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 - Reference to Kollaard File No. 190867 for Servicing and Stormwater Management Design and Geotechnical Reports.

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1	ISSUED FOR SPC APPLICATION	JUNE 30/2020	ML
#	REVISION ITEM / DESCRIPTION	REV. DATE	INT.

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CLIENT:
 TEAK DEVELOPMENTS
 31 WOODVIEW CRESCENT
 OTTAWA, ON K1B 3B1

PROJECT:
 PROPOSED RESIDENTIAL DEVELOPMENT

LOCATION:
 6173 RENAUD ROAD
 CITY OF OTTAWA, ON
 K1W 0K9

	DESIGNED BY: SD	CHECKED BY: SD
	DRAWN BY: ML	APPROVED BY: SD
DATE: NOV. 11, 2019		
KOLLAARD FILE NUMBER: 190867		

DRAWING NUMBER: 190867-SER
 DRAWING NAME:

LEGEND

EXISTING ELEVATION	EXISTING UTILITY POLE
PROPOSED/EXISTING ELEVATIONS	FIRE HYDRANT
PROPOSED CURB ELEVATION	PROPOSED LAMP POST
PROPOSED ELEVATION	PROPOSED CURB STOP
DRAINAGE SLOPE	PROPOSED REMOTE WATER METER
PROPOSED BOARD FENCE	SANITARY SERVICE CONNECTION
WATERMAIN	SUMP LOCATION
STORM SEWER	PROPOSED DOWNSPOUT LOCATION
SANITARY SEWER	EXISTING WATER STAND POST
TOP OF SLOPE	EXISTING WATER VALVE
PROPERTY LINE	EXISTING STORM MANHOLE
OVERHEAD WIRES	EXISTING SANITARY MANHOLE
SILT FENCE	EXISTING CATCH BASIN
PROPOSED DEPRESSIONED CURB	PROPOSED REAR-YARD CB
PROPOSED SWALE	PROPOSED CATCH BASIN/MANHOLE
OVERLAND FLOW ROUTE	PROPOSED CATCH BASIN
LOCATION OF EXISTING SERVICE CONNECTIONS	PROPOSED STORM MANHOLE
TEMPORARY BENCHMARK	PROPOSED SANITARY MANHOLE

SEWER NOTES:

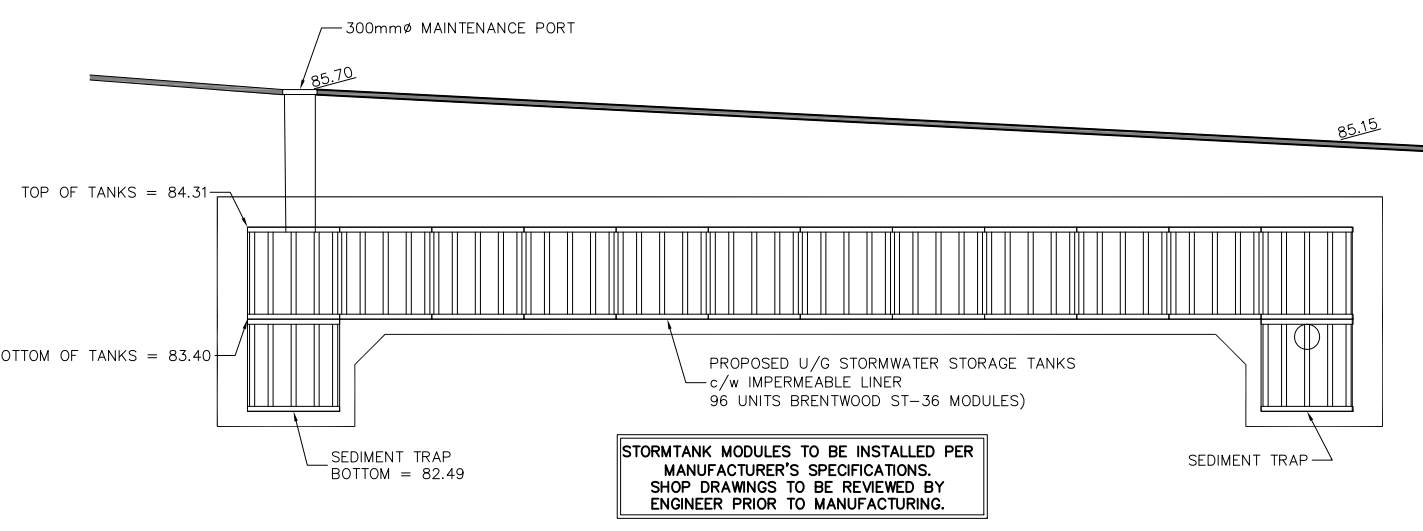
- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARDS FOR ROADS AND PUBLIC WORKS.
- SPECIFICATIONS:

ITEM	SPEC. No.	CITY STD. DWG. No.
CATCH BASIN (600mm x 600mm)	OPSD 705.010	S2
STORM/SANITARY MANHOLE (1200x)	OPSD 701.010	S11 & S11.1
SEWER SERVICE CONNECTION	OPSD 704.010	S4
SANITARY BENCHING	OPSD 701.021	S24.1 & S25
CATCH BASIN & MANHOLE ADJUSTMENTS	OPSD 401.010	S19, S22 & S23
STORM MANHOLE FRAME & COVER	OPSD 400.020	S6 & S7
SEWER TRENCH	OPSD 401.030	S24 & S25
SANITARY MANHOLE FRAME & COVER	OPSD 401.030	S24 & S25
- SEWER TRENCH: SITE SERVICES EXCAVATION, BEDDING & BACKFILL AS PER THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION PREPARED BY KOLLAARD ASSOCIATES INC.
- INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 2m COVER WITH THERMAL INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTION PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSC POSITIVE SEAL AND DURASEAL). SANITARY RUBBER GASKET TYPE JOINTS SHALL CONFORM TO CSA (8-192.2.3.4).
- THE OWNER SHALL REQUIRE THAT THE SITE SERVING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
- STORM MANHOLES AND CBHMS ARE TO HAVE 300mm SUMPS (AS PER SUMP DETAIL ON OPSD 701.010), UNLESS OTHERWISE INDICATED.
- BUILDING CONTRACTOR TO PROVIDE TEMPORARY ADDITIONAL GRANULAR BACKFILL ABOVE SHALLOW CURBS AND STORM SEWERS TO SUPPORT HEAVY CONSTRUCTION EQUIPMENT.
- CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS, 200mm OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES TO MUNICIPAL SATISFACTION.
- WHERE THE SANITARY SEWER CROSSES ABOVE THE WATERMAIN, THE CONTRACTOR IS TO PROVIDE A MINIMUM OF 0.30m VERTICAL SEPARATION, ADEQUATE STRUCTURAL SUPPORT OF THE SEWER TO PREVENT SETTLING AND EXCESSIVE JOINT DEFLECTION AND ENSURE THAT THE LENGTH OF THE WATER PIPE BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

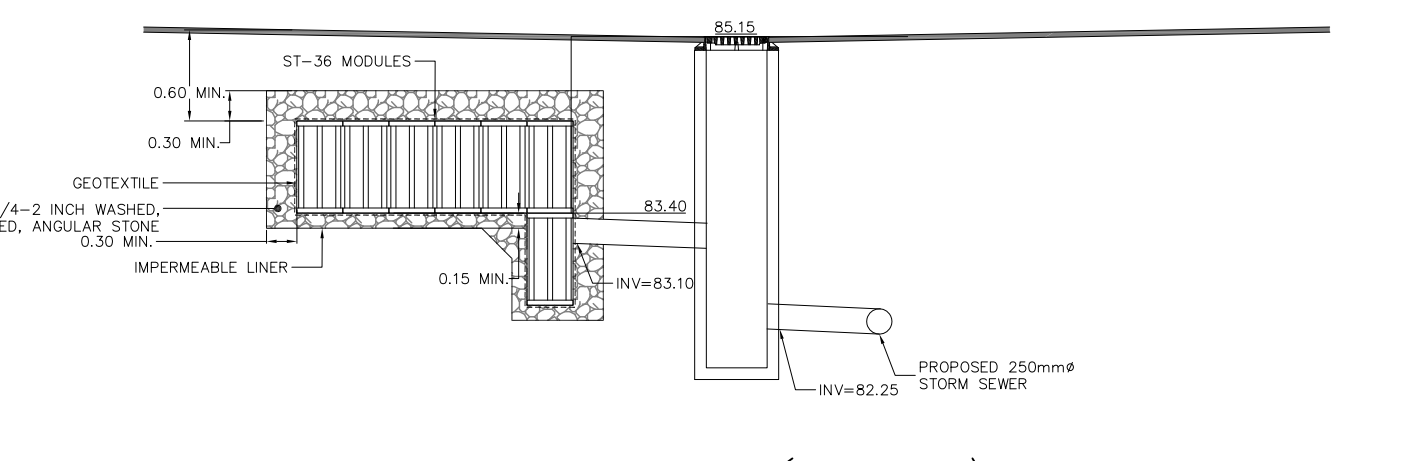
WATERMAIN NOTES:

- CITY TO SUPPLY, INSTALL & DISINFECT THE WATER SERVICE. CONTRACTOR TO EXCAVATE, BACKFILL AND REINSTATE THE ROADWAY AS PER STD DWG R10, PROVINCIAL STANDARDS FOR ROADS AND PUBLIC WORKS.
- SPECIFICATIONS:

ITEM	SPEC. No.	CITY STD. DWG. No.
WATERMAIN BEDDING AND BACKFILL	OPSD 802.010/802.031	W7 (trench detail)
CATHODIC PROTECTION	OPSD 1109.010	W40
PRESSURE TESTING	AWWA C-605-5	
CHLORINATION	AWWA C-651-05	
WATERMAIN MATERIAL	PVC D118 (CLASS 150)	
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. WHERE LESS THAN 2.4m COVER, THERMAL INSULATION IS TO BE PROVIDED AS PER CITY STD DWG W22 (on shallow trenches), W23 (at open structures).
- A MINIMUM OF 0.5m VERTICAL CLEARANCE IS REQUIRED BETWEEN THE WATERMANS AND ALL UTILITIES AND SEWERS. IN LOCATIONS WHERE THIS IS NOT ACHIEVABLE, MUST FOLLOW PROCEDURE F-6-1 SEC. 5.2 OF THE ONTARIO DRINKING WATER RESOURCES ACT.
- METALLIC WARNING TAPE SHALL BE USED OVER ALL WATERMANS.
- INSTALL AND TEST TRACER WIRE FOR ALL PROPOSED WATERMAIN IN ACCORDANCE WITH THE CITY OF OTTAWA DESIGN STANDARDS AS SPECIFIED IN SECTION 8.26.
- EXISTING WATERMAIN INFORMATION SHOWN IS BASED ON BEST CURRENT INFORMATION. CONTRACTOR TO VERIFY EXACT LOCATION OF WATERMAIN AND REPORT ANY DISCREPANCIES TO KOLLAARD ASSOCIATES INC.
- WATER SHUTOFF VALVE AND VALVE BOX TO BE WITHIN THE ROAD ALLOWANCE AND LOCATED A MINIMUM OF 1.0 METRES FROM THE BUILDING FOUNDATION. TYPICAL PRIVATE SERVICE AS PER STD. DWG. W50 (with the exception that the VALVE BOX IS TO BE LOCATED 1.0 m MINIMUM FROM THE FOUNDATION WALL). VALVE BOX ASSEMBLY AS PER STD. DWG. W24.
- CONNECTIONS AT ELBOWS AND TEES IN WATER MAINS SHOULD BE MADE WITH THE USE OF JOINT RESTRAINTS DESIGNED FOR WATERMAIN APPLICATION. JOINT AND PIPE RESTRAINTS SHOULD MEET THE REQUIREMENTS OF AWWA C900, C905 AND C907 AND ASTM F1814-11. JOINT RESTRAINTS SHOULD BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
- ALL CONNECTORS, RODS AND VALVE BOLTS SHALL BE STAINLESS STEEL.
- VALVES ARE TO BE OPERATED BY CITY OF OTTAWA STAFF ONLY.
- NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY OF OTTAWA AND CITY OF OTTAWA FORCES ARE ON HAND TO MAKE THE CONNECTION.



SECTION A-A (TYPICAL)
 NOT TO SCALE



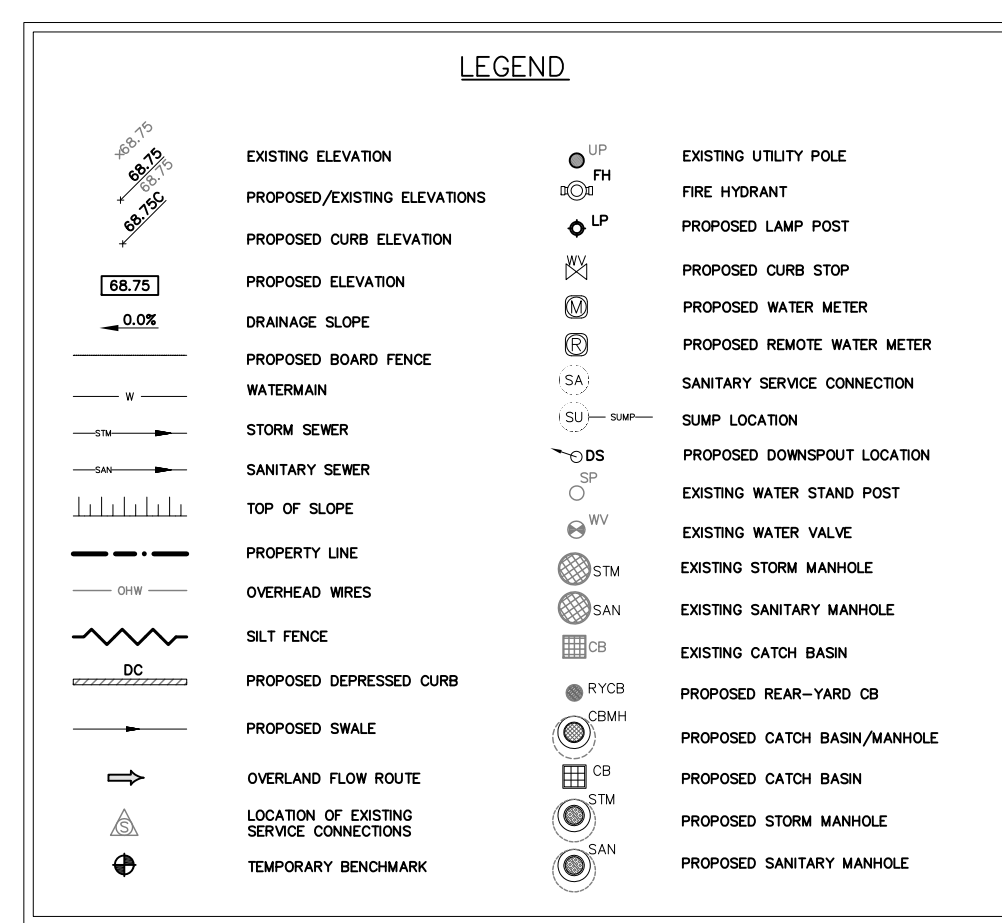
SECTION B-B (TYPICAL)
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INLET CONTROL DEVICE TABLE

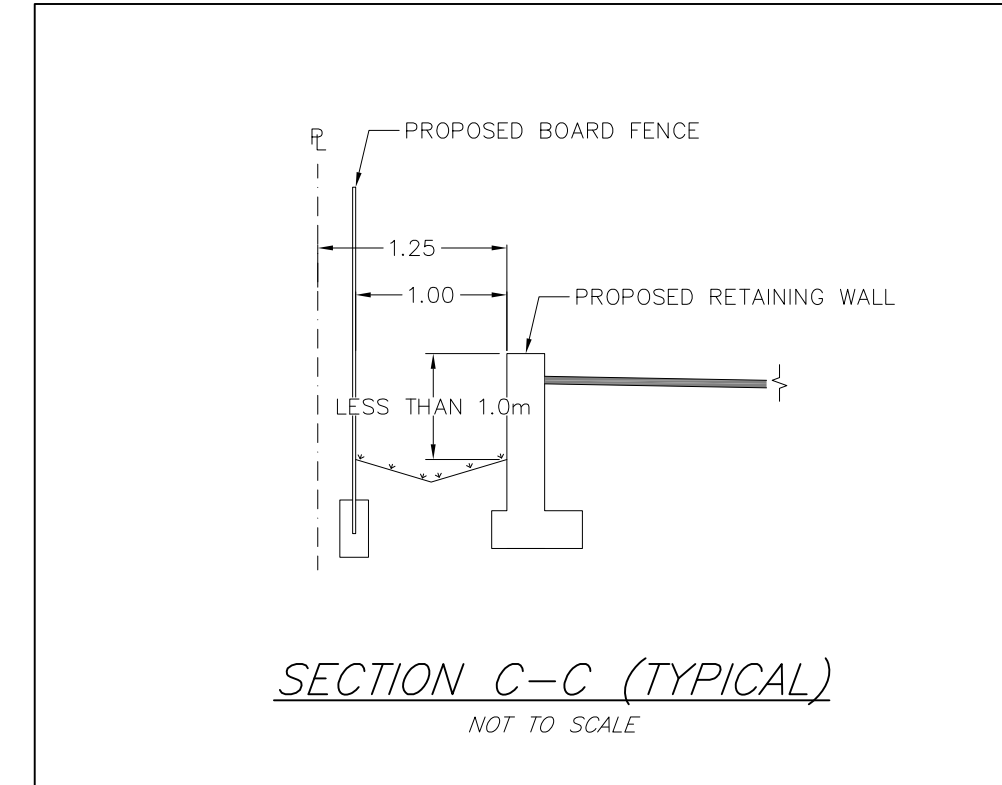
STRUCTURE	STM-MH2	CB1
MODEL	HYDROVEX 75-SWHV-1	HYDROVEX 75-SWHV-1
PIPE OUTLET	250 mm PVC SDR 35	250 mm PVC SDR 35
DISCHARGE	12.4 L/s	7.0 L/s
UPSTREAM HEAD	3.4m	2.7m
H.W. ABOVE ICD	85.25m	86.00m
ICD INVERT ELEVATION	82.00m	83.30m
STRUCTURE SIZE	1.2m DIA.	0.6mx0.6m
MINIMUM CLEARANCE		



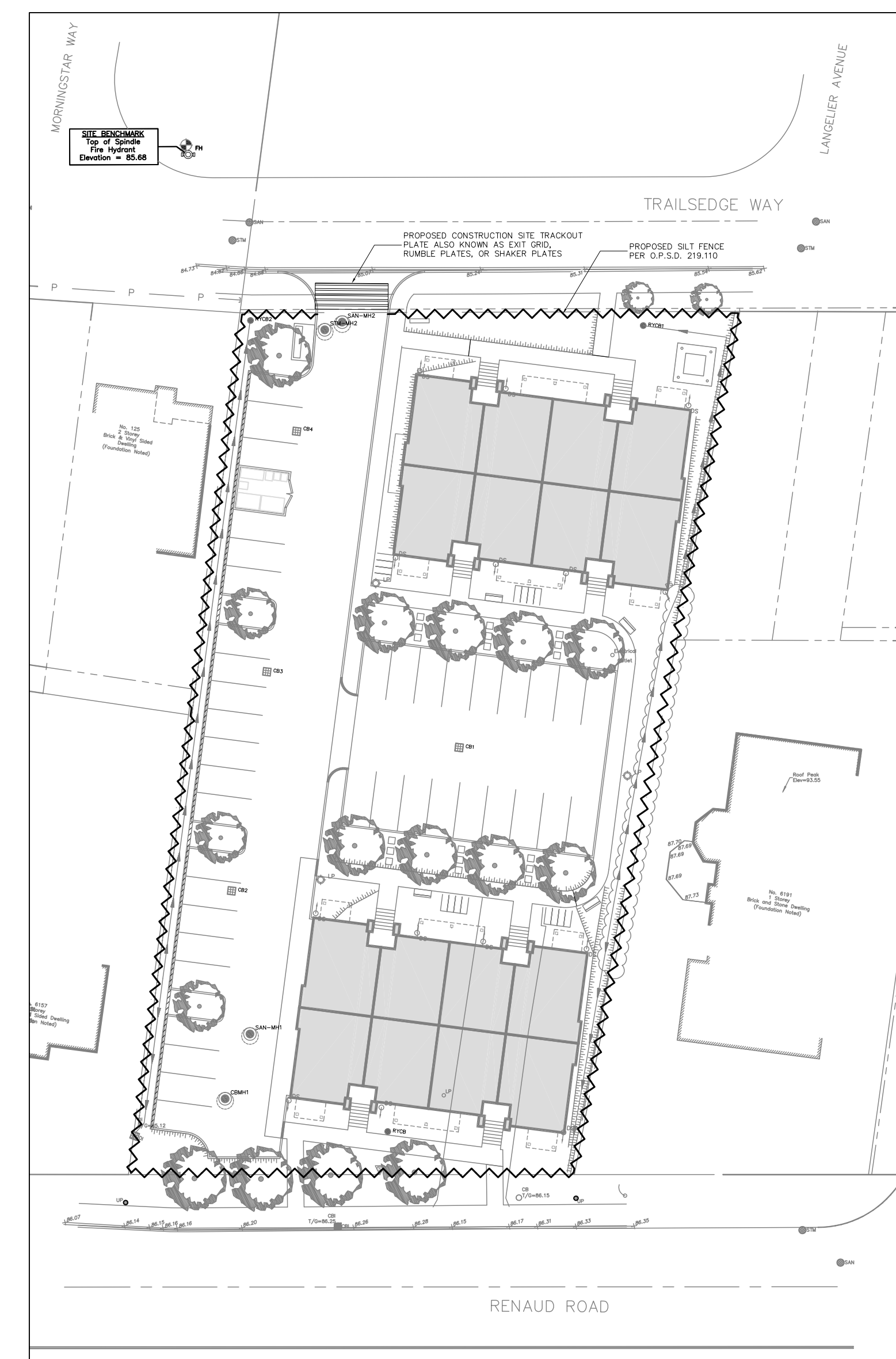
SITE SERVICING PLAN
 SCALE = 1:250



- ### GRADING NOTES:
- ALL TREES ON THE RIGHT-OF-WAY ARE TO BE MAINTAINED BEFORE AND AFTER THE CONSTRUCTION AND ALL EXISTING TREES WITHIN THE PROPERTY SHALL BE PROTECTED AS PER "MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW" AND THE "URBAN TREES CONSERVATION BY-LAW" AS AMENDED FROM TIME TO TIME.
 - NO EXCESS DRAINAGE WILL BE DIRECTED TOWARDS THE NEIGHBOURING PROPERTIES DURING AND AFTER CONSTRUCTION.
 - ALL RETAINING WALLS TO HAVE MINIMUM 0.15 METRE CLEARANCE FROM PROPERTY LINE.
 - ALL EAVESTROUCHES FOR DWELLING SHALL BE DIRECTED TO THE FRONT OF THE PROPOSED DWELLING.
 - THERE IS TO BE NO ALTERATION TO THE EXISTING GRADE AND DRAINAGE PATTERNS ON THE PROPERTY LINES.

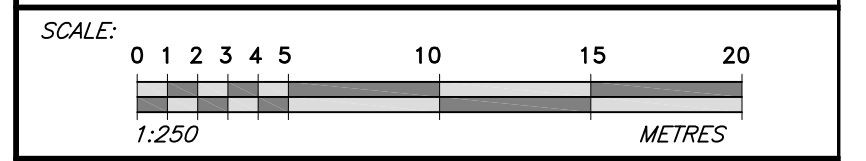
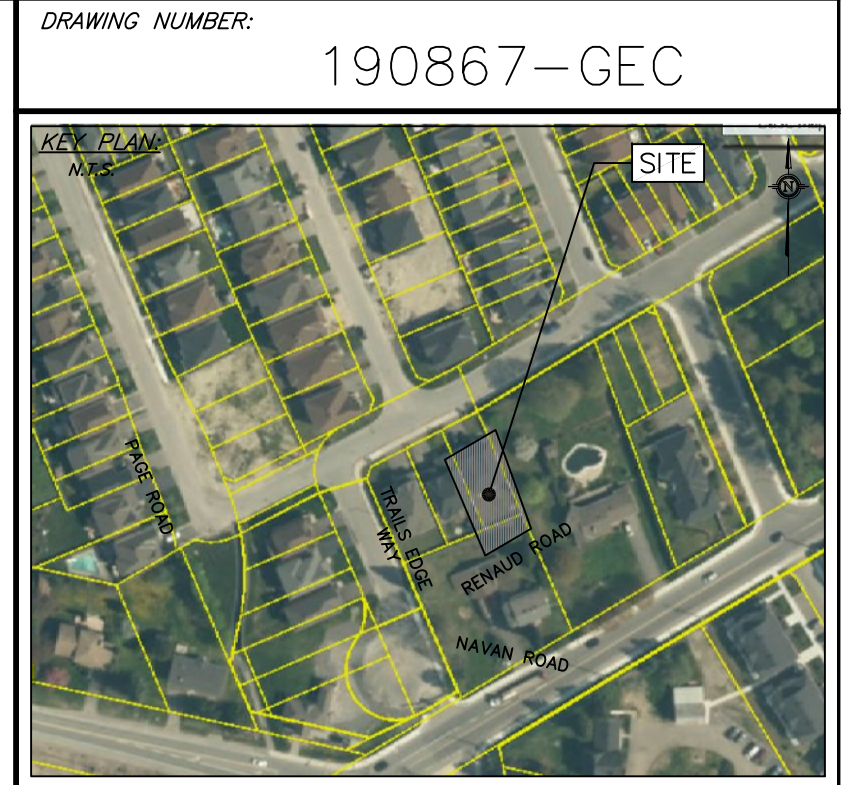


SITE GRADING PLAN
SCALE = 1:250



EROSION & SEDIMENT CONTROL PLAN
SCALE = 1:400

- ### EROSION AND SEDIMENT CONTROL NOTES:
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
 - THE OWNER (AND/OR CONTRACTOR) AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN AT LEAST EQUAL TO THE STATED MINIMUM REQUIREMENTS AND TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL.
 - THE CONTRACTOR IS TO ENSURE THAT THE SITE ACCESS POINTS AND ADJACENT STREETS TO THE ACCESS POINTS ARE MAINTAINED AND KEPT CLEAN OF CONSTRUCTION MATERIALS SUCH AS, BUT NOT LIMITED TO MUD, DIRT, CLAY AND GRANULARS ON A DAILY BASIS OR AS NECESSARY, TO THE SATISFACTION OF THE CITY OF OTTAWA.
 - EVERY EFFORT WILL BE MADE TO ENSURE THAT ALL DISTURBED AREAS ARE TOPSOILED AND SEEDED AS SOON AS REASONABLY POSSIBLE.
 - THE SEDIMENT AND EROSION CONTROL PLAN IS A LIVING DOCUMENT WHICH MAY BE AMENDED BY ON-SITE REQUIREMENTS AT THE APPROVAL OF THE MUNICIPALITY AND THE CONSERVATION AUTHORITY.
- ### MINIMUM EROSION AND SEDIMENT CONTROL PLAN REQUIREMENTS:
- TIME THE DEMOLITION AND EXCAVATION ACTIVITIES SO THAT THEY OCCUR NO SOONER THAN IS NECESSARY FOR SUBSEQUENT CONSTRUCTION ACTIVITIES.
 - LANDSCAPE THE SITE AS SOON AS PRACTICALLY POSSIBLE.
 - USE SILT FENCES AROUND ANY STOCKPILES OF SOIL.
 - PRIOR TO CONSTRUCTION, SILT FENCE BARRIERS (OPSD 219.110) WILL BE PLACED ALONG THE PROPERTY LINES AS ON THE DRAWING.
 - SILT FENCE SHOULD BE REMOVED ONLY WHEN THE SITE IS STABILIZED.
 - INSTALL FILTER SOCKS IN ALL EXISTING AND PROPOSED CATCH BASINS AND CATCH BASIN MANHOLES PRIOR TO CONSTRUCTION.



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CLIENT:
TEAK DEVELOPMENTS
31 WOODVIEW CRESCENT
OTTAWA, ON K1B 3B1

PROJECT:
PROPOSED RESIDENTIAL DEVELOPMENT

LOCATION:
6173 RENAUD ROAD
CITY OF OTTAWA, ON
K1W 0K9

	DESIGNED BY: SD	CHECKED BY: SD
	DRAWN BY: ML	APPROVED BY: SD
DATE: NOV. 11, 2019		KOLLAARD FILE NUMBER: 190867

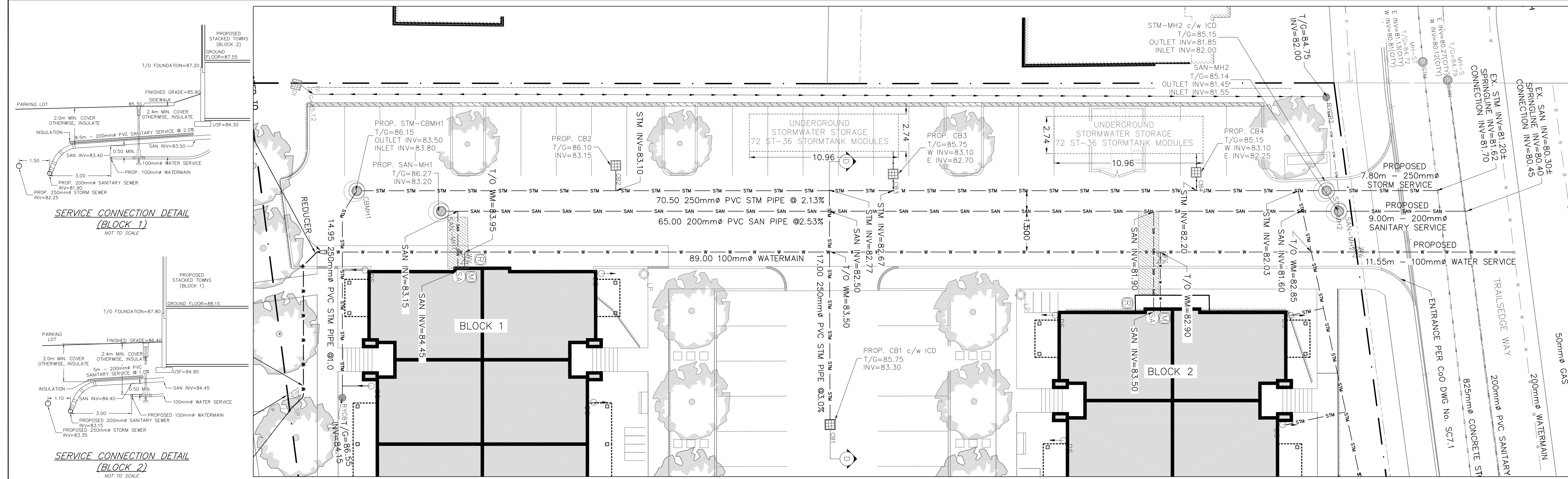
DRAWING NUMBER: 190867-GEC
DRAWING NAME: SITE GRADING AND EROSION CONTROL PLAN



SCALE: 0 1 2 3 4 5 10 15 20
1:250 METRES

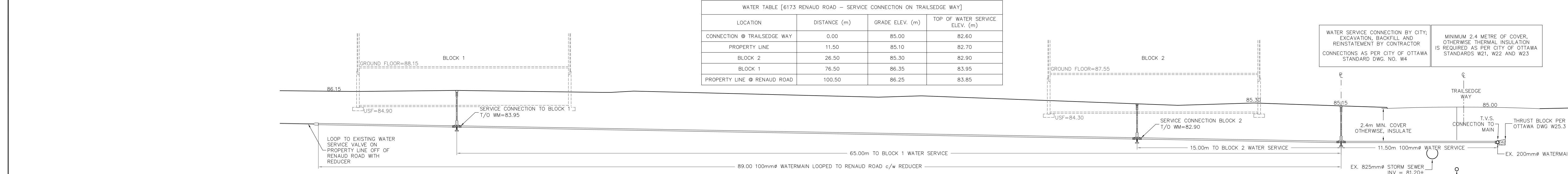
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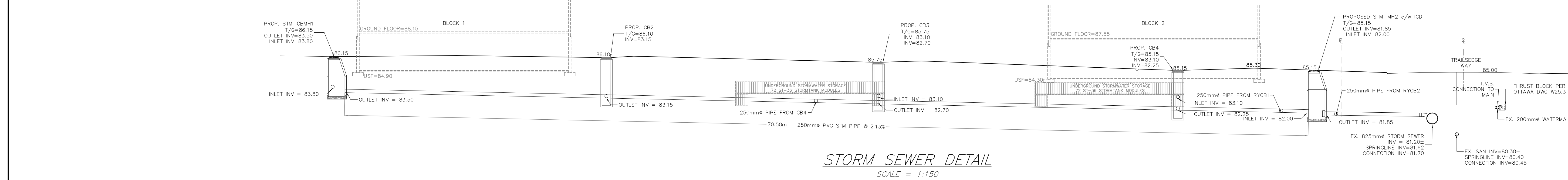


SITE SERVICING PLAN
SCALE = 1:150

WATER TABLE [6173 RENAUD ROAD - SERVICE CONNECTION ON TRAILSIDE WAY]				
LOCATION	DISTANCE (m)	GRADE ELEV. (m)	TOP OF WATER SERVICE ELEV. (m)	
CONNECTION @ TRAILSIDE WAY	0.00	85.00	82.60	
PROPERTY LINE	11.50	85.10	82.70	
BLOCK 2	26.50	85.30	82.90	
BLOCK 1	76.50	86.35	83.95	
PROPERTY LINE @ RENAUD ROAD	100.50	86.25	83.85	



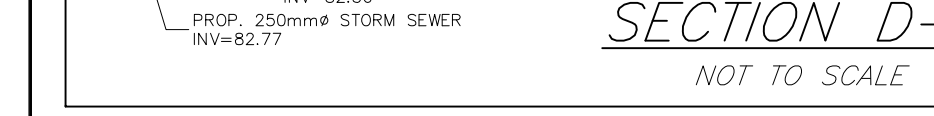
WATERMAIN DETAIL
SCALE = 1:150



STORM SEWER DETAIL
SCALE = 1:150



SANITARY SEWER DETAIL
SCALE = 1:150



SECTION D-D
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DRAWING NUMBER: 190867-DET
DRAWING NAME: DETAILS