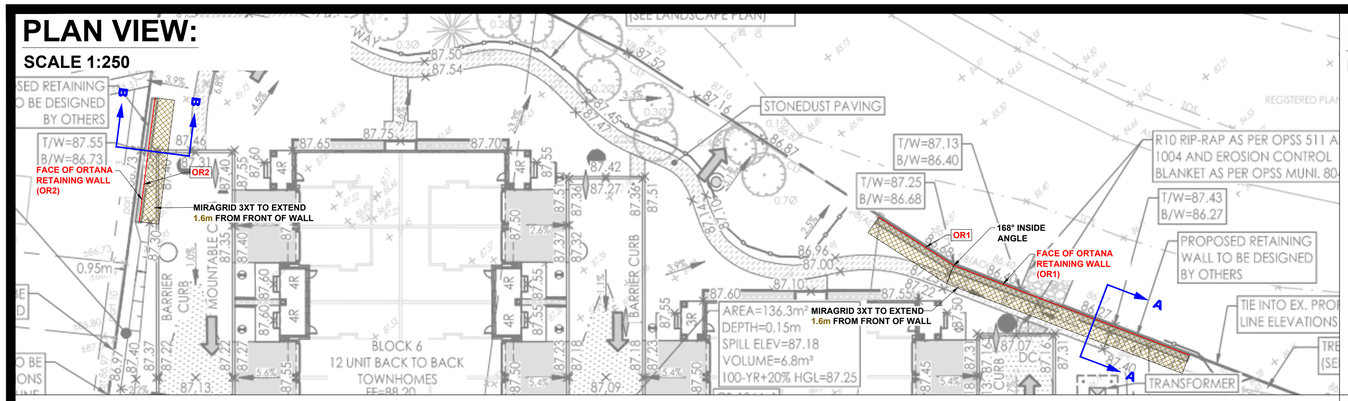
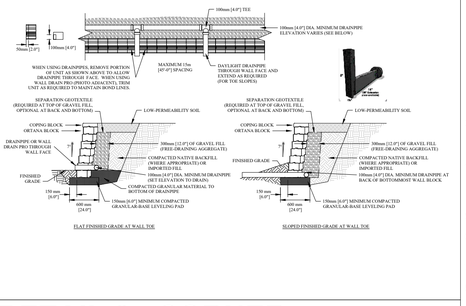
PLAN VIEW:

SCALE 1:250



DETAIL 1 - DRAINAGE:

N.T.S.



NOTES:

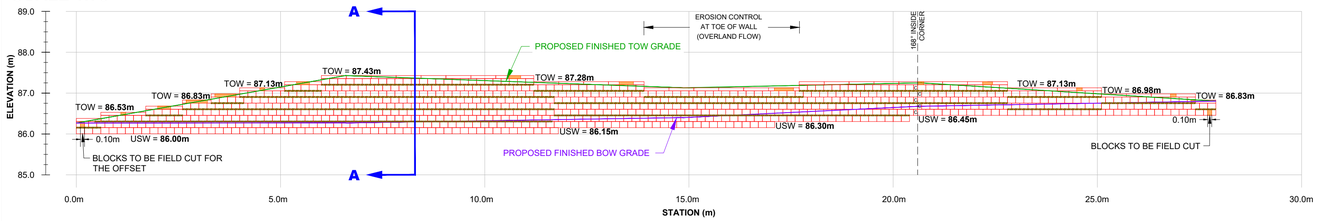
1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR UTILITY CLEARANCES AND CONSTRUCTION SITE SAFETY. PATERSON GROUP SHALL NOT BE RESPONSIBLE FOR MEANS OR METHODS OF CONSTRUCTION OR FOR SAFETY OF WORKERS OR OF THE PUBLIC.
2. THIS DESIGN IS BASED ON THE FOLLOWING SOIL PROPERTIES:

PROPERTY	RETAINED FILL	FOUNDATION MEDIUM
SOIL TYPE	GRANULAR B TYPE II	NATIVE SOIL
FRICTION ANGLE - ϕ	36°	31°
UNIT WEIGHT - γ	22 kN/m³	20 kN/m³
COHESION - C	0 kPa	0 kPa

   MATERIAL PROPERTIES ARE BASED ON SITE EVALUATION BY PATERSON GROUP AND DISCUSSIONS WITH THE CONTRACTOR. SEISMIC LOADING WAS EVALUATED ACCORDING TO THE CURRENT CHBDC DESIGN MANUAL CODE WITH A PEAK GROUND ACCELERATION VALUE (PGA) OF 0.406 (50% PGA = 0.203). THE WALL DESIGN ASSUMES A ROAD SURCHARGE LOAD OF 17.6kPa.
3. THIS DESIGN IS BASED ON A GRADING PLAN BY STANTEC, PROJECT NO. 160401760, DRAWING NO. GP-1, REV. 2, DATED OCT 30, 2026. THE WALL BASE DESIGN ASSUMES A BEARING RESISTANCE AT SLS OF 50 kPa. THE SITE GEOTECHNICAL ENGINEER SHOULD OBSERVE THE BEARING CONDITIONS AND ADJUST THE THICKNESS OF THE GRANULAR BASE OR RECOMMEND CONCRETE BEDDING TO ACCOMMODATE THE SITE CONDITIONS, IF NECESSARY.
4. RETAINING WALL DESIGN WITH A GLOBAL STABILITY FACTOR GREATER THAN 1.5 UNDER STATIC CONDITIONS AND 1.1 UNDER SEISMIC CONDITIONS. WALL GEOMETRY AND GRADE ELEVATIONS ABOVE AND BELOW THE WALL SHOULD CONFORM WITH THE GRADING PLAN PROVIDED HERE IN IF ACTUAL SITE GRADES VARY SIGNIFICANTLY FROM THOSE SHOWN OR IF THE BACK SLOPE DOES NOT CONFORM, INSTALLATION SHALL NOT PROCEED UNTIL THE DESIGN IS VERIFIED OR MODIFIED IN THE APPLICABLE AREA.
5. PRECAST UNITS SHALL BE ORTANA RETAINING WALL UNITS MANUFACTURED UNDER LICENSE FROM OAKS.
6. PRIOR TO CONSTRUCTION, ALL UTILITIES AND STRUCTURES BEHIND AND/OR BELOW THE WALL MUST BE REVIEWED BY OTHERS TO ENSURE THE SERVICES ARE CAPABLE OF WITHSTANDING ANY LOADING APPLIED BY THE RETAINING WALL.
7. UTILITIES AND STRUCTURES BEHIND THE RETAINING WALL MUST BE INSTALLED AT THE SAME TIME THE RETAINING WALL IS BEING CONSTRUCTED
8. THE WALL BASE SHALL CONSIST OF A MINIMUM OF 200mm OF OPSS GRANULAR A OR GRANULAR B TYPE II COMPACTED TO 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). THE GRANULAR BEDDING LAYER SHOULD EXTEND AT LEAST 200mm BEYOND THE FRONT BLOCK FACE AND A MINIMUM OF 200mm BEYOND THE REAR BLOCK FACE. THE BASE SHALL BE SMOOTHED TO ENSURE COMPLETE CONTACT OF RETAINING WALL UNIT WITH BASE. SURFACE OF GRANULAR BASE MAY BE DRESSED WITH FINER AGGREGATE TO AID LEVELING. ENSURE GRADATION OF DRESSING MATERIAL IS SUCH AS TO PRECLUDE LOSS OF FINES INTO BASE. THE THICKNESS OF DRESSING LAYER SHOULD NOT EXCEED 3 TIMES THE MAXIMUM PARTICLE SIZE USED.
9. WALL IS DESIGNED WITH A MIN. 200mm TOE EMBEDMENT WITH A GRANULAR BEDDING LAYER EXTENDING A MINIMUM 200mm BEYOND THE FACE, AND A MINIMUM 200mm BEYOND THE HEEL OF THE BASE BLOCK.
10. A GEOTECHNICAL ENGINEERING CONSULTANT SHOULD REVIEW THE BEARING SURFACE DURING THE CONSTRUCTION. IF FILL MATERIAL IS ENCOUNTERED, A REVIEW OF THE BEARING CONDITIONS SHOULD BE CONDUCTED BY GEOTECHNICAL ENGINEERING CONSULTANT PRIOR TO THE PLACEMENT OF THE GRANULAR BASE. PROOF ROLLING OF THE BEARING SURFACE WILL ALSO BE REQUIRED UNDER THE SUPERVISION OF GEOTECHNICAL ENGINEERING CONSULTANT TO REHABILITATE THE BEARING MEDIUM AND TO ACHIEVE THE DESIGN BEARING CAPACITIES. A BIAXIAL GEOGRID SUCH AS TBX 2500 MAY BE REQUIRED TO BE PLACED ON THE BEARING SURFACE AND WRAP AROUND THE EDGES OF THE GRANULAR BASE. ALTERNATIVELY, FILL MATERIAL CAN BE REMOVED AND REPLACED WITH ENGINEERED FILL SUCH AS GRANULAR B TYPE II PLACED IN MIN. 300mm THICK LIFTS COMPACTED TO A MINIMUM 98% OF THE MATERIAL'S SPMDD EXTENDING TO THE UNDERLYING NATIVE SOIL. A REVIEW OF THE BEARING SURFACE SHOULD BE CONDUCTED BY A GEOTECHNICAL ENGINEERING CONSULTANT ON SITE AT THE TIME OF EXCAVATION.
11.
    11.1. TO ACHIEVE A 7° BATTER, STEP EVERY COURSE BACK BY 20mm.
    11.2. REFER TO THE BATTER INFORMATION PROVIDED AT THE END OF THE PROFILE AND IN THE CROSS SECTIONS FOR THE BATTER OF EACH RETAINING WALL.
12. THE BACKFILL ABOVE THE WALL MUST BE GRADED TO PROMOTE RUNOFF OVER TOP OF THE WALL. NO UNUSUAL SURCHARGE LOADING SHOULD BE ADJACENT TO THE TOP OF THE WALL. ONLY HAND OPERATED COMPACTION EQUIPMENT TO BE USED WITHIN 1.0m BEHIND THE RETAINING WALL.
13. BACKFILL MATERIAL SHALL BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO USE AND SHOULD CONSIST OF OPSS GRANULAR A OR GRANULAR B TYPE II. ALL FILL WITHIN A 1H:1V ZONE UP AND BACK FROM THE HEEL SHOULD ALSO BE COMPACTED. BACKFILL SHALL BE PLACED IN MAXIMUM 300mm LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF SPMDD. MOISTURE CONTENT SHOULD BE CONTROLLED AND MAINTAINED WITHIN -3 TO +4 PERCENT OF OPTIMUM.
14. MAINTAIN TEMPORARY GRADES TO DIVERT SURFACE WATER AWAY FROM THE RETAINING WALL EXCAVATION. SLOPE FINAL BACKFILL TO PROVIDE POSITIVE DRAINAGE AND TO ELIMINATE PONDING.
15. TO REDUCE THE POTENTIAL FOR STAINING OF THE RETAINING WALL FACE, PRE-WET THE ENTIRE FACE OF THE BLOCKS PRIOR TO CORING. WASH THE AREA IMMEDIATELY AFTER CORING IS COMPLETE.
16. EXCAVATION SIDE SLOPE SHOULD BE PROTECTED TEMPORARILY DURING CONSTRUCTION FROM PRECIPITATION EVENTS BY PLACEMENT OF TARPS.
17. ALL RETAINING WALL RELATED INSPECTIONS (BEARING SURFACE, COMPACTION, BLOCK INSTALLATION, ETC.) MUST BE COMPLETED BY A GEOTECHNICAL ENGINEERING CONSULTANT. ONCE THE WALL CONSTRUCTION IS COMPLETED AND REVIEWED BY A GEOTECHNICAL ENGINEERING CONSULTANT DURING CONSTRUCTION, A CERTIFICATE LETTER WILL BE ISSUED BY THE GEOTECHNICAL ENGINEERING CONSULTANT
18. INSTALL 100mm DIAMETER PERFORATED PIPE DRAIN WRAPPED IN GEOTEXTILE BEHIND HEEL OF WALL (OR ALTERNATIVELY UNDER LOWER COURSE OF WALL). PROVIDE CLEAR STONE SURROUNDING THE DRAIN TO PROTECT PIPE FROM CLOGGING AND DAMAGE. PROVIDE CONNECTION DIRECTLY TO ADJACENT CATCH BASINS OR OUTLETS THROUGH WALL BASE LAYER AT LOW AREAS, NO FURTHER APART THAN 30m CENTRES. IF OUTLET NOT AVAILABLE, RAISE DRAINAGE PIPE TO FINISHED GRADE AND DRAIN AT THE ENDS OF THE WALL AND OUTLET THROUGH THE FACE OF THE WALL (WITH RODENT GUARD) NO FURTHER APART THAN 30m CENTRES.
19. ANY CUTTING OF BLOCKS TO SUIT SITE CONDITIONS OR WALL DESIGN WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
20. THE CONTRACTOR SHOULD REFER TO THE INSTALLATION MANUAL PROVIDED FOR THE RETAINING WALL BLOCK TYPE PROVIDED HEREIN FOR ADDITIONAL DETAILS ON ACCEPTABLE INSTALLATION PRACTICES.
21. IF WINTER CONSTRUCTION IS CONSIDERED, HEAT MUST BE MAINTAINED WHEN THE BASE IS EXPOSED. THE WALL BASE MUST BE COVERED WITH INSULATION TARPS TO MAINTAIN HEAT AND PROTECT THE BASE FROM POTENTIAL FROSTHEAVE. ONCE THE BASE IS BACKFILLED, THE TOP OF WALL MUST BE COVERED WITH INSULATION TARPS OVERNIGHT UNTIL THE WALL CONSTRUCTION IS COMPLETED. THE WALL MUST NOT BE CONSTRUCTED ON A FROZEN BASE AND MUST NOT BE BACKFILLED WITH FROZEN MATERIAL. THIS MUST BE VERIFIED BY A GEOTECHNICAL ENGINEERING CONSULTANT DURING CONSTRUCTION OF THE WALL
22. THE GEOTECHNICAL ENGINEERING CONSULTANT SHOULD BE NOTIFIED AT THE BEGINNING OF THE WALL CONSTRUCTION TO COMPLETE PERIODIC INSPECTIONS AND PROVIDE GEOTECHNICAL RECOMMENDATIONS AS THE WALL CONSTRUCTION PROGRESSES.
23. DURING THE CONSTRUCTION OF THE RETAINING WALL, THE CONTRACTOR MUST ENSURE THAT A SAFE SLOPE IS PROVIDED BEHIND THE RETAINING WALL. THE GEOTECHNICAL ENGINEERING CONSULTANT SHOULD COMPLETE PERIODIC INSPECTIONS TO ENSURE A PROPER SLOPE IS PROVIDED AS PER THE SITE GEOTECHNICAL RECOMMENDATIONS.
24. ANY INADEQUATE PERFORMING SUBGRADE SHOULD BE SUB-EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE II, COMPACTED TO 98% OF THE MATERIALS SPMDD.
25. LEVELING OF THE BASE COURSE BLOCKS IS CRITICAL TO PROPER CONSTRUCTION OF THE WALL. THE USE OF SHIMS TO LEVEL THE BLOCKS IS NOT PERMITTED UNLESS REVIEWED ON SITE PRIOR TO THEIR USE. SHOULD SHIMS BE APPROVED FOR USE BY A GEOTECHNICAL ENGINEERING CONSULTANT, THE SPECIFICATIONS AND DETAILS OF THE SHIMS USED TO SUPPORT THE BLOCKS SHOULD BE PROVIDED TO THE DESIGNER TO CONFIRM THAT NO LONG-TERM ISSUES MAY OCCUR AS A RESULT OF THE USE OF NON-SUITABLE SHIMS IN RELATION TO THE LOAD EXPECTED FROM THE BLOCKS ABOVE.
26. THE DESIGN ASSUMES THE FOLLOWING: THE MAXIMUM GROUNDWATER ELEVATION IS BELOW THE BASE OF THE WALL, THERE WILL BE NO HYDROSTATIC PRESSURE WITHIN OR BEHIND THE WALL, THE SURROUNDING STRUCTURES WILL NOT EXERT ANY ADDITIONAL LOADING ON THE WALL, THERE ARE NO STRUCTURES (UTILITIES SUCH AS GAS/WATER MAINS, STORM SEWERS, ELECTRICAL/COMMUNICATIONS CABLES, ETC) TO BE PLACED WITHIN OR BELOW THE REINFORCED FILL DURING OR AFTER CONSTRUCTION.
27. RETAINING WALL CONSTRUCTION SHOULD BEGIN AT LOW POINTS, CORNERS OF THE WALL, OR KNOWN PROVIDED WORKING POINTS TO ENSURE WALL DIMENSIONS ARE FOLLOWED. DIMENSIONS PROVIDED MIGHT REQUIRE FIELD CUTTING TO ADJUST FOR FIELD CONDITIONS BASED ON BLOCK TOLERANCES.
28. STEP LOCATIONS FOR THE BASE AND TOP OF WALL STATIONS AND ELEVATIONS ARE APPROXIMATE AND MUST BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION OF THE RETAINING WALL. THE DRAWING ILLUSTRATES HOW THE WALL IS TO BE CONSTRUCTED AND DOES NOT NECESSARILY REPRESENT "AS-BUILT" CONDITIONS.

PROFILE VIEW OR1:

SCALE 1:75



BLOCK COUNT OR1:

BLOCK	QUANTITY
CAP UNIT	52
STANDARD UNIT	820
CORNER UNIT	5

BLOCK LEGEND: CAP UNIT; STANDARD UNIT; CORNER UNIT; BLOCK TO BE CUT

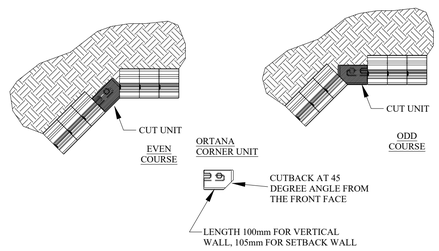
MIRAGRID 3XT:

Legend	Grid Length From Front Face of Wall (m)	Total Length (m)	Total Area (m²)
----------	1.6	75.3	120.5
		TOTAL AREA =	120.5

WALL DETAILS
AREA = ± 26.9 m²
LENGTH = ± 27.9 m
BATTER = 7°
SURCHARGE = 4.8 kPa
BEARING RESISTANCE = 50 kPa SLS

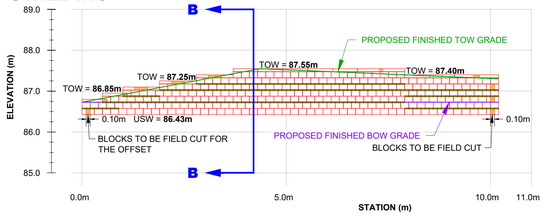
DETAIL 2 - CORNER:

N.T.S.



PROFILE VIEW OR2:

SCALE 1:75



BLOCK COUNT OR2:

BLOCK	QUANTITY
CAP UNIT	19
STANDARD UNIT	298

BLOCK LEGEND: CAP UNIT; STANDARD UNIT; BLOCK TO BE CUT

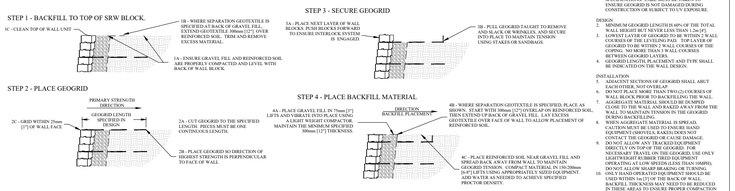
MIRAGRID 3XT:

Legend	Grid Length From Front Face of Wall (m)	Total Length (m)	Total Area (m²)
----------	1.6	27.2	43.5
		TOTAL AREA =	43.5

WALL DETAILS
AREA = ± 9.7 m²
LENGTH = ± 10.2 m
BATTER = 7°
SURCHARGE = 17.6 kPa
BEARING RESISTANCE = 50 kPa SLS

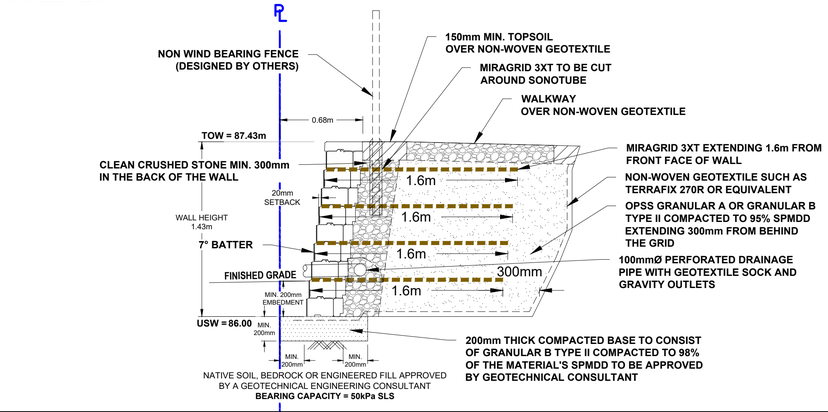
DETAIL 3 - GRID PLACEMENT:

N.T.S.



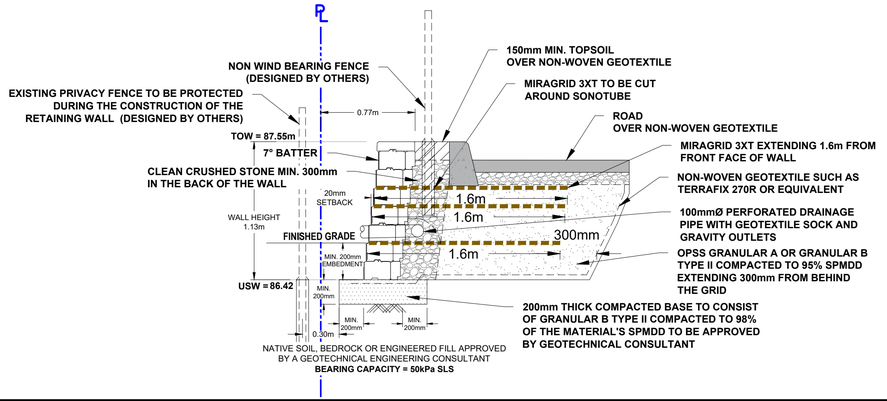
CROSS SECTION A-A (OR1):

SCALE 1:25



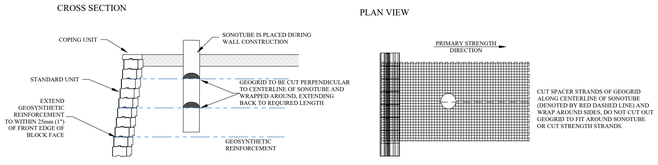
CROSS SECTION B-B (OR2):

SCALE 1:25



DETAIL 4 - GRID CUTTING:

N.T.S.



Design By:

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

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NO.	REVISIONS	DATE	INITIAL
2.	UPDATED GRADING PLAN	03/11/2026	JV
1.	AS PER CLIENT COMMENTS	27/10/2026	JV

RICHCRAFT
PROPOSED ORTANA RETAINING WALL
TRAILSEDGE WEST BLOCK 121
6259, 6267, 6271 & 6273 RENAUD ROAD
OTTAWA, ONTARIO

Title: ORTANA RETAINING WALL DESIGN

Stamp:

LICENSED PROFESSIONAL ENGINEER
03/11/2026
J. R. VILLENEUVE
100504344
PROVINCE OF ONTARIO

Stamp:

Scale: AS SHOWN	Date: 16/10/2026
Drawn by: FMS	File No.: PG8282 / PLAN # 19468 D07-12-25-0092
Checked by: HY	Dwg. No.: PG8282-1
Approved by: JV	Revision No.: 2

p:\autocad drawings\geotechnical\pg82xx\pg8282\pg8282 - richcraft - 6273 renaud rd, ottawa - retaining wall design - rev2.dwg