## EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION: THE PURPOSE OF THIS PROJECT IS FOR THE CONSTRUCTION OF A MIXED USE COMMERCIAL AND RESIDENTIAL BUILDING AND ASSOCIATED IMPROVEMENTS TO SERVE THIS USE. THERE WILL BE ONE ACCESS POINT OFF OF TAZEWELL AVENUE.

EXISTING SITE CONDITIONS: THE EXISTING SITE IS A PUBLIC PARKING LOT. THE REMAINDER OF THE SITE CONTAINS EXISTING UTILITIES, ASPHALT PAVEMENT, AND LIMITED PERVIOUS AREAS. PUBLIC SANITARY SEWER AND A PUBLIC WATERLINE ARE LOCATED IN THE WILLIAMSON ROAD RIGHT-OF-WAY. THERE ARE TWO EXISTING STORM SEWER SYSTEMS THAT RUN THROUGH THE CENTER OF THE SITE.

ADJACENT PROPERTY: THE PROPERTY IS BOUNDED BY A COMMERCIAL AUTOMOTIVE GARAGE TO THE NORTH, RAILROAD TRACKS AND RIGHT OF WAY TO THE EAST, TAZEWELL AVENUE PUBLIC RIGHT OF WAY TO THE SOUTH, AND WILLIAMSON ROAD PUBLIC RIGHT OF WAY TO THE WEST. THE SITE IS LOCATED WITHIN THE FLOODPLAIN OF THE ROANOKE RIVER BASIN AS INDICATED ON THE GRADING PLAN (SHEET C4).

OFF-SITE AREAS: THERE WILL BE OFF-SITE IMPROVEMENTS LOCATED WITHIN THE PUBLIC RIGHT OF WAY OF TAZEWELL AVENUE AND WILLIAMSON ROAD. ANY EXCESS NMATERIAL WILL BE TRANSPORTED FROM THE SITE AND THE CITY OF ROANOKE WILL BE NOTIFIED OF THE LOCATION OF THE MATERIAL TO ENSURE IT IS LOCATED WITHIN A PERMITTED SITE.

SOILS: SOILS INFORMATION HAS BEEN PROVIDED ON THIS SHEET INDICATING THAT THE SITE IS 100% 53-URBAN LAND AS SPECIFIED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE - NATURAL RESOURCES CONSERVATION SERVICE - WEB SOIL SURVEY.

CRITICAL EROSION AREAS: THE G.C SHALL ENSURE THAT NO SEDIMENT LADEN RUNOFF IS TRANSPORTED INTO THE EXISTING AND PROPOSED STORM SEWER SYSTEM. THE G.C. SHALL ALSO ENSURE THAT NO MUD TRACKING IS TRANSPORTED ONTO THE ADJACENT PUBLIC ROADS.

EROSION AND SEDIMENT CONTROL MEASURES: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION" (VESCH). THE MINIMUM STANDARDS OF

# THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE DIRECTED BY THE LOCAL PROGRAM ADMINISTRATOR.

### CONSTRUCTION ENTRANCE-STD. 3.02.....A STONE PAD, LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS TO THE CONSTRUCTION SITE, TO REDUCE THE SOIL TRANSPORTED ONTO PUBLIC ROADS AND OTHER PAVED AREAS.

SILT FENCE-STD. 3.05.....A TEMPORARY BARRIER CONSTRUCTED ALONG THE PERIMENTER OF THE DISTURBED AREA AS REQUIRED TO INTERCEPT AND DETAIN SEDIMENT.

INLET PROTECTION-STD. 3.07.....A SEDIMENT FILTER TO PREVENT SEDIMENT FROM ENTERING, ACCUMULATING IN AND BEING TRANSFERRED INTO AN INLET AND ASSOCIATED DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZIATION OF A DISTURBED PROJECT AREA.

TEMPORARY SEEDING-STD. 3.31.....ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR

PERMANENT SEEDING-STD. 3.32.....ESTABLISHMENT OF A VEGETATIVE COVER BY PLANTING SEED ON ALL FINAL GRADED AREAS THAT WILL NOT RECEIVE AN IMPERVIOUS COVER OR RECEIVE TOPSOIL MATERIAL TO PROVIDE A STABILIZED SITE AFTER THE PROJECT IS COMPLETE.

MULCHING-3.35.....MULCH SHALL BE APPLIED TO ALL TEMPORARY AND PEMANENT SEEDING OPERATIONS TO PROMOTE THE GROWTH OF VEGETATION AND TO PROTECT THE SOIL SURFACE FROM RAINDROP IMPACTS.

### **MANAGEMENT STRATEGIES:**

A) CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.

PERIODS OF 30 DAYS TO 1-YEAR BY SEEDING WITH AN APPROPRIATE RAPIDLY GROWING SEED MIXTURE.

B) SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING. C) THE LOCAL PROGRAM ADMINISTRATOR RESERVES THE RIGHT TO ADD TO, DELETE OR OTHERWISE CHANGE THE EROSION CONTROL MEASURES AS DEEMED NÉCESSARY DUE TO ACTUAL FIELD CONDITIONS BY WRITTEN NOTIFICATION TO THE CONTRACTOR.

D) ALL FILL AND CUT SLOPES SHALL BE SEEDED WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE.

E) ONLY AFTER INSPECTION AND APPROVAL FROM THE LOCAL PROGRAM ADMINISTRATOR MAY ITEMS BE REMOVED FOLLOWING THE STABILIZATION OF THE CONTRIBUTING AREAS.

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISHED GRADING. THE PERMANENT SEEDING INSTALLATION SHALL BE PER THE APPROPRIATE PERMANENT SEEDING APPLICATION.

STORMWATER MANAGEMENT:
THE PROJECT DOES NOT REQUIRE ANY ADDITIONAL STORMWATER QUANTITY MEASURES, BUT AN ADDITIONAL STORMWATER QUALITY UNIT HAS BEEN PROPOSED AS INDICATED WITHIN THE SUBJECT PLAN SET. A FILTERRA ROOF DRAIN PRE-MANUFACTURER UNIT IS BEING PROVIDED TO MEET THE SITE'S REMOVAL REQUIREMENTS.

MAINTENANCE/INSPECTIONS:
THE GENERAL CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND THE AREA OF CONSTRUCTION VEHICLE ACCESS AT LEAST EVERY FOURTEEN (14) CALENDAR DAYS, AND WITHIN 48 HOURS OF THE END OF A STORM EVENT PRODUCING 1/2" OR GREATER OF PRECIPITATION. WHERE AREAS HAVE BEEN FINÁLLY OR TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (SITE IS COVERED WITH SNOW, ICE, OR FROZEN GROUND EXISTS) SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH.

A) INSPECT DISTURBED AREAS AND AREAS OF MATERIALS STORAGE THAT ARE EXPOSED TO PRECIPITATION FOR EVIDENCE OF, OR THE POTENTIAL FOR SEDIMENT ENTERING THE STORM DRAIN SYSTEM. INSPECT E&S CONTROLS IN ACCORDANCE WITH REQUIREMENTS STATED HEREIN, AND INSPECT POINTS OF STORM DRAIN DISCHARGE FOR EXCESSIVE SEDIMENTATION. CORRECT SITE CONTROLS AS REQUIRED TO REDUCE SEDIMENTATION OF STORM DRAINS, CULVERTS, AND RECEIVING

B) IF CONTROLS OR SEDIMENT PREVENTION AREAS ARE FOUND TO BE IN NEED OF REPAIR OR MODIFICATION, THE GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES AS REQUIRED. ANY ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES SHALL BE RECORDED AS FIELD REVISIONS TO THESE PLANS. IN THE EVENT THAT ADDITIONAL CONTROLS ARE FOUND TO BE REQUIRED, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE CONTROLS BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICAL, THEY

SHALL BE IMPLEMENTED AS SOON AS PRACTICAL. C) A REPORT SUMMARIZING THE SCOPE OF INSPECTIONS, NAME OF INSPECTOR, INSPECTOR'S QUALIFICATIONS, DATES OF INSPECTIONS, MAJOR OBSERVATIONS PERTAINING TO THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS, AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS A PART OF THESE PLANS. MAJOR OBSERVATIONS OF THESE REPORTS SHALL INCLUDE: THE LOCATIONS OF EXCESSIVE SEDIMENTATION FROM THE SITE; LOCATIONS OF CONTROLS IN NEED OF REPAIR; LOCATIONS OF FAILED OR INADEQUATE CONTROLS; AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED.

> TABLE 3.31-B (Revised June 2003) TEMPORARY SEEDING SPECIFICATIONS

**QUICK REFERENCE FOR ALL REGIONS** 

FERTILIZER & LIME

When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin

Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.

4. 2003 Nutrient Management for Development Sites at http://www.dcr.state.va.us/sw/e&s.htm#pubs

Incorporate the lime and fertilizer into the top 4 – 6 inches of the soil by disking or by other means.

**APPLICATION RATES** 

50 -100 (lbs/acre)

60 - 100 (lbs/acre)

50 (lbs/acre)

**SPECIES** 

50/50 Mix of Annual Ryegrass (lolium multi-

Annual Ryegrass (Iolium multi-florum)

Apply 10-10-10 fertilizer at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)

German Millet

florum) & Cereal (Winter) Rye (Secale cereale)

APPLICATION DATES

Feb. 16 - Apr. 30

May 1 - Aug. 31

### GENERAL E.S.C. NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS). THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

### **TABLE 3.32-C** (Revised June 2003) PERMANENT SEEDING SPECIFICATIONS FOR APPALACHIAN/MOUNTAIN AREA

	SEED <sup>1</sup>	
LAND USE	SPECIES	APPLICATION RATES
	Tall Fescue <sup>1</sup>	90-100%
Minimum Care Lawn (Commercial or Residential)	Perennial Ryegrass <sup>2</sup>	<b>0</b> -10%
	Kentucky Bluegrass <sup>1</sup>	0-10%
	. •	TOTAL: 200-250 lbs
	Minimum of three (3) up to five (5) varieties	
High-Maintenance Lawn	of Kentucky Bluegrass from approved list	TOTAL: 125 lbs
	for use in Virginia <sup>1</sup>	
General Slope (3:1 or less)	Tall Fescue <sup>1</sup>	128 lbs
	Red Top Grass or Creeping Red Fescue	2 lbs
	Seasonal Nurse Crop <sup>3</sup>	<u>20 lbs</u>
		TÖTAL: 150 lbs
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue <sup>1</sup>	108 lbs
	Red Top Grass or Creeping Red Fescue	2 lbs
	Seasonal Nurse Crop <sup>3</sup>	20 lbs
	Crownvetch <sup>4</sup>	<u>20 lbs</u>
		TOTAL: 150 lbs
1 - When selecting varieties of	turfgrass, use the Virginia Crop Improvement Ass	ociation (VCIA) recommended

turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A current turfgrass variety list is available at the local County Extension office or through VCIA at 804-746-4884 or at http://sudan.cses.vt.edu/html/Turf/turf/publications/publications2.html

2 - Perennial Ryegrass will germinate faster and at lower soil temperatures than Tall Fescues, thereby providing cover and erosion resistance for seedbed.

3 - Use seasonal nurse crop in accordance with seeding dates as stated below:

March, April - May 15<sup>th</sup> ..... May 16<sup>th</sup> - August 15<sup>th</sup> .....

August 16<sup>th</sup> - September, October ...... Annual Rye November - February ...... Winter Rye

4 - All legume seed must be properly inoculated. If Flatpea is used, increase to 30 lbs/acre. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to

### FERTILIZER & LIME

- Apply 10-20-10 fertilizer at a rate of 500 lbs. / acre (or 12 lbs. / 1,000 sq. ft.) Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)
- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.

- Incorporate the lime and fertilizer into the top 4 – 6 inches of the soil by disking or by other means.

- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin

# 4, 2003 Nutrient Management for Development Sites at http://www.dcr.state.va.us/sw/e&s.htm#pubs

M	NIMUM STANDARDS		
No. 1	CRITERIA, TECHNIQUE OR METHOD  PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL	PRACTICES PROVIDED	
	GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN  (7) DAYS TO DENUDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN  FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE  THAN ONE (1) YEAR.	TS (PS) (MU)  FOR ALL DENUDED AREAS	
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	NOT APPLICABLE	
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, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	TS PS MU FOR ALL DENUDED AREAS	
<u> </u>	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.	IP SF	
5	STABILIZATION METHODS SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	NOT APPLICABLE	
6	SEDIMENT TRAPS AND BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	NOT APPLICABLE	
7	CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.	NOT APPLICABLE	
8	CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	NOT APPLICABLE SHOULD SEEPS OCCUR IN ANY EXISTING OR NEW CUT OR FILL	
9	WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	SLOPE, THE CONTRACTOR SHALL FIRST INSURE THAT THERE ARE NOT AREAS OF POINDED WATER AT THE TOPS OF THE SLOPES, AND THEN SHALL CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT GEOTECHICAL ENGINEER FOR ON-SITE EVALUATION OF THE	
0	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.	AREAS OF SEPAGE.	
11	BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS 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.	NOT APPLICABLE	
2	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 NO CREEKS ON-SITE	
13	WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX (6) MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL.	NOT APPLICABLE NO CREEKS ON-SITE	
4	ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. THE BEDS AND BANKS OF ANY WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.	NOT APPLICABLE NO CREEKS ON-SITE	
5	THE BEDS AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE-WATERCOURSE IS COMPLETED.	NOT APPLICABLE NO CREEKS ON-SITE	
16	UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: 1)NO MORE THAN 500 LINEAR FEET OF ANY TRENCH MAY BE OPENED AT ONE TIME. 2)EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. 3)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. 4)MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. 5)RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. 6)APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.	UTILIZE FOR SANITARY, STORM SEWER, & WATERLINE INSTALLATION	
17	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.	CE) FOR ALL POINTS OF INGRESS/EGRESS	
8	ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	TS PS MU	
9	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 & CRITERIA  A: CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE 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	M.S. 19 CALCULATIONS PROVIDED WITHIN STORMWATER CALCULATIONS PACKAGE VERIFYING THE APPROPRIATE STORM SEWER DISCHARGE POINTS AND EXISTING MAN-MADE CHANNELS & PIPE SYSTEMS	
	GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN OUESTION OR 2. (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF THE TOV-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS, AND (b) ALL PREVIOUSLY CONSTRUCTED MAN—MADE CHANNELS SHALL BE ANALYZED BY THE USE OF THE 10—YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A 2—TEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS, AND  THE USE OF A 2—TEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS, AND  C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN—MADE CHANNELS OR PIPES ARE NOT ADOLUTE. THE STORMWATER WILL BE CONTAINED WITHIN THE PIPE SYSTEM  C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN—MADE CHANNELS OR PIPES ARE NOT ADOLUTE. THE APPLICANT SHALL:  1. IMPROVE THE CHIPPE OR PIPE SYSTEM TO A CONDITION WHERE 11 IO—YEAR STORM WILL NOT COVERED THE BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER BANKS AND A 2—YEAR STORM WILL NOT CAUSE THE PRE—DEMONSHIP TEAR STORM IN OTHER STORM TO THE REAL STORM TO INCREASE WHEN RUNDED CUTTALLS INTO A MAN—MADE CHANNELS OR  WILL NOT CAUSE THE PRE—DEVELOPMENT FEAR RUNDET PREAD STORM TO INCREASE WHEN RUNDED CUTTALLS INTO A MAN—MADE CHANNELS. OR  PROJECT A STORM THE PRE—DEMONSHIP TEAR STORM TO INCREASE WHEN RUNDED CUTTALLS INTO A MAN—MADE CHANNELS. OR  PROJECT A STORM THE PRE—DEMONSHIP TEAR STORM TO INCREASE WHEN RUNDED CONTRALL BY TO THE PLAN APPROVING AUTHORITY TO PREVENT TO THE PREVENT PREAD STORM TO THE PLAN APPROVING AUTHORITY TO PREVENT D		

M. FOR PLANS APPROVED ON OR AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF 10.1-561 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY

DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 4VAC50-60-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS.

TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19.

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-

. 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

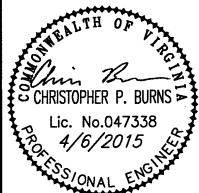
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1208 Corporate Circle Roanoke, VA 24018 540-772-9580 FAX 540-772-8050



ROAD S.E. NOTE

VISIONS: 6/2015 4/2015 /30/2015 /3/2015

> APPROVED IAPR 17 2015