

GENERAL NOTES:

- ALL WORKS AND MATERIALS SHALL CONFORM TO THE LATEST REVISIONS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY OF OTTAWA, AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), AS AMENDED BY THE CITY OF OTTAWA.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED DURING CONSTRUCTION, TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
- ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- ANY AREAS BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTORS EXPENSE.
- RELOCATION OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER AT THE EXPENSE OF THE DEVELOPER.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS", THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONTRACTOR AS DEFINED IN THE ACT.
- ALL CONSTRUCTION SIGNING MUST CONFORM TO THE M.T.O. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST AMENDMENT).
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL BY THE DIRECTOR OF ENGINEERING HAS BEEN OBTAINED.
- ALL SEWERS CONSTRUCTED WITH GRADES 0.50% OR LESS, SHALL BE INSTALLED WITH LASER AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL BEDDING OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH, AS SPECIFIED BY OPSD, IS EXCEEDED.
- ALL PIPE / CULVERT / SECTION SIZES REFER TO INSIDE DIMENSIONS.
- SHOULD DEEPLY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE MUST BE NOTIFIED IMMEDIATELY.
- STREET LIGHTING TO CITY OF OTTAWA STANDARDS.
- ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR, REVIEW WITH CONTRACT ADMINISTRATOR AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING.
- CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSS 410 AND OPSS 407. CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF ALL STORM AND SANITARY SEWERS. A COPY OF THE VIDEO AND INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
- THE CLAY SEALS SHALL BE INSTALLED AS PER CITY STANDARD DRAWING NO. S8. THE SEALS SHOULD BE AT LEAST 1.5m LONG (IN THE TRENCH DIRECTION) AND SHOULD EXTEND FROM TRENCH WALL TO TRENCH WALL. GENERALLY, 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 CLAY PLACED A MAXIMUM 23mm THICK. LOOSE LAYERS COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS SPMD. THE CLAY SEALS SHOULD BE PLACED AT THE SITE BOUNDARIES AND AT STRATEGIC LOCATIONS AT NO MORE THAN 60m INTERVALS IN THE SERVICE TRENCHES.
- AS PER GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS, THE CLAY SEAL IS ONLY REQUIRED WITHIN THE GRANULAR MATERIAL SURROUNDING THE PIPE. THE EXCAVATED SILTY CLAY WILL BE REUSED AS TRENCH BACKFILL WHICH WILL ACT AS A CLAY SEAL.
- AS PER GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS, AT LEAST 150mm OF OPSS GRANULAR A SHOULD BE USED FOR PIPE BEDDING FOR SEWER AND WATER PIPES. WHERE THE INVERT OF THE EXCAVATION IS BELOW THE FROST LINE AND THE FROST LINE IS WITHIN 300mm OF THE BEDDING SHOUL BE INCREASED TO 300mm. THE BEDDING SHOULD EXTEND TO THE SPRING LINE OF THE PIPE. COVER MATERIAL FROM THE SPRING LINE TO AT LEAST 300mm ABOVE THE OVERT OF THE PIPE SHOULD CONSIST OF OPSS GRANULAR A. THE BEDDING AND COVER MATERIALS SHOULD BE PLACED IN MAXIMUM 300mm THICK LIFTS COMPACTED TO A MINIMUM OF 98% OF THE MATERIAL'S SPMD.
- FOR HOUSE CONNECTIONS INSTALLED UNDER STEPS AND PORCHES, SLEEVE SHALL BE USED.
- STORM NOTES:**
 - ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2 (LATEST AMENDMENT). ALL NON-REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.1 (LATEST AMENDMENT). PIPE SHALL BE JOINTED WITH STD. RUBBER GASKETS AS PER CSA A257.3 (LATEST AMENDMENT).
 - ALL STORM SEWER TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S6 AND S7, CLASS 'B' UNLESS OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
 - ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE SPECIFIED.
 - ALL STORM LATERALS SHALL BE PVC SDR 28, WHITE IN COLOR AND MARKED WITH A 50mm x 100mm WOODEN MARKER EXTENDING FROM THE INVERT TO 1.0m ABOVE GRADE PAINTED GREEN. HOUSE CONNECTIONS SHALL BE 2.0 m. MIN. BELOW FINISHED GRADE AT STREET LINE WHERE POSSIBLE. SINGLE CONNECTIONS SHALL BE 100mm DIA..
 - STORM MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24.1 AND S25.
 - SAFETY PLATFORMS SHALL BE IN ACCORDANCE WITH OPSD 404.02.
 - DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS AND OPSD 1003.01.
 - STORM SEWER MANHOLES SERVING LOCAL SEWERS LESS THAN 900mm SHALL BE CONSTRUCTED WITH A 300mm SUMP, FOR STORM SEWERS 900mm AND OVER USE BENCHING IN ACCORDANCE WITH OPSD 701.021.
 - SINGLE AND DOUBLE CATCHBASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD. S1, AND OPSD 705.020, RESPECTIVELY. FRAMES AND GRATE SHALL BE AS PER CITY OF OTTAWA STD. S19.1 FOR REAR LOT CATCHBASINS AND STREET CATCHBASINS.
 - CURB INLET TYPE CATCH BASIN (CIB) SHALL BE USED IN SPECIFIC LOCATIONS IN ACCORDANCE WITH CITY OF OTTAWA STD. S3. FRAME AND GRATE SHALL BE AS PER CITY OF OTTAWA STD. S22 AND S23, UNLESS OTHERWISE NOTED.
 - SINGLE AND DOUBLE CATCHBASIN LEADS SHALL BE 200mm DIA (MIN.), AT 1.0% SLOPE (MIN.), UNLESS OTHERWISE NOTED. WHERE REAR LOT CATCHBASINS CONNECT TO STREET CATCHBASINS, SINGLE AND DOUBLE CATCHBASIN LEADS SHALL BE 250mm DIA (MIN.), AT 1.0% SLOPE (MIN.), UNLESS OTHERWISE NOTED. CB LEAD OUT INVERT TO BE SET 1.38m BELOW TOP OF GRATE ELEVATION UNLESS OTHERWISE NOTED.
 - ALL STREET CATCHBASINS/CATCHBASIN MANHOLES SHALL HAVE 1200mm SUMPS, AND ALL REAR YARD CATCHBASINS (OPSD 705.010) SHALL HAVE 300mm SUMPS UNLESS OTHERWISE NOTED. REAR YARD LANDSCAPE CATCHBASINS TO BE SUMPLESS.
 - CONTRACTOR SHALL ENSURE THAT CATCHBASINS ARE INSTALLED AT THE LOW POINT OF SAG CURB WORKS.
 - THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED ABOVE. WHERE THE SPECIFIED TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ADDITIONAL BEDDING, A DIFFERENT TYPE OF BEDDING OR A HIGHER PIPE STRENGTH AT THEIR OWN EXPENSE AND SHALL ALSO BE RESPONSIBLE FOR EXTRA TEMPORARY AND/OR PERMANENT REPAIRS MADE NECESSARY BY THE WIDENED TRENCH.
 - THE MINIMUM DIAMETER FOR REAR LOT PERFORATED PIPE IS 250mm, REFER TO CITY STD. S29 FOR DETAIL, UNLESS OTHERWISE NOTED.
 - FOR TWO OR MORE REAR LOT CATCH BASINS CONNECTED IN SERIES, THE LEAD FROM THE LAST REAR LOT CB TO THE STORM SEWER SHALL BE SOLID PIPE.
 - ALL STORM SEWERS WITH LESS THAN 2.0m COVER TO BE INSULATED PER CITY STANDARDS. SEE DWG 1 FOR DETAIL AND MINIMUM THICKNESS RELATIVE TO PROVIDED COVER.
 - ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE EQUIPPED WITH CB SHIELDS.

SANITARY NOTES:

- ALL SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS) AS AMENDED BY THE CITY OF OTTAWA.
- ALL SANITARY SEWERS SHALL BE PVC SDR 35, IPX "RING-TITE" (OR EQUIVALENT), AS PER CSA STANDARD B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE NOTED.
- SANITARY SEWER TRENCH AND BEDDING SHALL BE AS PER CITY OF OTTAWA STD. S6 AND S7, CLASS 'B' BEDDING UNLESS OTHERWISE NOTED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
- ALL SANITARY LATERALS ARE TO BE PVC SDR 28, IPX "RING-TITE" (OR EQUIVALENT), MARKED WITH A 50mm x 100mm WOODEN MARKER, EXTENDING FROM THE INVERT TO 1.0m ABOVE GRADE PAINTED RED. HOUSE CONNECTIONS SHALL BE 2.75m BELOW FINISHED GRADE AT STREET LINE WHERE POSSIBLE. SINGLE CONNECTIONS SHALL BE 132mm DIA.
- SANITARY MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24 AND S25.
- SAFETY PLATFORMS SHALL BE AS PER OPSD 404.02.
- DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA SPECIFICATIONS AND OPSD 1003.01.
- SANITARY MANHOLES SHALL BE BENCHED AS PER OPSD 701.021.
- SANITARY MANHOLE FRAME AND COVERS SHALL BE AS PER CITY OF OTTAWA STD. S24 AND S25, EXCEPT FOR WHERE IN PONDING AREAS, WHERE WATERTIGHT FRAME AND COVERS SHALL BE EAST JORDAN CAMPRESSION 41420049W01 AS PER CITY OF OTTAWA MS-22.15 (OR APPROVED EQUIVALENT)

GEOTECHNICAL REPORT/MEMO:

- REFER TO:
 - GEOTECHNICAL INVESTIGATION REPORT NO. PG5036-1-REV 1, DATED FEBRUARY 03, 2021 BY PATERSON GROUP
 - GEOTECHNICAL MEMO NO. PG5036-MEMO12 DATED JUNE 8, 2021 BY PATERSON GROUP
 - HYDROGEOLOGICAL REVIEW OF GROUNDWATER CONDITIONS
 - GEOTECHNICAL MEMO NO. PG5036-MEMO15 DATED MARCH 2, 2022 BY PATERSON GROUP
 - CLAY SEAL RECOMMENDATIONS
 - GEOTECHNICAL MEMO NO. PG5036-MEMO16 DATED MARCH 2, 2022 BY PATERSON GROUP
 - GEOTECHNICAL MEMO NO. PG5036-LET-01 DATED DECEMBER 6, 2021 BY PATERSON GROUP
 - (SANITARY TRUNK SEWER RECOMMENDATIONS)
 - (SUMP PUMP FEASIBILITY REPORT)

INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN INTERPOLATED FROM THE GEOTECHNICAL REPORTS AND ACCURACY IS NOT GUARANTEED. CONTRACTORS ARE ADVISED TO READ THE GEOTECHNICAL REPORTS AND ASSUME THEIR OWN CONCLUSIONS.

CITY OF OTTAWA SEWER AND WATERMAIN INSULATION CALCULATION OF THICKNESS OF INSULATION					
Depth (m)	Ti	Using Ti			
(m)	(mm)	(mm)	As per City Standard (W22):		
1.20	100	100	Tie (2400 - H)		
1.25	96	100	12		
1.30	92	100			
1.35	88	100			
1.40	83	100			
1.45	79	100	where: Ti = Thickness of insulation (mm), 50mm min.		
1.50	75	75	H = H Depth of Cover above OD (mm)		
1.55	71	75			
1.60	67	75			
1.65	63	75			
1.70	58	75			
1.75	54	75			
1.80	50	50			
1.85	46	50			
1.90	42	50			
1.95	38	50			
2.00	33	50			
2.05	29	50			
2.10	25	50			
2.15	21	50			
2.20	17	50			
2.25	13	50			
2.30	8	50			

SPILLS CONTROL NOTES:

- ALL CONSTRUCTION EQUIPMENT SHALL BE REFUELED, MAINTAINED AND STORED NO LESS THAN 30 METERS FROM THE WATERCOURSES, STREAMS, CREEKS, WOODLOTS AND ANY ENVIRONMENTALLY SENSITIVE AREAS, OR AS OTHERWISE SPECIFIED.
- THE CONTRACTOR MUST IMPLEMENT ALL NECESSARY MEASURES IN ORDER TO PREVENT LEAKS, DISCHARGES OR SPILLS OF POLLUTANTS, DELETERIOUS MATERIALS, OR OTHER SUCH MATERIALS OR SUBSTANCES WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT.
- IN THE EVENT OF A LEAK, DISCHARGE OR SPILL OF A POLLUTANT, DELETERIOUS MATERIAL OR OTHER SUCH MATERIAL OR SUBSTANCE WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT, THE CONTRACTOR SHALL:
 - IMMEDIATELY NOTIFY THE APPROPRIATE FEDERAL, PROVINCIAL AND LOCAL GOVERNMENT MINISTRIES, DEPARTMENTS, AGENCIES AND AUTHORITIES OF THE INCIDENT IN ACCORDANCE WITH ALL CURRENT LAWS, LEGISLATION, ACTS, BY-LAWS, PERMITS, APPROVALS, ETC.
 - TAKE IMMEDIATE MEASURES TO CONTAIN THE MATERIAL OR SUBSTANCE, AND TO TAKE SUCH MEASURES AS THEY DEEM APPROPRIATE TO MITIGATE AGAINST THE ANY ADVERSE IMPACTS TO THE NATURAL ENVIRONMENT.
 - THE CONTRACT SHALL RESTORE THE AFFECTED AREA TO ORIGINAL CONDITION OR BETTER, ALL TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.

APPROVED

By Geraldine Wildman at 2:32 pm, Jan 09, 2026

LEGEND**WATERMAIN****CROSS****45° BEND****LATERAL****HYDRANT, VALVE & VB****TEE****VALVE & VC****VALVE & VB****22.5° BEND****11.25° BEND****REDUCER****CAP****MAINTENANCE HOLE****CAP****EXISTING SANITARY MAINTENANCE HOLE****STORM****STREET CATCHBASIN & LEAD****WITH CLOSED LID & LEAD****MAINTENANCE HOLE****MH202****CBMH201****CURB INLET CATCHBASIN & LEAD****CATCHBASIN/ MAINTENANCE HOLE****CAP****WATER BOX****SINGLE SERVICE LOCATION (ST, SAN & VM)****TEE CATCHBASIN****PERFORATED PIPE****ELBOW CATCHBASIN****EXISTING STORM MAINTENANCE HOLE****DITCH AND CULVERT****CONCRETE SIDEWALK****CURB & DEPRESSED CURB****ASPHALT SIDEWALK****CHAINLINK FENCE****(1.5m UNLESS OTHERWISE NOTED)****NOISE BARRIER****WOODEN POST****AND RAIL FENCE****WOOD PRIVACY BARRIER****POST AND RAIL FENCE****PHASING LIMITS**