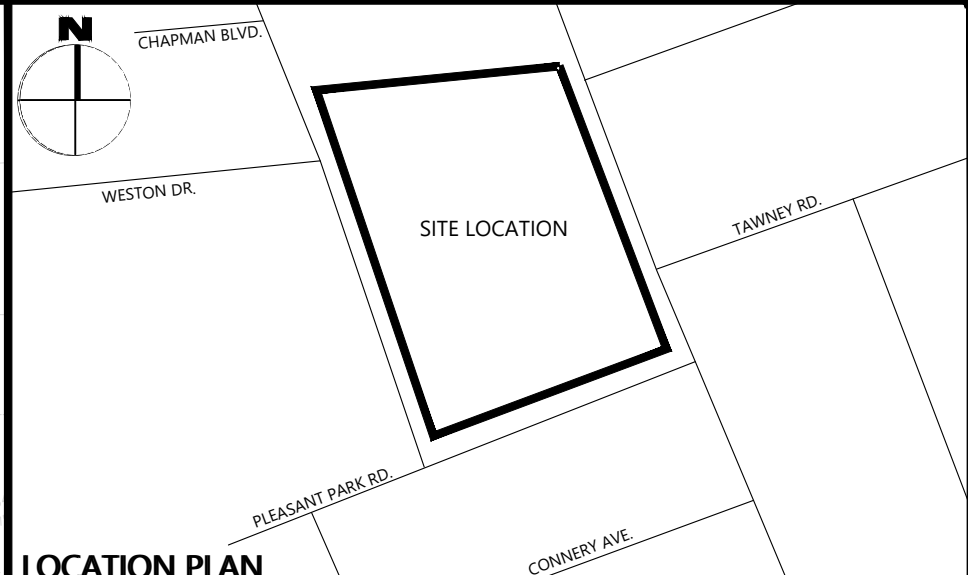




FOR REVIEW ONLY
NOT FOR CONSTRUCTION

Check and verify all dimensions before proceeding with the work

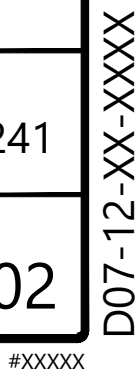


Client: OSGOOD PROPERTIES
1284 WELLINGTON STREET WEST
OTTAWA, ON K1Y 3A9

Drawing Title:

GRADING, DRAINAGE AND SEDIMENT
& EROSION CONTROL PLAN

D07-12-XX-XXXX



1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING A VERIFICATION OF ALL INFORMATION SHOWN. THE PLANKS ARE GEODETICALLY REFERENCED AT NAD83 (2011) UTM ZONE 18E AND ONTARIO 75-01 GEO (WEST).
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES OR ENCUMBRANCES. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED FROM INFORMATION SUPPLIED BY FARLEY, SMITH AND DENNIS SURVEYING LTD. (FSDS) AND CAN BE SUBJECT TO DISCREPANCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND ENCUMBRANCES (CAN BE ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A CADASTRAL SURVEY PERFORMED BY A LICENSED SURVEYOR OF 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. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR SHALL NOTIFY THE CITY IMMEDIATELY.
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 DEPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
8. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER PRIOR TO THE COMPLETION OF THE PROJECT.
9. 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, BARRIERS AND BARRIERS.
10. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
11. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES.
12. 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 ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
13. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PRIOR TO PROCEEDING.
14. ELECTRICAL, GAS, TELEPHONE/TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY:
 - ELECTRICAL SERVICE - HYDRO ONTARIO
 - GAS - ENBRIDGE
 - TELEPHONE SERVICE - BELL CANADA
 - TELEVISION SERVICE - BELL CANADA
15. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONTARIO, BELL AND THE CITY.
16. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION.
17. ALL PROPOSED CURB TO BE CONCRETE BARRIER UNLESS OTHERWISE SPECIFIED.
18. THIS PLAN MUST BE READ IN CONJUNCTION WITH THE GEO TECHNICAL INVESTIGATION REPORT.
19. CONTRACTOR TO PROVIDE ALL UTILITY LOCATES FOR UNDERGROUND WORK, INCLUDING BOTH PUBLIC AND PRIVATE LOCATES.
20. CONTRACTOR SHALL HAND-DIG AROUND EXISTING UTILITIES TO AVOID DAMAGE

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PREVENT CONSTRUCTION ACTIVITIES FROM CAUSING EROSION OR RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, TEMPORARY SEDIMENT CONTROL MEASURES, AND COVERING OR OVERLAPPING UNDER GRATE OR COVER TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED ROADWAYS, DRIVEWAYS, PARKWAYS, SIDEWALKS, AND OTHER PAVED AREAS, AND OTHER SEDIMENT TRAPS. NO RECYCLED GEOSOCK MATERIAL SHALL BE PERMITTED FOR USE ON SITE. THE CONTRACTOR ACKNOWLEDGES THAT ANY VIOLATION OF THE BEST MANAGEMENT PRACTICES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE STATE OR FEDERAL 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 D50 P119-110. GEOTEXTILE FOR SILT FENCE AS SPECIFIED IN ATTACHED TABLE.
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 CONSTRUCTION SITE WHERE EROSION OR SEDIMENTATION IS TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
5. STABILIZATION MEASURES SHALL BE INITIATED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED BY A SNOW COVER, OR WHEN THE CONSTRUCTION ACTIVITY IS INITIATED AS SOON AS FEASIBLE.
6. EXCEPT AS PROVIDED IN PARAGRAPHS 4.1 AND 4.2, STABILIZATION MEASURES SHALL BE INITIATED WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED. (E.G. THE TOTAL TIME FROM WHEN CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED (NOT 21 DAYS) UNTIL STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED SHALL BE 35 DAYS FROM THE DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED).

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 8010 AND 8020 UNLESS NOTED OTHERWISE.
 1. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY WEIGHT. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
 2. SUB-BEDDING, IF REQUIRED SHALL CONSIST OF 450mm OF COMPACTED GRANULAR "B" TYPE 1.
 3. BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.
 4. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0 METRES FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
3. SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR-28.
4. SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR-35. BEDDING TO BE TYPE "B" EXCEPT AT RISERS, UNLESS NOTED OTHERWISE.
5. INSULATE ALL STORM AND SANITARY SEWERS/SERVICES THAT HAVE LESS THAN 2.0m OF COVER WITH THERMAL INSULATION AS PER OPSD 1109.030.
6. SEWER CONNECTIONS ARE TO BE MADE ABOVE THE SPRINGLINE OF THE SEWERMAIN AS PER CITY OF OTTAWA STANDARD DRAWING S11, S11.1 & S11.2.
7. SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILER TO WITHIN 1.0m OF BUILDING. ALL ENDS OF PIPE TO BE PROPERLY CAPPED AND LOCATED WITH 2"x4"x8" LONG MARKER.
8. 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.
9. DYE TESTING IS TO BE COMPLETED ON SANITARY SERVICE TO CONFIRM PROPER CONNECTION TO SANITARY SEWER MAIN.
10. ALL SERVICES PASSING THROUGH FOUNDATION WALL TO BE SLEEVED AS REQUIRED.
11. ALL EXISTING SERVICES NOT TO BE USED SHALL BE BLANKED AT THE END OF THE LINE TO PREVENT BACKFLOW.

NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
MH1	75.20	S72.900	N72.899	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH2	75.58	E72.750 SW72.750	N72.688	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH3	75.90	S673.000	W72.957	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH4	75.36	S73.500	N73.457	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH5	75.59	S73.600	NW73.550	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH6	75.61	S73.740	N73.689	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH7	76.45	N73.290	W73.287	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH8	77.01	W73.700	S73.669	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH9	75.70		N73.896	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH10	75.82		N74.165	COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010
MH11	76.65			COVER: CITY S24 FRAME: CITY S25 STR.: OPSPD 701.010

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH USPO STANDARDS AND SPECIFICATIONS, AS WELL AS CITY STANDARDS.
2. INDUSTRIAL/COMMERCIAL SERVICE CONNECTIONS TO BE 50mm COPPER PIPING AND SHALL CONFORM TO ASTM 888 TYPE "K SOFT."
3. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m. OTHERWISE THERMAL INSULATION IS REQUIRED AT PER CITY STANDARDS (IF AVAILABLE) OR QPSD 1109.030.
4. IF THE WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS EQUAL TO OR LESS THAN THAT WHICH IS RECOMMENDED BY THE MANUFACTURER.
5. THERMAL INSULATION OF WATERMAINS AT OPEN STRUCTURES AS PER CITY STANDARDS (IF AVAILABLE) OR QPSD 1109.030.
6. VALVES TO BE OPERATED BY CITY STAFF ONLY.
7. NO CONNECTION TO EXISTING WATER NETWORK SHALL BE COMPLETED UNTIL A WATER PERMIT IS OBTAINED FROM THE CITY. CITY TO BE PRESENT FOR WATERMAIN CONNECTION, CONNECTION, EXCAVATION, BACKFILLING AND REINSTATEMENT TO BE COMPLETED BY CONTRACTOR.
8. ANY WATERMAIN CONNECTION(S) REQUIRED TO BE COMPLETED BY CITY FORCES.
9. ALL WATERMAINS SHALL BE EQUIPPED WITH BUTTERFLY AND GATE VALVES AS PER QPSD 1100.011.
10. ALL FIRE HYDRANTS, VALVE AND VALVE BOX HSALL CONFORM TO QPSD 1103.020.
11. CONCRETE THRUST BLOCKS TO CONFORM TO QPSD 1103.010 AND QPSD 1103.020.
12. ALL WATERMAIN TO BE CLASS 150 DR-18 OR APPROVED EQUIVALENT.
13. ALL WATERMAIN TO BE EQUIPPED WITH TRACER WIRE.
14. WATER SERVICE PASSING THROUGH FOUNDATION WALL TO BE SLEEVED AS REQUIRED.
15. IF TEMPORARY WATER SUPPLY IS SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL COORDINATE WITH THE CITY AND PROVIDE TEMPORARY SERVICING AT THEIR OWN EXPENSE.
16. ALL EXISTING SERVICES NOT TO BE USED SHALL BE BLANKED AT THE MAIN, TO THE SATISFACTION OF THE CITY.

CROSSING CONFLICT TABLE		
LOCATION	DESCRIPTION	SEPARATION
1	150mmØ STM SERVICE INV 73.62 200mmØ SAN SEWER OBV 73.37	0.25
2	250mmØ STM SEWER INV 73.75 200mmØ SAN SEWER OBV 73.50	0.25
3	150mmØ STM SERVICE INV 73.70 200mmØ SAN SEWER INV 73.48	0.22
4	250mmØ STM SERVICE OBV 73.39 200mmØ WTM INV 74.17	0.78
5	200mmØ SAN SERVICE OBV 72.28 200mmØ WTM INV 74.17	1.89
6	200mmØ SAN SERVICE OBV 72.95 200mmØ WTM INV 73.25	0.30
7	300mmØ STM SEWER INV 73.74 200mmØ SAN SEWER OBV 73.52	0.22
8	300mmØ STM SEWER OBV 73.45 200mmØ SAN SEWER INV 73.65	0.20
9	250mmØ STM SERVICE INV 73.55 200mmØ WTM OBV 73.00	0.55

STM STRUCTURE TABLE				
NAME	RIM ELEV.	INVERT IN	INVERT OUT	DESCRIPTION
CB1	75.65		E74.300	COVER: CITY S19 FRAME: CITY S19 STR.: OPSD 705.010
CB6	75.30		E73.700	COVER: CITY S19 FRAME: CITY S19 STR.: OPSD 705.010
CB8	76.30		S73.400	COVER: CITY S19 FRAME: CITY S19 STR.: OPSD 705.010
CB9	76.75		N74.290	COVER: CITY S19 FRAME: CITY S19 STR.: OPSD 705.010
CBMH3	75.70	NW74.000	S73.950	COVER: CITY S19 FRAME: CITY S25 STR.: OPSD 701.010
CBMH4	75.70	N73.850	W73.790	COVER: CITY S19 FRAME: CITY S25 STR.: OPSD 701.010
CBMH7	75.25	N73.300	S73.250	COVER: CITY S19 FRAME: CITY S25 STR.: OPSD 701.010
STMH2	75.97	W74.155	S674.150	COVER: CITY S24.1 FRAME: CITY S25 STR.: OPSD 701.010
STMH5	75.90	E73.730	~S73.40	COVER: CITY S24.1 FRAME: CITY S25 STR.: OPSD 701.010

WATER COVER TABLE				
LOCATION	STATION	FINISHED GRADE	TOP OF PIPE	COVER
A - CONNECTION	+1000.00	75.10	73.30	1.80
200X2000 TEE	+1003.11	75.70	73.90	1.80
VALVE	+1004.91	75.10	73.350	1.750
CAP	+1128.52	75.75	73.350	2.40
B - 200X2000 TEE	+2000.00	75.70	73.900	2.40
11.25" H BEND	+2002.15	76.65	75.250	1.40
11.25" H BEND	+2025.15	76.04	73.640	2.40
45° H BEND	+2057.13	75.96	75.650	2.40
45° H BEND	+2059.12	76.00	75.650	2.40
200X200 TEE	+2079.16	75.77	73.370	2.40
VALVE	+2080.07	75.77	73.370	2.40
CAP	+2121.73	75.93	75.530	2.40
C TEE	+2127.77	75.77	73.370	2.40
200X2000 TEE	+3058.67	76.77	74.370	2.40
D - CONNECTION	+4000.00	75.00	73.200	1.80
200X2000 TEE	+4014.93	76.77	74.370	2.40
11.25" H BEND	+4016.93	76.69	74.370	2.40
45° H BEND	+4071.54	76.70	74.300	2.40
45° H BEND	+4078.09	76.67	74.270	2.40
45° H BEND	+4140.94	76.82	74.220	2.40
45° H BEND	+4192.95	76.82	74.200	2.40
45.00" H BEND	+4197.95	76.73	74.230	2.40

