS, MANHOLES), AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS LEFT IN PLACE IN EXCESS OF 14 DAYS.
11. IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSD 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. WATERCOURSES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY WATERCOURSES CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. IF CLOSURE OF ANY PERMANENT WATER PASSAGE IS NECESSARY, THE CONTRACTOR SHALL RELEASE ANY STRANDED FISH TO THE OPEN PORTION OF THE WATERCOURSE WITHOUT HARM.
12. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPSD 577.
13. WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPSD 518.
14. ALL SETTLING/FILTRATION BASINS SHALL BE EQUIPPED WITH TERRAFIX 270R GEOTEXTILE (OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.

ROADWAY NOTES

1. RESTORE ANY TRENCHES AND DISTURBED SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
2. CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SC1.1 (BARRIER CURB), SC2 (MONOLITHIC SIDEWALK & CURB), AND SC4 (STANDARD SIDEWALK) AS NOTED. PROVISIONS SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVEWAYS AND RAMPS.
3. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA DETAIL R10 AND OPSD 520.010, OPSD 310, AND SHALL BE REINSTATED PER THE DETAIL SHOWN ON THIS DRAWING.
4. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm AROUND ALL STRUCTURES WITHIN PAVEMENT AREA.
5. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 100% SPND.
6. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
7. SUB- EXCAVATE SOFT AREAS AND FILL WITH GRANULAR "B" COMPACTED IN MAXIMUM 300mm LIFTS.
8. PAVEMENT STRUCTURE: REFER TO DETAIL.



LEGEND

FULL HEIGHT CONCRETE BARRIER CURB (SC1)	PERFORATED PIPE SUBDRAIN
DEPRESSED CONCRETE BARRIER CURB	DRAINAGE SWALE
MONOLITHIC CURB & SIDEWALK (SC2)	DRAINAGE DITCH
DEPRESSED MONOLITHIC CURB & SIDEWALK	SLOPING AT 3:1 UNLESS SPECIFIED
CONCRETE SIDEWALK (SC4)	SURFACE ELEVATION
PROPOSED LIGHT DUTY ASPHALT	SWALE ELEVATION
PROPOSED HEAVY DUTY ASPHALT	TOP OF WALL ELEVATION
PROPOSED GRAVEL	BOTTOM OF WALL ELEVATION
LSCB# LANDSCAPING CATCHBASIN	OVERLAND FLOW ROUTE
CBM#H# T/G CATCHBASIN MANHOLE	SILT FENCE BARRIER
CB# T/G CATCHBASIN	STRAW BALE CHECK DAM
M#H#A T/G SANITARY SEWER MANHOLE	MUD MAT
HYD B/F FIRE HYDRANT	TRENCH DRAIN
WATER VALVE	BOLLARD PER CITY STD F-4
WATER METER	DOORWAY
REMOTE WATER METER	CURB OUTLET PER OPSD 604.010

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

2	ISSUED FOR SUBMISSION	2026.08.06
1	ISSUED FOR SUBMISSION	2026.03.05
No.	Revisions	Date

Check and verify all dimensions before proceeding with the work. Do not scale drawings.

SCALE 1 : 400

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egis 750 Palladium Drive, Suite 310
Kanata, ON K2V 1C7
Tel: 613-836-2184
Fax: 613-836-3742
www.egis-group.com

Stamp:

Client:

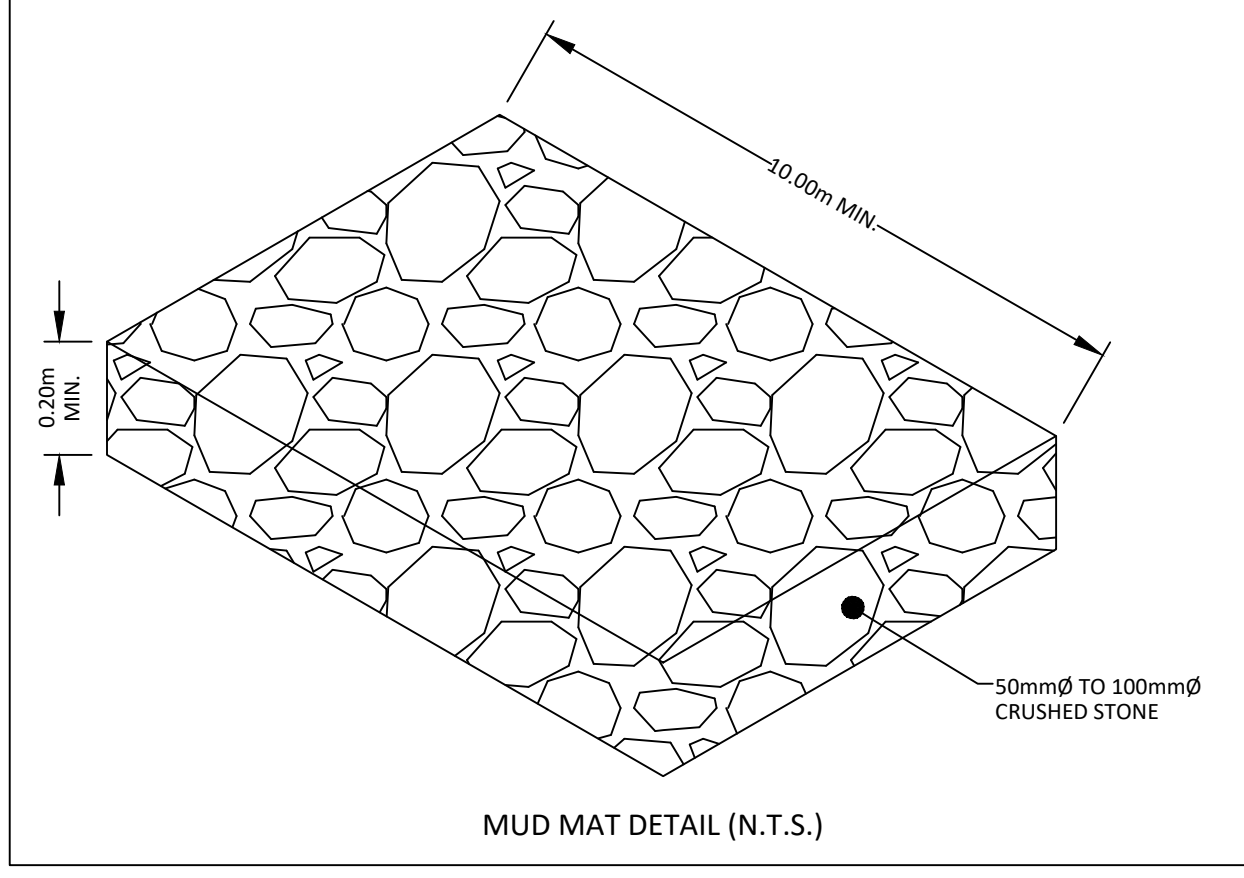
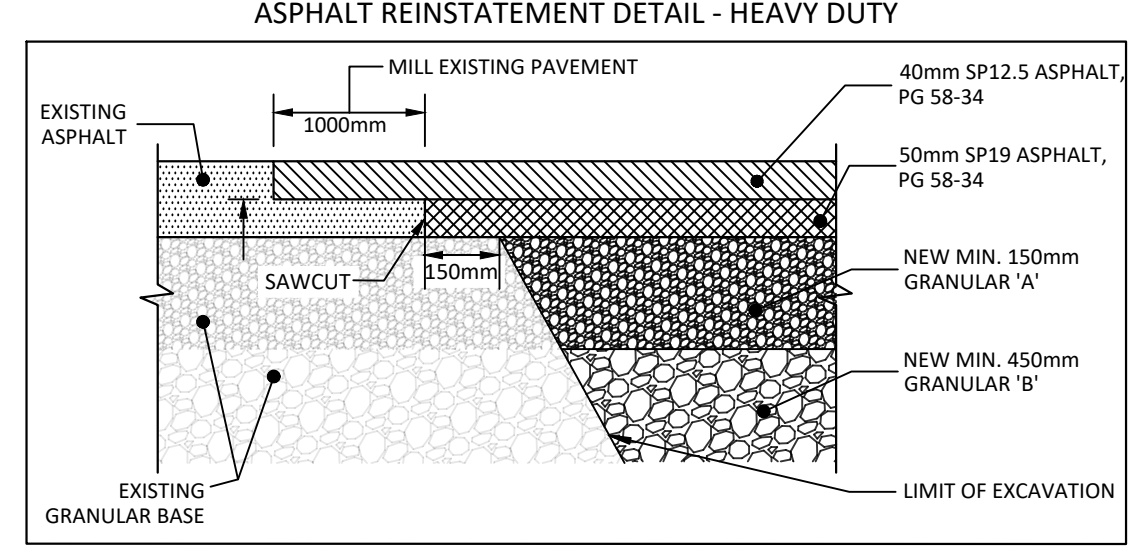
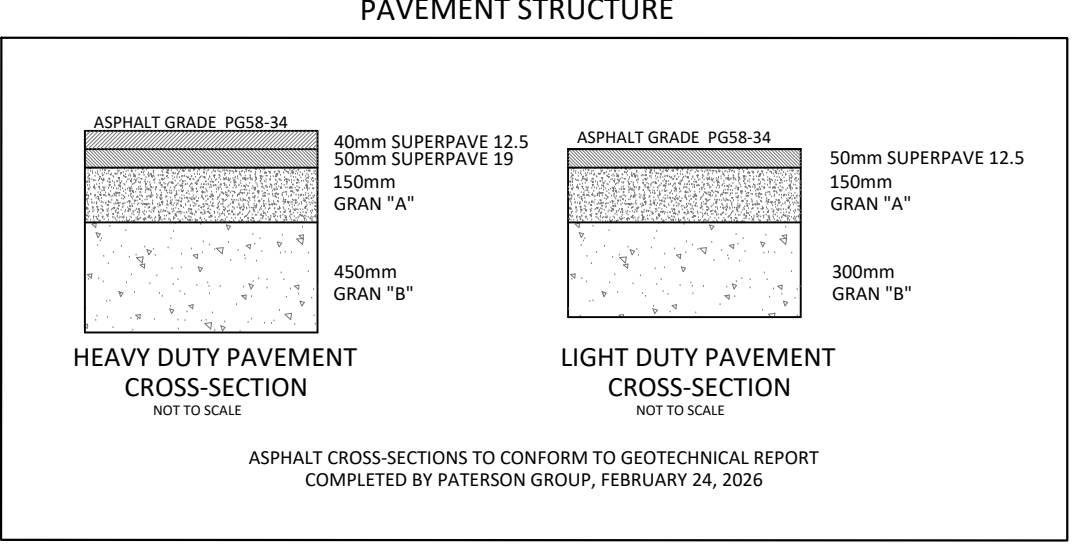
Project:

Client: 1850591 ONTARIO LTD.
3087 APPLE HILL DRIVE
OTTAWA, ON K1T 3Z2

Project: INDUSTRIAL BUILDING
259 ROGER NELSON WAY

Drawing Title: LOT GRADING, DRAINAGE, EROSION & SEDIMENT CONTROL PLAN

Scale: 1:400	Project Number: CCO-26-1863
Drawn By: RP	Drawing Number: C101
Checked By: CIM	
Designed By: RP	



UTTMAR, U. Ottawa (P) Project - Proposals/2026-1863/CCO-26-1863-259 Roger Nelson Way, Cell12 - Drawings/CCO-26-1863 - Design - 1.dwg
LAST REVISION: 13 Thursday, August 16, 2023 11:11:11 AM
DRAWN BY: PATERSON GROUP

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1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION TO THE CONTRACTOR AND ARE NOT TO BE USED FOR ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES. ANY CADASTRAL SURVEY BOUNDARIES SHOWN HEREUNDER HAVE BEEN DERIVED FROM INFORMATION SUPPLIED BY (OR SHOWN ON) ONE OR MORE OF THE LOTS AND UPON THE ACCURACY OF WHICH WE COMPLETE THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AN UP-TO-DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY A REGISTERED SURVEYOR.
3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES AND TO BE RESPONSIBLE FOR THE PROTECTION, REPAIR AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWED TO CROSS THE SITE OR CROSS OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY AUTHORITIES.
7. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIALS AND GROUND AS DIRECTED BY THE ENGINEER AND OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
8. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
9. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF DISTURBANCE AS MUCH AS POSSIBLE AND TO REHABILITATE AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ANY DAMAGE TO ADJACENT AREAS AND TO BE RESPONSIBLE FOR ADEQUATELY REINSTATING THE AREA TO

1. CONSTRUCT ALL SEWERS, CATCH BASINS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARDS AND SPECIFICATIONS, AS WELL AS CITY.
2. SEWER TRENCHING AND BEDDING SHALL CONFORM TO OPSD 802.010 AND 802.013 UNLESS NOTED OTHERWISE.

3. CONSTRUCT ALL SEWERS, CHARGES, BATHS, MANHOLES AND APPURTENANCES IN ACCORDANCE WITH OPSD STANDARD SPECIFICATIONS, AS WELL AS CITY ORDINANCES, OTHERWISE.
4. SEWER TRENCHING AND BEDDING SHALL CONFORM TO THE FOLLOWING:
 - a. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR
 - b. TRENCHES SHALL BE BEDDED TO A MINIMUM SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
 - c. TRENCHES AT LEAST 100mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B".
 - d. TO MINIMIZE DIFFERENCE FROM FROST HEAVING, TRENCH BACKFILL FROM PARENT SUBGRADE SHALL BE AT LEAST 100mm ABOVE TOP OF DRAIN SHALL EXIST DRAINING SLOPES.
5. SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-28.
6. SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
7. SEWERS AND WATERMANS LOCATED PARALLEL TO EXISTING TRENCHES SHALL BE LOCATED IN SEPARATE TRENCHES, WHEN IT IS POSSIBLE OR NOT.

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
2. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m. INSULATE ALL WATERMAINS AND SERVICES THAT HAVE LESS THAN 2.4m COVER WITH THERMAL INSULATION AS PER CITY DETAIL W22.

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
2. WATERMAINS AND/OR COVER SERVICES ARE TO BE HIGH DENSITY POLYETHYLENE (HDPE) INSULATED WATERMAINS AND SERVICES THAT HAVE LESS THAN 2.4m COVER WITH THERMAL INSULATION AS PER CITY DETAIL W2.
3. IF THE WATERMAIN MUST BE DEFLECTED TO MEET A GRADE, INSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT WHICH IS RECOMMENDED BY THE MANUFACTURER AND CITY OF OTTAWA STANDARDS W2S AND W2.2.
4. THERMAL INSULATION OF WATERMAINS AT OPEN STRUCTURES AS PER CITY DETAIL W2.
5. VALVES TO BE OPERATED BY CITY STAFF ONLY.
6. NO WORK SHALL COMMENCE UNLESS A CITY WATERMAIN ENGINEER OR CITY ENGINEER HAS REFLECTED TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY OF OTTAWA. THE PERMIT SHALL INCLUDE THE EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY SITE SERVING CONTRACTOR.
7. CONCRETE THIRST BLOCKS TO CONFORM TO CITY

1. RESTORE ANY TRENCHES AND DISTURBED SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
2. CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD S1 (BARRIER CURB) AND S2 (SIDEWALK) AND S3 (STANDARD SIDEWALK) AS NOTED. PROVISIONS SHALL BE MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVEWAYS AND RAMPS.
3. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA DETAIL R10 AND OPS5 509-D10, OPS5 310, AND SHALL BE REINSTATEMENT PER THE DETAIL SHOWN ON THIS DRAWING.
4. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300mm AROUND ALL STRUCTURES WITHIN PAVEMENT AREA.
5. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO A MINIMUM OF 100% SPMD.
6. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS & NECESSARY REPAIRS HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE ENGINEER.
7. SUB- EXCAVATE SOFT AREAS AND FILL WITH GRANULAR "B" COMPACTED IN MAXIMUM 300mm LIFTS.
8. PAVEMENT STRUCTURE - REFER TO DETAIL.

ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.

- ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY PERMITS, INCLUDING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, MAINTENANCE AND REMOVAL OF SIGNAGE, FENCINGS, MARKERS AND BARRIERS.
- DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
- ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AND THE CITY OF ANTIPOLO'S POSITIVE DRAINAGE AVAIL FROM THE BUILDING.
- CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS. THE CITY ENGINEER WILL INSPECT AND TYPICAL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION. THE CITY ENGINEER WILL, IN ANY ASPECT, TOPSOIL, SEED & MULCH AND/OR SOED.
- ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING.
- ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LINES ARE SUBJECT TO THE INDIVIDUAL AGENCY:
- ELECTRICAL SERVICE - HYDRO ONE
 - TELEPHONE SERVICE - ENRIGIDE
 - TELEPHONE SERVICE - BELL CANADA
 - TELEVISION SERVICE - ROYAL CANADIAN MOUNTED POLICE
- INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY OF ANTIPOLO.
- CONTRACTOR TO ENSURE ALL APPLICABLE OPS AND REGULATIONS ARE FOLLOWED IN ALL CONSTRUCTION. ALL PROPOSED CURBS TO BE CONCRETE BARRIERS CURB UNLESS OTHERWISE SPECIFIED.

PRACTICAL TO MAINTAIN VERTICAL AND/OR HORIZONTAL SEPARATION PER MECH STANDARDS. SEWERMAN SHALL BE RESPONSIBLE FOR THE SEWERMAN QUALITY PIPE, 350 PSI TEST IN PLACE AT A PRESSURE OF 350 PSI (50 psi) WITHOUT LEAKAGE USING THE WATER METHOD. IN ONTARIO PROVINCIAL STANDARD SPECIFICATION 701 (PSS 701) OF THE OPS.

INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m of COVER. MINIMUM INSULATION AS PER CITY DETAIL S35, OPTION A.

SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAN AS PER CITY OF OTTAWA STANDARD DRAWING S11, S11.1 & S11.2.

SUPPORT AND INSTALL ALL PIPING AND APPURTENANCES TO THE CONNECTION. THE MAINS AND PIPES 150mm (CITY) OR GREATER PRIOR TO CROSS SEWER ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR SHALL CLEAN, FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

STANDARD W203. 100mm

WATERMAIN 100-mm/300mm TO BE CLASS 150 DR-18 PVC OR APPROVED EQUIVALENT.

ALL PVC WATERMAIN SHALL BE INSTALLED WITH A 10 GAUGE STAMPED COPPER TYPED OR RWJL TRACER WIRE BENEATH THE WATERMAIN TO W36.

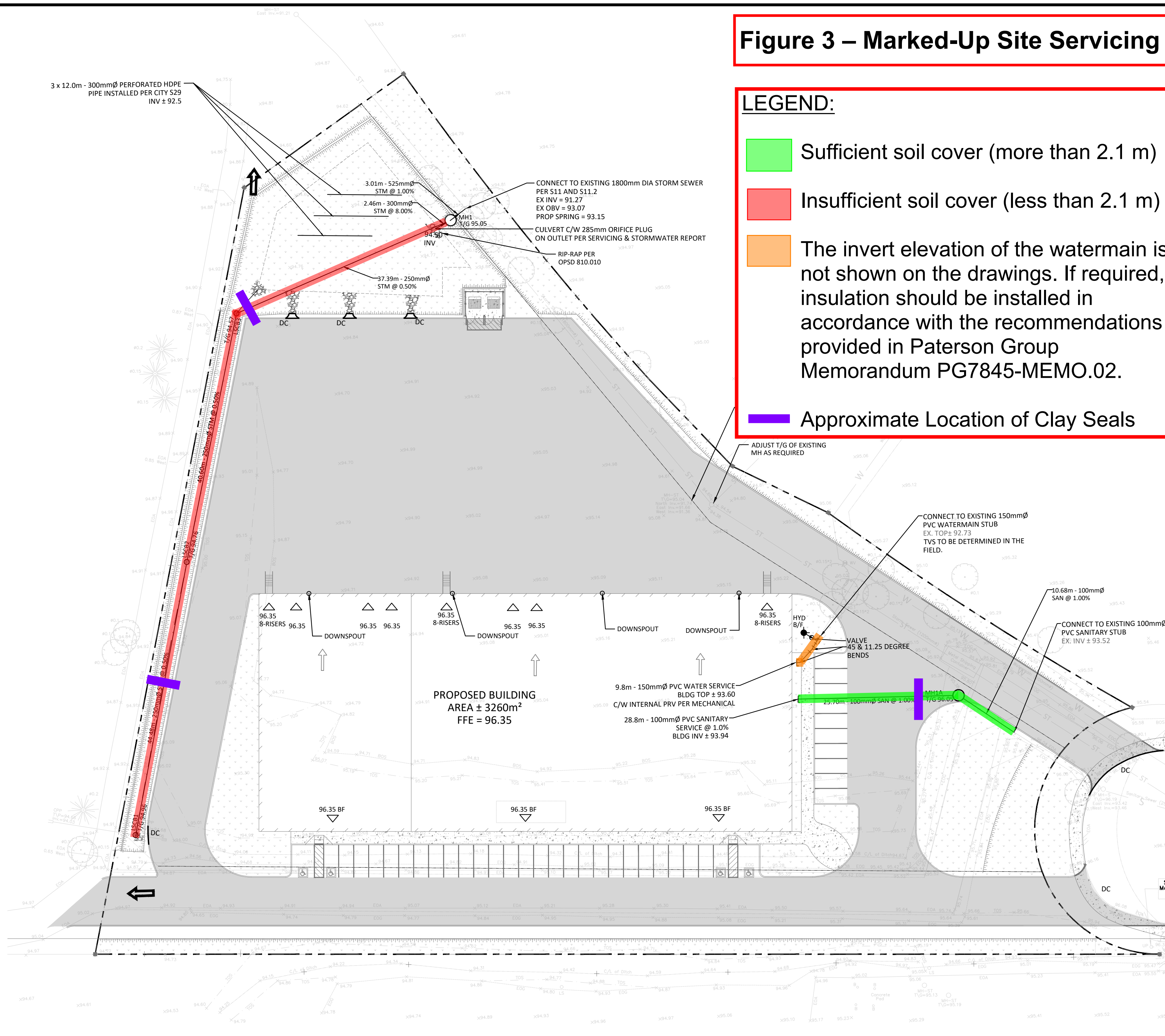
FIRE HYDRANTS SHALL CONFORM TO CITY STANDARDS W18, W19, AND W20.

WAVE BOXES SHALL CONFORM TO CITY STANDARD W24.

300mm/400mm VALVES AND SMALLER TO BE INSTALLED WITH WAVE BOXES AS PER CITY STANDARD W44.

400mm/400mm VALVES AND LARGER TO BE INSTALLED WITH BUTTERFLY VALVES AND WAVE CHAMBERS AS PER CITY STANDARD W44.

AS PER CITY GUIDELINE, THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER/UTILITY IS 0.25m FOR CROSSING OVER THE WATERMAIN AND 0.30m FOR CROSSING UNDER SEWER. THE MINIMUM VERTICAL CLEARANCE IS 0.5m AS PER CITY BETWEEN FOR CROSSING UNDER SEWER. MINIMUM VERTICAL CLEARANCE FOR THE SEWER IS REQUIRED TO SUPPORT EXCESSIVE WEIGHTS. THE MINIMUM VERTICAL CLEARANCE OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING. THE JOINTS WILL BE EQUIQUANT AND AS FAR AS POSSIBLE FROM THE SEWER.

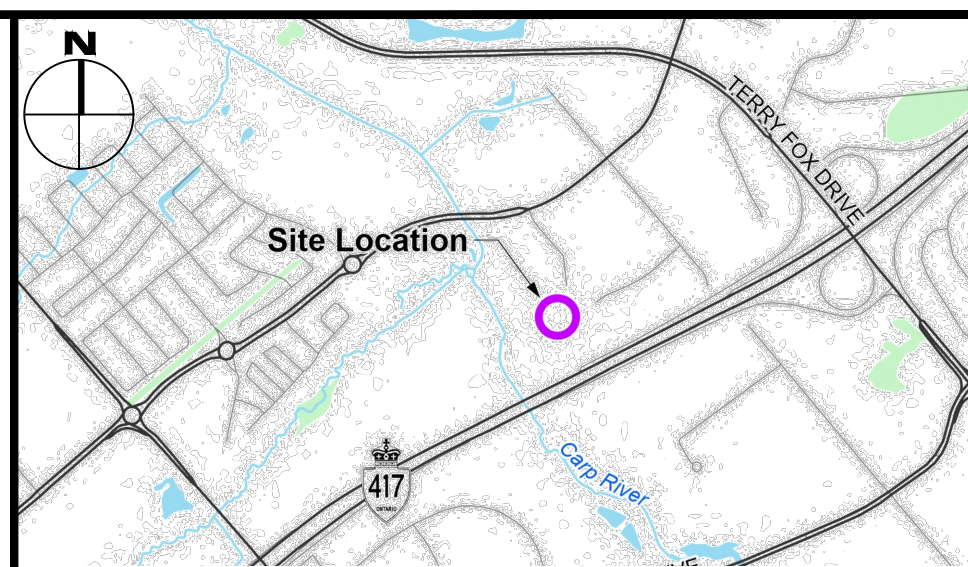


LEGEND:

Insufficient soil cover (less than 2.1 m)

The invert elevation of the watermain is not shown on the drawings. If required, insulation should be installed in accordance with the recommendations provided in Paterson Group Memorandum PG7845-MEMO.02.

Approximate Location of Clay Seals



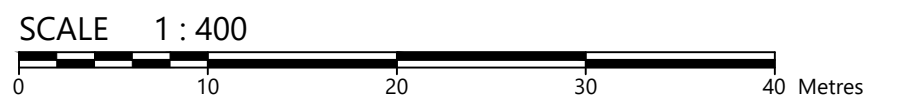
LEGEND

	FULL HEIGHT CONCRETE CURB (SC1)		LIMIT OF CONSTRUCTION
	DEPRESSED CONCRETE BARRIER CURB		PERFORATED PIPE SUBDRAIN
	MONOLITHIC CURB & SIDEWALK (SC2)		DRAINAGE SWALE
	DEPRESSED MONOLITHIC CURB & SIDEWALK		DRAINAGE DITCH
	CONCRETE SIDEWALK (SC4)		SLOPING AT 1:1 UNLESS SPECIFIED
	PROPOSED LIGHT DUTY ASPHALT		SURFACE ELEVATION
	PROPOSED HEAVY DUTY ASPHALT		SWALE ELEVATION
	PROPOSED GRAVEL		TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION
	LANDSCAPING CATCHBASIN		OVERLAND FLOW ROUTE
	CATCHBASIN MANHOLE		SILT FENCE BARRIER
	CATCHBASIN		STRAW BALE CHECK DAM
	SANITARY SEWER MANHOLE		MUD MAT
	FIRE HYDRANT		TRENCH DRAIN
	WATER VALVE		BOLLARD PER CITY STD F-4
	WATER METER		DOORWAY
	REMOTE WATER METER		CURB OUTLET PER O.P.S.D. 604.0112

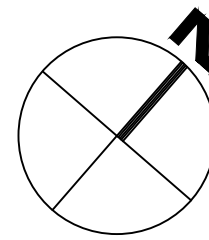
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

2	ISSUED FOR SUBMISSION	2026.08.06
1	ISSUED FOR SUBMISSION	2026.03.05
No.	Revisions	Date

Check and verify all dimensions before proceeding with the work



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Stamp

Client:

1850591 ONTARIO LTD.
3087 APPLE HILL DRIVE
OTTAWA, ON K1T 3Z2

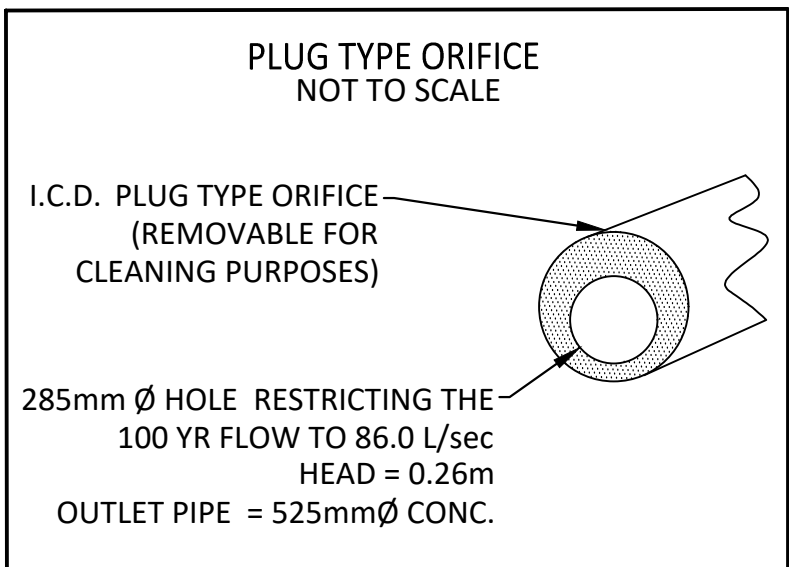
Project:

INDUSTRIAL BUILDING
259 ROGER NEILSON WAY

Drawing Title:

SITE SERVICING PLAN

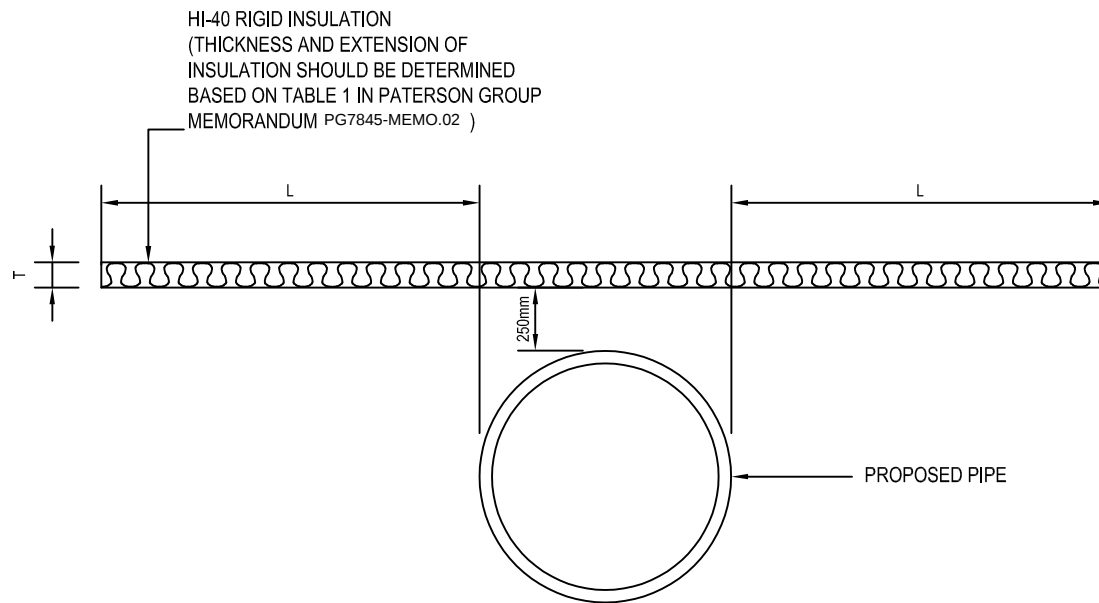
Scale:	1:400	Project Number:	CCO-26-1863
Drawn By:	RP		
Checked By:	CJM	Drawing Number:	C102
Designed By:	RP		



WATER COVER TABLE				
LOCATION	STATION	FINISHED GRADE	TOP OF PIPE	COVER
A - BUILDING	0+000.0	96.00	93.600	2.40
45 DEGREE BEND	0+001.0	95.90	93.500	2.40
11.25 DEGREE BEND	0+003.5	95.85	93.450	2.40
CONNECTION	0+009.8	95.85	92.730	3.12
B - TEE	1+000.0	95.75	92.900	2.85
VALVE	1+001.2	95.90	93.500	2.40
HYDRANT	1+002.5	95.95	93.550	2.40

STM STRUCTURE TABLE				
NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
LSCB1	94.96		NW94.022	CITY SPEC.: S31
LSCB2	94.76	SE93.800	NW93.795	CITY SPEC.: S30
LSCB3	94.57	SE93.590	NE93.586	CITY SPEC.: S30
MH1	95.05	S94.304 SW93.400	N93.180	COVER: CITY S24.1 FRAME: OPSD 401.050 (WATER TIGHT) STR. OPSD 701.010

SAN STRUCTURE TABLE				
NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
MH1A	96.05	SW93.682	E93.617	COVER: CITY S24 FRAME: CITY S25 STR.: OPSD 701.010



**PATERSON
GROUP**

SOLUTION ORIENTED
ENGINEERING

TYPICAL FROST INSULATION DETAIL

Scale:	N.T.S	Date:	08/2026
Drawn by:	MPG	Report No.:	PG7845-MEMO.02
Checked by:	YZ	Drawing No.:	Figure 4
Approved by:	FA	Revision No.:	