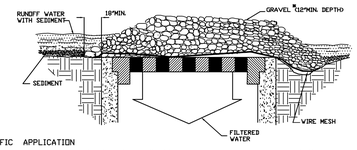
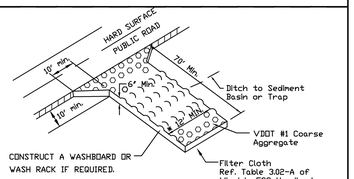


SPECIFIC APPLICATION

This method of inlet protection is applicable where heavy concentrated flows are expected, but not where ponding around the structure might cause excessive inconvenience or damage to adjacent structures and unprotected areas.

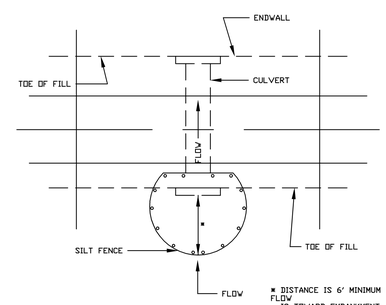
* Gravel shall be VDOT #3, #357 or #5 coarse aggregate.

(IP) GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

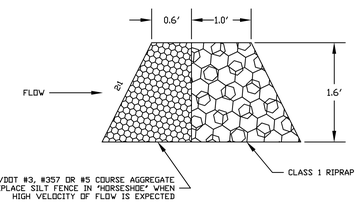


(CE) TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

(CIP) SILT FENCE CULVERT INLET PROTECTION



OPTIONAL STONE COMBINATION**



** VDOT #3, #357 OR #5 COURSE AGGREGATE TO REPLACE SILT FENCE IN "HORSESHOE" WHEN HIGH VELOCITY OF FLOW IS EXPECTED

NO.	TITLE	KEY	SYMBOL
3.01	SAFETY FENCE	SAF	
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	CE	
3.03	CONSTRUCTION ROAD STABILIZATION	CRS	
3.04	STRAW BALE BARRIER	STB	
3.05	SILT FENCE	SF	
3.06	BRUSH BARRIER	BB	
3.07	STORM DRAIN INLET PROTECTION	IP	
3.08	CULVERT INLET PROTECTION	CIP	
3.09	TEMPORARY DIVERSION DIKE	DD	
3.10	TEMPORARY FILL DIVERSION	FD	
3.11	TEMPORARY RIGHT-OF-WAY DIVERSION	RWD	
3.12	DIVERSION	DV	
3.13	TEMPORARY SEDIMENT TRAP	ST	
3.14	TEMPORARY SEDIMENT BASIN	SB	
3.15	TEMPORARY SLOPE DRAIN	TSD	
3.16	PAVED FLUME	PF	
3.17	STORMWATER CONVEYANCE CHANNEL	SCC	
3.18	OUTLET PROTECTION	OP	
3.19	RIPRAP	RR	

NO.	TITLE	KEY	SYMBOL
3.20	ROCK CHECK DAMS	CD	
3.21	LEVEL SPREADER	LS	
3.22	VEGETATIVE STREAMBANK STABILIZATION	VSS	
3.23	STRUCTURAL STREAMBANK STABILIZATION	SSS	
3.24	TEMPORARY VEHICULAR STREAM CROSSING	VSC	
3.25	UTILITY STREAM CROSSING	USC	
3.26	DEWATERING STRUCTURE	DS	
3.27	TURBIDITY CURTAIN	TC	
3.28	SUBSURFACE DRAIN	SD	
3.29	SURFACE ROUGHENING	SR	
3.30	TOPSOILING	TD	
3.31	TEMPORARY SEEDING	TS	
3.32	PERMANENT SEEDING	PS	
3.33	SODDING	SOD	
3.34	BERMUDA GRASS AND ZOYSIAURASS ESTABLISHMENT	BG OR ZO	
3.35	MULCHING	MU	
3.36	SOIL STABILIZATION BLANKETS AND MATTING	BC/ZB	TREAT. 1 / TREAT. 2
3.37	TREES, SHRUBS, VINES AND GROUND COVERS	VEG	
3.38	TREE PRESERVATION AND PROTECTION	TP	
3.39	DUST CONTROL	DC	

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 VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE ONSITE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

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 & NARRATIVE, AS WELL AS A COPY OF THE LAND DISTURBING PERMIT, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES. THE EROSION AND SEDIMENT CONTROL ADMINISTRATOR WILL DELIVER THESE MATERIALS AT THE ONSITE PRECONSTRUCTION CONFERENCE.

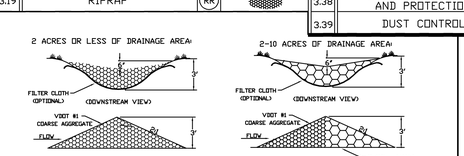
ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

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.

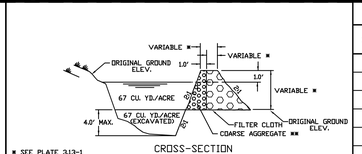
ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING THE LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

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. AN INSPECTION REPORT MUST BE FILED WITH THE BOTETOURT COUNTY EROSION AND SEDIMENT CONTROL ADMINISTRATOR ONCE EVERY TWO WEEKS, BEGINNING WITH COMMENCEMENT OF THE LAND DISTURBING ACTIVITY, AND WITHIN 48 HOURS OF ANY RUNOFF-PRODUCING RAINFALL EVENT. FAILURE TO SUBMIT A REPORT WILL BE GROUNDS FOR IMMEDIATE REVOCATION OF THE LAND DISTURBING PERMIT. REPORTS MUST BE POSTMARKED WITHIN 24 HOURS OF THE DEADLINE. A STANDARD INSPECTION REPORT FORM WILL BE SUPPLIED, WHICH SHOULD BE COPIED AS NECESSARY. THE PROVISION IN NO WAY WAIVES THE RIGHTS OF BOTETOURT COUNTY PERSONNEL TO CONDUCT SITE INSPECTIONS, NOR DOES IT DENY THE RIGHT OF THE PERMITTEE(S) TO ACCOMPANY THE INSPECTOR(S).

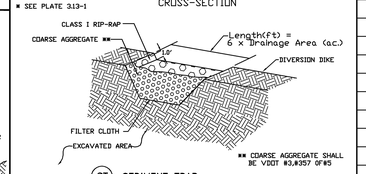


(CD) ROCK CHECK DAM



CROSS-SECTION

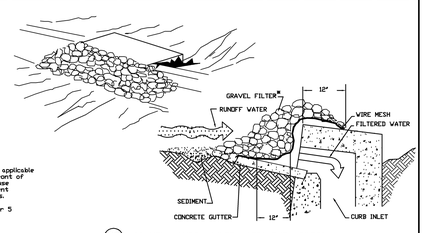
* SEE PLATE 3.13-1



(ST) SEDIMENT TRAP

NOTES

For areas less than 3.0 acres. For areas larger than 3.0 acres, A SEDIMENT TRAP, is required Please see Va' ESC manual for design.

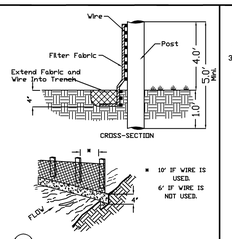


SPECIFIC APPLICATION

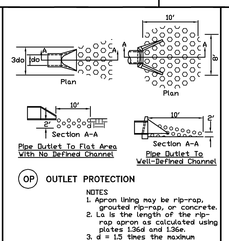
This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.

* Gravel shall be VDOT #3, #357 or 5 coarse aggregate.

(IP) GRAVEL CURB INLET SEDIMENT FILTER

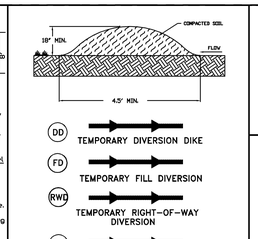


(SF) CONSTRUCTION OF A SILT FENCE



(OP) OUTLET PROTECTION

NOTES
1. Apron lining may be rip-rap, grouted rip-rap, or concrete.
2. La is the length of the rip-rap apron as calculated using plates 3.26d and 3.26e.
3. d = 1.5 times the maximum stone diameter, but not less than 6".



(DD) TEMPORARY DIVERSION DIKE

(FD) TEMPORARY FILL DIVERSION

(RWD) TEMPORARY RIGHT-OF-WAY DIVERSION

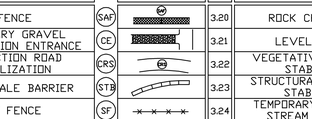
(DV) DIVERSION

NOTE: DIVERSIONS SHALL BE STABILIZED AND SEEDED IMMEDIATELY AFTER CONSTRUCTION.

(TS) TEMPORARY SEEDING MIXTURE

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS *QUICK REFERENCE FOR ALL REGIONS*

PLANTING DATES	SPECIES	RATE (LBS/ACRE)
SEPT. 1 - FEB. 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) & CEREAL (WINTER) RYE (SECALE CEREALE)	50-100
FEB. 16 - APR. 30	ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)	60-100
MAY 1 - AUG. 31	GERMAN MILLET (SETERIA ITALICA)	50



1. GRADE ROADS TO PLAN SUBGRADE.
2. ROADBEDS SHALL BE AT LEAST 22 FEET WIDE.
3. THE ROADBED OR PARKING SURFACE SHALL BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL, PRIOR TO LAYING STONE.
4. PRIOR TO APPLYING PERMANENT ASHPALT TOP COURSE, REMOVE DEBRIS, REDRESS, AND APPLY PRIMECOAT.

CONSTRUCTION ROAD STABILIZATION (CRS)

(PS) PERMANENT SEEDING MIXTURE

TYPE A

15 OCTOBER TO 1 FEBRUARY
K-31 FESCUE @ 5 LB / 1000 SF
BORZY WINTER RYE @ 1/2 LB / 1000 SF

1 FEBRUARY TO 1 JUNE
K-31 FESCUE @ 5 LB / 1000 SF
ANNUAL RYE @ 1/2 LB / 1000 SF

1 JUNE TO 1 SEPTEMBER
K-31 FESCUE @ 5 LB / 1000 SF
GERMAN MILLET @ 1/2 LB / 1000 SF

1 SEPTEMBER TO 15 OCTOBER
K-31 FESCUE @ 5 LB / 1000 SF
ANNUAL RYE @ 1/2 LB / 1000 SF

TYPE B (SLOPES 3:1 OR STEEPER)

15 MARCH TO 1 MAY
CROWN VETCH @ 1/2 LB / 1000 SF
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF
RED TOP @ 1/8 LB / 1000 SF

15 AUGUST TO 1 OCTOBER
CROWN VETCH @ 1/2 LB / 1000 SF
PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF
RED TOP @ 1/8 LB / 1000 SF

LIME: 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE

FERTILIZER: 5-20-10 @ 25 LB / 1000 SF
38-0-0 @ 7 LB / 1000 SF

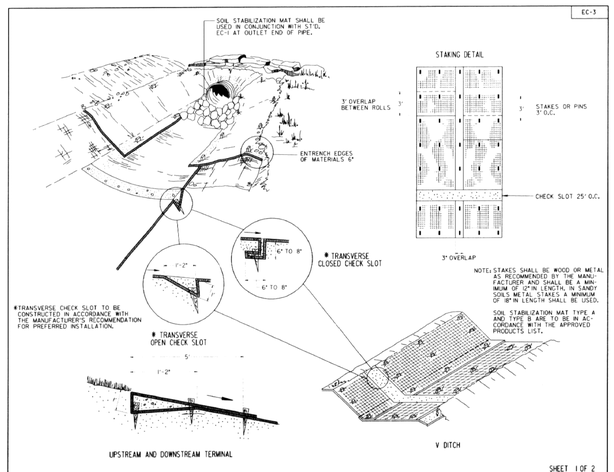
MULCH: IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 3.35 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

SOIL CONDITIONING: INCORPORATION OF LIME AND FERTILIZER, SELECTION OF CERTIFIED SEED, MULCHING, MAINTENANCE OF NEW SEEDLINGS, AND RESEEDING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. ADDITIONAL SEEDING TO BE PERFORMED AS REQUIRED BY THE INSPECTOR.

SEED APPLICATION: APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE, SEEDBED. MAXIMUM SEEDING DEPTH SHALL BE 1/4 INCH.

AFTER SEEDING HAS OCCURED ALL AREAS WILL IMEDIATELY BE MULCHED WITH STRAW AND SHALL BE ANCHORED USING THE FIBER MULCH METHOD. ALL MULCHING PRACTICES SHALL ADHERE TO THE STANDARDS SET FORTH IN "THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK" SECTION 3.35.

(MU) MULCHING SPECIFICATIONS

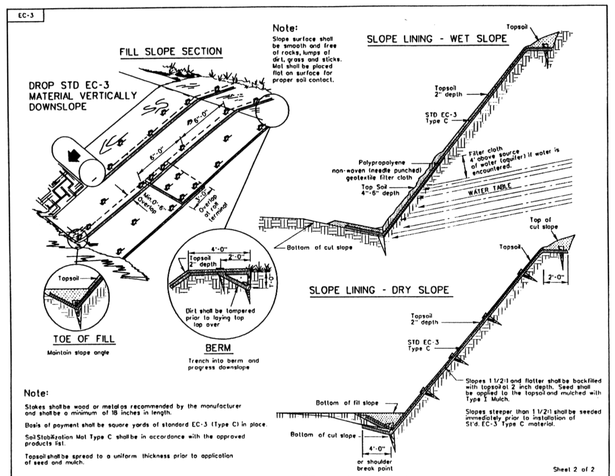


SPECIFICATION REFERENCE
244

SOIL STABILIZATION MAT INSTALLATION

VIRGINIA DEPARTMENT OF TRANSPORTATION

114.03

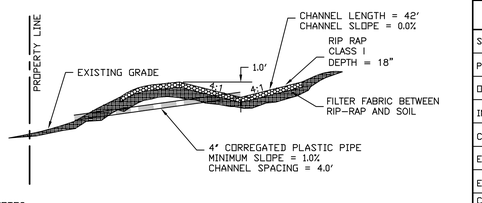


SOIL STABILIZATION MAT - SLOPE INSTALLATION TYPE C

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
244 606

114.04 Rev. March 25, 1996



NOTES:

1. CHANNEL WILL BE CONSTRUCTED WITH THE CHANNEL GRADE EQUAL TO 0%.
2. THE ENTRANCE TO THE SPREADER MUST BE SHAPED IN SUCH A MANNER AS TO INSURE THAT RUNOFF ENTERS DIRECTLY INTO THE 0% CHANNEL.
3. CONSTRUCT A 20-FT. TRANSITION SECTION FROM THE DIVERSION CHANNEL TO BLEND SMOOTHLY TO THE WIDTH AND DEPTH OF THE SPREADER.
4. RELEASE RUNOFF MUST OUTFALL ONTO UNDISTURBED STABILIZED AREAS NOT EXCEEDING 10%. SLOPE MUST BE SUFFICIENTLY SMOOTH TO PRESERVE SHEET FLOW AND PREVENT FLOW FROM CONCENTRATING.
5. IMMEDIATELY AFTER ITS CONSTRUCTION, APPROPRIATELY SEED AND MULCH ENTIRE DISTURBED AREA OF THE SPREADER.

LEVEL SPREADER (LS)

SEDIMENT TRAP DATA

STRUCTURE	DRAINAGE AREA (ACRES)	STORAGE (C.Y.) REQ'D	STORAGE (C.Y.) DESIGN	WEIR LENGTH (FT.)	WEIR HEIGHT (FT.)	BERM HEIGHT (FT.)
ST-1	3.00	402.0	419.5	18.0'	1.0'	4.0'

EROSION-SEDIMENTATION CONTROL COST ESTIMATE

ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	$ 450	$ 450
SILT FENCE	LF	1,167	3	3,501
TEMPORARY DIVERSION DIKE	LF	897	5	4,485
PERMANENT SEEDING	1000 SF	892	35	31,220
OUTLET PROTECTION	EA	9	250	2,250
INLET PROTECTION	EA	30	100	3,000
STORM WATER CONVEYANCE CHANNEL	LF	4,942	5	24,710
TEMP. SLOPE DRAIN	LF	181	10	1,810
CONSTRUCTION ROAD STABILIZATION	SY	20,833	5	104,165
CHECK DAM	EA	22	100	2,200
RIPRAP	CY	15	50	750
SUB-TOTAL				$ 178,541
20% CONTINGENCY				$ 35,708
TOTAL PROJECT COST				$ 214,249

GLEBE ROAD EROSION-SEDIMENTATION CONTROL COST ESTIMATE

ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
SILT FENCE	LF	186	$ 3	$ 558
PERMANENT SEEDING	1000 SF	84000	$ 35	$ 2940
OUTLET PROTECTION	EA	4	$ 250	$ 1000
INLET PROTECTION	EA	4	$ 100	$ 400
CHECK DAM	EA	18	$ 100	$ 1800
EC3 - TYPE A	SY	133	$ 9	$ 1197
EC3 - TYPE B	SY	1042	$ 9	$ 9378
CONCRETE LINED DITCH	LF	405	$ 30	$ 12150
SUB-TOTAL				$ 29423
20% CONTINGENCY				$ 5885
TOTAL PROJECT COST				$ 35308

MENU

CADD VERSION	ACADR-14
PLOT SCALE	1:1
PLOT DATE	
COMM NO.	
DRAWING NO.	

KEYPLAN

ENGINEERING CONCEPTS, INC.
20 South Roanoke St.
Fincastle, Virginia 24090
540.473.1253 540.473.1254(Fax)
email@engineeringconcepts.com
ECI PROJECT #02019

GENERAL NOTES

COMMONWEALTH OF VIRGINIA
ROBERT H. WAMPLER, JR.
No. 34713
11 | 12 | 03
PROFESSIONAL ENGINEER

PROJECT TITLE

The Glebe

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
540.344.6664 ▪ Fax 540.343.6925
www.sfcs.com

PROJECT DESIGNER	: SFCS
PROJECT ARCHITECT	: SFCS
PROJECT ENGINEER	: ECI
DRAWN BY	: ECI
CHECKED BY	: ECI
APPROVED BY	: ECI

NO.	REVISION DESCRIPTION	DATE
3	TEMP. PRK/SEDIMENT BASIN	9-15-03

DRAWING TITLE

EROSION & SEDIMENT CONTROL NOTES AND DETAILS

COMM. NO. 97115.00	DATE 11/12/03
DRAWING C35	SHEET 35 OF 43