

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.

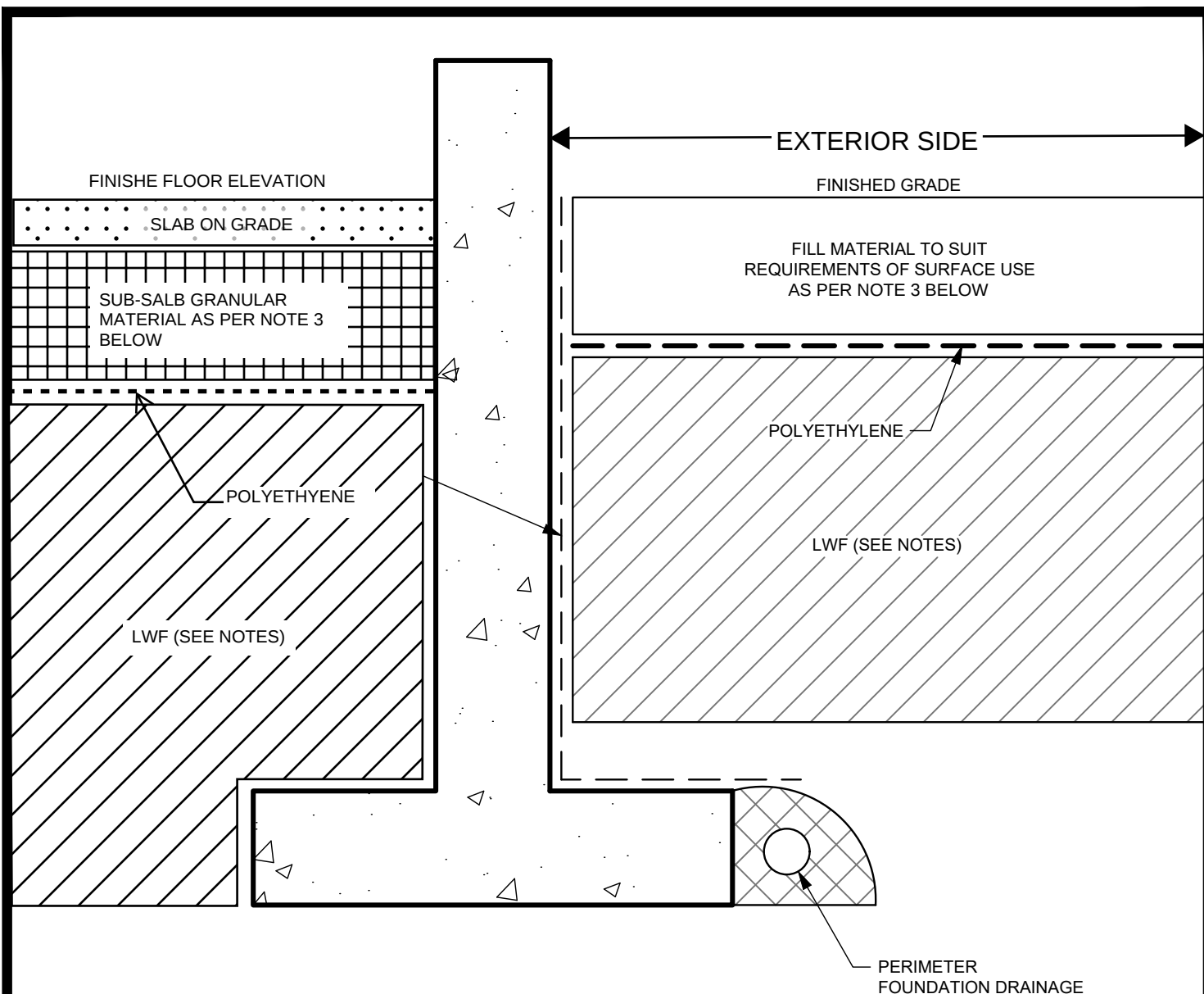


Faisal I. Abou-Seido, P.Eng.

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.

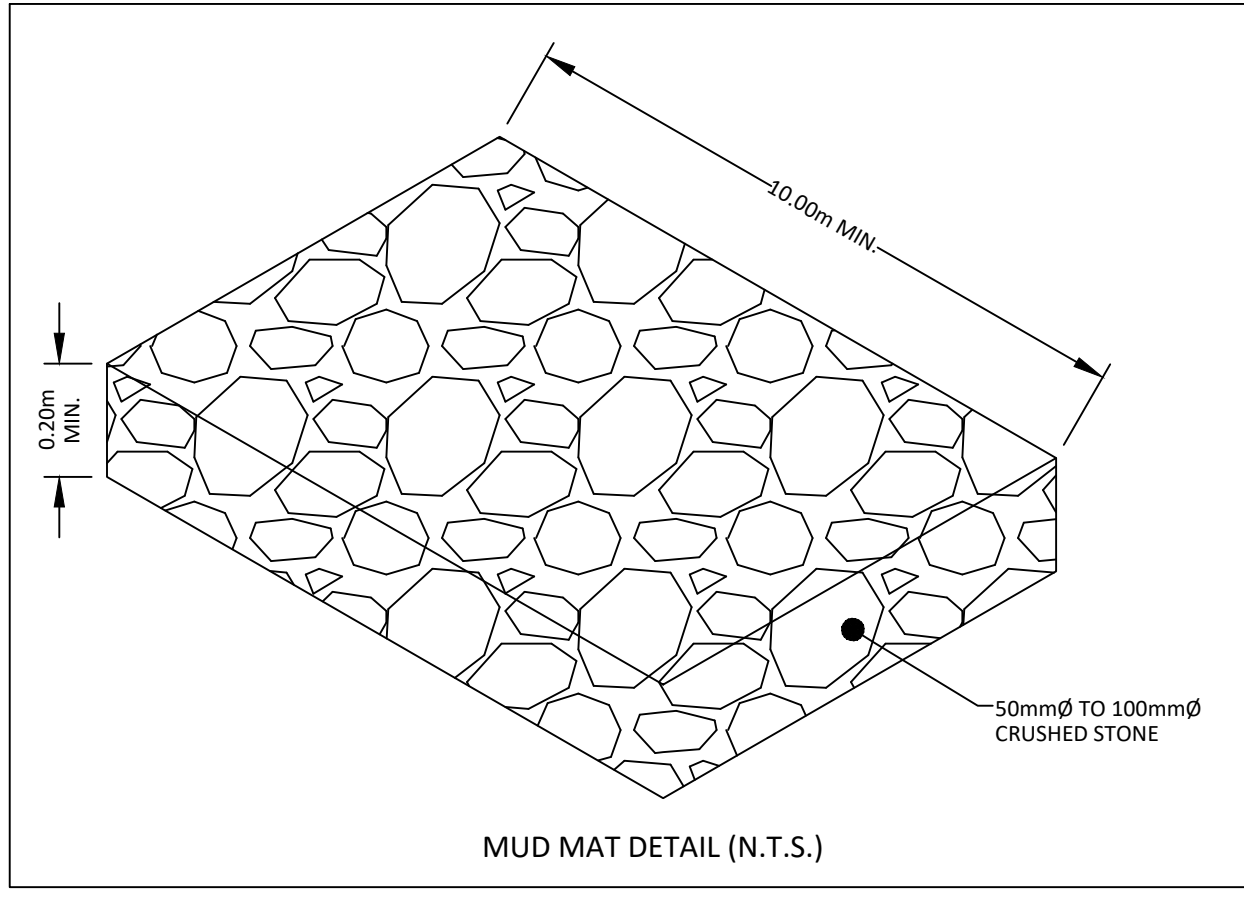
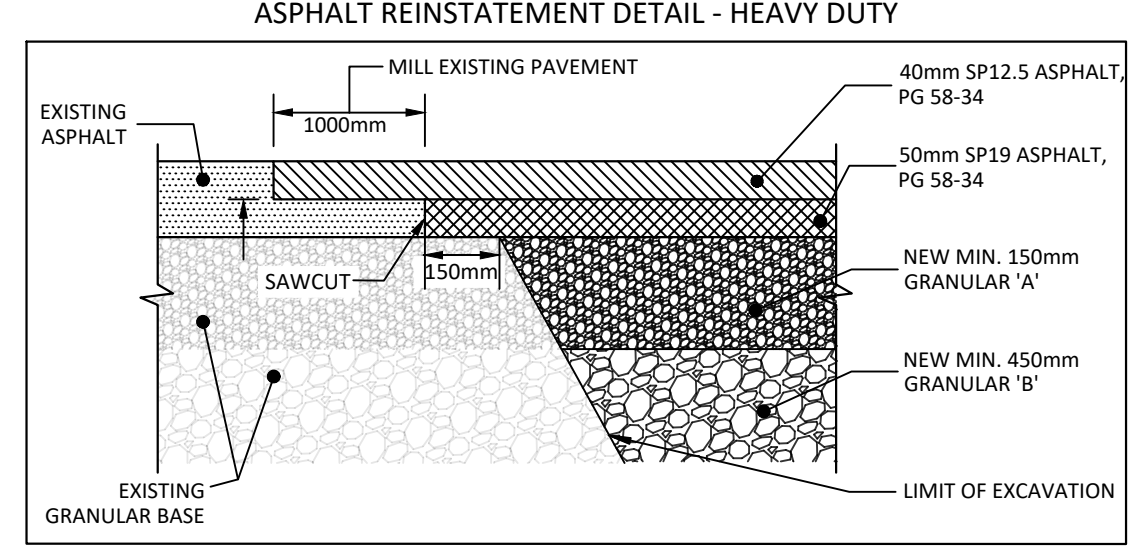
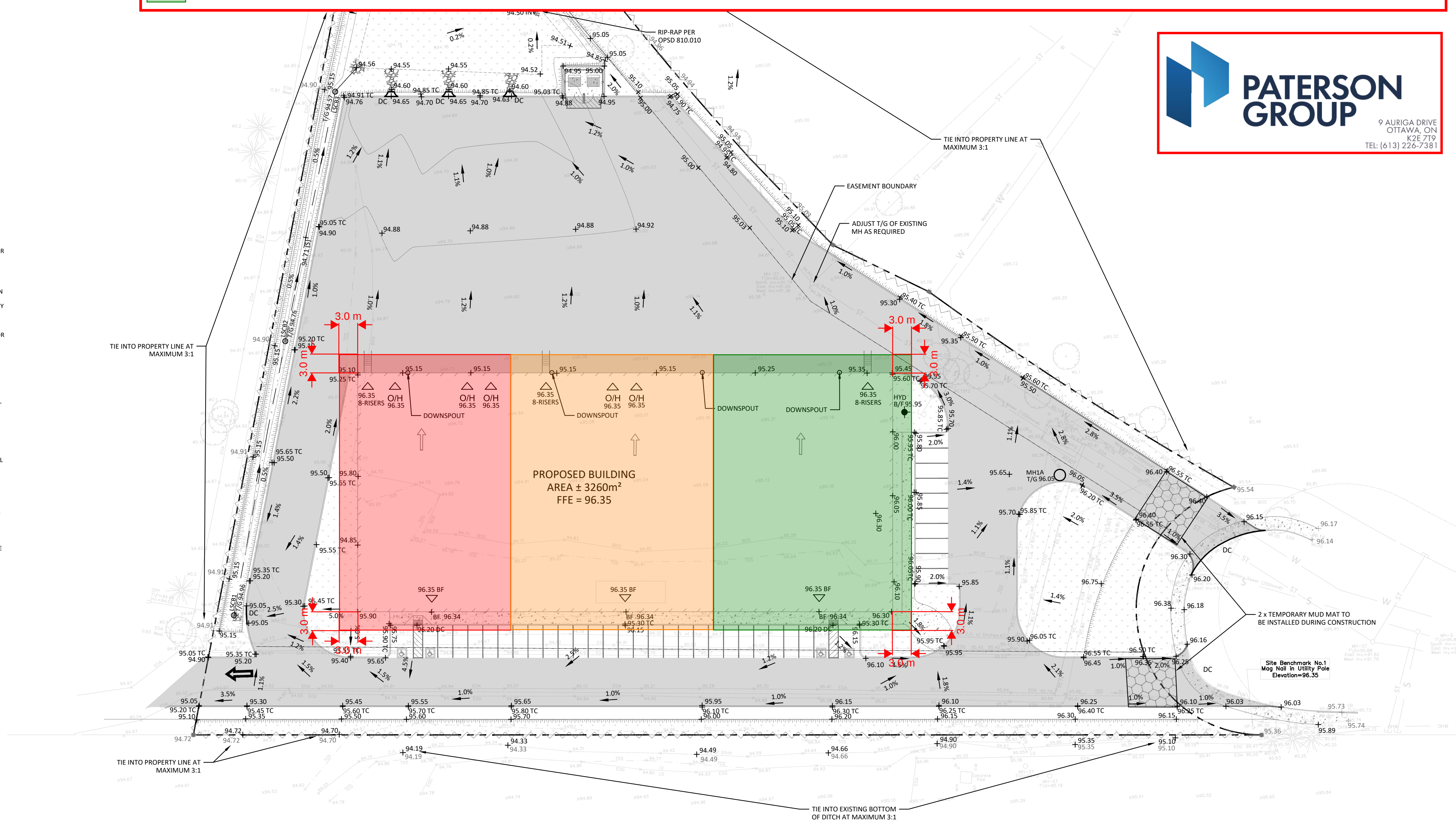
EROSION AND SEDIMENT CONTROL

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.



Site Location

LOCATION PLAN

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 OTHERWISE 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
CBMH# T/G CATCHBASIN MANHOLE	SILT FENCE BARRIER
CB# T/G CATCHBASIN	STRAW BALE CHECK DAM
MH#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 660.010

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

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

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

SCALE 1 : 400

0 10 20 30 40 Metres

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Stamp:

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	

D07-12-XX-XXXX

XXXXXXXXXX

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 AND EASEMENTS ARE TO BE DETERMINED BY THE SURVEYOR FROM THE INFORMATION SUPPLIED BY (OR SHOWN ON) AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. PRECISE PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY A CADASTRAL SURVEY. THE LATERAL LOCATIONS OF THE 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 UTILITY LINES AND STRUCTURES. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY QUESTION OR UNCLARITY, THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN EXISTING CONDITION AND TO THE SATISFACTION OF CITY AUTHORITIES.
7. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING, AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER.
8. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. TO BE CLEANED TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
9. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF DISTURBANCE TO THE MINIMUM POSSIBLE AND ACCURATE, AND SHALL MAKE THEIR OWN JUDGMENT AND ASSUME ALL RESPONSIBILITY FOR THE DESIGN AND CONSTRUCTION OF 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 DPSD 802.010 AND 803.013 UNLESS NOTED OTHERWISE:
 - a. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% OF PROCTOR DENSITY.
 - b. STONE BEDDING SHALL NOT BE PERMITTED.
 - c. SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 150mm OF COMPACTED GRANULAR "B" TYPE 1, BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
 - d. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL FROM PAVEMENT SUBGRADE TO CURBSIDES BELOW FINISHED GRADE SHALL MATCH EXISTING SOIL CONDITIONS.
3. SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-26.
4. SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
5. SEWERS AND WATERMANS LOCATED PARALLEL TO DRIVEWAYS SHOULD BE CONSTRUCTED IN SEPARATE TRENCHES. WHEN IT IS IMPOSSIBLE OR NOT

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.

2. WATERMANS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m. INSULATE ALL WATERMANS AND SERVICES THAT HAVE LESS THAN 2.4m COVER WITH THERMAL INSULATION AS PER CITY DETAIL W22.
3. IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT OF THE EXISTING WATERMAIN. REFER TO CITY DETAIL W21 AND CITY OF OTTAWA STANDARDS W25 AND W25.2.
4. THERMAL INSULATION OF WATERMANS AT JUNCTION STRUCTURES AS PER CITY DETAIL W23.
5. VALVES TO BE OPERATED BY CITY STAFF ONLY.
6. NO WORK SHALL COMMENCE UNLESS A CITY WATER WORKS INSPECTOR IS ON-SITE. NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY. THE CITY SHALL BE CONSULTED PRIOR TO ANY EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY SITE SERVING CONTRACTOR.
7. CONCRETE THRUST BLOCKS TO CONFORM TO CITY

1. RESTORE ANY TRENCHES AND DISTURBED SURFACES TO BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE DISTRICT ENGINEER.

2. CONCRETE CURB AND SIDEWALK SHALL BE IN ACCORD WITH CURET (CONCRETE CURB AND SIDEWALK), S2C (MONOLITHIC SIDEWALK & CURB), AND S0 MADE FOR CURB DEPRESSIONS AT SIDEWALKS, DRIVE
3. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY DETAIL R10 AND OPSD 509.010, OPS3 310, AND SHALL
4. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS PAVEMENT AREA.
5. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO
6. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL HAVE BEEN CARRIED OUT TO THE SATISFACTION OF THE
7. SUB- EXCAVATE SOFT AREAS AND FILL WITH GRANULAR
8. PAVEMENT STRUCTURE: REFER TO DETAIL.

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.

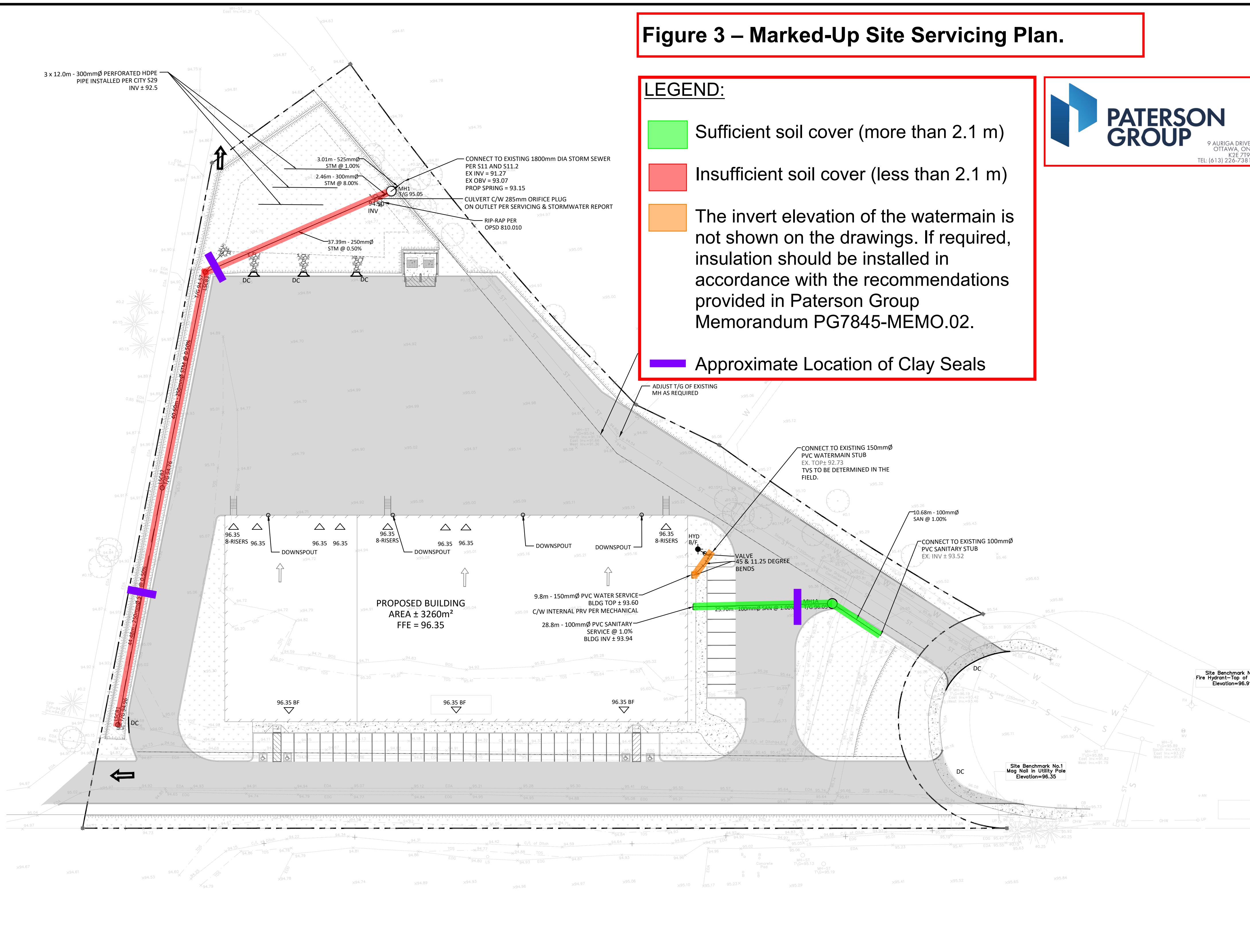
10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY PERMITS, EROSION CONTROL, AND EROSION DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SLOTTED CURBS, SLOTTED CURBS, AND SLOTTED CURBS.
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 STANDARD SPECIFICATIONS. ALL GRADING SHALL BE DONE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
14. CONTACT THE CITY FOR INSPECTION OF ROADSIDE GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS. THE CITY MAY REQUIRE THE CONTRACTOR TO CORRECT ANY DEFICIENCIES NOTED AND/OR REDO THE CITY'S INSPECTION. THE CITY MAY REQUIRE THE CONTRACTOR TO TOPSOIL, SEED & MULCH AND/OR SLOTTED CURBS.
15. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY.
16. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL PROVIDER'S LOCATION.
 - ELECTRICAL SERVICE - HYDRON, ONE
 - TELEPHONE SERVICE - ENBRIDGE, ONE
 - TELEPHONE SERVICE - BELL CANADA, ONE
 - TELEVISION SERVICE - BELL CANADA, ONE
17. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRON, ONE, BELL AND THE CITY.
18. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS FOLLOWING CURB AND SLOTTED CURB, UNLESS OTHERWISE SPECIFIED.

PRACTICAL TO MAINTAIN VERTICAL AND/OR HORIZONTAL SEPARATION PER MECP STANDARDS, ALL SEWERS SHOULD BE CONSTRUCTED OF WATERMAIN QUALITY PIPE, PRESSURE TESTED IN PLACE AT A PRESSURE OF 350 kPa (50 psi) WITHOUT LEAKAGE USING THE TESTING METHODOLOGY IN ONTARIO PROVINCIAL STANDARD SPECIFICATION 701 (OPSS 701) OF THE OPS.

3. SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER CITY DETAIL S35, OPTION A.
7. SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAIN AS PER CITY OF ILLINOIS STANDARD DRAWING 511, S11.1 & S11.2.
8. SUPPLY AND INSTALL ALL PIPING AND ACCESSORIES AS SHOWN AND DETAILED TO WITHIN THE BUILDING. ALL END OF SERVICES TO BE PROPERLY CAPPED AND LOCATED WITH 2"x4"x8" LONG MARKER.
9. CONTRACTOR TO TELEVIEW (CTV) ALL PROPOSED SEWERS ON SITE, OUTLET CONNECTION TO THE MAIN AND PIPES 150mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.
10. DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO SANITARY SEWER MAIN.

STANDARD W25.3.

8. WATERMAIN 100-300mm TO BE CLASS 150 DR 18-PC UP OR APPROVED EQUIVALENT.
9. ALL PVC WATERMAIN SHALL BE INSTALLED WITH A 10 GAUGE STANDED COPPER TWO OR TWO OR TRACER WITH BUTT WELD JOINTS AND WELDED TO W36.
10. FIRE HYDRANTS SHALL CONFORM TO CITY STANDARD W18, W19, AND W20.
11. VALVE BOXES SHALL CONFORM TO CITY STANDARD W24.
12. 300mm VALVES AND SMALLER TO BE INSTALLED WITH VALVE BOXES AS PER CITY STANDARD W24. 400mm VALVES AND LARGER TO BE INSTALLED WITH BUTT WELDED VALVE CHAMBERS AS PER CITY STANDARD W2.
13. AS PER CITY GUIDELINE, THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER UTILITIES 50-150mm FOR CROSSING OVER SEWER, AS PER CITY DETAIL W2.5. FOR CROSSING UNDER SEWER, THE MINIMUM VERTICAL CLEARANCE SHALL BE 100-150mm DETAIL W2.5. FOR CROSSING UNDER SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF THE SEWER. THE MINIMUM LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING THE SEWER. THE SEWER SHALL BE PROTECTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

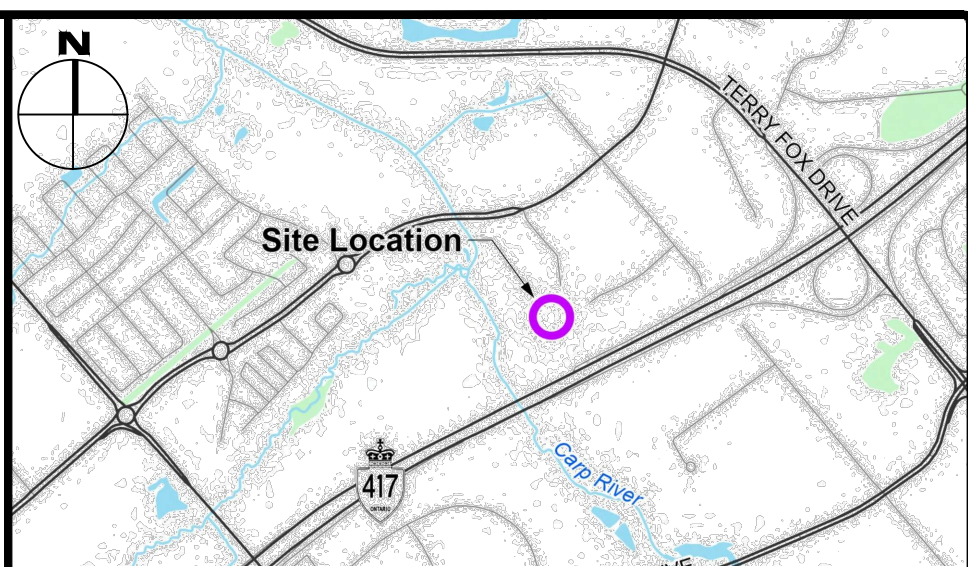


LEGEND:

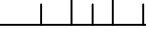
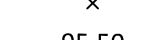
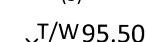
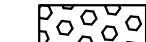
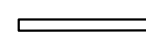
☐ Insufficient soil cover (less than 2.1 m)

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

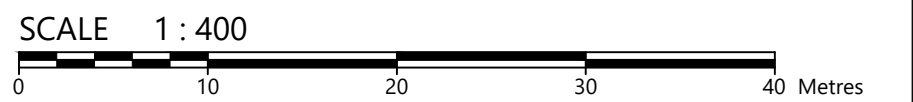
	FULL HEIGHT CONCRETE BARRIER CURB (SC1)		LIMIT OF CONSTRUCTION
	DEPRESSED CONCRETE BARRIER CURB		PERFORATED PIPE SUBDRAIN
	MONOLITHIC CURB & SIDEWALK (SC2)		DRAINAGE SWALE
	DEPRESSED MONOLITHIC CURB & SIDEWALK		DRAINAGE DITCH
	CONCRETE SIDEWALK (SC4)		SLOPING AT 3:1 UNLESS SPECIFIED
	PROPOSED LIGHT DUTY ASPHALT		SURFACE ELEVATION
	PROPOSED HEAVY DUTY ASPHALT		SWALE ELEVATION
	PROPOSED GRAVEL		TOP OF WALL ELEVATION
			BOTTOM OF WALL ELEVATION
	LSCB# LANDSCAPE CATCHBASIN		OVERLAND FLOW ROUTE
	CBMHH# T/G CATCHBASIN MANHOLE		SILT FENCE BARRIER
	CB# T/G CATCHBASIN		STRAW BALE CHECK DAM
	MHH# 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 OSD 604.010

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

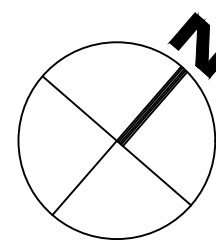
2	ISSUED FOR SUBMISSION	2026.08.06
1	ISSUED FOR SUBMISSION	2026.03.05
No.	Revisions	Date

Check and verify all dimensions
before proceeding with the work

Do not scale drawings



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Client:

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

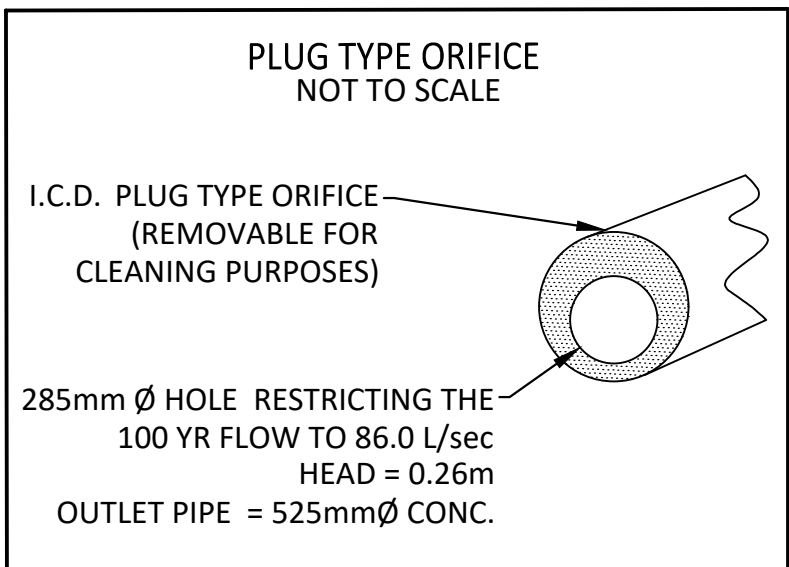
Project:

INDUSTRIAL BUILDING
259 ROGER NEILSON WAY

Drawing Title:

SITE SERVICING PLAN

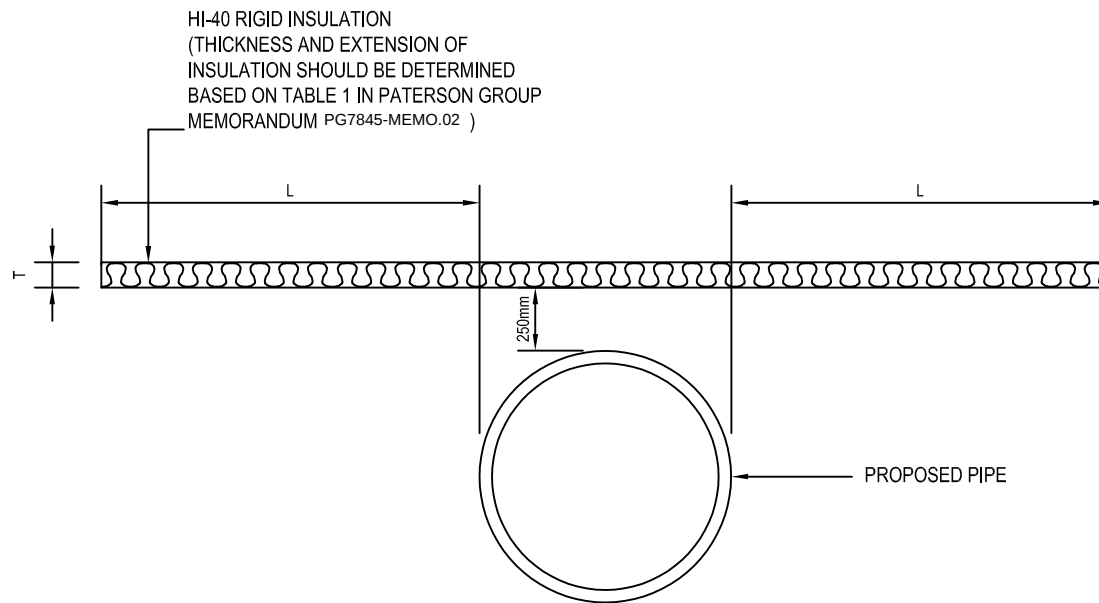
Scale: 1:400	Project Number: CCO-26-1863
Drawn By: RP	
Checked By: CJM	Drawing Number: C102
Designed By: RP	



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.:	