GENERAL SITE CONSTRUCTION NOTES

SITEWORK

1. THE LOCATION OF EXISTING UTILITIES ACROSS, ALONG OR IN THE VICINITY OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND WHERE SHOWN, ARE APPROXIMATE. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY.
2. THE CONTRACTOR IS TO PROVIDE FOR THE SAFETY OF THE GENERAL PUBLIC DURING ALL PHASES OF CONSTRUCTION. PROVIDE CHAIN LINK FENCE AND/OR SAFETY FENCE AS NEEDED.
3. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING BUILDINGS, SIDEWALKS, PAVEMENT, UTILITY POLES & PEDESTALS, ABOVE AND BELOW GROUND UTILITIES ETC, IF THOSE ITEMS ARE NOT DESIGNATED AS TO BE REMOVED.
4. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 811 A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION AND REQUEST ALL UTILITIES TO BE LOCATED.
5. ALL UNDERGROUND UTILITIES ARE TO BE CLEARLY MARKED PRIOR TO BEGINNING CONSTRUCTION, ANY POTENTIAL CONFLICTS AS A RESULT OF THE MARKINGS SHALL BE MADE KNOWN TO THE ARCHITECT/ENGINEER IMMEDIATELY.
6. UTILITY LINES, UTILITY POLES AND PEDESTALS, ABOVE GROUND & BELOW GROUND SHALL BE PROTECTED FROM DAMAGE IN ACCORDANCE WITH THE UTILITY OWNERS' INSTRUCTIONS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY OWNERS TO OBTAIN THE PROPER PROTECTIVE MEASURES FOR EACH INDIVIDUAL UTILITY AND FOR PROTECTING UTILITIES FROM DAMAGE. ANY AND ALL DAMAGE CAUSED BY THE CONTRACTOR OR BY THE CONTRACTOR'S CONSTRUCTION OPERATIONS SHALL BE CORRECTED BY THE CONNECTOR AT THEIR EXPENSE.
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/ARCHITECT SHOULD DISCREPANCIES BE DISCOVERED AT THE SIGHT OR ON THE DRAWINGS.
8. THE CONTRACTOR SHALL NOTIFY ROANOKE COUNTY OF ANY FIELD REVISIONS AND/OR CORRECTIONS TO THE APPROVED PLANS PRIOR TO SUCH CONSTRUCTION.
9. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXCAVATED DITCHES AND SHALL FURNISH AND INSTALL ALL NECESSARY BARRICADES FOR THE PUBLIC ARE IN PLACE.
10. ALL AREAS NOT COVERED WITH PAVEMENT, SIDEWALK, OR STRUCTURES SHALL RECEIVE LANDSCAPING AND PERMANENT SEEDING OR SOD, AS SHOWN ON THE PLANS.
11. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE MOST RECENT REVISION DATE OF THE PLANS PRIOR TO COMMENCING WITH CONSTRUCTION
12. ALL LINES TO BE STAKED PRIOR TO CONSTRUCTION.
13. ITEMS TO BE SALVAGED SHALL BE STORED IN A PROTECTED AREA.
14. REMOVE ALL CURBING, ASPHALT, AND CONCRETE FROM SITE AS SHOWN ON THE PLANS AND DISPOSE OF OFF-SITE AT AN APPROVED LANDFILL.
15. REMOVE CURBING AND SIDEWALKS TO THE NEAREST EXPANSION JOINT TO PROVIDE A STRAIGHT, CLEAN, AND NEAT JOINT WITH THE NEW CURBING AND OR WALK.
16. ALL ASPHALT INTERFACES BETWEEN OLD AND NEW PAVEMENT MUST BE SAW CUT TO NEAT STRAIGHT LINES AND A TACK COAT SHALL BE APPLIED AT A RATE OF 0.1 GALLON PER SQUARE YARD OF RC-250 IMMEDIATELY PRIOR TO PLACING THE ASPHALT.
17. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FROM A QUALIFIED GEOTECHNICAL ENGINEER, MATERIAL TESTING REPORTS FOR ALL AGGREGATES, FILL AND BACKFILL. THESE REPORTS SHALL STATE THEIR COMPLIANCE WITH THE FOLLOWING:
    CLASSIFICATION ACCORDING TO ASTM D 2487
    LABORATORY COMPACTION CURVE ACCORDING TO ASTM D 698
    LABORATORY COMPACTION CURVE ACCORDING TO ASTM D 1557

EARTHWORK

18. CUT OFF TREES, SHRUBS, BRUSH, AND VEGETATIVE GROWTH TWELVE INCHES MAXIMUM ABOVE GROUND. GRUB OUT STUMPS AND ROOTS 12 INCHES MINIMUM BELOW ORIGINAL GROUND SURFACE, EXCEPT UNDER BUILDINGS, REMOVE ROOTS ONE INCH AND LARGER ENTIRELY AND ENTIRELY REMOVE ROOTS OF PLANTS THAT NORMALLY SPROUT FROM ROOTS.
19. BEFORE MAKING CUTS, REMOVE TOPSOIL OVER AREAS TO BE CUT AND FILLED. STOCKPILE TOPSOIL AND PROTECT WITH EROSION CONTROL MEASURES.
20. SUBSEQUENT TO THE CLEARING AND ROUGH GRADING OPERATIONS AND PRIOR TO THE PLACEMENT OF FILL, THE EXPOSED SUBGRADE SHALL BE CAREFULLY INSPECTED. ANY EXPOSED UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A WELL COMPACTED SUITABLE MATERIAL. THE INSPECTION OF THESE PHASES SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE. DENSITY TESTING AT THE DISCRETION OF THE SOILS ENGINEER SHALL BE PERFORMED AT THIS TIME.
21. THE EXISTING STOCKPILED TOPSOIL IS TO BE USED FIRST FOR PROJECT LANDSCAPE TOPSOIL REQUIREMENTS AND SECOND FOR NON-STRUCTURAL FILL AND BACKFILL IF APPROVED BY THE GEOTECHNICAL TESTING AGENCY. AFTER PROJECT FILL, BACKFILL, AND LANDSCAPE TOPSOIL REQUIREMENTS ARE SATISFIED, REMOVE EXCESS EXISTING TOPSOIL FROM SITE.
22. THE EMBANKMENT FOUNDATIONS AND ABUTMENTS SHALL BEAR ON FIRM AND STABLE EXISTING SUBGRADE WHICH HAS BEEN PREPARED SO AS TO REMOVE ALL ORGANIC, LOOSE, AND GENERALLY UNSUITABLE MATERIAL.
23. DURING GRADING OPERATIONS, THE CONTRACTOR SHALL GRADE ALL AREAS TO DRAIN TO PREVENT THE SATURATION OF THE SOILS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE STOCKPILES FROM RAIN IF THE SOIL IS NEEDED FOR BACKFILL MATERIAL.
24. THE CONTRACTOR SHALL PROOF-ROLL THE CONSTRUCTION AREA WITH HEAVY-PNEUMATIC EQUIPMENT. ALL UNSUITABLE MATERIAL SHALL BE UNDERCUT AND RECOMPACTED WITH APPROVED STRUCTURAL FILL MATERIAL.
25. EARTHWORK SHALL BE TO THE LINES AND GRADES SHOWN. PROOF-ROLLING AND COMPACTION TESTS SHALL BE ACCOMPLISHED IN THE FIELD TO ALL GRADED AREAS. THE GRADING SHALL CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN TO WITHIN A TOLERANCE OF PLUS OR MINUS 0.10 FEET.
26. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE TESTING COMPANY AND BE WELL GRADED MATERIAL CONFORMING TO ASTM D2487 FREE FROM DEBRIS, ORGANIC MATERIAL, FROZEN MATERIALS, BRICK, LIME, CONCRETE, STONES GREATER THAN 4 INCHES DIAMETER, AND OTHER MATERIALS WHICH WOULD PREVENT ADEQUATE PERFORMANCE OF THE BACKFILL. FILL MATERIAL SHALL BE SMALLER THAN 1-1/2 INCH UNDER BUILDINGS, PAVED AREAS AND STRUCTURES.
27. THE FILL SHALL BE PLACED IN 8 INCH LOOSE LAYERS, 4 INCH LOOSE LAYERS CLOSE TO STRUCTURES AND NARROW TRENCHES AND COMPACTED AS SPECIFIED.
28. FILL MATERIALS SHALL BE ADEQUATELY KEYED INTO STRIPPED AND SCARIFIED SUBGRADE SOILS AND SHOULD, WHERE APPLICABLE, BE BENCHED INTO THE EXISTING SLOPES, THE SUBGRADE SHALL BE SCARIFIED A DEPTH OF 4" PRIOR TO FILL PLACEMENT TO ASSURE BONDING BETWEEN THE TWO SOILS.
29. EXPOSED SUBGRADE WHICH HAS BEEN PREPARED TO ACCEPT FILL MATERIAL, SHALL BE CAREFULLY INSPECTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A WELL COMPACTED MATERIAL. THE INSPECTION SHALL BE PERFORMED BY A SOILS ENGINEER.
30. ALL STRUCTURAL FILL SHALL BE COMPACTED TO AT LEAST 95% OF THAT SOIL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698). ALL NON-STRUCTURAL FILL SHALL BE COMPACTED TO 90%. THE COMPACTION SHALL BE ACCOMPLISHED BY PLACING THE FILL IN MAXIMUM 8 INCH LOOSE LIFTS AND COMPACTING EACH LIFT WITH HEAVY CONSTRUCTION EQUIPMENT TO THE REQUIRED DENSITY. THE MOISTURE CONTENT OF FILL SOILS SHALL BE MAINTAINED WITHIN 3.0 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED FROM THE STANDARD PROCTOR DENSITY TEST.
31. A SOILS ENGINEER, OR A TECHNICIAN UNDER THE ENGINEERS DIRECTION, SHALL PERFORM FIELD DENSITY TESTS ON EACH LIFT AS NECESSARY, TO ASCERTAIN THAT ADEQUATE COMPACTION HAS BEEN ACHIEVED.
32. ENSURE THAT LAND DISTURBING PERMITS AND THE PROPER EROSION AND SEDIMENT CONTROLS ARE IN PLACE FOR THE CONSTRUCTION SITE AND THE OFF-SITE BORROW AND SPOIL SITE.
33. TOPSOIL FURNISHED BY THE CONTRACTOR SHALL CONSIST OF A NATURAL FRIABLE SURFACE SOIL WITHOUT ADMIXTURES OF UNDESIRABLE SUBSOIL, REFUSE, OR FOREIGN MATERIALS. IT SHALL BE FREE FROM ROOTS, HARD CLAY, COARSE GRAVEL, STONES LARGER THAN ONE INCH IN ANY DIMENSION, WEEDS, SEEDS, TALL GRASS, BRUSH ,STICKS, STUBBLE OR OTHER MATERIAL WHICH WOULD BE DETRIMENTAL TO THE PROPER DEVELOPMENT OF THE DESIRED VEGETATIVE GROWTH.
34. TOPSOIL SHALL BE OBTAINED FROM NATURALLY WELL DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4-INCHES DEEP. TOPSOIL SHALL NOT BE OBTAINED FROM BOGS OR MARSHES.

PAVEMENT, CURBS, AND GUTTER

35. AGGREGATE BASE AND PAVING MUST BE PLACED BEFORE ANY MOISTURE OR SEASONAL CHANGES OCCUR TO SUBGRADE THAT WOULD CAUSE COMPACTION TESTS PREVIOUSLY PERFORMED TO BE ERRONEOUS. RECOMPACT AND RETEST SUBGRADE SOILS THAT HAVE BEEN LEFT EXPOSED TO WEATHER.
36. ASPHALT PAVEMENT FOR THE NEW PARKING LOT SHALL BE CONSTRUCTED WITH 6" COMPACTED AGGREGATE BASE MATERIAL, TYPE 1, SIZE NO. 21A OR B AND 2" BITUMINOUS CONCRETE SURFACE COURSE, TYPE SM-9.5. (THICKNESS AFTER COMPACTION). ALL PAVEMENT SHALL COMPLY WITH VDOT SPECIFICATIONS AND STANDARDS.
37. CONCRETE CURB SHALL BE VDOT STANDARD CG-2 AND CONSTRUCTED TO VDOT SPECIFICATIONS.
38. CONCRETE CURB AND GUTTER SHALL BE VDOT STANDARD CG-6 AND CONSTRUCTED TO VDOT SPECIFICATIONS.
39. ALL WORK SHALL COMPLY WITH VDOT SPECIFICATIONS IN ACCORDANCE WITH THE LATEST REVISION OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.

GENERAL UTILITY NOTES

40. ALL UTILITIES REQUIRE DETECTABLE WARNING TAPE: MANUFACTURED FOR MARKING AND IDENTIFYING UNDERGROUND UTILITIES, MINIMUM SIX INCHES WIDE AND FOUR MILLS THICK, DETECTABLE BY A METAL DETECTOR WHEN TAPE IS BURIED THIRTY INCHES DEEP AND COLOR CODED TO THE TO AMERICAN PUBLIC WORKS ASSOCIATION STANDARDS. REFER TO WESTERN VIRGINIA WATER AUTHORITY STANDARDS.
41. EXCAVATE TO PROPER ALIGNMENT, DEPTH, AND GRADE. EXCAVATE TO SUFFICIENT WIDTH TO ALLOW ADEQUATE SPACE FOR PROPER INSTALLATION AND INSPECTION OF UTILITY PIPING.
42. IF TRENCHES ARE EXCAVATED DEEPER THAN REQUIRED, BACKFILL UNTIL TRENCH BOTTOM IS PROPER DEPTH WITH PROPERLY COMPACTED NATIVE MATERIAL.
43. WHERE ROCK EXCAVATIONS ARE REQUIRED, EXCAVATE ROCK WITH MINIMUM OVER-DEPTH OF 6 INCHES BELOW REQUIRED TRENCH DEPTHS AND BACKFILL WITH THOROUGHLY COMPACTED MATERIAL.

EROSION CONTROL NOTES

44. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
45. THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, OR OTHERWISE MODIFY CERTAIN MEASURES WHERE FIELD CONDITIONS WARRANT. EROSION CONTROL MEASURES SHOWN ARE NOT NECESSARILY ALL THAT WILL BE REQUIRED.
46. EROSION CONTROL MEASURES SHALL BE INSTALLED IN ADVANCE OF WORK BEING PERFORMED, AS FAR AS PRACTICAL.
47. IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN PROVIDED.
48. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.
49. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EVERY ERODIBLE RAINFALL. ANY NECESSARY REPAIRS OR CLEANUP SHALL BE MADE IMMEDIATELY AND AT NO EXTRA COST TO THE OWNER.

STORM-SEWER SYSTEMS & CULVERTS

50. ALL CULVERTS AND STORM-SEWER SYSTEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE VDOT ROAD & BRIDGE SPECIFICATIONS, LATEST EDITION AND THE VDOT ROAD & BRIDGE STANDARDS, LATEST EDITION/REVISION. PIPES SHALL BE BEDDED PER PB-1, METHOD A.
51. ALL INLET SHAPING SHALL CONFORM TO THE VDOT ROAD & BRIDGE STANDARD 106.08, IS-1.

MISCELLANEOUS NOTES

52. ALL PAVEMENT & CURB MARKINGS SHALL BE MADE WITH TRAFFIC RATED PAINT, VDOT TYPE A PAINT.
53. ALL PARKING SPACES AND NO PARKING AREAS REQUIRE 4" WHITE LINES.
54. THE DIAGONAL LINES (CROSS HATCHING) FOR ACCESS AISLES AND NO PARKING AREAS SHALL BE SPACED 24" ON CENTER AND BE 4" WIDE WHITE STRIPES.

TERMITE CONTROL

55. INDICATE TOXICANTS TO BE USED, COMPOSITION BY PERCENTAGE, DILUTION SCHEDULE AND INTENDED APPLICATION RATE.
56. PROVIDE A FIVE YEAR INSTALLER'S WARRANTY AGAINST DAMAGE TO THE BUILDING CAUSED BY TERMITES.
57. TOXICANT CHEMICAL TO BE EPA APPROVED AND COMPLY WITH APPLICABLE STATE AND LOCAL CODES.
58. TOXICANT TO BE SYNTHETICALLY COLOR DYED TO PERMIT VISUAL IDENTIFICATION OF THE TREATED SOIL. MIX AND APPLY TOXICANT PER MANUFACTURES INSTRUCTIONS.
59. APPLY TOXICANT UNDER SLABS-ON-GRADE AND BOTH SIDES OF THE FOUNDATION SURFACE. ALSO APPLY TO STRUCTURE PENETRATION SURFACES.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

The recent history of projects for Fellowship Community Church that effects this project includes;
Project approved by Roanoke County in 2013;

1. Seven Filterra Units were to be installed throughout the site to accommodate stormwater quality management under the 2009 VSMP Regulations.
2. Widening the existing driveway to accommodate dual exiting and stacking spaces
3. Constructing a new 46 space paved parking lot.
4. A future 15,000 sf. building.

Due to construction costs and a re-evaluation of the church's needs, no work has been started related to the 2013 project.

The church's new focus and campus expansion plans modify the 2013 project. The modifications include;

1. Construction of a new two-story building, with a footprint of 9,640 sf. (Indicated as Phase II on these plans)
2. Construction of a new 59 space paved parking lot adjacent to the new building. (Indicated as Phase II on these plans)
3. Widening the existing driveway to accommodate dual exiting and stacking space. (Indicated as Phase I on these plans)
4. Installing six Filterra Units (Indicated as Phase I on these plans)

The new building will be situated 50' south of the existing building, within the southwest corner of the Fellowship Community Church site. Additional development includes; utility installations, landscaping and installation of stormwater management practices.

Earthwork operations are fairly marginal for this project, however, a borrow area for fill material has been established onsite, adjacent to the work required for the taper and driveway as shown on the plans.

The area of disturbance within the building site is approximately 2.06 acres which includes the building, parking lot and trenching for utilities. The area of disturbance associated with the driveway widening and borrow area is approximately 0.65 acres. Therefore, total area of disturbance is approximately 2.71 acres.

Stormwater Quality Management for the modified Phase II project will continue to be accomplished under the 2009 VSMP Regulations, by installing Filterra units. The impervious area for the 2013 Phase II project was 0.76 acres, whereas, this modified Phase II project includes an impervious area of 0.68 acres, resulting in a net decrease of 0.08 acres in impervious area.

Erosion control measures include; Construction entrance, silt fence, inlet protection, temporary & permanent seeding.

EXISTING SITE CONDITIONS

The new building and parking lot will be constructed over an existing playground, a grass area and portions of a gravel lot. This area is very flat sloping gently from north to south. Runoff within this area is sheet flow across the grass toward Interstate 81 or across the gravel lot to an existing detention pond. Below the gravel lot is a 2.5:1 fill slope, however, this will not be disturbed during construction.

The widening of the drive way will be constructed over grass. Runoff will sheet flow either down a grass slope to an existing culvert or to an existing inlet that discharges to the same culvert. The culvert discharges into an existing detention pond.

OFF-SITE AREAS

No off-site fill or borrow area are anticipated for this project. However, if it becomes necessary all associated areas will be provided to Roanoke County Dept. of Community Development. An Erosion and Sediment Control Plan and measures may be required for these areas.

SOILS

The soils as indicated from the USDA and SCS Soil Survey of Roanoke County, classify the majority of soils within the project site as tumbling loam, with 2 to 7 percent slopes and the soils on the western fringe of the project site as sequoia silt loam with 25 to 30 percent slopes. The tumbling loam is well drained, with moderate permeability, with a low to high potential for surface runoff. The sequoia is also well drained, with moderately slow permeability, with a medium to rapid runoff.

ADJACENT PROPERTY

The Fellowship Community Church campus is bordered by Interstate 81 to the south, by residential development to the north and west and by Red Lane Extension to the east.

CRITICAL EROSION AREAS

There are no critical erosion control area associated with this project.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise stated, all vegetative and structural erosion and sediment control practices will be constructed and maintained in accordance with the minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook (1992 Edition). If during construction, additional erosion control devices are deemed necessary, they will be installed as directed by the site designer or county personnel.

STRUCTURAL PRACTICES

1. Temporary Construction Entrance – 3.02
   A construction entrance is shown leading into the new borrow area from the existing driveway. The length of this construction entrance is a function of the amount of borrow area that is needed. Tracking is prohibited onto Red Lane.
2. Silt Fence – 3.05
   Silt fence to be installed around the perimeter of the new building and parking lot site as well as along the perimeter of the driveway widening as indicated on the plans.
3. Storm Drain Inlet Protection – 3.07
   Storm drain inlet protection to be installed around the new and existing inlets as shown on the plans.

VEGETATIVE PRACTICES

Temporary Seeding – 3.31
Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade, but will remain dormant for longer than 30 days. Such areas may include denuded areas and soil stockpiles. Reference is made to the 1992 Erosion and Sediment Control Handbook addressing minimum numbers one and three (MS-1, MS-3). Refer to Erosion Control Plan Sheet for seeding schedule.

Permanent Seeding – 3.32
Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Permanent stabilization shall be applied to areas that are to be left dormant for more than a year.
Permanent vegetation shall not be considered established until a ground cover is achieved that in the opinion of the local program administrator or his designated agent, is uniform, mature enough to survive and will inhibit erosion. Reference is made to the 1992 Erosion and Sediment Control Handbook addressing minimum numbers one and three (MS-1, MS-3). Refer to the Erosion Control Plan Sheet for the seeding schedule.
All areas disturbed by construction will be stabilized with permanent seeding within seven days after finish grading. Permanently seeded areas will be protected with straw mulch. Reference is made to the 1992 Erosion and Sediment Control Handbook addressing minimum standard numbers one and three (MS-1 & MS-3).

Mulching – 3.35
Mulching to be used in conjunction with permanent seeding as indicated within the seeding schedule.

MANAGEMENT STRATEGIES

1. Construction should be sequenced so that grading operations can begin and end as quickly as possible.
2. Erosion and sediment control devices will be installed as a first step of construction.
3. The grading contractor will be responsible for the installation and maintenance of all erosion and sediment control measures. Inspections are to be made periodically and after every erodible rainfall.
4. The grading inspection personnel will make repairs to damaged or deficient control measures immediately upon discovery of damage or upon notification of the deficiency.

STORMWATER MANAGEMENT

Post-developed runoff sheet flows across the parking lot to a new drop inlet and ultimately outfalls through a series of pipes to an existing detention pond. Modifications to the existing pond will be made to restrict the flow exiting the pond so that the post-developed 10-year and 25-year storm events will be released below their respective 10-year and 25-year pre-developed flow rates.

Additionally, six Filterra Units will be installed throughout the site to provide for Stormwater Quality management. Calculations show that the amount of phosphorous reduction required is 2.99#/yr. The Filterra Units allow for a reduction of 3.02#/yr.

REMOVAL OF CONTROL MEASURES

All temporary erosion and sediment control measures will be removed within thirty days after final site stabilization or after the temporary measures are no longer needed, unless otherwise directed by the local program administrator.

MINIMUM STANDARDS

1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. **THE LOCATION OF SEEDING IS SHOWN ON THE EROSION CONTROL PLAN & SITE ENTRANCE PLAN. SPECIFIED ON THE EROSION CONTROL PLAN.**
2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE. **IT IS NOT ANTICIPATED THAT SOILS WILL BE BORROWED OR HAULED OFF-SITE. AN ON-SITE BORROW AREA IS INDICATED ON THE ENTRANCE PLAN. ADDITIONALLY, A TOPSOIL STOCKPILE AREA IS IDENTIFIED ON THE EROSION CONTROL PLAN. CONTRACTOR TO PROTECT BOTH AREAS WITH EROSION CONTROL MEASURES I.e. SILT FENCE, SEEDING ETC.**
3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. **ALL DISTURBED AREAS, NOT PERMANENTLY STABILIZED, SHALL RECEIVE PERMANENT SEEDING AS SHOWN ON THE EROSION CONTROL PLAN & SITE ENTRANCE PLAN.**
4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. **EROSION CONTROL MEASURES ARE SHOWN ON THE EROSION CONTROL PLAN & SITE ENTRANCE PLAN. THE MEASURES ARE EXPLAINED IN THE E&S NARRATIVE.**
5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION. **NOT APPLICABLE**
   5.a. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN. **NOT APPLICABLE**
   5.b. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CY/AC OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
   5.c. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CY/AC OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YR. STORM OF 24-HR. DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.
6. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED. **CUT AND FILL SLOPES WILL BE STABILIZED WITH PERMANENTLY SEEDING AND MULCHING. IF THE SLOPES ARE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION, CORRECTIVE SLOPE STABILIZING MEASURES ARE REQUIRED.**
7. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE. **CONCENTRATED RUNOFF WILL NOT FLOW DOWN A CUT OR FILL SLOPE. CONCENTRATED RUNOFF IS CONTAINED IN A CLOSED STORM SYSTEM.**
8. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED. **IF WATER SEEPS FROM THE SLOPE FACE, PROPER DRAINAGE AND EROSION CONTORL MEASURES SHALL BE APPLIED IMMEDIATELY, NOT EXPECTED.**
9. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT. **INLET PROTECTION AND OTHER MEASURES ARE SHOWN ON THE EROSION CONTROL PLAN.**
10. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL. **RECEIVING CHANNELS ARE PROTECTED.**
11. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS. **NOT APPLICABLE.**
12. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED. **NOT APPLICABLE.**
13. ALL APPLICABLE FEDERAL, STATE AND LOCAL CHAPTERS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. **NOT APPLICABLE.**
14. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED. **NOT APPLICABLE.**
15. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: **UTILITY LINES INCLUDE; SANITARY SEWER, WATER, GAS AND STORM PIPES WILL BE INSTALLED WITHIN THE AREA OF DISTURBANCE.**
    15.a. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
    15.b. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    15.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.
    15.d. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
    15.e. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
    15.f. APPLICABLE SAFETY CHAPTERS SHALL BE COMPLIED WITH.
16. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES. **CONSTRUCTION ENTRANCE SHOWN ON THE ENTRANCE PLAN AT THE BORROW AREA SITE. THE SITE IS PAVED TO RED LANE EXTENSION, THEREFORE, NO CONSTRUCTION ENTRANCE IS SHOWN ONTO THE PUBLIC ROAD.**
17. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION. **THIS IS NOTED WITHIN THE E&S NARRATIVE.**
18. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:
    a. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
    b. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR
(2) (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS.
(b) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND
(c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.
c. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:
(1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR
(2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR
(4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENTS, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.
(d) THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
(e) ALL HYDROLOGICAL ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.
(f) IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
(g) OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
(h) ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
(i) INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION OF ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
(j) IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.
(k) ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.
(l) ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES AREA DESIGNED TO (i) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (ii) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (iii) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OF MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 10.1-562 or 10.1-570 OF THE ACT.
(m) FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 10.1-562 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 10.1-603.2 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 4VAC50-60-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS.
(n) COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 4VAC50-60-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARDS 19.
THE SITE IS DESIGNED CREATING POST DEVELOPED RUNOFF QUALITY AND QUANTITY CONTROL MEASURES.
POST-DEVELOPED STORMWATER QUALITY IS CONTROLLED BY THE USE OF SEVERAL FILTERRA UNITS SCATTERED THROUGHOUT THE SITE. AN EXISTING DETENTION POND WILL REMAIN AND BE USED FOR STORMWATER QUANTITY CONTROL. THE PRIMARY OUTLET STRUCTURE OF THE POND WILL BE MODIFIED BY INSTALLING A RESTRICTOR PLATE WITH A 20" HOLE OVER THE INLET END OF THE EXISTING 30" POND OUTLET PIPE. THE RESTRICTION WILL ALLOW THE 10-YR & 25-YR POST DEVELOPED STORMS TO BE RELEASED FROM THE POND AT THEIR RESPECTIVE PRE-DEVELOPED PEAK RUNOFF RATES. STORMWATER FROM THE POND DISCHARGES INTO A 4'x6' BOX CULVERT THAT CROSSES UNDER INTERSTATE 81. THE BOX CULVERT IS AN ADEQUATE OUTFALL.

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REVISIONS
1 SEPT. 28, 2015

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GENERAL NOTES AND EROSION CONTROL NARRATIVE & MINUMUM STANDARDS

COMMONWEALTH OF VIRGINIA
09/28/15
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