

1. GENERAL

- 1.1 USE BAR SCALE TO CONFIRM ACTUAL PLOT SCALE. EXISTING AND NEW ELEVATIONS AND INVERTS SHOWN ARE GEODETIC AND ARE IN METERS. ALL PIPE DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
1.2 UNLESS OTHERWISE STATED "ENGINEER" REFERS TO D. B. GRAY ENGINEERING INC.
1.3 SITE BOUNDARIES AND EXISTING GRADES AND OTHER FEATURES DERIVED FROM TWO TOPOGRAPHIC SURVEY PREPARED BY FARLEY, SMITH & DENIS SURVEYING LTD. JOB NO. 531-20 & 315-22. EXISTING AND NEW GRADE ELEVATIONS AND INVERT ELEVATIONS ON THE THE SURVEY PLAN AND THESE DRAWINGS ARE IN METRES AND ARE GEODETIC AND ARE REFERRED TO GEODETIC DATUM (CVD=1928/1978 (MONUMENT No. 1989002)). IT IS THE RESPONSIBILITY OF THE USER OF THE SURVEY PLAN AND THESE DRAWINGS TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATED ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON SURVEY PLAN AND THESE DRAWINGS.
1.4 REFER TO ARCHITECTURAL AND LANDSCAPE SITE PLANS FOR EXACT LOCATIONS OF BUILDINGS, PAVED AREAS, SIDEWALKS, PLANTERS ETC. LAYOUT SHALL BE COMPLETED BY THE CONTRACTOR AND SHALL BE REVIEWED BY THE OWNER'S REPRESENTATIVE / ENGINEER PRIOR TO CONSTRUCTION. AT ALL TIMES THE CONTRACTOR IS RESPONSIBLE FOR THE ACCURACY OF THE LAYOUT INCLUDING LINES AND GRADES.
1.5 REFERENCE THE LATEST REVISION AND ALL ADDENDUMS OF THE GEOTECHNICAL INVESTIGATION BY LRL ASSOCIATES LTD. FILE NO.: 220528 REVISION 1, DATED JANUARY 2023. SITE PREPARATION SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER INCLUDING: BUILDING SUB-GRADE PREPARATION; PAVEMENT SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE; EXCAVATION AND BACKFILLING; SERVICE TRENCH EXCAVATION AND PIPE BEDDING AND BACKFILL; AND THE COMPACTION OF MATERIALS.
1.6 DRAWINGS ARE TO BE READ IN CONJUNCTION WITH SERVICING STUDY BRIEF & STORMWATER MANAGEMENT REPORT No. 22055 PREPARED BY D. B. GRAY ENGINEERING INC.
1.7 REINSTATE ADJACENT PROPERTIES TO PRE-CONSTRUCTION CONDITIONS.
1.8 REINSTATE CITY PROPERTIES AND TO CITY OF OTTAWA'S SATISFACTION.
1.9 ALL RELEVANT WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT CITY STANDARDS AND SPECIFICATIONS.
1.10 ONTARIO PROVINCIAL STANDARDS & SPECIFICATIONS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.

2. EROSION AND SEDIMENT CONTROL PLAN

- 2.1 THE EROSION AND 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 AND THE RECEIVING WATER COURSE DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL, USING SEDIMENT CAPTURE FILTER SOCK INSERTS IN CATCH BASINS AND 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 THE FOLLOWING CONTROL MEASURES AND INSPECT (AFTER EACH RAINFALL), MAINTAIN AND REMOVE THE CONTROL MEASURES.
2.2 PRIOR TO COMMENCEMENT OF CONSTRUCTION AT MUNICIPAL CATCH BASINS ADJACENT TO THE SITE AND AT ANY MANHOLES OR CATCH BASINS THAT WILL RECEIVE DISCHARGE FROM DE-WATERING OPERATIONS AND ALL NEW CATCH BASINS AS THEY ARE INSTALLED: INSTALL SEDIMENT CAPTURE FILTER SOCK INSERTS (TERRAFIX GEOSYNTHETICS INC SILTSACK OR APPROVED EQUAL). INSPECT AT THE END OF EACH DAY AND AFTER EACH RAINFALL, REMOVE SEDIMENT AS RECOMMENDED BY THE MANUFACTURER. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED BALE. STRAW BALES SHALL BE EMBEDDED INTO SOIL A MINIMUM 150mm AND SHALL BE SECURELY ANCHORED BY TWO STAKES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DO NOT REMOVE ANY STRAW BALES UNTIL CONSTRUCTION IS COMPLETE.
2.3 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 BALE. STRAW BALES SHALL BE EMBEDDED INTO SOIL A MINIMUM 150mm AND SHALL BE SECURELY ANCHORED BY TWO STAKES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DO NOT REMOVE ANY STRAW BALES UNTIL CONSTRUCTION IS COMPLETE.
2.4 PRIOR TO COMMENCEMENT OF CONSTRUCTION INSTALL STRAW BALE FLOW CHECK DAMS AS INDICATED ON DRAWINGS. INSPECT ALL STRAW BALE FLOW CHECK DAMS AT THE END OF EACH DAY AND AFTER EVERY RAINFALL. REMOVE SEDIMENT DEPOSITS WHEN THE LEVEL OF DEPOSITS REACHES ONE THIRD THE HEIGHT OF THE DAM. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED BALE. STRAW BALES SHALL BE EMBEDDED INTO SOIL A MINIMUM 150mm AND SHALL BE SECURELY ANCHORED BY TWO STAKES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. DO NOT REMOVE ANY STRAW BALES UNTIL CONSTRUCTION IS COMPLETE.
2.5 CONTROL AND LIMIT VEHICLE ACCESS TO AND AROUND THE CONSTRUCTION SITE TO MINIMIZE THE DISTURBANCE OF SOIL AND VEGETATION. PRIOR TO COMMENCEMENT OF CONSTRUCTION INSTALL AT ALL POINTS OF EGRESS TO PUBLIC ROADS GEOTEXILE FABRIC MUD MATS (TERRAFIX GEOSYNTHETICS INC. OR APPROVED EQUAL). MUD MATS SHALL BE THE FULL WIDTH OF THE ACCESS POINT AND AT LEAST 18m IN LENGTH. MUD MATS SHALL BE WASHED AS REQUIRED TO PREVENT MATERIAL FROM BEING TRACKED ONTO THE PUBLIC ROAD. DO NOT REMOVE MUD MATS UNTIL CONSTRUCTION IS COMPLETE. IN ADDITION, IF REQUIRED TO PREVENT MATERIAL FROM BEING TRACKED ONTO THE PUBLIC ROAD, WASH VEHICLE TIRES AT THE EGRESS POINT.
2.5 ANY MATERIAL DEPOSITED ON A PUBLIC ROAD SHALL BE REMOVED BY SWEEPING OR SHOVELING OR VACUUMING AND DISPOSING SEDIMENT IN A CONTROLLED AREA. DO NOT SWEEP OR HOSE MATERIAL INTO ANY STORMWATER CONVEYANCE SYSTEM.
2.6 CONSTRUCTION IS CONSIDERED COMPLETE WHEN THE FOLLOWING CONDITIONS HAVE BEEN MET:
a. ALL STRUCTURES HAVE BEEN BUILT.
b. ALL HARD SURFACES HAVE BEEN CONSTRUCTED.
c. ALL PROPOSED GRASSES ARE EITHER SODDED OR HAVE A FULL COVERAGE OF WELL ESTABLISHED TURF AND HAVE HAD A MINIMUM OF ONE FULL GROWING SEASON (MAY 31ST TO SEPTEMBER 15TH).
d. THERE ARE NO AREAS OF EXPOSED EARTH.
e. ALL STOCKPILED MATERIALS HAVE BEEN REMOVED.
2.7 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.

3. GRADING & DRAINAGE

- 3.1 NEW GRADES TO MATCH EXISTING AT PROPERTY LINE. NO EXCESS DRAINAGE WILL BE DIRECTED TOWARDS THE ADJACENT PROPERTIES DURING AND AFTER CONSTRUCTION. THERE WILL BE NO ALTERATION TO EXISTING GRADE AND DRAINAGE PATTERNS ON PROPERTY LINE.
3.2 ALL AREAS SHALL BE GRADED TO ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDINGS TO CATCH BASINS, SWALES, DITCHES AND OTHER APPROVED DISPOSAL AREAS. GRADING SHALL BE GRADUAL BETWEEN FINISHED SPOT ELEVATIONS SHOWN ON DRAWINGS TO PREVENT PONDING (OTHER THAN PONDING REQUIRED FOR STORMWATER MANAGEMENT).
3.3 WHETHER RESULT OF POOR WORKMANSHIP OR DAMAGE; DEFECTIVE GRADING SHALL BE CORRECTED. PROMPTLY MAKE GOOD OTHER CONTRACTOR'S WORK DAMAGED BY SUCH CORRECTIONS.
3.4 CONCRETE CURBS SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC1.1. CONCRETE SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC4. MONOLITHIC CONCRETE CURB AND SIDEWALK SHALL BE CONSTRUCTED TO CITY OF OTTAWA DRAWING NO. SC2. TWO NO. 15 REINFORCING BARS SHALL BE ADDED TO THE CURB FOR THE FULL LENGTH OF THE DEPRESS CURB. DEPRESS CONCRETE CURBS FOR PEDESTRIAN TRAFFIC SHALL BE 0 mm. CONCRETE CURBS SHALL BE TO CITY OF OTTAWA SPECIFICATION SECTION F-3531. CONCRETE SIDEWALKS SHALL BE TO CITY OF OTTAWA SPECIFICATION SECTION F-3511. CONCRETE SHALL BE CSA 32 MPA. CLASS C-2. THE AIR ENTRAINMENT SHALL BE 5% TO 8% PRIOR TO PLACEMENT AND THE SLUMP SHALL BE LESS THAN 40 mm ± 20 mm FOR EXTRUDED CONCRETE CURBS AND LESS THAN 90 mm FOR PLACED CONCRETE CURBS AND SIDEWALKS.
3.5 ALL PROPOSED RETAINING WALLS SHALL BE SETBACK A MINIMUM 0.15M FROM PROPERTY LINE INCLUDING THE WALL FOUNDATION AND FOOTINGS. ALL PROPOSED RETAINING WALLS GREATER THAN 1.0 m IN HEIGHT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO. RETAINING WALLS OVER 0.6 m IN HEIGHT MAY REQUIRE A GUARD RAIL (SEE ARCHITECTURAL).
3.6 RIP RAP: PLACE RIP-RAP 300mm THICK AS INDICATED ON PLANS AS PER OPSS 511 AND OPSS 810.010 AND/OR 810.020. USE QUARRIED STONE 200MM TO 300MM IN DIAMETER. AREA TO BE RIP RAPPED SHALL BE EXCAVATED AND FINE GRADED TO A UNIFORM AND EVEN SURFACE TO PROVIDE ADEQUATE FOUNDATION. FILL AND THOROUGHLY COMPACT DEPRESSIONS. WHERE RIP RAP IS TO BE PLACED ON SLOPES, EXCAVATE TRENCH AT TOE OF SLOPE. PLACE GEOTEXTILE FABRIC ON PREPARED SURFACE. GEOTEXTILE FABRIC SHALL EXTEND A MINIMUM 300mm BEYOND THE EXTENT OF THE RIP RAP IN ALL DIRECTIONS. PLACE RIP RAP ON FABRIC CAREFULLY, TO AVOID PUNCTURING FABRIC. PLACE RIP RAP IN A SET AND STABLE MANNER. ROCK SHALL BE PLACED AT THE LOWER END OF THE SLOPE. THE LARGEST ROCKS OBTAINABLE SHALL BE USED AND PLACED IN THE BOTTOM COURSES AND FOR USE AS HEADERS THROUGH SUBSEQUENT COURSES. THEY SHALL BE LAID CLOSELY AND SUCH THAT THEY WILL PROVIDE A REASONABLE SEMBLANCE OF COURSES. FILL VOIDS WITH ROCK SPALLS OR COBBLES. FINISH SURFACE EVEN, FREE OF LARGE OPENINGS AND NEAT IN APPEARANCE.
3.7 GEOTEXTILE FABRIC TO BE USED 1860. 1800mm SYNTHETIC FIBRE FABRIC SHALL BE USED IN SILT FENCE BARRIER (GEOSYNTHETIC HD105 OR APPROVED EQUAL). NON-WOVEN SYNTHETIC FIBRE FABRIC 1.72mm THICK, 200g/m2 SHALL BE USED FOR WATER SEPARATION; GEOSYNTHETIC TERRAFIX 3608 OR APPROVED EQUAL. RIP RAP APPLICATIONS: GEOSYNTHETIC TERRAFIX 420R OR APPROVED EQUAL. PRIOR TO INSTALLATION SUBMIT SHOP DRAWING TO ENGINEER FOR APPROVAL. GEOTEXTILE FABRIC SHALL BE FREE OF TEARS AND RESISTANT TO DEGRADATION BY ULTRA VIOLET AND HEAT EXPOSURE. PLACE GEOTEXTILE MATERIAL BY UNROLLING UNTO GRADED SURFACE, SMOOTH AND FREE OF TENSION STRESS, FOLDS, WRINKLES AND CREASES. PLACE GEOTEXTILE MATERIAL ON SLOPING SURFACES IN ONE CONTINUOUS LENGTH FROM TOE OF SLOPE TO UPPER EXTENT OF GEOTEXTILE. OVERLAP EACH SUCCESSIVE STRIP OF GEOTEXTILE 600mm OR PREVIOUSLY LAID STRIP IN DIRECTION OF FLOW. ALTERNATIVELY THE FABRIC MAY BE LAPPED A MINIMUM OF 300mm AND PINNED TOGETHER. PROTECT INSTALLED GEOTEXTILE MATERIAL FROM DISPLACEMENT, DAMAGE OR DEGRADATION BEFORE, DURING AND AFTER PLACEMENT OF MATERIAL LAYERS AFTER INSTALLATION. WITHIN HOURS OF PLACEMENT, DURING DELIVERY AND STORAGE, PROTECT GEOTEXTILES FROM DIRECT SUNLIGHT, ULTRAVIOLET RAYS, EXCESSIVE HEAT, MUD, DIRT, DUST, DEBRIS AND RODENTS. VEHICULAR TRAFFIC NOT PERMITTED DIRECTLY ON GEOTEXTILE. AVOID PUNCTURING GEOTEXTILE. REPLACE DAMAGED OR DETRIORATED GEOTEXTILE.

4. SITE SERVICES

- 4.1 CONNECTION TO WATERMAIN BY CITY OF OTTAWA FORCES, CONTRACTOR SHALL PROVIDE EXCAVATION, BACKFILL AND REINSTATEMENT.
4.2 WATER METER SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. No. W30. WATER SERVICES SHALL BE INSTALLED AS PER CITY OF OTTAWA DWG. No. 26.
4.3 ALL WATER SERVICE MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSD). WATERMAIN MATERIALS SHALL BE PVC PRESSURE CLASS 150 DR18. WATER SERVICE MATERIALS SHALL BE PEK TUBING SDR 9 TO AWWA C-904 TO CITY OF OTTAWA STANDARDS. METALLIC WARNING TAPE SHALL BE INSTALLED OVER THE WATERMAIN. CONSTRUCT TRUST BLOKS AS PER CITY OF OTTAWA DWG. No. W25.3 & W25.4 AT ALL VALVES, TEES, CAPS, BENDS, REDUCERS AND HYDRANTS OR OTHER FITTINGS WHERE CHANGES OCCUR IN PIPE DIAMETER OR DIRECTION. RESTRAINING AS PER AS PER CITY OF OTTAWA DWG. No. W25.6 & W25.6.ALL CONNECTIONS, RESTRAINT RODS AND VALVE BOLTS TO BE STAINLESS STEEL. CATHODIC PROTECTION & ANODE INSTALLATION AS PER CITY OF OTTAWA DWG. No. W40, W42, W44 & W47.
4.4 PROVIDE A MINIMUM 2.4 m COVER OVER WATER SERVICE CONNECTIONS AND WATERMAIN. WHERE THE MINIMUM COVER IS NOT POSSIBLE INSULATE AS PER CITY OF OTTAWA DWG. No. W22.
4.5 WHERE LESS THAN 2.4 m CLEARANCE FROM AN OPEN STRUCTURE (EG. MANHOLES, CATCH BASINS & WINDOW WELLS) PLACE INSULATION AROUND WATERMAIN AND WATER SERVICE CONNECTIONS AS PER CITY OF OTTAWA DWG. No. W23.
4.6 WATER SERVICE CONNECTIONS INSTALLED PARALLEL TO A SEWER CONNECTION OF A SEWER SHALL BE CONSTRUCTED OF A SINGLE RUN OF PIPE WITH NO JOINTS OR FITTINGS BETWEEN THE WATERMAIN AND CURB STOP AND BETWEEN THE CURB STOP AND THE INSIDE FACE OF THE BUILDING. WATERMANS INSTALLED PARALLEL TO A SEWER SHALL BE LAID WITH A MINIMUM 2.5m BARREL TO BARREL HORIZONTAL SEPARATION FROM SEWERS AND SEWER MANHOLES.
4.7 THE WATERMAIN SHALL CROSS ABOVE THE SEWER AS PER CITY OF OTTAWA DWG. No. W25.2. PROVIDE A MINIMUM 250 mm BARREL TO BARREL VERTICAL SEPARATION. IF IT IS NOT POSSIBLE FOR THE WATERMAIN TO CROSS ABOVE A SEWER THE WATERMAIN SHALL CROSS BELOW THE SEWER AS PER CITY OF OTTAWA DRAWING No. W25; PROVIDE A MINIMUM 500m BARREL TO BARREL VERTICAL SEPARATION AND ENSURE THAT THE WATER PIPE IS CENTERED AT THE POINT OF CROSSING SO JOINTS ARE AS FAR AS POSSIBLE FROM THE SEWER. WATER SERVICE CONNECTIONS (50mm OR LESS) SHALL CROSS THE SEWER AS PER CITY OF OTTAWA DRAWING No. W38. PROVIDE A MINIMUM 300mm BARREL TO BARREL VERTICAL SEPARATION.
4.8 LOCATE FIRE HYDRANT AS PER CITY OF OTTAWA DWG. No. W18. INSTALL FIRE HYDRANT AS PER CITY OF OTTAWA DWG. No. W19. LOCATE FIRE HYDRANT 1.5 m FROM FACE OF CURB. LOCATE FIRE HYDRANT A MINIMUM 0.6m FROM EDGE OF SIDEWALK. LOCATE FIRE HYDRANT 3m FROM ADJACENT DRIVEWAYS. THE HYDRANT SHALL BE INSTALL WITH THE BREAKABLE FLANGE 50mm TO 150mm ABOVE FINISHED GRADE. THERE SHALL BE NO VEGETATION OR OTHER OBSTRUCTIONS IN FRONT OF HYDRANT AND WITHIN 1.5m OF FIRE HYDRANT. THE FIRE HYDRANT SHALL BE RED WITH WHITE BONNETS AND CAPS TO CITY STANDARDS. AT THE END OF CONSTRUCTION PERFORM A FIRE FLOW TEST AND SUBMIT REPORT TO THE ENGINEER AND COLOUR CODE THE BONNETS AND CAPS AS PER CITY OF OTTAWA AND NFPA STANDARDS.
4.9 SERVICES SHALL BE INSTALLED AS PER CITY OF OTTAWA DRAWING 511.3.
4.10 THE SANITARY BUILDING DRAIN IN EACH DWELLING UNIT SHALL BE INSTALLED WITH A FULL-PORT BACKWATER VALVE TO CITY OF OTTAWA STANDARDS AND TO CITY OF OTTAWA DWG. No. S14.1 OR S14.2. THE BACKWATER VALVE SHALL BE INSTALLED SO THAT ALL PLUMBING FIXTURES ABOVE THE EXTERIOR GRADE ELEVATION DRAINS TO THE DOWNSTREAM SIDE OF THE VALVE AND ALL FIXTURES BELOW THE EXTERIOR GRADE ELEVATION DRAINS TO THE UPSTREAM SIDE OF THE VALVE.
4.11 THE STORM BUILDING DRAIN IN EACH DWELLING UNIT SHALL BE INSTALLED WITH A BACKWATER VALVE TO CITY OF OTTAWA STANDARDS AND TO CITY OF OTTAWA DWG. No. S14.
4.12 INSTALL CLEANOUTS ON THE STORM BUILDING DRAIN AND SANITARY BUILDING DRAIN AS CLOSE AS PRACTICAL TO THE WHERE THE SANITARY AND STORM DRAINS LEAVE THE BUILDING.
4.13 ALL SEWER MATERIALS AND CONSTRUCTION METHODS TO CITY OF OTTAWA STANDARDS AND ONTARIO PROVINCIAL STANDARDS SPECIFICATIONS (OPSS & OPSD). SEWER MATERIAL SHALL BE PVC OR REINFORCED CONCRETE. PVC SEWERS SHALL BE SDR-35 (SDR-28 FOR DIAMETERS 150mm OR LESS) AND SHALL CONFORM TO CSA B182.2 AND SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS. PROVIDE A MINIMUM 2.5m HORIZONTAL SEPARATION BETWEEN SEWER CONNECTIONS AND WATERMAIN AND WATER SERVICE CONNECTION. REINFORCED CONCRETE SEWERS SHALL CONFORM TO CSA 297.2 CL. 50-4 WITH RUBBER GASKETS TO CSA A-297.3.
4.14 PROVIDE A MINIMUM 2.0 m COVER OVER SEWERS. WHERE THE MINIMUM COVER IS NOT POSSIBLE INSULATE AS INDICATED AND AS PER DETAIL.
4.15 MANHOLES & CATCH BASINS:
A. PRECAST MANHOLE UNITS: TO OPSS 1351 AND OPSS 701.010 WITH BASE SLAB OR MONOLITHIC BASE. TOP SECTIONS ECCENTRIC CONE OR FLAT LAB TOP TYPE WITH OPENING OFFSET FOR VERTICAL LADDER INSTALLATION.
B. MANHOLE STEPS: TO OPSS 484.01.
C. ADJUSTING RINGS: TO ASTM C 478M.
D. ALUMINUM SURFACES IN CONTACT WITH OR CAST INTO CONCRETE SHALL HAVE POLYETHYLENE ANCHOR INSULATING SLEEVES.
E. PRECAST CATCH BASIN SECTIONS: TO OPSS 1351.
F. JOINTS: SHALL BE MADE WATERTIGHT USING BUTYL BASED, FLEXIBLE WATERSTOP/JOINT SEALANT MATERIAL.
G. SANITARY SEWERS: BENCH TO PROVIDE A SMOOTH U-SHAPED CHANNEL PER OPSS 701.021. SLOPE INVERT TO ESTABLISH SEWER GRADE.
H. STORM SEWERS: MANHOLES SHALL HAVE A 300mm SUMP AND CATCH BASINS AND DITCH INLETS SHALL HAVE A 600mm SUMP.
I. FRAMES, GRATES AND COVERS TO CITY OF OTTAWA DRAWINGS OR OPSS (AS PER CATCH BASIN & MANHOLE SCHEDULE). GRATES AND COVERS TO BEAR EVENLY ON FRAMES.
J. GRANULAR BEDDING AND BACKFILL: OPSS GRANULAR A. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
4.17 THE EXISTING WELLS 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. A COPY OF THE WELL RECORD SHALL BE DELIVERED TO THE OWNER OF THE LAND.
4.18 THE EXISTING SEPTIC SYSTEMS SHALL BE DE-COMMISSIONED TO THE SATISFACTION OF THE DIRECTOR OF THE OTTAWA SEPTIC SYSTEM OFFICE (OSSO). SUBMIT THE SEPTIC SYSTEM DE-COMMISSIONING FORM TO THE SEPTIC TANK THAT BE PUMPED OUT AND EMPTIED BY A REGISTERED SEWAGE HAULER PRIOR TO DECOMMISSIONING. THE SEPTIC TANK SHALL BE LEFT IN THE GROUND. FILL THE SEPTIC TANK COMPLETELY WITH SAND OR GRAVEL AND PUT THE ACCESS LID(S) BACK IN PLACE, OR DEMOLISH THE TANK AND FILL IN WITH SOIL. OR THE SEPTIC TANKS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT A LICENSED FACILITY. ELECTRICAL DEVICES CONTAINING MERCURY SHALL BE REMOVED AND DISPOSED OF IN A LICENSED WASTE DISPOSAL FACILITY. THE SEPTIC SYSTEM LEACHING BED SHALL BE DISCONNECTED FROM THE SEPTIC TANK AND CAN BE LEFT IN THE GROUND UNLESS THE LEACHING BED IS EXCAVATED AS PART OF THE SITE DEVELOPMENT, IN WHICH CASE THE DISTRIBUTION PIPES SHALL BE DISPOSED AT A LICENSED WASTE DISPOSAL SITE. EXCAVATED CONTAMINATED SOIL SHALL BE SPREAD OR STOCKPILED ON SITE TO THE SATISFACTION OF THE OSSO OR DISPOSED OF IN A LICENSED WASTE DISPOSAL SITE. REQUEST AN INSPECTION BY THE OSSO. AFTER THE DECOMMISSIONING HAS BEEN COMPLETED, FILL THE AROUND THE SEPTIC TANK TO A LEVEL SLIGHTLY ABOVE THE ADJACENT GRADE (TO ALLOW FOR SETTLING). DELIVER THE APPROVED SEPTIC SYSTEM DECOMMISSIONING FORM TO THE OWNER OF THE LAND.

5. CONSTRUCTION:

- 5.1 PRIOR TO COMMENCING WORK:
A. OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE AUTHORITIES.
B. SIZE, DEPTH AND LOCATION OF EXISTING INFRASTRUCTURE (SERVICES, UTILITIES AND STRUCTURES) AND ARE NOT NECESSARILY SHOWN ON DRAWINGS AND THOSE INDICATED ON THE DRAWINGS ARE DERIVED FROM AVAILABLE INFORMATION AND ARE FOR GUIDANCE ONLY AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING ANY WORK. 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 INFRASTRUCTURE ON THE SITE AND ADJACENT TO THE SITE. UNDERGROUND LOCATES (INCLUDING BUT NOT LIMITED TO ONTARIO ONE CALL: 1-800-400-2255) SHALL BE CONDUCTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION. CONFIRM LOCATIONS OF BURIED INFRASTRUCTURE BY CAREFUL TEST EXCAVATIONS AND REPORT ANY DIFFERENCES TO THE ENGINEER. ANY ISSUES ARISING FROM FAILURE OF CONTRACTOR TO DETERMINE THE SIZE, DEPTH AND LOCATION ALL EXISTING INFRASTRUCTURE WILL BE AT THE CONTRACTOR'S EXPENSE.
C. EXISTING GRADE ELEVATIONS SHOWN ON DRAWINGS ARE DERIVED FROM AVAILABLE INFORMATION AND ARE FOR GUIDANCE ONLY AND MUST BE CONFIRMED ON SITE BEFORE COMMENCING CONSTRUCTION. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED. REPORT ANY DIFFERENCES TO ENGINEER.
D. COORDINATE AND SCHEDULE WORK WITH THE OWNER, AUTHORITIES AND OTHER TRADES.
E. SCHEDULE WORK TO PROVIDE THE MINIMUM DISRUPTION TO SERVICES.
F. INSTALL CONSTRUCTION FENCING AROUND THE AREA OF WORK. DO NOT REMOVE FENCING UNTIL WORK IS COMPLETE.
5.2 MAINTAIN AND PROTECT FROM DAMAGE, SERVICES, UTILITIES AND STRUCTURES ENCOUNTERED.
5.3 PROTECT EXISTING BUILDINGS, TREES AND OTHER PLANTS, LAWNS, FENCING, SERVICE POLES, WIRES, PAVEMENT, SURVEY BENCH MARKS AND MONUMENTS AND OTHER SURFACE FEATURES FROM DAMAGE WHILE WORK IS IN PROGRESS. DO NOT DISTURB SOIL WITHIN BRANCH SPREAD OF TREES OR SHRUBS THAT ARE TO REMAIN.
5.4 PROVIDE TRAFFIC CONTROL AND SAFETY MEASURES INCLUDING ANY NECESSARY PERSONNEL AND THE SUPPLY, INSTALLATION, REMOVAL AND REPLACEMENT OF ALL NECESSARY SIGNAGE AND BARRIERS, AS REQUIRED BY THE AUTHORITIES. IF APPLICABLE, PROVIDE TRAFFIC MANAGEMENT PLAN AS PER CITY OF OTTAWA REQUIREMENTS.
5.5 FENCE OFF ALL OPEN EXCAVATIONS AT THE END OF EACH WORK DAY. FENCES SHALL BE INSTALLED AND MAINTAINED IN A GOOD AND WORKMAN LIKE MANNER.
5.6 REMOVE OBSTRUCTIONS, ICE AND SNOW, FROM SURFACES TO BE EXCAVATED.
5.7 CUT PAVEMENT AND / OR SIDEWALK NEARLY ALONG LIMITS OF PROPOSED EXCAVATION IN ORDER THAT SURFACE MAY BREAK EVENLY AND CLEANLY.
5.8 COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF SUB-GRADE, PIPE BEDDING AND EACH LAYER OF SURROUND MATERIAL, BACKFILL, SUB-BASE, BASE AND ASPHALT TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT AND ENGINEER. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO ENGINEER FOR REVIEW.
5.9 PRIOR TO COMMENCEMENT OF TOPSOIL STRIPPING REMOVE FROM SITE ALL EXPOSED BOULDERS, DEBRIS AND LIVE AND DEAD PLANT MATERIAL (EXCEPT TREES AND OTHER VEGETATION TO REMAIN). STRIP TOPSOIL FROM THE ENTIRE SITE. STOCKPILE TOPSOIL ON SITE AS DIRECTED BY CONSULTANT. DO NOT MIX TOPSOIL WITH SUBSOIL. CUT AND FILL AS NECESSARY TO ACHIEVE THE REQUIRED SUB-GRADE ELEVATION. DISPOSE OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL OFF SITE. FILL MATERIAL AND THE PLACEMENT AND COMPACTION OF THE FILL MATERIAL AS PER THE GEOTECHNICAL REPORT AND TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT. STOCKPILE GRANULAR AND FILL MATERIALS IN MANNER TO PREVENT SEGREGATION AND PROTECT FROM CONTAMINATION. PLACE MATERIAL IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS. PROTECT WORK AREA AGAINST FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF. DEWATER AS REQUIRED TO KEEP WORK AREA FREE OF WATER. DISCHARGE FROM Dewatering OPERATIONS SHALL BE DIRECTED TO A SEDIMENT CONTROL MEASURE AND/OR A VEGETATED DISCHARGE AREA. ENSURE THAT THE DISCHARGED WATER DOES NOT CAUSE EROSION OR OTHER DAMAGE TO ADJACENT LANDS.
5.10 EXCAVATION, TRENCHING, ENGINEERED FILL, COMPACTION & BACKFILL SHALL BE AS PER THE GEOTECHNICAL INVESTIGATION:
A. SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION 213/91 UNDER THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND OTHER AUTHORITIES HAVING JURISDICTION. EXCAVATE USING A HYDRO-VAC TRUCK AND TRIM ROOTS TO MINIMIZE ROOT DAMAGE WHERE ANY EXCAVATION IS WITHIN THE CRITICAL ROOT ZONE (10 x THE TRUNK DIAMETER) OF ANY TREE TO REMAIN.
B. KEEP EXCAVATIONS FREE OF WATER WHILE WORK IS IN PROGRESS. EQUALIZE SURROUNDING GRADE TO PREVENT FLOODING AND DAMAGE DUE TO SURFACE RUN-OFF.
C. EXCAVATION MUST NOT INTERFERE WITH BEARING CAPACITY OF ADJACENT FOUNDATIONS.
D. DO NOT OBSTRUCT FLOW OF SURFACE DRAINAGE OR NATURAL WATERCOURSES.
E. EXCAVATE TO LINES, GRADES, ELEVATIONS AND DIMENSIONS AS INDICATED.
F. EARTH BOTTOMS OF EXCAVATIONS TO BE UNDISTURBED SOIL, LEVEL, FREE FROM LOOSE, SOFT OR ORGANIC MATERIAL.
G. ALL STRUCTURES WITHIN PAVED AREAS SHALL HAVE 4:1 FROST TAPERS FROM FROST LINE TO SUB-GRADE.
H. CORRECT OVER-EXCAVATION WITH GRANULAR A COMPACTED TO NOT LESS THAN 95% CORRECTED MAXIMUM DRY DENSITY.
I. SUB-GRADE AND AREAS TO BE BACKFILLED TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND.
J. DO NOT USE BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
K. PIPE BEDDING AND SURROUND MATERIAL SHALL BE OPSS GRANULAR A. SURROUND MATERIAL FOR CONCRETE PIPE MAY BE CLEAN WELL GRADED SAND. RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
L. DO NOT USE BEDDING, SURROUND OR BACKFILL MATERIAL WHICH IS FROZEN OR CONTAINS ICE, SNOW OR DEBRIS.
M. PIPE BEDDING SHALL BE 150mm THICK. SHAPE BED TRUE TO GRADE AND TO PROVIDE CONTINUOUS, UNIFORM BEARING SURFACE FOR PIPE.
N. PLACE SURROUND MATERIAL AROUND PIPES TO FULL WIDTH OF TRENCH AND TO 300mm ABOVE PIPES.
O. 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.
P. COMPACT EACH LAYER TO 95% OF CORRECTED DRY DENSITY BEFORE PLACING SUCCEEDING LAYER.
Q. DO NOT BACKFILL AROUND OR OVER CAST-IN-PLACE CONCRETE WITHIN 24 HOURS AFTER PLACING OF CONCRETE.
R. BACKFILL MATERIALS WITHIN 1.8m OF PROPOSED GRADE SHALL MATCH THE MATERIALS EXPOSED ON THE TRENCH WALLS. BACKFILL BELOW 1.8m OF THE PROPOSED CAN CONSIST OF EITHER ACCEPTABLE NATIVE MATERIAL; ROCK; OR IMPORTED GRANULAR MATERIAL CONFORMING TO OPSS GRANULAR B TYPE II OR II. ANY ORGANIC SOILS OR TOPSOIL, IF ENCOUNTERED, 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 150mm LAYER OF COMPACTED, WELL GRADED CRUSHED STONE PLACED ON GEOTEXTILE FABRIC.
5.11 PIPES:
A. HANDLE PIPE USING METHODS APPROVED BY MANUFACTURER.
B. LAY, CUT AND JOIN PIPES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. USE ONLY FITTINGS AS RECOMMENDED BY PIPE MANUFACTURER.
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 SACS OR HIGH POINTS.
E. DO NOT EXCEED MAXIMUM JOINT DEFLECTION RECOMMENDED BY PIPE MANUFACTURER.
F. WHENEVER WORK IS SUSPENDED, INSTALL REMOVABLE WATERTIGHT BULKHEAD AT OPEN END OF LAST PIPE LAID TO PREVENT ENTRY OF FOREIGN MATERIALS.
G. WHEN STOPPAGE OF WORK OCCURS, BLOCK PIPES TO PREVENT CREEP DURING DOWN TIME. MAKE WATERTIGHT CONNECTIONS TO MANHOLES.
H. JOINTS SHALL BE STRUCTURALLY SOUND AND WATERTIGHT.
I. REPAIR OR REPLACE PIPE, PIPE JOINT OR BEDDING FOUND DEFECTIVE.
5.12 SEWERS AND SEWER SERVICES:
A. CONSTRUCT SEWER TRENCHES AS PER CITY DWG 56 & 57.
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. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND TEST SEWER LINE 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 END OF WARRANTY PERIOD. A PAN AND TILT CAMERA SHALL BE USED. REPAIR SEWER LINE AS REQUIRED. SUBMIT REPORTS AND D50 TO ENGINEER.
F. CONDUCT DYE TEST OF SANITARY SEWERS AND COORDINATE WITH ENGINEER. DYE TEST SHALL BE WITNESSED BY ENGINEER.
5.13 WATERMAIN:
A. INSTALL AND TEST TRACER WIRE ON THE WATER SERVICE CONNECTION AS PER 4.3.12 OF THE CITY OF OTTAWA WATER DISTRIBUTION DESIGN GUIDELINES AND DRAWING W36.
B. PRESSURE TESTING AS PER AWWA C-605-5 AND CITY OF OTTAWA DESIGN GUIDELINES - WATER DISTRIBUTION SECTION 4.6.13.
C. CHLORINATION AS PER AWWA C-651-05 AND CITY OF OTTAWA DESIGN GUIDELINES - WATER DISTRIBUTION SECTION 4.6.13 & CITY DWG. W46.
5.14 MANHOLES & CATCH BASINS:
A. JOINTS: SHALL BE MADE WATERTIGHT.
B. SET PRECAST CONCRETE BASE ON 150mm MINIMUM OF GRANULAR BEDDING COMPACTED TO 100% CORRECTED MAXIMUM DRY DENSITY.
C. MAKE EACH JOINT WATERTIGHT WITH RUBBER RING GASKETS.
D. PLACE GRANULAR BACKFILL MATERIALS IN A UNIFORM LAYERS TO COMPACTED THICKNESS OF 150mm, COMPACT TO 95% CORRECTED MAXIMUM DRY DENSITY.
E. PLACE FRAME AND COVER ON TOP SECTION TO ELEVATION AS INDICATED. IF ADJUSTMENT REQUIRED USE CONCRETE RINGS TO A MAXIMUM OF 300mm.
F. CLEAN UNITS OF DEBRIS, FOREIGN AND SURPLUS MATERIALS. REMOVE FINES AND SHARP PROJECTIONS. PREVENT DEBRIS FROM ENTERING SYSTEM.
G. PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 407.
5.15 MAINTAIN RECORD DRAWINGS AND RECORD ANY DEVIATIONS FROM THE ORIGINAL CONTRACT DOCUMENTS CAUSED BY SITE CONDITIONS AND CHANGES MADE BY CHANGE ORDER OR ADDITIONAL INSTRUCTIONS. UPDATE DAILY AND MAKE AVAILABLE ON-SITE FOR REVIEW THROUGHOUT THE CONSTRUCTION PERIOD. MARK CHANGES IN RED INK. RECORD DRAWINGS SHALL INCLUDE BUT NOT NECESSARILY LIMITED TO CHANGES OF DIMENSION AND DETAIL, CHANGES TO GRADE ELEVATIONS; AND HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND SERVICES, UTILITIES AND APPURTENANCES REFERENCED TO A PERMANENT SURFACE STRUCTURE. SUBMIT DRAWINGS TO ENGINEER AT THE END OF CONSTRUCTION. SUBMIT A RECORD DRAWING OF "AS-BUILT" GRADE ELEVATIONS, PREPARED BY A SURVEYOR, TO THE ENGINEER AT THE END OF CONSTRUCTION.
5.16 WHETHER RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE PRODUCTS OR DAMAGE; DEFECTIVE PORTIONS OF CURBS, SIDEWALK AND ASPHALT SHALL BE CORRECTED OR REMOVED AND REPLACED. PROMPTLY MAKE GOOD OTHER CONTRACTOR'S WORK DAMAGED BY SUCH REMOVALS OR REPLACEMENTS.
5.17 REINSTATE ALL AREAS DISTURBED BY CONSTRUCTION. REINSTATE PAVEMENTS, CURBS AND SIDEWALKS, TO THICKNESS, STRUCTURE AND ELEVATION WHICH EXISTED BEFORE CONSTRUCTION. REINSTATE LANDSCAPED AREAS TO THE CONDITION AND ELEVATION WHICH EXISTED BEFORE CONSTRUCTION.
5.18 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.

6. PAVEMENT

- 6.1 HEAVY DUTY PAVEMENT STRUCTURE:
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm OPSS GRANULAR A BASE
450mm OPSS GRANULAR B TYPE II SUB-BASE
6.2 RE-CYCLED GRANULAR MATERIALS ARE NOT PERMITTED.
ASPHALTIC CONCRETE SHALL BE PERFORMANCE GRADED ASPHALTIC CEMENT (PGAC) 5 -34.
HOT MIX ASPHALT MATERIALS SHALL BE ACCORDING TO OPSS 1150 OR 1151.
PAVEMENT SUB-GRADE PREPARATION AND CONSTRUCTION OF THE PAVEMENT STRUCTURE SHALL CONFORM TO THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF SUB-GRADE AND EACH LAYER OF SUB-BASE, BASE AND ASPHALT TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT AND ENGINEER. SUBMIT COMPACTION REPORTS TO ENGINEER FOR REVIEW.

- 6.3 REMOVE ALL EXISTING ASPHALT AND HAUL TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS. REMOVE ALL MATERIALS TO THE SUB-GRADE LEVEL. REMOVE ORGANIC OR UNSUITABLE MATERIAL FROM SUB-GRADE WHERE ENCOUNTERED TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT. SUB-GRADE TO BE FREE FROM DEBRIS, SNOW, ICE, WATER AND FROZEN GROUND. COMPACT SUB-GRADE TO 95%.
6.4 CONSTRUCT GRANULAR BASE AND SUB-BASE TO DEPTH AND GRADE IN AREAS INDICATED. CONSTRUCT A 5H:1 FROST TAPER IN SUB-GRADE SURFACE AS A TRANSITION BETWEEN DIFFERING PAVEMENT STRUCTURES AND BETWEEN PAVEMENT AND CURBS AND SIDEWALKS.
6.5 ENSURE NO LOUZZER MATERIAL IS PLACED. PLACE MATERIAL ONLY ON CLEAN UNFROZEN SURFACE, FREE FROM SNOW OR ICE.
6.6 PLACE MATERIAL TO FULL WIDTH IN UNIFORM LAYERS NOT EXCEEDING 300mm COMPACTED THICKNESS. SHAPE EACH LAYER TO SMOOTH CONTOUR AND COMPACT TO SPECIFIED DENSITY BEFORE SUCCEEDING LAYER IS PLACED.
6.7 COMPACT SUB-BASE MATERIAL TO DENSITY OF NOT LESS THAN 98% CORRECTED MAXIMUM DRY DENSITY. FILL OVER-EXCAVATED SUB-GRADE WITH SUB-BASE MATERIAL, COMPACT TO 98%. COMPACT BASE AND SHOULDER MATERIAL TO DENSITY NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY.
6.8 IN AREAS NOT ACCESSIBLE TO ROLLING EQUIPMENT, COMPACT TO SPECIFIED DENSITY WITH MECHANICAL TAMPERS.
6.9 REPLACE PAVEMENT DISTURBED BY CONSTRUCTION AND REPLACE WITH PAVEMENT STRUCTURE ABOVE.
6.10 WHERE NEW ASPHALT COMES IN CONTACT WITH EXISTING PAVEMENT: 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, GROUND OR MILLED. TACK COAT THE SURFACE OF ALL BINDER COURSES AND BITTING CONCRETE SURFACES. SURFACES TO BE TACK COATED SHALL BE FREE OF STANDING WATER AND CONTAMINATION, SUCH AS MUD, LOOSE AGGREGATE OR 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 ONTO THE TACK COAT UNTIL IT HAS SET. TACK COAT MATERIAL SHALL CONSIST OF SS-1

- 6.11 SHAPE BASE TO SMOOTH CONTOUR AND COMPACT TO NOT LESS THAN 100% CORRECTED MAXIMUM DRY DENSITY BEFORE BEGINNING PAVING OPERATIONS.
6.12 APPLY ASPHALTIC CONCRETE ONLY WHEN BASE OR PREVIOUS COURSE IS DRY AND AIR TEMPERATURE IS ABOVE 5 DEG.C
6.13 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.
6.14 FINISH SURFACE SMOOTH, TRUE TO GRADE.
6.15 KEEP VEHICULAR TRAFFIC AND OTHER LOADS OFF NEWLY PAVED AREAS UNTIL 24 HOURS AFTER PAVING.
6.16 DIVERT UNUSED AND WASTE ASPHALT TO A FACILITY APPROVED FOR ACCEPTING SUCH MATERIALS.
6.17 APPLY TRAFFIC PAINT AS IDENTIFIED ON PLAN. TRAFFIC PAINT: NON-DARKENING, HOMOGENEOUS, UNIFORM AND SMOOTH, 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.

KEY PLAN

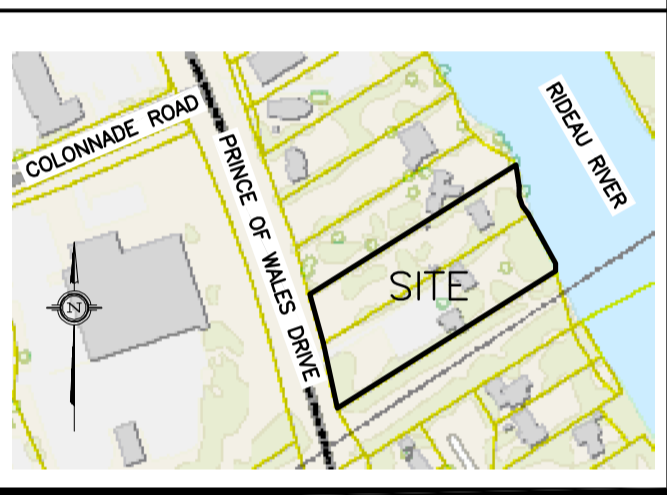


Table with 3 columns: No., DATE, REVISION. Contains revision history for the drawing.

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Project: PROPOSED 7 LOT DEVELOPMENT
2009-2013 PRINCE OF WALES DR
OTTAWA, ONTARIO

NOTES

Engineer's Seal: D.B. GRAY ENGINEERING INC.
Drawing No. C-10 of 10
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