

1.0 GENERAL

- 1.1 USE BAR SCALE TO CONFIRM ACTUAL PLOT SCALE.
1.2 EXISTING AND NEW ELEVATIONS ARE GEODETIC IN METERS. PIPE DIMENSIONS ARE NOMINAL IN MILLIMETERS UNLESS OTHERWISE NOTED.
1.3 "ENGINEER" REFERS TO D.B. GRAY ENGINEERING INC. UNLESS OTHERWISE NOTED.
1.4 SITE BOUNDARIES, EXISTING GRADE ELEVATIONS AND OTHER EXISTING FEATURES ARE DERIVED FROM TOPOGRAPHIC PLAN OF SURVEY PREPARED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. JOB No. 24504-23. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT THEIR RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION INDICATED ON DRAWINGS.
1.5 REFER TO ARCHITECTURAL SITE PLANS AND LANDSCAPE PLANS FOR EXACT LOCATIONS OF PROPOSED BUILDINGS, DRIVEWAYS, PARKING AREAS, CURBS, SIDEWALKS, WALKWAYS, ETC. LAYOUT SHALL BE COMPLETED BY THE CONTRACTOR AND REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING CONSTRUCTION.
1.6 DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SITE SERVICING & STORMWATER MANAGEMENT REPORT NO. 23019 PREPARED BY D.B. GRAY ENGINEERING INC.
1.7 REFERENCE THE LATEST REVISION OF THE GEOTECHNICAL INVESTIGATION PREPARED BY PATERSON GROUP REPORT PG7073-1. CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
1.8 CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND CURRENT CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS. ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY WHERE NO CITY OF OTTAWA STANDARD SPECIFICATIONS OR DRAWINGS ARE AVAILABLE.
1.9 REINSTATE AREAS DISTURBED BY CONSTRUCTION TO PRE-CONSTRUCTION CONDITIONS.

2.0 SITE SERVICING PLAN

- 2.1 WATERMANS, WATER SERVICES, APPURTENANCES, INSTALLATION, TESTING, FLUSHING, CHLORINATION AND SAMPLING SHALL BE IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS. ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY WHERE NO CITY OF OTTAWA STANDARD SPECIFICATIONS OR DRAWINGS ARE AVAILABLE.
2.2 ABANDONMENT OF EXISTING WATERMANS AND WATER SERVICES SHALL BE PERFORMED BY CITY OF OTTAWA FORCES. CONTRACTOR SHALL PERFORM EXCAVATION, BACKFILL AND REINSTATEMENT.
2.3 WATERMAIN AND WATER SERVICE MATERIAL SHALL BE PVC IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARD SPECIFICATIONS.
2.4 CONNECTIONS TO MUNICIPAL WATERMAIN SHALL BE PERFORMED BY CITY OF OTTAWA FORCES. CONTRACTOR SHALL PERFORM EXCAVATION, BACKFILL AND REINSTATEMENT.
2.5 PROVIDE A MINIMUM 2.4m COVER OVER WATERMANS AND WATER SERVICES. WHERE THE MINIMUM COVER IS NOT POSSIBLE NOTIFY THE ENGINEER AND INSULATE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W22.
2.6 WHERE LESS THAN 2.4m CLEARANCE FROM AN OPEN STRUCTURE (e.g. CATCH-BASIN, MANHOLE, WINDOW WELL, ETC.) NOTIFY THE ENGINEER AND INSULATE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. W23.
2.7 WATERMANS AND WATER SERVICES INSTALLED PARALLEL TO A SEWER OR SEWER SERVICE SHALL BE INSTALLED IN A SEPARATE TRENCH WITH A MINIMUM 2.5m BARREL TO BARREL HORIZONTAL SEPARATION IN ACCORDANCE WITH MOE PROCEDURE F-6-1.
2.8 WATERMANS AND WATER SERVICES SHALL CROSS ABOVE SEWERS AND SEWER SERVICES WITH A MINIMUM 250mm BARREL TO BARREL VERTICAL SEPARATION IN ACCORDANCE WITH MOE PROCEDURE F-6-1 AND CITY OF OTTAWA DRAWING No. W25.2. WHERE IT IS NOT POSSIBLE FOR THE WATERMAIN OR WATER SERVICE TO CROSS ABOVE THE SEWER OR SEWER SERVICE WITH A MINIMUM 250mm BARREL TO BARREL VERTICAL SEPARATION THE WATERMAIN OR WATER SERVICE SHALL CROSS BELOW THE SEWER OR SEWER SERVICE WITH A MINIMUM 500mm BARREL TO BARREL VERTICAL SEPARATION IN ACCORDANCE WITH MOE PROCEDURE F-6-1 AND CITY OF OTTAWA DRAWING No. W25. WATERMAIN OR WATER SERVICE PIPE SEGMENT SHALL BE CENTERED AT THE POINT OF CROSSING SO JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER OR SEWER SERVICE. CROSSINGS SHALL BE AS INDICATED ON DRAWINGS.
2.9 SEWERS, SEWER SERVICES, APPURTENANCES, INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH CURRENT CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS. ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS SHALL APPLY WHERE NO CITY OF OTTAWA STANDARD SPECIFICATIONS OR DRAWINGS ARE AVAILABLE.
2.10 ABANDONMENT OF EXISTING SEWERS AND SEWER SERVICES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA DRAWING No. S11.4.
2.11 DEPTH OF EXISTING MUNICIPAL STORM SEWER IS UNKNOWN. PRIOR TO COMMENCING CONSTRUCTION DETERMINE ITS EXACT LOCATION, DEPTH AND SIZE BY CAREFUL TEST EXCAVATION AND REPORT ANY DIFFERENCES TO THE ENGINEER. FAILURE TO DO SO WILL BE AT THE CONTRACTOR'S EXPENSE.
2.12 SEWER AND SEWER SERVICE MATERIALS SHALL BE PVC DR35 FOR DIAMETERS GREATER THAN 150mm AND DR28 FOR DIAMETERS LESS THAN OR EQUAL TO 150mm.
2.13 PROVIDE A MINIMUM 2m COVER OVER SEWERS AND SEWER SERVICES. WHERE THE MINIMUM COVER IS NOT POSSIBLE NOTIFY THE ENGINEER AND INSULATE AS PER DETAIL.
2.14 SEWERS AND SEWER SERVICES INSTALLED PARALLEL TO A WATERMAIN OR WATER SERVICE SHALL BE INSTALLED IN A SEPARATE TRENCH WITH A MINIMUM 2.5m BARREL TO BARREL HORIZONTAL SEPARATION IN ACCORDANCE WITH MOE PROCEDURE F-6-1.
2.15 SEWERS AND SEWER SERVICES SHALL CROSS BELOW WATERMANS AND WATER SERVICES WITH A MINIMUM 250mm BARREL TO BARREL VERTICAL SEPARATION IN ACCORDANCE WITH MOE PROCEDURE F-6-1. WHERE IT IS NOT POSSIBLE FOR THE SEWER OR SEWER SERVICE TO CROSS BELOW THE WATERMAIN OR WATER SERVICE WITH A MINIMUM 250mm BARREL TO BARREL VERTICAL SEPARATION THE SEWER OR SEWER SERVICE SHALL CROSS ABOVE THE WATERMAIN OR WATER SERVICE WITH A MINIMUM 500mm BARREL TO BARREL VERTICAL SEPARATION IN ACCORDANCE WITH MOE PROCEDURE F-6-1. SEWER OR SEWER SERVICE PIPE SEGMENT SHALL BE CENTERED AT THE POINT OF CROSSING SO JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATERMAIN OR WATER SERVICE. CROSSINGS SHALL BE AS INDICATED ON DRAWINGS.
2.16 RAINWATER LEADERS INSIDE BUILDING SHALL BE CONSTRUCTED TO WITHSTAND THE PRESSURE FROM A WATER COLUMN THE HEIGHT OF THE RAINWATER LEADER. PRESSURE TESTS SHALL BE PERFORMED ON THE SYSTEMS IN ACCORDANCE WITH THE MECHANICAL ENGINEER'S INSTRUCTIONS.

3.0 GRADING PLAN

- 3.1 NO EXCESS DRAINAGE SHALL BE DIRECTED TOWARDS ADJACENT PROPERTIES DURING OR AFTER CONSTRUCTION. PROPOSED ELEVATIONS SHALL MATCH EXISTING ELEVATIONS ON PROPERTY LINES. THERE SHALL BE NO ALTERATION TO EXISTING ELEVATIONS OR DRAINAGE PATTERNS ON PROPERTY LINES.
3.2 ENSURE ADEQUATE DRAINAGE AWAY FROM BUILDING TO RIGHT-OF-WAYS, CATCH-BASINS AND AREA DRAINS. GRADING SHALL BE GRADUAL BETWEEN PROPOSED ELEVATIONS INDICATED ON DRAWINGS.
3.1 PAVEMENT STRUCTURE:
A. LIGHT DUTY PAVEMENT STRUCTURE
50mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE WEAR COURSE
150mm OPSS GRANULAR A CRUSHED STONE BASE
300mm OPSS GRANULAR B TYPE II SUBBASE
B. HEAVY DUTY PAVEMENT STRUCTURE
40mm HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE WEAR COURSE
50mm HL-4 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE BINDER COURSE
150mm OPSS GRANULAR A CRUSHED STONE BASE
400mm OPSS GRANULAR B TYPE II SUBBASE
C. COORDINATE AND PAY FOR GEOTECHNICAL INSPECTIONS AND COMPACTION TESTS OF EACH LIFT OF SUBBASE, BASE, BINDER AND WEAR COURSES. SUBMIT GEOTECHNICAL INSPECTIONS AND COMPACTION REPORTS TO THE ENGINEER.
3.4 RETAINING WALLS:
A. RETAINING WALLS SHALL BE SETBACK A MINIMUM 150mm FROM PROPERTY LINES.
B. RETAINING WALLS GREATER THAN 600mm IN HEIGHT REQUIRE A GUARD. REFER TO ARCHITECTURAL SITE PLANS AND/OR LANDSCAPE PLANS FOR EXACT LOCATIONS AND DETAILS.
C. RETAINING WALLS GREATER THAN 1,000mm IN HEIGHT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
3.3 WHETHER A RESULT OF POOR WORKMANSHIP OR DAMAGE DEFECTIVE GRADING SHALL BE CORRECTED.

4.0 EROSION & SEDIMENT CONTROL PLAN

- 4.1 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 INCLUDING BUT NOT LIMITED TO LIMITING THE AMOUNT OF EXPOSED SOIL, USING SEDIMENT CAPTURE FILTER SOCK INSERTS IN CATCH-BASINS AND CATCH-BASIN/MANHOLE 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. AT MINIMUM THE CONTRACTOR SHALL INSTALL, MAINTAIN AND REMOVE THE FOLLOWING CONTROL MEASURES IN ACCORDANCE WITH NOTES 4.2 TO 4.9.
4.2 PRIOR TO COMMENCING CONSTRUCTION INSTALL TERRAFIX GEOSYNTHETICS INC. SILTSACK OR APPROVED EQUIVALENT SEDIMENT CAPTURE FILTER SOCK INSERTS IN ALL EXISTING CATCH-BASINS AND CATCH-BASIN/MANHOLE ADJACENT TO AND WITHIN THE SITE.
4.3 INSPECT 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 DAMAGED SEDIMENT CAPTURE FILTER SOCK INSERTS.
4.4 PRIOR TO COMMENCING CONSTRUCTION INSTALL SILT FENCE BARRIERS AS INDICATED ON DRAWINGS.
4.5 INSTALL SILT FENCE BARRIERS AROUND STOCKPILED SEDIMENT OR SOIL.
4.6 INSPECT SILT FENCE BARRIERS AT THE END OF EACH DAY AND AFTER EACH RAINFALL. REMOVE SEDIMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REPAIR OR REPLACE DAMAGED SILT FENCE BARRIERS.
4.7 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 DISPOSE ANY MATERIAL INTO ANY STORMWATER CONVEYANCE SYSTEM.
4.8 REMOVE EROSION AND SEDIMENT CONTROL MEASURES WHEN CONSTRUCTION IS COMPLETE.
4.9 CONSTRUCTION IS CONSIDERED TO BE COMPLETE WHEN THE FOLLOWING CONDITIONS HAVE BEEN MET:
A. ALL STRUCTURES AND HARD SURFACES HAVE BEEN CONSTRUCTED.
B. ALL STOCKPILED MATERIALS HAVE BEEN REMOVED.
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 15 TO SEPTEMBER 15).
D. THERE ARE NO AREAS OF EXPOSED EARTH.

5.0 ROOF DRAINAGE PLAN

- 5.1 FLOW CONTROL ROOF DRAINS:
A. ROOF DRAINS SHALL BE WATTS RD-100 C/W A WATTS ADJUSTABLE ACCUTROL WEIR AS INDICATED ON DRAWINGS.
B. OPENING AT THE TOP OF THE FLOW CONTROL WEIR SHALL BE A MINIMUM 50mm IN DIAMETER.
C. PRIOR TO INSTALLATION SUBMIT SHOP DRAWING TO THE ENGINEER FOR APPROVAL.
5.2 SCUPPERS:
A. MINIMUM NUMBER AND WIDTH OF SCUPPERS SHALL BE AS INDICATED ON DRAWINGS. BOTTOM OF SCUPPERS AND PARAPET SHALL BE 150mm ABOVE ROOF DRAINS. REFER TO ARCHITECTURAL FOR EXACT LOCATIONS AND DETAILS.
B. ROOF SHALL BE DESIGNED TO CARRY THE LOAD OF WATER HAVING A 50mm DEPTH AT SCUPPERS (i.e. 200mm DEPTH AT ROOF DRAINS). REFER TO STRUCTURAL.

6.0 CONSTRUCTION

- 6.1 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 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.
E. INSTALL CONSTRUCTION FENCING AROUND THE AREA OF WORK. DO NOT REMOVE FENCING UNTIL WORK IS COMPLETE.
6.2 MAINTAIN AND PROTECT FROM DAMAGE, SERVICES, UTILITIES AND STRUCTURES ENCOUNTERED.
6.3 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.
6.4 PROVIDE TRAFFIC CONTROL AND SAFETY MEASURES AS REQUIRED BY THE AUTHORITIES, INCLUDING ANY NECESSARY PERSONNEL AND THE SUPPLY, INSTALLATION, REMOVAL AND REPLACEMENT OF ALL NECESSARY SIGNAGE AND BARRIERS. IF APPLICABLE, PROVIDE TRAFFIC MANAGEMENT PLAN AS PER CITY OF OTTAWA REQUIREMENTS.
6.5 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.
6.6 REMOVE OBSTRUCTIONS, ICE AND SNOW, FROM SURFACES TO BE EXCAVATED.
6.7 CUT PAVEMENT AND / OR SIDEWALK NEATLY ALONG LIMITS OF PROPOSED EXCAVATION IN ORDER THAT SURFACE MAY BREAK EVENLY AND CLEANLY.
6.8 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.
6.9 CUT AND FILL AS NECESSARY TO ACHIEVE THE PROPOSED GRADE ELEVATIONS. 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.
6.10 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.
6.11 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.
B. KEEP EXCAVATIONS FREE OF WATER WHILE WORK IS IN PROGRESS. PROTECT OPEN EXCAVATIONS AGAINST 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 MATTER.
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% OF 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. 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 I 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.
6.12 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 SAGS 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.
6.13 SEWERS AND SEWER SERVICES:
A. CONSTRUCT SEWER TRENCHES AS PER CITY DWG 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. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410. REPAIR AND RETEST 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 DVDS TO ENGINEER.
F. CONDUCT DYE TEST OF SANITARY SEWERS AND COORDINATE WITH ENGINEER. DYE TEST SHALL BE WITNESSED BY ENGINEER.
6.14 WATERMANS AND WATER SERVICES:
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.
6.15 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 FINIS 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.
6.16 MAINTAIN RECORD DRAWINGS AND ACCURATELY RECORD 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. 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.
6.17 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.
6.18 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.
6.19 CLEAN AND REINSTATE AREAS AFFECTED BY THE WORK.

KEY PLAN

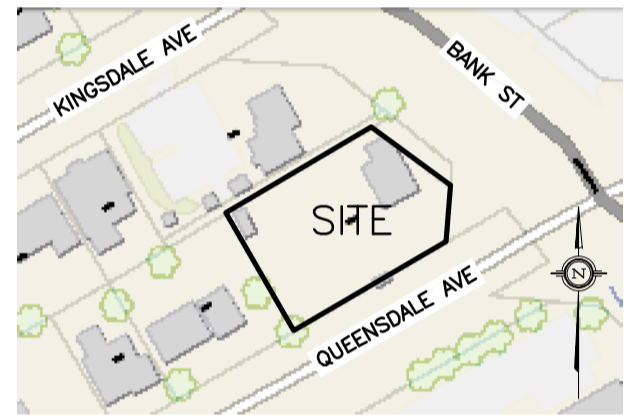


Table with 3 columns: No., DATE, REVISION. Row 1: 1, APR 26-24, ISSUED FOR APPROVAL.

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Project
PROPOSED 4--STOREY APARTMENT BUILDING
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NOTES

Engineer's Seal: D.B. GRAY 17016502 APR 26-24 PROVINCE OF ONTARIO
Drawing No. C-6 of 8
Drawn: D.B.G.
H. Scale
V. Scale
Date: MAR 22-24
Job No.: 23019