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1.0 GENERAL

1.1 USE BAR SCALE TO CONFIRM ACTUAL PLOT SCALE. EXISTING AND NEW ELEVATIONS SHOWN ARE GEODETIC AND ARE IN METERS. ALL PIPE DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
1.2 "ENGINEER" REFERS TO D.B. GRAY ENGINEERING INC. UNLESS OTHERWISE NOTED.
1.3 SITE BOUNDARIES, EXISTING GRADE ELEVATIONS AND OTHER FEATURES DERIVED FROM TOPOGRAPHICAL SURVEY PREPARED BY FAIRHALL MOFFATT & WOODLAND LTD. JOB No. W42000.
1.4 REFER TO ARCHITECTURAL SITE PLAN AND LANDSCAPE PLAN FOR EXACT LOCATIONS OF BUILDINGS, CURBS, SIDEWALKS, PLANTERS, ETC. LAYOUT SHALL BE COMPLETED BY THE CONTRACTOR AND REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
1.5 REFERENCE THE LATEST REVISION AND ALL ADDENDUMS OF THE GEOTECHNICAL INVESTIGATION PREPARED BY PATERSON GROUP INC. FILE: PG2655-LEY.01. SITE PREPARATION INCLUDING EXCAVATION, SUBGRADE PREPARATION, BACKFILL, CONSTRUCTION OF PAVEMENT STRUCTURE, COMPACTION OF MATERIALS, ETC. SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
1.6 DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SITE SERVICING STUDY & STORMWATER MANAGEMENT REPORT No. 22017 PREPARED BY D.B. GRAY ENGINEERING INC.
1.7 REINSTATE ADJACENT PROPERTIES TO PRE-CONSTRUCTION CONDITIONS.
1.8 REINSTATE CITY PROPERTIES TO CITY OF OTTAWA STANDARDS AND TO THE SATISFACTION OF THE CITY OF OTTAWA.
1.9 ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARDS.
1.10 ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY WHERE NO CITY OF OTTAWA STANDARDS ARE AVAILABLE.

2.0 EROSION AND SEDIMENT CONTROL

2.1 THE EROSION & SEDIMENT CONTROL PLAN IS A "LIVING DOCUMENT" AND SHALL BE REVISED IN THE EVENT THE SPECIFIED CONTROL MEASURES ARE NOT SUFFICIENT. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION OF THE AREA DRAINAGE SYSTEM DURING CONSTRUCTION. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, USING SEDIMENT CAPTURE FILTER SOCK INSERTS IN CATCH-BASINS AND CATCH-BASIN/MANHOLES AND INSTALLING SILT FENCES AND OTHER EFFECTIVE SEDIMENT TRAPS. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY. SPECIFICALLY THE CONTRACTOR SHALL INSTALL, MAINTAIN AND REMOVE THE FOLLOWING CONTROL MEASURES IN ACCORDANCE WITH NOTES 2.2 TO 2.8.
2.2 PRIOR TO COMMENCING CONSTRUCTION INSTALL SEDIMENT CAPTURE FILTER SOCK INSERTS (TERRAFIX GEOSYNTHETICS INC. SILTSACK OR APPROVED EQUAL) IN ALL MUNICIPAL CATCH-BASINS AND CATCH-BASIN/MANHOLES ADJACENT TO THE SITE.
2.3 INSTALL SEDIMENT CAPTURE FILTER SOCK INSERTS (TERRAFIX GEOSYNTHETICS INC. SILTSACK OR APPROVED EQUAL) IN ALL NEW CATCH-BASINS AND CATCH-BASIN/MANHOLES AS THEY ARE INSTALLED.
2.4 INSPECT ALL SEDIMENT CAPTURE FILTER SOCK INSERTS AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REPAIR OR REPLACE ANY DAMAGED SEDIMENT CAPTURE FILTER SOCK INSERTS.
2.5 INSTALL A SILT FENCE BARRIER AROUND STOCKPILED SEDIMENT OR SOIL. PRIOR TO COMMENCEMENT OF CONSTRUCTION INSTALL A SILT FENCE BARRIER AS SHOWN ON PLANS. INSPECT ALL SILT FENCES AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT DEPOSITS WHEN THE LEVEL OF DEPOSITS REACHES ONE THIRD THE HEIGHT OF THE FENCE. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED SECTIONS OF FENCE.
2.6 REMOVE ANY MATERIAL DEPOSITED ON THE PUBLIC ROAD BY SHOVELING AND SWEEPING OR VACUUMING AND DISPOSING IN A CONTROLLED AREA. DO NOT SHOVEL, SWEEP OR HOSE ANY MATERIAL INTO ANY STORMWATER CONVEYANCE SYSTEM.
2.7 DO NOT REMOVE EROSION AND SEDIMENT CONTROL MEASURES UNTIL CONSTRUCTION IS COMPLETE.
2.8 CONSTRUCTION IS CONSIDERED TO BE COMPLETE WHEN THE FOLLOWING CONDITIONS HAVE BEEN MET:
A. ALL STRUCTURES HAVE BEEN BUILT.
B. ALL HARD SURFACES HAVE BEEN CONSTRUCTED.
C. ALL PROPOSED GRASSED AREAS ARE EITHER SODDED OR HAVE FULL COVERAGE OF WELL ESTABLISHED TURF AND HAVE HAD A MINIMUM OF ONE FULL GROWING SEASON (MAY 15th TO SEPTEMBER 15th).
D. THERE ARE NO AREAS OF EXPOSED EARTH.
E. ALL STOCKPILED MATERIALS HAVE BEEN REMOVED.
2.9 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.

3.0 GRADING & DRAINAGE

3.1 NEW GRADES SHALL MATCH EXISTING GRADES ON PROPERTY LINES. NO EXCESS DRAINAGE SHALL BE DIRECTED TOWARDS ADJACENT PROPERTIES DURING OR AFTER CONSTRUCTION. THERE SHALL BE NO ALTERATION TO EXISTING GRADES OR DRAINAGE PATTERNS ON PROPERTY LINES.
3.2 ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDINGS TO CATCH-BASINS AND SWALES. GRADING SHALL BE GRADUAL BETWEEN PROPOSED GRADE ELEVATIONS SHOWN ON DRAWINGS TO PREVENT PONDING.
3.3 WHETHER A RESULT OF POOR WORKMANSHIP OR DAMAGE DEFECTIVE GRADING SHALL BE CORRECTED.

4.0 SITE SERVICING

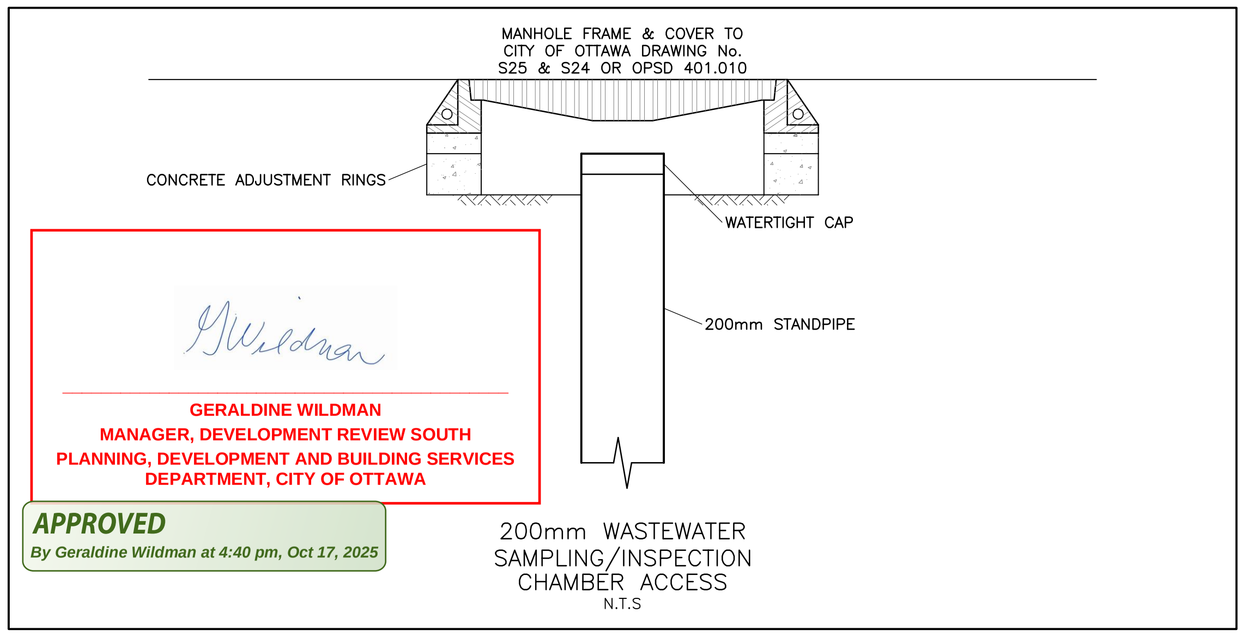
4.1 WATER SERVICE CONNECTION MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS.
4.2 WATER SERVICE CONNECTION MATERIAL SHALL BE COPPER ASTM B88 TYPE "K" SOFT.
4.3 CONNECTION TO MUNICIPAL WATERMAIN SHALL BE PERFORMED BY CITY OF OTTAWA FORCES. CONTRACTOR SHALL PROVIDE EXCAVATION, BACKFILL AND REINSTATEMENT.
4.4 PROVIDE A MINIMUM 2.4m COVER OVER WATER SERVICE CONNECTION. WHERE THE MINIMUM COVER IS NOT POSSIBLE NOTIFY THE ENGINEER AND INSULATE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22.
4.5 WHERE LESS THAN 2.4m CLEARANCE FROM AN OPEN STRUCTURE (i.e. CATCH-BASINS, MANHOLES, WINDOW WELLS, ETC.) INSULATE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W23.
4.6 WATER METER SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W31.
4.7 THE WATER PRESSURE IS EXPECTED TO BE ABOVE 80psi AT TIMES. A PRESSURE REDUCING VALVE SHALL BE INSTALLED IMMEDIATELY AFTER THE WATER METER.
4.8 A WATER SERVICE CONNECTION INSTALLED PARALLEL TO A SEWER SERVICE CONNECTION SHALL BE CONSTRUCTED OF A SINGLE RUN OF PIPE WITH NO JOINTS OR FITTINGS BETWEEN THE WATERMAIN AND THE CURB STOP AND BETWEEN THE CURB STOP AND THE INSIDE FACE OF THE BUILDING.
4.9 SEWER AND SEWER SERVICE CONNECTION MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS.
4.10 SEWER AND SEWER SERVICE CONNECTION MATERIALS SHALL BE PVC SDR-35 (SDR-28 FOR DIAMETERS 150mm AND LESS) AND HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS.
4.11 PROVIDE A MINIMUM 2.0m COVER OVER SEWERS AND SEWER SERVICE CONNECTION. WHERE THE MINIMUM COVER IS NOT POSSIBLE NOTIFY THE ENGINEER AND INSULATE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22.
4.12 SANITARY BUILDING DRAIN SHALL BE INSTALLED WITH A FULL-PORT BACKWATER VALVE IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARDS AND CITY OF OTTAWA DRAWING No. S14.1 OR S14.2. THE BACKWATER VALVE SHALL BE INSTALLED SO THAT ALL PLUMBING FIXTURES ABOVE THE EXTERIOR GRADE ELEVATION DRAIN TO THE DOWNSTREAM SIDE OF THE VALVE AND ALL PLUMBING FIXTURES BELOW THE EXTERIOR GRADE ELEVATION DRAIN TO THE UPSTREAM SIDE OF THE VALVE.
4.13 INSTALL CLEANOUT ON SANITARY BUILDING DRAIN AS CLOSE AS PRACTICAL TO THE WHERE SANITARY BUILDING DRAIN LEAVES THE BUILDING.
4.14 CONNECT PROPOSED SANITARY SEWER SERVICE CONNECTION TO EXISTING MUNICIPAL SANITARY SEWER IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S11.1.
4.15 CONNECT PROPOSED STORM SEWER TO EXISTING MUNICIPAL STORM MANHOLE. MACHINE CORE DRILL NEW OPENING INTO MANHOLE. MAINTAIN STRUCTURAL INTEGRITY OF MANHOLE. MAKE WATERTIGHT CONNECTION.
4.16 CATCH-BASINS AND MANHOLES:
A. PRECAST CONCRETE CATCH-BASINS SHALL BE IN ACCORDANCE WITH OPSD 705.010.
B. PRECAST CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010.
C. MANHOLE STEPS SHALL BE IN ACCORDANCE WITH OPSD 405.010.
D. ADJUSTING RINGS SHALL BE IN ACCORDANCE WITH OPSD 704.010.
E. ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL HAVE POLYETHYLENE ANCHOR INSULATING SLEEVES.
F. FRAMES AND COVERS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA DRAWINGS OR ONTARIO PROVINCIAL STANDARD DRAWINGS. REFER TO CATCH-BASIN & MANHOLE SCHEDULE. FRAMES AND COVERS SHALL BE PAINTED WITH ONE SHOP COAT OF ASPHALT OR TAR BASE BLACK. ALL JOINTS AND CREVICES SHALL BE THOROUGHLY COATED.
4.17 INLET CONTROL DEVICE LOCATED IN OUTLET PIPE OF CB/MH-7 SHALL BE A VORTEX STYLE (HYDROVEX OR APPROVED EQUAL) SIZED BY THE MANUFACTURER FOR THE RELEASE RATE INDICATED ON THE DRAWINGS. PRIOR TO INSTALLATION SUBMIT SHOP DRAWING TO THE ENGINEER FOR APPROVAL.
4.18 EXISTING WELL SHALL BE ABANDONED AND DECOMMISSIONED BY A LICENSED WELL CONTRACTOR IN ACCORDANCE WITH ONTARIO REGULATION 903. UPON COMPLETION PREPARE A WELL RECORD FOR THE ABANDONED WELL. DELIVER WELL RECORD TO THE OWNER OF THE LAND.
4.19 EXISTING SEPTIC SYSTEM SHALL BE DECOMMISSIONED TO THE SATISFACTION OF THE OTTAWA SEPTIC SYSTEM OFFICE (OSSO). SUBMIT SEPTIC SYSTEM DECOMMISSIONING FORM TO THE OSSO. PRIOR TO DECOMMISSIONING SEPTIC TANK SHALL BE PUMPED AND EMPTIED BY A REGISTERED SEWAGE HAULER. ELECTRICAL DEVICES CONTAINING MERCURY SHALL BE REMOVED AND DISPOSED AT A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. SEPTIC SYSTEM LEACHING BED SHALL BE DISCONNECTED FROM SEPTIC TANK AND MAY BE LEFT IN THE GROUND UNLESS LEACHING BED IS EXCAVATED AS PART OF SITE DEVELOPMENT IN WHICH CASE DISTRIBUTION PIPES SHALL BE DISPOSED AT A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. EXCAVATED CONTAMINATED SOIL SHALL BE SPREAD OR STOCKPILED ON SITE TO THE SATISFACTION OF THE OSSO OR DISPOSED OF AT A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. REQUEST AN INSPECTION FROM THE OSSO. AFTER DECOMMISSIONING HAS BEEN APPROVED BY THE OSSO BACKFILL AROUND THE SEPTIC TANK TO A LEVEL SLIGHTLY ABOVE THE ADJACENT GRADE TO ALLOW FOR SETTLING. DELIVER APPROVED SEPTIC SYSTEM DECOMMISSIONING FORM TO THE OWNER OF THE LAND.

5.0 CONSTRUCTION

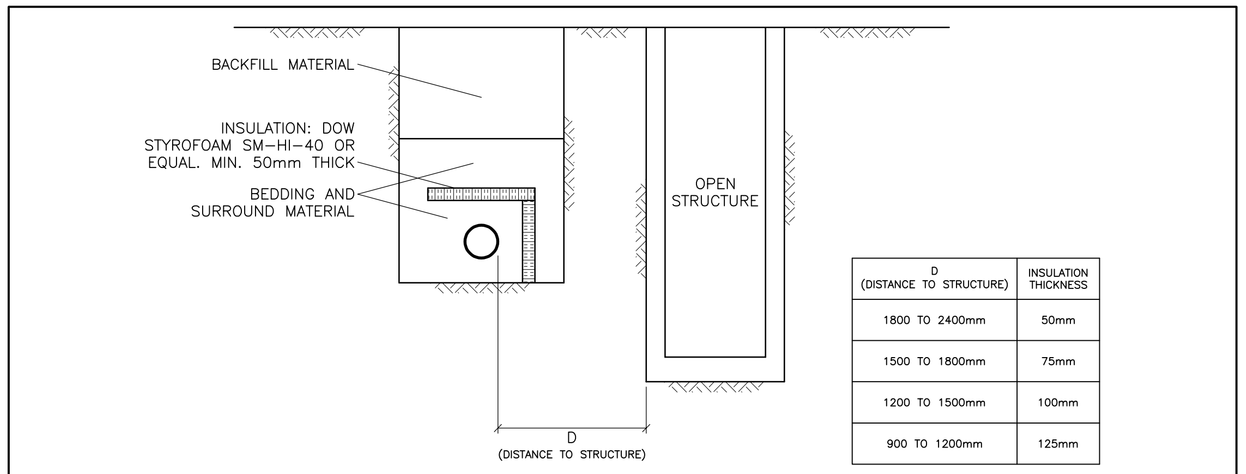
5.1 PRIOR TO COMMENCING CONSTRUCTION:
A. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
B. SIZES, DEPTHS AND LOCATIONS OF EXISTING SERVICES AND UTILITIES SHOWN ON DRAWINGS ARE FOR GUIDANCE ONLY. THOSE SHOWN ARE DERIVED FROM AVAILABLE INFORMATION AND MUST BE CONFIRMED ON SITE. ALL EXISTING SERVICES AND UTILITIES ARE NOT NECESSARILY SHOWN. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. NOTIFY ALL APPLICABLE OWNERS, UTILITY COMPANIES AND AUTHORITIES HAVING JURISDICTION OF PROPOSED WORK AND LOCATE AND CLEARLY IDENTIFY ALL EXISTING SERVICES AND UTILITIES ON AND ADJACENT TO THE SITE. UNDERGROUND LOCATES (INCLUDING ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. CONFIRM SIZES, DEPTHS AND LOCATIONS OF EXISTING SERVICES AND UTILITIES BY CAREFUL TEST EXCAVATIONS AND REPORT ANY DIFFERENCES TO THE ENGINEER.
C. EXISTING GRADE ELEVATIONS SHOWN ON DRAWINGS ARE FOR GUIDANCE ONLY. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. CONFIRM EXISTING GRADE ELEVATIONS AND REPORT ANY DIFFERENCES TO THE ENGINEER.
D. COORDINATE AND SCHEDULE WORK WITH AUTHORITIES AND OTHER TRADES TO PROVIDE MINIMUM DISRUPTION TO SERVICES.
E. INSTALL CONSTRUCTION FENCING AROUND AREA OF WORK. DO NOT REMOVE FENCING UNTIL CONSTRUCTION IS COMPLETE.
5.2 PROTECT EXISTING SERVICES, UTILITIES, BUILDINGS, FENCES, TREES, SURVEY BENCHMARKS AND MONUMENTS, ETC. FROM FROM DAMAGE.
5.3 PROVIDE TRAFFIC CONTROL AND SAFETY MEASURES AS REQUIRED BY THE AUTHORITIES.
5.4 FENCE OFF ALL OPEN EXCAVATIONS AT THE END OF EACH DAY.
5.5 REMOVE OBSTRUCTIONS, ICE AND SNOW FROM SURFACES TO BE EXCAVATED.
5.6 CUT PAVEMENT AND/OR SIDEWALK NEATLY ALONG LIMITS OF PROPOSED EXCAVATION SO THAT SURFACE MAY BREAK EVENLY.
5.7 COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF SUBGRADE, PIPE BEDDING AND EACH LAYER OF SURROUND MATERIAL, BACKFILL, SUBBASE, BASE AND ASPHALT TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO THE ENGINEER.
5.8 CUT AND FILL AS NECESSARY TO ACHIEVE THE REQUIRED SUBGRADE ELEVATIONS. DISPOSE OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL OFF SITE. FILL MATERIAL AND THE PLACEMENT AND COMPACTION OF FILL MATERIAL SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. STOCKPILE GRANULAR AND FILL MATERIALS IN A MANNER TO PREVENT SEGREGATION AND PROTECT FROM CONTAMINATION. PLACE MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
5.9 EXCAVATION, TRENCHING AND BACKFILL:
A. SHORE AND BRACE EXCAVATIONS. PROTECT SLOPES AND BANKS AND PERFORM WORK IN ACCORDANCE WITH ONTARIO REGULATION 213/91 UNDER THE ONTARIO OCCUPATIONAL HEALTH & SAFETY ACT AND OTHER AUTHORITIES HAVING JURISDICTION.
B. KEEP EXCAVATIONS FREE FROM WATER WHILE WORK IS IN PROGRESS. PROTECT OPEN EXCAVATIONS AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUNOFF.
C. EXCAVATIONS SHALL NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.
D. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED ON DRAWINGS.
E. EARTH BOTTOMS OF EXCAVATIONS SHALL BE UNDISTURBED SOIL, LEVEL AND FREE FROM LOOSE, SOFT OR ORGANIC MATTER.
F. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4H:1V FROST TAPERS FROM FROST LINE TO SUBGRADE.
G. CORRECT OVER-EXCAVATION WITH GRANULAR A COMPACTED TO NOT LESS THAN 95% CORRECTED MAXIMUM DRY DENSITY.
H. SUBGRADE AND AREAS TO BE BACKFILLED SHALL BE FREE FROM DEBRIS, ICE, SNOW, WATER AND FROZEN GROUND.
I. BEDDING AND SURROUND MATERIAL FOR SEWERS SHALL BE OPSS GRANULAR A. BEDDING AND SURROUND MATERIAL FOR WATERMAIN AND WATER SERVICE CONNECTIONS SHALL BE OPSS GRANULAR A OR OPSS GRANULAR M. RECYLCLED GRANULAR MATERIALS ARE NOT PERMITTED.
J. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
K. PIPE BEDDING SHALL BE 150mm THICK. SHAPE BED TRUE TO GRADE AND TO PROVIDE CONTINUOUS AND UNIFORM BEARING SURFACE FOR PIPES.
L. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH TO 300mm ABOVE PIPES.
M. PLACE BEDDING AND SURROUND MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS. PLACE FILL AND BACKFILL MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS.
N. COMPACT EACH LAYER TO NOT LESS THAN 95% CORRECTED MAXIMUM DRY DENSITY PRIOR TO PLACING SUCCEEDING LAYER.
O. DO NOT BACKFILL AROUND OR OVER CAST-IN-PLACE CONCRETE WITHIN 24 HOURS OF PLACING CONCRETE.
P. BACKFILL MATERIALS WITHIN 1.8m OF PROPOSED GRADE SHALL MATCH THE MATERIALS EXPOSED ON THE TRENCH WALLS. BACKFILL MATERIALS BELOW 1.8m OF PROPOSED GRADE MAY CONSIST OF EITHER ACCEPTABLE NATIVE MATERIAL, ROCK OR IMPORTED GRANULAR MATERIAL CONFORMING TO OPSS GRANULAR B TYPE I OR II. ANY ORGANIC SOILS OR TOPSOIL SHALL BE REMOVED FROM THE EXCAVATION. IF ROCK IS USED AS BACKFILL IT SHALL BE WELL SHATTERED AND GRADED AND 200mm OR SMALLER IN DIAMETER. TO PREVENT INGRESS OF FINE MATERIAL INTO VOIDS IN THE ROCK FILL THE UPPER SURFACE OF THE ROCK FILL SHALL BE COVERED WITH A 150mm LAYER OF COMPACTED AND WELL GRADED CRUSHED STONE PLACED ON GEOTEXTILE FABRIC.
5.10 PIPES:
A. HANDLE PIPES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
B. LAY, CUT AND JOIN PIPES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
C. FITTINGS SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS.
D. LAY PIPES ON PREPARED BED, TRUE TO LINE AND GRADE AND ENSURE BARREL OF EACH PIPE IS IN CONTACT WITH SHAPED BED THROUGHOUT ITS FULL LENGTH, FREE OF SAGS OR HIGH POINTS.
E. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
F. IF WORK IS SUSPENDED INSTALL A REMOVABLE WATERTIGHT BULKHEAD AT THE OPEN END OF THE LAST PIPE LAID TO PREVENT ENTRY OF FOREIGN MATERIALS.
G. IF STOPPAGE OF WORK OCCURS BLOCK PIPES TO PREVENT CREEP DURING DOWN TIME.
H. JOINTS SHALL BE STRUCTURALLY SOUND AND WATERTIGHT.
I. REPAIR OR REPLACE PIPE, PIPE JOINT OR BEDDING FOUND TO BE DEFECTIVE.
5.11 SEWERS AND SEWER SERVICE CONNECTIONS:
A. SEWER AND SEWER SERVICE CONNECTION TRENCHES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S6 & S7.
B. RIGID STRUCTURES INSTALL PIPE JOINTS NOT MORE THAN 1.2m FROM SIDE OF STRUCTURE.
C. MAINTAIN EXISTING SEWAGE FLOWS DURING CONSTRUCTION.
D. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND RETEST SEWER AS REQUIRED. REPAIR VISIBLE LEAKS REGARDLESS OF TEST RESULTS.
E. CONDUCT TWO CCTV INSPECTIONS OF SEWERS. FIRST INSPECTION AFTER COMPLETION OF CONSTRUCTION. SECOND INSPECTION IMMEDIATELY PRIOR TO THE END OF THE WARRANTY PERIOD. A PAN AND TILT CAMERA SHALL BE USED. REPAIR SEWER AS REQUIRED. SUBMIT VIDEOS AND REPORTS TO THE ENGINEER.
F. CONDUCT DYE TESTING ON THE SANITARY SEWERS AND SEWER SERVICE CONNECTIONS AND COORDINATE WITH ENGINEER. DYE TESTING SHALL BE WITNESSED BY THE ENGINEER.
5.12 MANHOLES & CATCH-BASINS:
A. JOINTS SHALL BE MADE WATERTIGHT USING BUTYL BASED, FLEXIBLE WATERSTOP/JOINT SEALANT MATERIAL.
B. SET PRECAST CONCRETE BASE ON A MINIMUM 150mm GRANULAR BEDDING COMPACTED TO NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY.
C. PIPE JOINTS SHALL BE MADE WATERTIGHT USING RUBBER RING GASKETS.
D. PLACE GRANULAR BACKFILL MATERIALS IN UNIFORM LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS, COMPACTDE TO NOT LESS THAN 95% CORRECTED MAXIMUM DRY DENSITY.
E. PLACE FRAME AND COVER ON TOP SECTION TO ELEVATION AS SHOWN ON DRAWINGS. IF ADJUSTMENT IS REQUIRED USE CONCRETE ADJUSTMENT RINGS TO A MAXIMUM OF 300mm.
F. CLEAN CATCH-BASINS AND MANHOLES FROM DEBRIS. REMOVE FINS AND SHARP PROJECTIONS. PREVENT DEBRIS FROM ENTERING THE SYSTEM.
G. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE IN ACCORDANCE WITH OPSS 407.
5.13 MAINTAIN AS-BUILT DRAWINGS AND RECORD DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS CAUSED BY SITE CONDITIONS AND CHANGES MADE BY CHANGE ORDER AND OTHER INSTRUCTIONS. UPDATE DAILY AND MAKE AVAILABLE ON SITE FOR REVIEW THROUGHOUT CONSTRUCTION. MARK CHANGES IN RED INK. AS-BUILT DRAWINGS SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO CHANGES OF DIMENSIONS, GRADE ELEVATIONS AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTENANCES REFERENCED TO A PERMANENT SURFACE STRUCTURE. SUBMIT AS-BUILT DRAWINGS TO THE ENGINEER AT THE END OF CONSTRUCTION.
5.14 CONCRETE CURBS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. SC1.1. CONCRETE SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. SC4. MONOLITHIC CONCRETE CURB AND SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. SC2.
5.15 WHETHER RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE PRODUCTS OR DAMAGE DEFECTIVE PORTIONS OF CURBS, SIDEWALKS AND PAVEMENT SHALL BE REPAIRED OR REPLACED.
5.16 REINSTATE ALL AREAS DISTURBED BY CONSTRUCTION. REINSTATE CURBS, SIDEWALKS AND PAVEMENT TO STRUCTURES AND ELEVATIONS WHICH EXISTED PRIOR TO CONSTRUCTION. REINSTATE LANDSCAPED AREAS TO THE CONDITIONS AND ELEVATIONS WHICH EXISTED PRIOR TO CONSTRUCTION.
5.17 CLEAN AND REINSTATE AREAS AFFECTED BY CONSTRUCTION.

6.0 PAVEMENT

6.1 PAVEMENT STRUCTURE:
40 mm SUPERPAVE 12.5 ASPHALTIC CONCRETE
50 mm SUPERPAVE 19.0 ASPHALTIC CONCRETE
150 mm OPSS GRANULAR A BASE
400 mm OPSS GRANULAR B TYPE II SUBBASE
WOVEN GEOTEXTILE TERRAFIX 200W OR EQUAL SEPARATION LAYER
6.2 RECYLCLED GRANULAR MATERIALS ARE NOT PERMITTED.
6.3 ASPHALTIC CONCRETE SHALL BE PERFORMANCE GRADE PG58-34.
6.4 PAVEMENT SUBGRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
6.5 COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF SUBGRADE AND EACH LAYER OF SUBBASE, BASE AND ASPHALT TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO THE ENGINEER.
6.6 REMOVE ALL EXISTING ASPHALT AND DISPOSE OF AT A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. REMOVE ALL MATERIALS TO THE SUBGRADE LEVEL. REMOVE ORGANIC OR UNSUITABLE MATERIAL FROM THE SUBGRADE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER. SUBGRADE SHALL BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND. COMPACT SUBGRADE TO 95% CORRECTED MAXIMUM DRY DENSITY.
6.7 CONSTRUCT A 5H:1V FROST TAPER IN SUBGRADE SURFACE AS A TRANSITION BETWEEN DIFFERING PAVEMENT STRUCTURES AND BETWEEN PAVEMENT AND CURBS.
6.8 DO NOT PLACE ANY FROZEN MATERIAL. PLACE MATERIAL ONLY ON CLEAN UNFROZEN SURFACES, FREE FROM SNOW AND ICE.
6.9 PLACE MATERIAL TO FULL WIDTH IN UNIFORM LIFTS NOT EXCEEDING 300mm COMPACTED THICKNESS. SHAPE EACH LIFT TO SMOOTH CONTOUR AND COMPACT TO SPECIFIED DENSITY PRIOR TO PLACING SUCCEEDING LAYER.
6.10 COMPACT SUBBASE MATERIAL TO DENSITY OF NOT LESS THAN 98% CORRECTED MAXIMUM DRY DENSITY. FILL OVER-EXCAVATED SUBGRADE WITH SUBBASE MATERIAL COMPACTED TO 98% CORRECTED MAXIMUM DRY DENSITY. COMPACT BASE AND SHOULDER MATERIAL TO DENSITY NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY.
6.11 REPLACE PAVEMENT DISTURBED BY CONSTRUCTION WITH PAVEMENT STRUCTURE ABOVE.
6.12 WHERE NEW ASPHALT COMES IN CONTACT WITH EXISTING ASPHALT SAWCUT EXISTING ASPHALT LAYER TO CREATE A CLEAN STRAIGHT EDGE. TACK COAT SHALL BE APPLIED TO ASPHALT SURFACES AT WHICH JOINTS ARE TO BE MADE INCLUDING EXISTING PAVEMENT SURFACES THAT HAVE BEEN CUT OR MILLED. TACK COAT THE SURFACE OF ALL BINDER COURSES AND BUTTING CONCRETE SURFACES. SURFACES TO BE TACK COATED SHALL BE FREE OF STANDING WATER AND CONTAMINATION, SUCH AS MUD, LOOSE AGGREGATE AND DEBRIS AND SHALL BE DRY AND CLEAN WHEN THE TACK COAT IS APPLIED. TACK COAT SHALL BE PLACED SUFFICIENTLY AHEAD OF THE PAVING OPERATION TO ALLOW FOR CURING. PAVING AND CONSTRUCTION EQUIPMENT SHALL NOT BE PERMITTED ON THE TACK COAT UNTIL IT HAS SET. TACK COAT MATERIAL SHALL CONSIST OF SS-1 EMULSIFIED ASPHALT DILUTED WITH AN EQUAL VOLUME OF WATER. THE UNDILUTED MATERIAL SHALL BE ACCORDING TO OPSS 1103.
6.13 SHAPE BASE TO SMOOTH CONTOUR AND COMPACT TO NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY PRIOR TO COMMENCING PAVING OPERATIONS.
6.14 APPLY ASPHALTIC CONCRETE ONLY WHEN BASE OR PREVIOUS COURSE IS DRY AND AIR TEMPERATURE IS ABOVE 5°C.
6.15 ROLL UNTIL ROLLER MARKS ARE ELIMINATED AND COMPACTED TO NOT LESS THAN 95% OF DENSITY. COMPACT WITH HOT TAMPERS IN AREAS INACCESSIBLE TO A ROLLER. BEVEL EDGES ADJACENT TO GRANULAR SURFACES.
6.16 FINISH SURFACE SMOOTH AND TRUE TO GRADE.
6.17 KEEP VEHICULAR TRAFFIC AND OTHER LOADS OFF NEWLY PAVED AREAS UNTIL 24 HOURS AFTER PAVING.
6.18 DISPOSE OF UNUSED AND WASTE ASPHALT AT A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS.
6.19 APPLY TRAFFIC PAINT AS INDICATED ON DRAWINGS. TRAFFIC PAINT SHALL BE NON-DARKENING, HOMOGENEOUS, UNIFORM, SMOOTH AND FREE FROM SKIN, DIRT AND OTHER FOREIGN PARTICLES. APPLY TO DRY PAVEMENT SURFACE FREE FROM FROST, ICE, DUST, OIL, GREASE AND OTHER FOREIGN MATERIALS. PROTECT PAVEMENT MARKINGS UNTIL DRY.



200mm WASTEWATER SAMPLING/INSPECTION CHAMBER ACCESS
N.T.S


BACKFILL MATERIAL
INSULATION: DOW STYROFOAM SM-HI-40 OR EQUAL. MIN. 50mm THICK
BEDDING AND SURROUND MATERIAL
OPEN STRUCTURE
D
(DISTANCE TO STRUCTURE)