

WESTERN VIRGINIA WATER AUTHORITY

PROJECT NOTES:

EROSION CONTROL MINIMUM STANDARDS (CONT):

19. 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:

- 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.
- ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
 - 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
 - (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.
 - 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
 - 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.
- IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:
 - 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
 - IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
 - 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
 - PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION, OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION.
- THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
- ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT.
- IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A 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.
- 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.
- ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
- INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.

RESPONSE: THE PROJECT WILL NOT INCREASE THE VOLUME, VELOCITY, OR PEAK FLOW RATE OF STORMWATER RUNOFF BECAUSE (1) THE PROJECT DOES NOT ADD ADDITIONAL IMPERVIOUS SURFACE TO THE BASIN AND (2) DOES NOT INCLUDE GRADING MODIFICATIONS CAUSING CHANGES IN DRAINAGE PATTERNS OR RUNOFF VELOCITIES. WITH THAT SAID, E&S MEASURES WILL BE DEPLOYED ALONG THE ENTIRE LENGTH OF THE PROJECT TO PROTECT ALL DOWNSTREAM AREAS FROM SEDIMENT DEPOSITION AND EROSION DURING CONSTRUCTION.

EROSION CONTROL NARRATIVE:

PROJECT DESCRIPTION

THE PROJECT IS LOCATED ALONG SHENANDOAH AVENUE AND 30TH STREET INSIDE THE ROANOKE CITY LIMITS. MORE SPECIFICALLY, THE PROJECT IS LOCATED ALONG THE SOUTHERN SHOULDER OF SHENANDOAH AVENUE BETWEEN CHERRY HILL ROAD AND 30TH STREET AND ALONG THE WEST SHOULDER OF 30TH STREET FROM SHENANDOAH AVENUE AND SALEM TURNPIKE. PROPOSED LAND-DISTURBING ACTIVITIES WILL SIMPLY CONSIST OF THE EARTHWORK OPERATIONS ASSOCIATED WITH INSTALLING APPROXIMATELY 7,000 LINEAR FEET OF 12" WATER LINE WITHIN THE RIGHT-OF-WAY OF BOTH STREETS. IT IS ANTICIPATED THAT THE PROJECT WILL DISTURB APPROXIMATELY 35,000 SQUARE FEET (0.80 ACRES) OF LAND.

THE SCOPE OF WORK WILL CONSIST OF DIGGING TRENCHES AND INSTALLING NEW POLYVINYL CHLORIDE (PVC) AND DUCTILE IRON (DI) PIPE. THE WATERLINES CURRENTLY SERVING THE AREA ARE COMPRISED OF AGING, 1950'S ERA, CAST IRON PIPE. PIPES FROM THIS ERA, AND MADE OF THIS MATERIAL, HAVE A LONG HISTORY OF LEAKING AND BREAKING. WITH THIS IN MIND, AND COMPOUNDED BY THE HIGH OPERATING PRESSURES IN THE AREA, THE WESTERN VIRGINIA WATER AUTHORITY (WVWA) HAS CHOSEN TO BE PROACTIVE AND REPLACE THE 12" CAST IRON WATERLINE ALONG SHENANDOAH AVE AND 30TH STREET BEFORE A MAJOR BREAK OCCURS.

WITH THE INSTALLATION OF A WATERLINE PLANNED, THE EROSION AND SEDIMENT CONTROL MEASURES NEEDED TO FACILITATE THE CONSTRUCTION PROCESS ARE IDENTIFIED IN THIS REPORT AND ILLUSTRATED ON THE PLANS. THE COMBINED DOCUMENTS IDENTIFY THE MEASURES PROPOSED FOR THE INSTALLATION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL (E&S) COMPONENTS OF THIS LINEAR (UTILITY LINE) PROJECT. ONCE THE REPLACEMENT WATERLINES ARE INSTALLED ALONG THE SHOULDER OF EACH ROAD, THE DISTURBED SHOULDER WILL BE IMMEDIATELY SEEDED AND RETURNED TO ITS CURRENT VEGETATIVE STATE. SIMILARLY, AREAS CURRENTLY COVERED WITH ASPHALT AND CONCRETE SURFACES WILL BE RESTORED TO THEIR ORIGINAL CONDITION AS WELL.

EROSION CONTROL NARRATIVE (CONT):

EXISTING SITE CONDITIONS

THE AREA IS URBAN IN NATURE AND THE MAJORITY OF THE WORK WILL BE PERFORMED ALONG THE ROAD SHOULDER WITHIN 15 FEET OF THE EDGE OF PAVEMENT. THE TOPOGRAPHY ONSITE IS GENTLE WITH MINIMAL GRADES ALONG THE WATERLINE'S ALIGNMENT. SINCE THE PROJECT LIES ALONG A HIGHLY TRAVELED CORRIDOR IN A DEVELOPED AREA OF THE CITY, THE GROUND COVER ALONG THE PROPOSED ALIGNMENT VARIES CONSIDERABLY. GRASSED COVERED AREAS, GRAVEL DRIVEWAYS, CONCRETE DRIVEWAYS, ASPHALT ROADWAYS, AND GRAVEL PARKING LOTS ARE PRESENT ALONG THE WATERLINE'S ALIGNMENT.

ADJACENT AREAS

THE WATERLINE WILL BE CONSTRUCTED WITHIN THE RIGHT OF WAY OF A HIGHLY TRAVELED ROADWAY. AS A RESULT, BOTH RESIDENTIAL AND COMMERCIAL AREAS OF THE CITY WILL BE IMPACTED. RESIDENCES, BUSINESSES AND INDUSTRIAL PROPERTY BORDER THE PROJECT.

OFFSITE AREAS

AT THIS TIME, DUE TO THE LINEAR NATURE OF THE PROJECT (UTILITY LINE INSTALLATION), IT IS NOT ANTICIPATED THAT OFFSITE AREAS WILL BE DISTURBED DURING CONSTRUCTION. IF IT IS LATER DETERMINED, DURING CONSTRUCTION, THAT OFFSITE AREAS ARE TO BE DISTURBED FOR ANY REASON, THE AREAS SHALL BE PROPERLY PERMITTED BY THE LOCAL GOVERNING JURISDICTION (CITY OF ROANOKE) AND DCR. THE OFFSITE AREAS SHALL HAVE APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES DESIGNED AND INSTALLED, TO PREVENT SILT-LADEN RUNOFF FROM BEING TRANSPORTED FROM THE SITES.

THE OWNER AND/OR THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING AN APPROVED/PERMITTED EROSION CONTROL PLAN FOR ANY EARTHWORK PERFORMED OUTSIDE OF THOSE AREAS IDENTIFIED ON THE APPROVED UTILITY PLAN. THE PLAN SHALL INCLUDE ANY MEASURES REQUIRED TO MEET THE APPLICABLE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS MINIMUM STANDARDS RELATING TO THE RESPECTIVE WORK.

STABILIZATION SHALL BE ACHIEVED WITH TEMPORARY AND PERMANENT SEEDING, RESPECTIVELY. TEMPORARY SEEDING SHALL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.31, TEMPORARY SEEDING, OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. PERMANENT SEEDING SHALL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32, PERMANENT SEEDING, OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. ALL SEEDING MIXTURES WILL BE IN ACCORDANCE WITH VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

CRITICAL AREAS

THE CRITICAL AREAS ASSOCIATED WITH THIS PROJECT WILL CENTER ON EXISTING STORM DRAINAGE STRUCTURES, RECEIVING CHANNELS AND PAVED SURFACES (ROADWAYS & DRIVEWAYS). THE CONTRACTOR SHALL MAINTAIN CULVERT INLET PROTECTION, STORM DRAIN INLET PROTECTION AND ANY OTHER TEMPORARY EROSION CONTROL MEASURES NEEDED TO CONTROL EROSION, AND PROTECT STORM DRAINAGE STRUCTURES AND DOWNSTREAM RECEIVING CHANNELS FROM SILT-LADEN RUNOFF AND SCOUR/EROSION UNTIL ALL SURFACES WITHIN THE PROJECT SITE ARE PERMANENTLY STABILIZED. DUE TO THE CLOSE PROXIMITY OF PAVED SURFACES TO THE PROJECT, THE CONTRACTOR SHALL ROUTINELY INSPECT AND CLEAN NEARBY PAVED SURFACES OF SOIL AND OTHER DEBRIS DEPOSITED AS A RESULT OF THIS CONSTRUCTION PROJECT.

EROSION AND SEDIMENT CONTROL MEASURES

THE FOLLOWING MEASURES WILL BE USED TO CONTROL EROSION AND SEDIMENT-LADEN RUNOFF ON THIS PROJECT. SEE THE EROSION & SEDIMENT CONTROL PLAN FOR THE LOCATIONS OF SPECIFIC EROSION CONTROL MEASURES.

- SILT FENCE:** WILL BE USED TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS AND TO PREVENT SEDIMENT FROM LEAVING THE SITE. (VESCH STANDARD AND SPEC. 3.05)
- STORM DRAIN INLET PROTECTION:** WILL BE USED TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA. (VESCH STANDARD AND SPEC. 3.07)
- TOP SOILING:** WILL PROVIDE A SUITABLE GROWTH MEDIUM FOR FINAL SITE STABILIZATION WITH VEGETATION. (VESCH STANDARD AND SPEC. 3.30)
- PERMANENT SEEDING:** WILL BE USED TO ESTABLISH VEGETATIVE COVER AND TO REDUCE SILT RUNOFF FOR ANY AREAS NOT PAVED OR ROOFED. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. (VESCH STANDARD AND SPEC. 3.32)
- MULCHING:** WILL BE APPLIED TO SEEDED AREAS TO REDUCE EROSION FROM RAINDROP IMPACT AND REDUCING OVERLAND FLOW. (VESCH STANDARD AND SPEC. 3.35)

EROSION CONTROL NARRATIVE (CONT):

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION AND NOT COVERED BY IMPERVIOUS SURFACES SHALL BE STABILIZED WITHIN SEVEN DAYS AFTER REACHING FINISHED GRADE. STABILIZATION SHALL BE ACHIEVED WITH PERMANENT SEEDING. SEEDING SHALL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32, PERMANENT SEEDING, OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER, AND LIME WILL BE APPLIED PRIOR TO MULCHING. ANY SLOPE PERSISTING IN ERODING SHALL BE REPAIRED, RESEED, AND SHALL HAVE EROSION CONTROL MATS INSTALLED.

IN ADDITION, ANY DISTURBED AREA THAT IS TO REMAIN DORMANT FOR MORE THAN 30 DAYS PRIOR TO ESTABLISHING FINAL GRADE MUST BE TEMPORARILY STABILIZED. STABILIZATION WILL BE ACCOMPLISHED ACCORDING TO STANDARD AND SPECIFICATION 3.31, TEMPORARY SEEDING, OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS MINIMUM STANDARD #1 STATES THAT "PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR."

ADDITIONAL DISCUSSION OF MINIMUM STANDARD 19

MINIMUM STANDARD 19 (MS-19) STATES THAT "PROPERTIES AND WATERWAYS DOWNSTREAM OF THE SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO THE INCREASE IN VOLUME, VELOCITY AND FLOW RATES." WITH ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES IN PLACE, MS-19 SHOULD BE ADDRESSED SINCE THE TRENCH WORK TO BE PERFORMED TO FACILITATE THE INSTALLATION OF THE PROPOSED WATERLINE WILL NOT CHANGE THE AMOUNT OF IMPERVIOUS AREA ON THE PROJECT SITE. IN OTHER WORDS, NO INCREASES IN STORM WATER RUNOFF VOLUMES ARE ANTICIPATED AS A RESULT OF A NEW WATERLINE BEING INSTALLED.

SEQUENCE OF CONSTRUCTION

THE MAJOR CONSTRUCTION COMPONENTS OF THE PROJECT WHICH DISTURB SOILS ARE ANTICIPATED TO OCCUR AS FOLLOWS:

- INSTALLATION OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
- BEGIN WATERLINE CONSTRUCTION.
- INSTALLATION OF ADDITIONAL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (AS NEEDED DURING CONSTRUCTION).
- FINAL STABILIZATION OF THE SITE.
- REMOVE ALL TEMPORARY MEASURES AFTER THE SITE IS PERMANENTLY STABILIZED.

MAINTENANCE

ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT LEAST EVERY 14 DAYS AND AFTER EACH RAIN EVENT OVER 0.5 INCHES OF PRECIPITATION. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

- THE SEEDED AREAS SHALL BE CHECKED EVERY 2 DAYS TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. GRASSED AREAS SHOULD BE LIMED, FERTILIZED AND RESEDED AS NEEDED.
- SILT FENCE SHALL BE CHECKED FOR UNDERMINING OR DETERIORATION (OF THE FABRIC) AND CLEANED WHEN SEDIMENT LEVELS HAVE REACHED HALF OF THE SILT FENCE HEIGHT.
- INLET AND OUTLET PROTECTION AREAS AROUND CULVERTS, TEMPORARY SLOPE DRAINS, AND DROP INLETS SHALL BE CHECKED FOR BUILDUP OF SEDIMENT. IF SIGNIFICANT CLOGGING IS FOUND (THE CAPACITY OF THE STRUCTURE HAS BEEN REDUCED BY HALF), THEY WILL EITHER BE CLEANED OUT OR REPLACED.

SPECIFIC REQUIREMENTS RELATED TO INSPECTION AND MAINTENANCE OF EACH EROSION CONTROL MEASURES ARE DISCUSSED IN THE VESCH STANDARDS AND SPECIFICATIONS INCLUDED IN THE APPENDICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES TO THE SATISFACTION OF LOCAL REVIEW AUTHORITIES, AS WELL AS THE INSTALLATION OF ADDITIONAL MEASURES AS NEEDED TO ENSURE THAT SEDIMENT-LADEN RUNOFF DOES NOT LEAVE THE SITE.

EROSION CONTROL NARRATIVE (CONT):

INSPECTION

DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN PERMANENTLY STABILIZED, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, AND ANY OTHER AREA WHERE SEDIMENT CAN BE DEPOSITED ON PAVED SURFACES SHALL BE INSPECTED AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 48 HOURS FOLLOWING THE END OF A STORM EVENT THAT IS 0.5 INCHES OR GREATER. IN THOSE AREAS THAT HAVE BEEN FINALIZED, TEMPORARILY STABILIZED, OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS, INSPECTIONS SHALL TAKE PLACE AT LEAST ONCE A MONTH.

DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. E&S MEASURES SHALL BE CHECKED TO SEE THAT THEY ARE OPERATING CORRECTLY. AT ACCESSIBLE DISCHARGE POINTS, INSPECTION SHALL TAKE PLACE TO ENSURE THESE CONTROL MEASURES ARE EFFECTIVE AT PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED IF DISCHARGE POINTS ARE INACCESSIBLE. DUE TO THE HIGH VOLUME OF TRAFFIC UTILIZING THE ROADS, IT IS OF UTMOST IMPORTANCE THAT THE CONTRACTOR CONTINUOUSLY INSPECT AND CLEAN PAVED SURFACES OF EVIDENCE OF OFFSITE SEDIMENT, RESULTING FROM CONSTRUCTION ACTIVITIES.

IF EXISTING CONTROL MEASURES OR BEST MANAGEMENT PRACTICES (BMPs) REQUIRE MODIFICATION OR ADDITIONAL MEASURES, SUCH CHANGES SHALL BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION OR BEFORE THE NEXT ANTICIPATED STORM EVENT, AS IMPLEMENTATION IS PRACTICABLE.

INCLUDE INSPECTION REPORTS OF ALL STORMWATER AND EROSION & SEDIMENT CONTROL MEASURES ALONG WITH ANY REQUIRED ACTIONS AS A RESULT OF INSPECTIONS, WITH THE STORMWATER POLLUTION PREVENTION PLAN. THESE REPORTS SHALL INCLUDE THE NAME AND QUALIFICATIONS OF THE INSPECTOR, DATES OF INSPECTION, MAJOR OBSERVATIONS AND ACTIONS TAKEN IN RESPONSE TO INSPECTIONS. MAJOR OBSERVATIONS SHALL INCLUDE THE LOCATION OF DISCHARGE OF SEDIMENT OR POLLUTANT FROM THE SITE, LOCATIONS OF BMPs THAT NEED TO BE MAINTAINED, LOCATIONS OF BMPs THAT FAILED TO OPERATE OR PROVED INADEQUATE, AND LOCATIONS WHERE ADDITIONAL BMPs ARE NEEDED THAT DIDN'T EXIST AT THE TIME OF INSPECTION. THESE REPORTS SHALL INCLUDE INCIDENTS OF NONCOMPLIANCE. IF THE REPORT DOES NOT INCLUDE ANY NONCOMPLIANCE INCIDENTS, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND PERMIT.

OTHER CONTROLS

- MATERIALS, GARBAGE, DEBRIS
 - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, GARBAGE, AND DEBRIS SHALL BE DISCHARGED TO SURFACE WATERS OF THE STATE. THE PERMITTEE SHALL ENSURE THAT THESE ITEMS ARE NOT LEFT IN A LOCATION WHERE THEY COULD BE TRANSPORTED BY STORMWATER RUNOFF OFF THE SITE.
- COMPLIANCE WITH STATE & LOCAL WASTE, SANITARY, AND/OR SEPTIC REGULATIONS
 - NO TEMPORARY AND/OR PERMANENT ON SITE SEWER FACILITIES ARE PLANNED FOR THE SITE DURING CONSTRUCTION.
- EXPECTED CONSTRUCTION AND WASTE MATERIALS
 - CONSTRUCTION AND WASTE MATERIALS THAT COULD POTENTIALLY BE STORED ON SITE INCLUDE: TOPSOIL, FILL DIRT, EXCAVATED MATERIAL, PIPING, FERTILIZER FOR SEEDING OPERATIONS, STONE TO BE UTILIZED DURING THE INSTALLATION OF PIPELINES OR PLACED ON GRAVEL AREAS, STONE FOR RIPRAP, FUEL AND SILT FENCE MATERIAL.

ANY STOCKPILES OF TOPSOIL, EXCAVATED MATERIAL OR FILL DIRT THAT ARE TO BE RELOCATED LATER SHALL BE SURROUNDED ON THE DOWN SLOPE SIDE BY SILT FENCE. FERTILIZER MUST BE KEPT IN WATERTIGHT CONTAINERS, PREFERABLY IN PORTABLE STORAGE UNITS AND NOT EXPOSED TO THE WEATHER WHILE STORED ON SITE. CARE MUST ALSO BE TAKEN TO MINIMIZE SPILLAGE OF FERTILIZER, IF MIXING OPERATIONS ARE REQUIRED TO PREPARE THE FERTILIZER FOR APPLICATION.

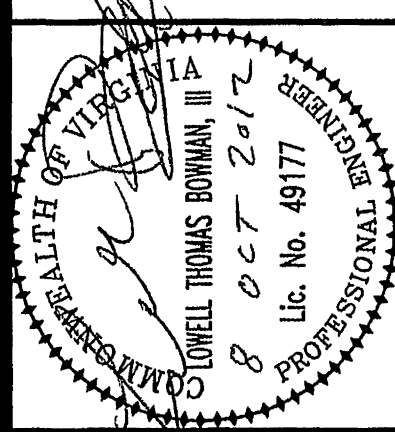
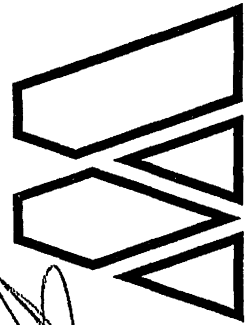
IF OVERNIGHT STORAGE OF FUEL IS REQUIRED, THE FUEL STORAGE CONTAINER MUST BE EQUIPPED WITH A FUELING MECHANISM DISABLE DEVICE. TO MINIMIZE THE AFFECT OF ANY POTENTIAL SPILLS, CONSTRUCT BERMS AROUND ALL ON-SITE FUELING FACILITIES AND MAINTAIN ALL ON-SITE FUELING OPERATIONS AS FAR AWAY FROM SURROUNDING WETLANDS, SURFACE WATERS AND DRAINAGE FACILITIES AS IS PRACTICAL. DAILY INSPECTIONS OF THE FUEL STORAGE CONTAINER MUST BE IMPLEMENTED TO DETECT THE PRESENCE OF LEAKS. THE FUELING OPERATOR SHALL HAVE A SAFE FILL, SHUTDOWN, AND TRANSFER PROCEDURE IN PLACE TO MINIMIZE SPILLAGE DURING FUELING ACTIVITIES. THE OPERATOR MUST MAINTAIN A FULLY EQUIPPED SPILL KIT ON SITE AT ALL TIMES WITH THE STORED FUEL. THE KIT MUST AT LEAST INCLUDE ABSORBENT MATS OR MATERIAL TO CLEANUP ANY SPILLED FUEL. FOR ANY FUEL SPILL ON SITE EQUAL TO OR EXCEEDING 25 GALLONS, IMMEDIATELY CREATE AN APPROPRIATELY SIZED TEMPORARY BERM AROUND THE AREA OF SPILLAGE TO MINIMIZE SURFACE MOVEMENT OF THE FUEL. CONTACT LOCAL HAZMAT AUTHORITIES, THE ENGINEER, AND THE REGIONAL DEQ OFFICE IN ROANOKE AS QUICKLY AS POSSIBLE TO REPORT THE SPILL AND SEEK FURTHER ASSISTANCE WITH SPILL CLEANUP.

CONSTRUCTION MATERIALS WHICH COULD BE CARRIED OFFSITE BY STORMWATER (PLASTICS, PAPER, TIMBER, ROOFING MATERIALS, ETC) SHALL BE PICKED UP DAILY AND PLACED IN APPROPRIATE WASTE DISPOSAL CONTAINERS.

NON STORM WATER DISCHARGES

NO NON-STORMWATER DISCHARGES OTHER THAN THOSE PERMITTED BY THE VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM (VPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES ARE ANTICIPATED DURING THIS PROJECT.

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SHENANDOAH AVENUE
WATER LINE REPLACEMENT PROJECT
ESC NARRATIVE

Designed By:	LTB
Drawn By:	CBD/LTB
Checked By:	TFB
Date:	26 JULY 2012
Revised:	23 AUG 2012 08 OCT 2012
Scale:	
Plan #:	29753-001
Sheet:	1C OF 12