#### Contractor shall pay particular attention to the following Minimum Standards:

MS-1: Though TS / PS labels are shown generically on the plans, the contractor shall seed all areas not indicated to be otherwise stabilized with permanent seed mixture within 7 days of reaching final grade or with temporary seed mixture any area yet to reach final grade but that is not proposed to be actively involved in the work within 30 days. These seed mixtures and application specifications are shown hereon. The contractor shall honor the clearing and grading limits shown on the plan.

MS-2: The contractor shall stabilize with TS and protect from erosion, with any applicable method, all stockpiles and any on-site or off-site borrow or spoil areas. Approval of this plan does not cover off-site borrow or spoil areas. The contractor shall notify the County of any such area and shall have an approved ESC plan for these areas on record with them or provide them with a copy

MS-3: Where TS/PS are not applicable provide other means of stabilization (CRS, etc.) within 7 days of reaching final grade or within 30 days where the area is yet to reach final grade but is not proposed to be actively involved in the work.

MS-4: All soil erosion and sediment control measures shall be placed in advance of the work they are intended to protect.

MS-5: NOT APPLICABLE as no earthen structures are proposed.

MS-6: NOT APPLICABLE as sediment traps/basins are not required on this project.

MS-7: NOT APPLICABLE as project consists of installation of utilities only and no cut/fill slopes are created.

MS-8: NOT APPLICABLE as no cut/fill slopes are created.

MS-9: NOT APPLICABLE as no slopes are created.

MS-10: Inlet or culvert inlet protection is proposed for the inlets of all storm sewers or culverts on—site. RLD shall insure proper installation and assure adequate sizing based on drainage area of each inlet.

MS-11: NOT APPLICABLE as no storm sewer system is proposed.

MS-12: Live watercourse protection and permits are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-13: Stream crossing is NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-14: Regulations pertaining to live watercourses are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-15: Live watercourse bed and bank stabilization are NOT APPLICABLE; no live watercourses exist within or adjacent to this project.

MS-16: Regarding utility installations, no more than 500 LF of trench may be open at a given time. Excavated material shall be placed on uphill side of trench. Effluent of any dewatering system used must be filtered. Trenches shall be proper backfilled and compacted per detail and specs. Completed installation shall be re-stabilized immediately.

MS-17: The contractor shall provide adequate means of cleaning mud from trucks and / or other equipment prior to entering public streets. It is the contractor's responsibility to insure that the streets are in a clean, mud and dust free condition at all times.

MS-18: See Maintenance under ESC Narrative for CE, IP, SF, and TS/PS at a minimum.

MS-19: NOT APPLICABLE as no stormwater management is required.

	NO.	TILE	KEY	SYMBOL	NO.	TITLE	KEY	SYMBOL.	
	3.01	SAFETY FENCE	SAF	<b>@</b>	3.20	ROCK CHECK DAMS	(co)	-)-)-	
	3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	(CE)		3.21	LEVEL SPREADER	LS	-	
	3.03	CONSTRUCTION ROAD STABILIZATION	CRS		3.22	VEGETATIVE STREAMBANK STABILIZATION	(VSS)	0	
	3.04	STRAW BALE BARRIER	STB		3.23	STRUCTURAL STREAMBANK STABILIZATION	SSS		
	3.05	SILT FENCE	SF)	<del>-x -x -x</del>	3.24	TEMPORARY VEHICULAR STREAM CROSSING	vsc		
	3.06	BRUSH BARRIER	BB	<del>(2000)</del>	3.25	UTILITY STREAM CROSSING	USC		
	3.07	STORM DRAIN INLET PROTECTION	P		3.26	DEWATERING STRUCTURE	OS)		
	3.08	CULVERT INLET PROTECTION	CIP	8	3.27	TURBIDITY CURTAIN	9		
	3.09	TEMPORARY DIVERSION DIKE	(B)	<b>⊕</b>	3.28	SUBSURFACE DRAIN	SD		
	3.10	TEMPORARY FILL DIVERSION	FD	<b>⊕</b>	3.29	SURFACE ROUGHENING	SR		
	3.11	TEMPORARY RIGHT-OF-WAY DIVERSION	RWD	→ 😁 →	3.30	TOPSOILING	100		
	3.12	DIVERSION	(A)	<b>₩</b>	3.31	TEMPORARY SEEDING	TS		
	3.13	TEMPORARY SEDIMENT TRAP	ST		3.32	PERMANENT SEEDING	PS	<b>®</b>	
	3.14	TEMPORARY SEDIMENT BASIN	SB		3.33	SODDING	(50)	•	
	3.15	TEMPORARY SLOPE DRAIN	(83)		3.34	BERMUDA GRASS AND ZOYSIAGRASS ESTABLISHMENT	<b>%</b>		
	3.16	PAVED FLUME	PF		3.35		(N)		
,	3.17	STORMWATER CONVEYANCE CHANNEL	<u></u>		3.36	SOIL STABILIZATION BLANKETS AND MATTING	<b>P4</b>	MAT 1 WAT 1	
	3.18	OUTLET PROTECTION	(P)		3.37	TREES, SHRUBS, VINES AND GROUND COVERS	VEG	-	
	3.19	RIPRAP	RR		3.38	TREE PRESERVATION AND PROTECTION	P	————	
					3.39	DUST CONTROL	(in)		
2	ACRES	OR LESS OF DRAINAGE AREA:	2-	10 ACRES OF DRAINA	GE ARE	A:	,		

(CD) ROCK CHECK DAM

CURB INLET SEDIMENT FILTER

--- Endwall

Culvert

SILT FENCE CULVERT INLET **PROTECTION** 

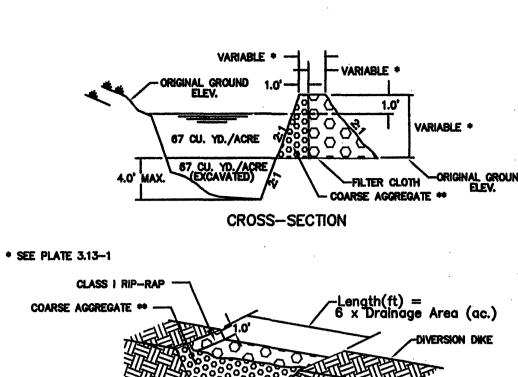
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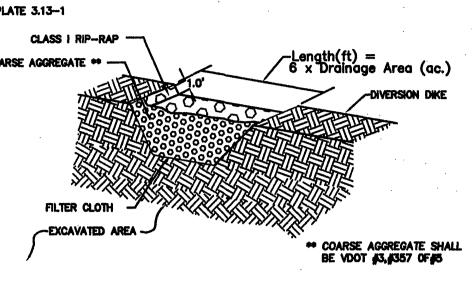
Silt Fence

SPECIFIC APPLICATION

This method of inlet protection is applicat out briefs 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 course aggregate.



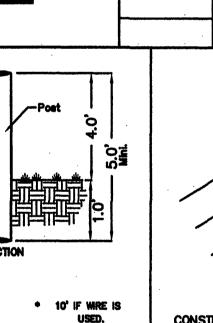


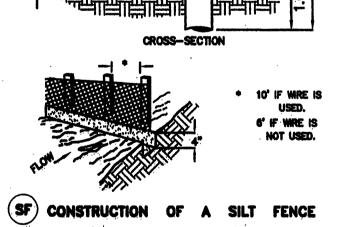
ST) SEDMENT TRAP

FOR AREAS LESS THAN 3.0 ACRES. FOR AREAS LARGER THAN 3.0 ACRES A SEDIMENT BASIN IS REQUIRED. SEE DETAIL THIS SHEET.

	TEMPOF	PARY SEI	DIMENT	TRAP	DA.	TA
IRE	DRAINAGE AREA	STORA	GE (C.Y.)	LEN.	IR IGŢH	WEIR H <u>EIGH</u> T

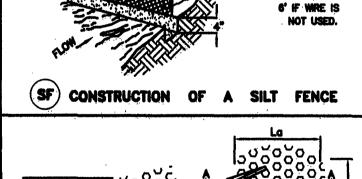
STRUCTURE	DRAINAGE	SIORAG	SE (C. Y.)	WEIR	WEIK	BEKM
SIRUCIURE	AREA (ACRES)	REQ'D	DESIGN	LENGTH (FT.)	HEIGHT (FT.)	HEIGH (FT.)
,		:				
			4-7-19-1 <sub>4-1</sub> -1 <sub>4-1</sub> -1 <sub>4</sub> -1 <sub>4-1</sub> -1 <sub>4-</sub>			
	·					
						1

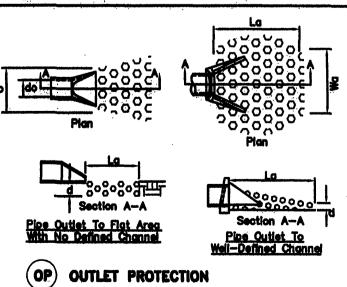


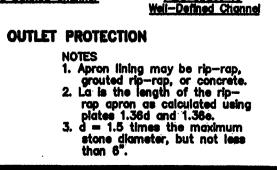


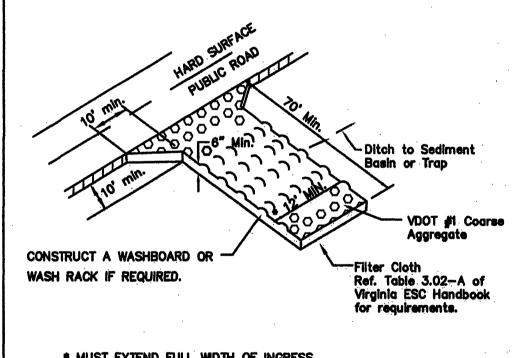
TEMPORARY DIVERSION DIKE

TEMPORARY RIGHT-OF-WAY

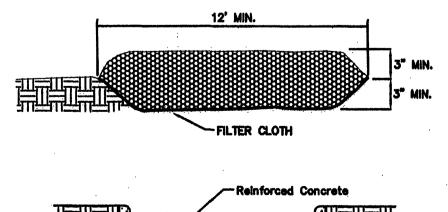


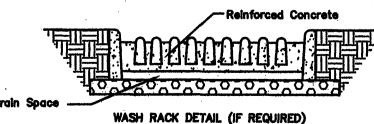






\* MUST EXTEND FULL WIDTH OF INGRESS & EGRESS OPERATION.





CE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

### EROSION-SILTATION CONTROL COST ESTIMATE

ALL COSTS GIVEN ARE COMPLETE IN PLACE

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
CONSTRUCTION ENTRANCE	EA	1	\$ 700.00	\$ 700.00
SILT FENCE	LF	550	\$ 3.00	\$ 1,650.00
INLET PROTECTION	EA	1	\$ 200.00	\$ 200.00
TEMPORARY DIVERSION DIKE	LF	·		
TEMPORARY FILL DIVERSION	LF			
SEDIMENT TRAP	. <b>EA</b>			,
CHECK DAM	EA .			
PERMANENT SEEDING	AC.	0.4	\$ 1,500.00	\$ 600.00
SUB-TOTAL	,		. ,	\$ 3,150.00
10% CONTINGENCY				\$ 315.00
TOTAL PROJECT COST				\$ 3,465.00

#### GENERAL EROSION AND SEDIMENT CONTROL NOTES

- I. ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
- THE APPROVING AUTHORITY MAY ADD TO, DELETE, RELOCATE, CHANGE, OR OTHERWISE MODIFY CERTAIN EROSION AND SEDIMENT CONTROL MEASURES WHERE FIELD CONDITIONS ARE ENCOUNTERED THAT WARRANT SUCH MODIFICATIONS.
- 5. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN SHALL BE PLACED IN ADVANCE OF THE WORK BEING PERFORMED, AS FAR AS PRACTICAL.
- 4. IN NO CASE DURING CONSTRUCTION SHALL WATER RUNOFF BE DIVERTED OR ALLOWED TO FLOW TO LOCATIONS WHERE ADEQUATE PROTECTION HAS NOT BEEN
- 5. 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.
- 6. FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL PLANS SUBMITTED TO ROANOKE COUNTY.

# TEMPORARY SEEDING MIXTURE

PLANTING DATES

SEPT. 1 — FEB. 15

(LBS./ACRE) 50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)

60 - 100

CEREAL (WINTER) RYE (SECALE CEREALE)

FEB. 16 - APR. 30 ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)

GERMAN MILLET (SETARIA ITALICA)

TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN 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.

## PERMANENT SEEDING MIXTURE

TYPE B (SLOPES 3:1 OR STEEPER) 15 OCTOBER TO 1 FEBRUARY
K-31 FESCUE • 5 LB / 1000 SF
BORZY WINTER RYE • 1/2 LB / 1000 SF 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

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

SEPTEMBER TO 15 OCTOBER

FERTILIZER:

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

K-31 FESCUE • 5 LB / 1000 SF ANNUAL RYE • 1/2 LB / 1000 SF 140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE

5-20-10 • 25 LB / 1000 SF 38-0-0 • 7 LB / 1000 SF IF REQUIRED, SHALL BE USED OVER ALL SEEDED AREAS AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1.75 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

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.

TOTAL DISTURBED AREA = 0.4 AC.

DEPARTMENT ENGINEERING AND INSPECTIONS

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

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.

(IP) GRAYEL AND WIRE MESH DROP INLET SEDIMENT FILTER

NO.	REVISIONS	DATE
6		
5		
4		
3	ENGR. & INSPEC.	10-27-93
2	ENGR. & INSPEC.	08-05-93
1	ENGR. & INSPEC.	04-10-93

COUNTY ROANOKE

\* Distance is 6' minimum if flow

is toward embankment.

SCALE: NO S	CALE
DRAWING BY:	CLN,AF
DESIGNED BY:	G:\CAD\DETAILS\EROSION\EROSION)

**EROSION & SEDIMENT CONTROL** DETAIL SHEET

COMM No.: 2004-269