

EROSION - SEDIMENT CONTROL NOTES

1. THE EROSION CONTROL NARRATIVE BY ENGINEERING CONCEPTS, INC. SHALL BE ADHERED TO AS A PART OF THE CONTRACT. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED PER THE NARRATIVE AND PLAN.
2. UNLESS OTHERWISE INDICATED ALL VEGETATIVE AND STRUCTURAL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VA. EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
3. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED AS THE FIRST STEP IN GRADING.
5. A COPY OF THE APPROVED EROSION CONTROL PLANS SHALL BE KEPT ON SITE AT ALL TIMES.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE CITY OF ROANOKE INSPECTOR.
7. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL DEVICES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND UNTIL FINAL STABILIZATION IS ACHIEVED.
8. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADES. TEMPORARY, DENUDE AREAS THAT ARE TO BE EXPOSED LONGER THAN THIRTY DAYS SHALL BE SEEDED WITH TEMPORARY VEGETATION.
9. DURING CONSTRUCTION, SOIL STOCKPILES SHALL BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES AND STABILIZED WITH TEMPORARY VEGETATION IF UNUSED FOR 30 DAYS OR LONGER.
10. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH MAJOR RAINFALL EVENT. ANY REPAIRS NECESSARY SHALL BE MADE IMMEDIATELY TO ENSURE THE PROTECTION OF OFFSITE PROPERTIES.
11. THE CONTRACTOR IS REQUIRED TO REMOVE ALL SILT FROM STREAMS AND DRAINAGE WAYS PRIOR TO BOND RELEASE.
12. TEMPORARY AND PERMANENT SEEDING SHALL ADHERE TO THE SPECIFICATIONS SHOWN HEREBON.
13. REFER TO THE MINIMUM STANDARD REFERENCES FOLLOWING FOR STATE SPECIFIC REFERENCES TO EROSION SEDIMENT CONTROL REQUIREMENTS.
14. MINIMUM STANDARD # 3: PERMANENT STABILIZATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION. AREAS THAT DO NOT BECOME ESTABLISHED WILL REQUIRE ADDITIONAL STABILIZATION MEASURES.
15. MINIMUM STANDARD # 7 & 8: CUT AND FILL SLOPES MUST BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT BEGIN TO ERODE EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION MUST BE PROVIDED WITH ADDITIONAL STABILIZATION UNTIL THE PROBLEM IS CORRECTED.
16. MINIMUM STANDARD # 11: BEFORE NEWLY CONSTRUCTED STORM WATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT LINING MUST BE INSTALLED IN BOTH CONVEYANCE AND RECEIVING CHANNELS. ALL CHANNELS AND OUTLETS MUST BE CHECKED FOR ADEQUACY AND EROSION CONTROL MEASURES. (SEE MIN. STD. NO. 19 BELOW)
17. MINIMUM STANDARD #16: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - D. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH E&S REGULATIONS.
 - E. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
18. MINIMUM STANDARD # 17: ANY SEDIMENT WHICH IS TRACKED ONTO PUBLIC ROADS MUST BE REMOVED FROM THE ROAD DAILY, BY EITHER SHOVELING OR SWEEPING, AND TRANSPORTED TO AN APPROVED DISPOSAL AREA.
19. MINIMUM STANDARD # 18: TRAPPED SEDIMENT AND DISTURBED AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY PRACTICES MUST BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
20. ANY OFFSITE AREAS, SUCH AS BORROW OR WASTE AREAS, THAT ARE TO BE DISTURBED AS A RESULT OF THIS PROJECT, MUST BE ADDRESSED IN THE PLAN AND SUCH ACTIVITY MUST BE CONDUCTED AND STABILIZED ACCORDING TO THE REGULATIONS OF THE HANDBOOK.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL LAND DISTURBING PERMITS.

EROSION AND SEDIMENT CONTROL PHASING NOTES:

1. CLEAR FOR PERIMETER CONTROL DEVICES INCLUDING SILT FENCE AND SEDIMENT TRAPS BEFORE MASS GRADING COMMENCES.
2. INSTALL CONSTRUCTION ENTRANCE.
3. BEGIN MASS CLEARING AND ROAD GRADING.
4. INSTALL THE CRUSHED STONE (21-B) AGGREGATE BASE AS DEPICTED ON THE TYPICAL SECTION AS THE CONSTRUCTION ROAD STABILIZATION.
5. AS EMBANKMENTS REACH FINAL HEIGHTS, PLACE FILL DIVERSIONS AND PLACE PERMANENT SEED AS SPECIFIED ON THE PLAN.
6. AS ROAD GRADES NEAR FINAL ELEVATIONS AND STORM INLETS BECOME FUNCTIONAL, SET INLET AND OUTLET PROTECTION. INSTALL PERMANENT LEVEL SPREADERS AT OUTLETS AS SHOWN ON THE PLAN AND SEED.
7. REMOVE EROSION CONTROL STRUCTURES AS DISTURBED AREAS BECOME STABILIZED, WITH PRIOR APPROVAL OF THE INSPECTOR ONLY.

GRADING NOTES:

1. THE GRADING CONTRACTOR SHALL OBTAIN ALL NECESSARY LAND DISTURBING PERMITS FROM THE CITY OF ROANOKE PRIOR TO COMMENCING GRADING OPERATIONS.
2. PRIOR TO BEGINNING EARTHWORK OPERATIONS, THE CONTRACTOR SHALL EMPLOY A QUALIFIED, PROFESSIONAL GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF VIRGINIA. AS A RESULT OF ONSITE TESTING, THE GEOTECHNICAL ENGINEER SHALL MAKE RECOMMENDATIONS REGARDING THE ONSITE PLACEMENT OF FILL MATERIAL AND PROPER COMPACTION METHODS. NO WARRANTIES ARE MADE BY THE OWNER OR ENGINEER FOR ANY SUBSURFACE CONDITIONS ON THE PROPERTY.
3. FILL SHALL BE PLACED ONLY ON FIRM SUBGRADES APPROVED BY THE SOILS ENGINEER. SUBGRADES SHALL BE SCARIFIED TO A DEPTH OF 4 INCHES PRIOR TO FILL PLACEMENT TO ASSURE BONDING BETWEEN THE TWO SOILS. ALL EMBANKMENT FILL SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% DRY DENSITY (ASTM D698). THE COMPACTION SHALL BE ACCOMPLISHED BY PLACING FILL IN 6 TO 8 INCH LIFTS AND MECHANICALLY COMPACTING EACH LIFT TO THE REQUIRED DENSITY. THE SOILS ENGINEER SHALL PERFORM FIELD DENSITY TEST ON EACH LIFT OR AS NECESSARY TO ASCERTAIN THAT ADEQUATE COMPACTION HAS BEEN ACHIEVED. CALIFORNIA BEARING RATIO TESTS SHALL BE PERFORMED IN MATERIAL PROPOSED FOR USE BENEATH PAVEMENT WHETHER CUT OR FILL.
4. CLEAR SITE WITHIN LIMITS OF GRADING WORK. DO NOT DISTURB AREAS OUTSIDE OF GRADING LIMITS.
5. REMOVE TREES, SHRUBS, GRASS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF IN A MANNER AND LOCATION ACCEPTABLE TO THE GOVERNING AUTHORITY. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.
6. BARRICADE OPEN EXCAVATIONS OCCURING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.
7. EXCAVATION FOR STRUCTURES:
 - A. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.10 FOOT.
 - B. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
 - C. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
 - D. PROVIDE A MINIMUM OF 2'-0" FROM THE FINISHED GRADE TO TOP OF ALL EXTERIOR WALL FOOTINGS.
 - E. FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
 - F. IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM OF 12" BELOW THE BOTTOM OF THE FOOTINGS AND FILL THE RESULTING OVER-EXCAVATION WITH CONTROLLED FILL.
8. CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.
9. EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING AND UB-1 FOR SANITARY SEWER AND WATER. BACKFILL TRENCHES WITH CONTROLLED FILL.
10. PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER REMOVED FROM EXCAVATIONS AND RAIN WATER TO COLLECTING OR RUNOFF AREAS. ESTABLISH AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DITCHES.
11. PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THAN 35 F (1 C).
12. BACKFILLING:
 - A. COMPACT THE BACKFILL AROUND THE OUTSIDE OF EACH BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557 MODIFIED PROCTOR. DO NOT ALLOW HEAVY COMPACTION EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45 ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.
 - B. BACKFILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP-PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS.
13. UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING INCLUDING ADJACENT TRANSITION AREAS. SMOOTH FINISHED SURFACES WITHIN SPECIFIED TOLERANCES. COMPACT WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. GRADE AREAS ADJACENT TO BUILDING LINES TO DRAIN AWAY FROM STRUCTURES AND TO PREVENT PONDING.
14. FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.
15. GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF VOIDS. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.
16. PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.
17. UNDER FOUNDATIONS, SIDEWALKS, AND PAVEMENTS COMPACT EACH LAYER TO 95% MAXIMUM DRY DENSITY ASTM D1557 (MODIFIED PROCTOR) OR 100% MAXIMUM DRY DENSITY ASTM D698 (STANDARD PROCTOR).
18. UNDER LAWN OR UNPAVED AREAS, COMPACT SUBGRADE AND EACH LAYER TO 85% MAXIMUM DRY DENSITY (MODIFIED PROCTOR).
19. TOPSOIL FROM CLEARING OPERATIONS SHALL BE STOCKPILED ONSITE IN LOCATIONS DESIGNATED ON THE EROSION CONTROL PLANS. TOPSOIL SHALL BE USED ONSITE AT THE NURSING FACILITY AND SPREAD AT A MINIMUM DEPTH OF THREE INCHES. TOPSOIL SHALL BE FREE OF CLODS, ROOTS OR OTHER FOREIGN OBJECTS LARGER THAN TWO INCHES IN DIAMETER.
20. ALL SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE CAPPED AND PIPED TO THE NEAREST STORM SEWER SYSTEM OR NATURAL WATERCOURSE. THE PIPE SHALL BE A MINIMUM OF 6" DIAMETER AND CONFORM TO V.D.O.T. STANDARD SB-1.
21. ALL ONSITE SURPLUS EXCAVATION SHALL BE WASTED ONSITE IN AREAS DESIGNATED BY THE OWNER.

TEMPORARY SEEDING

PLANTING DATE: MAY 1 - AUG. 31
SPECIES: GERMAN MILLET
RATE: 50 LBS. / ACRE

PLANTING DATE: SEPT. 1 - FEB. 16
SPECIES: 50/50 MIX OF ANNUAL RYEGRASS
RATE: 50-100 LBS. / ACRE

LIMING

PH TEST BELOW 4.2: 3 TONS / ACRE
PH TEST 4.2 TO 5.2: 2 TONS / ACRE
PH TEST 5.2 TO 6: 1 TON / ACRE

GENERAL SITE NOTES:

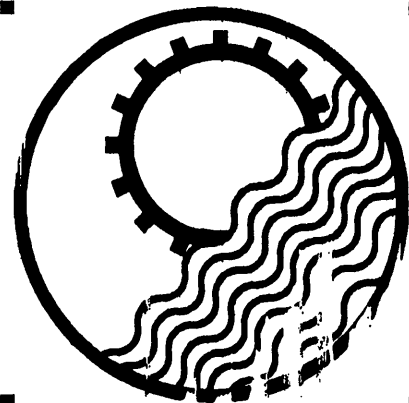
1. THIS SITE DOES NOT LIE WITHIN A F.E.M.A. DESIGNATED FLOOD ZONE.
2. TOPOGRAPHIC INFORMATION FROM JACK G. BESS, L.S., DATED APRIL 1996.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS.
4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO ELIMINATE THE POSSIBILITY OF ANY DISTURBANCE OR DAMAGE TO PUBLIC OR PRIVATELY OWNED UTILITIES, STRUCTURES, OTHER FACILITIES OR OBSTRUCTION RESULTING FROM HIS ACTIVITIES. TO THIS END, CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, TAKE ALL MEASURES NECESSARY TO PROVIDE, AND SHALL BE SOLELY RESPONSIBLE FOR, TEMPORARY SUPPORT AND SHORING, ADEQUATE PROTECTION, AND MAINTENANCE OF CONTINUOUS OPERATION OF ALL UNDER AND ABOVE GROUND UTILITY SERVICES. THE CONTRACTOR SHALL CALL MISS UTILITY AT 1- 800- 652-7001 48 HOURS PRIOR TO DIGGING. ALL UTILITY TIE-INS ARE TO BE COORDINATED WITH THE APPROPRIATE PUBLIC OR PRIVATE UTILITY AUTHORITY BEFORE COMMENCING WORK ON EXISTING UTILITIES. THE CONTRACTOR SHALL SUPPLY ALL UTILITY COMPANIES WITH APPROVED PLAN COPIES FOR COORDINATION OF EXTENSION AND TIE-IN EFFORTS.
5. SITE CONDITIONS MAY NECESSITATE SLIGHT DEVIATIONS IN ALIGNMENT, GRADE, AND/OR LOCATION OF NEW FACILITIES FROM THE PLAN ALIGNMENT. THE CONTRACTOR SHALL CONSTRUCT THE NEW FACILITIES TO SUCH DEVIATIONS AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST OR FINE TO THE OWNER. SHOULD PLAN DEVIATIONS BE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO UNDER TAKING ANY REVISION.
6. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CURRENT BOCA AND/OR STATE AND LOCAL BUILDING CODES AS WELL AS THE CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
7. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION AREA IN A SAFE AND ACCEPTABLE MANNER AND SHALL BE RESPONSIBLE FOR REMEDIATING ANY DAMAGES RESULTING FROM HIS FAILURE TO DO SO.
8. THE CONTRACTOR SHALL MAINTAIN LIMITS OF CONSTRUCTION WITHIN THE PROPERTY BOUNDARIES OR EASEMENTS AS INDICATED.
9. AN APPROVED SET OF PLANS SHALL BE KEPT ON THE SITE AT ALL TIMES.
10. ALL CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN CONFORMANCE WITH THE VIRGINIA LITTER CONTROL ACT AND DISPOSED OF IN A MANNER AND LOCATION ACCEPTABLE TO THE GOVERNING JURISDICTION. AT LEAST ONE TRASH RECEPTACLE SHALL BE ONSITE DURING CONSTRUCTION.
11. TEMPORARY TOILETS SHALL BE PROVIDED ONSITE AT A RATIO OF ONE TOILET PER 30 WORKERS DURING THE CONSTRUCTION PERIOD.
12. GRADE STAKES SHALL BE SET FOR ROADWAY, CURB & GUTTER, CULVERTS, SANITARY SEWER AND STORM SEWER.
13. STANDARD CITY RESIDENTIAL ENTRANCES SHALL BE PROVIDED TO EACH LOT.

GENERAL UTILITY NOTES:

1. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE CITY OF ROANOKE STANDARDS & SPECIFICATIONS AND ALL OTHER GOVERNING REQUIREMENTS.
2. CONSTRUCTION AND START-UP OF ALL WORK SHALL NOT INTERFERE WITH THE OPERATION OF WATER AND SEWERAGE FACILITIES. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK WITH THE APPROPRIATE AGENCIES AS REQUIRED.
3. MINIMUM COVER ON ALL PIPE SHALL BE 3 FEET, UNLESS OTHERWISE INDICATED ON THESE PLANS.
4. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MAXIMUM MANUFACTURER'S RECOMMENDATION.
5. ALL PIPING SHALL BE PROPERLY SUPPORTED. ALL PIPING WHICH WILL BE PRESSURIZED DURING OPERATION SHALL BE RESTRAINED.

STORM SEWER SPECIFICATIONS:

1. ALL STORM SEWER PIPE AND FITTINGS SHALL BE AS CLASSIFIED ON THE PROFILE DRAWINGS. ALL PIPE UNDER ROAD WAYS SHALL BE CLASS III AS A MINIMUM.
2. THE STORM SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. THE PIPE SHALL BE LAID IN A TRUE, STRAIGHT LINE WITH THE BELL ENDS UPSTREAM AND WITH THE INVERT OF THE PIPE BEING THE TRUE ELEVATION AND GRADE OF THE SYSTEM. THE PIPE SHALL BE VISUALLY INSPECTED FOR DEFECTS BEFORE LOWERING THE PIPE INTO THE TRENCH. FIELD CUTTING OF THE PIPE SHALL BE DONE IN A NEAT MANNER, SO AS TO LEAVE A SMOOTH END AT RIGHT ANGLES TO THE AXIS OF THE PIPE.
3. TRENCHES SHALL BE EXCAVATED IN STRAIGHT LINES AND SHALL BE OF SUFFICIENT WIDTH TO PERMIT THE PROPER INSTALLATION OF BRACING, SHORING OR SHEETING. TRENCH WIDTH SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. THE BOTTOM OF THE PIPE TRENCH SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 4 INCHES BELOW THE BOTTOM OF THE PIPE, TO PROVIDE FOR THE COMPACTED BEDDING MATERIAL.
4. BACKFILL MATERIAL SHALL BE EITHER APPROVED EXCAVATED MATERIAL OR APPROVED SUITABLE MATERIAL FROM OTHER SOURCES THAT IS FREE OF ORGANIC MATTER OR OTHER OBJECTIONABLE MATERIAL. BACKFILL FROM PIPE BEDDING TO MINIMUM ONE FOOT ABOVE THE TOP OF THE PIPE SHALL BE FREE OF STONES LARGER THAN 2 INCHES AND SHALL BE PLACED IN 6 INCH LAYERS AND COMPACTED WITH HAND TAMPERS. BACKFILL FROM THIS POINT TO THE TOP OF THE TRENCH SHALL BE FREE OF STONES LARGER THAN 4 INCHES AND SHALL BE PLACED IN LAYERS NOT TO EXCEED 8 INCHES AND COMPACTED WITH MECHANICAL TAMPERS.



ENGINEERING
CONCEPTS INC.

DESIGNED		
DRAWN		
CHECKED		
APPROVED		
SCALE		
DATE		
PROJECT		
96048		

REVISIONS		
NO.	DATE	BY

LOCUST GROVE
MISCELLANEOUS NOTES
ROANOKE, VIRGINIA



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