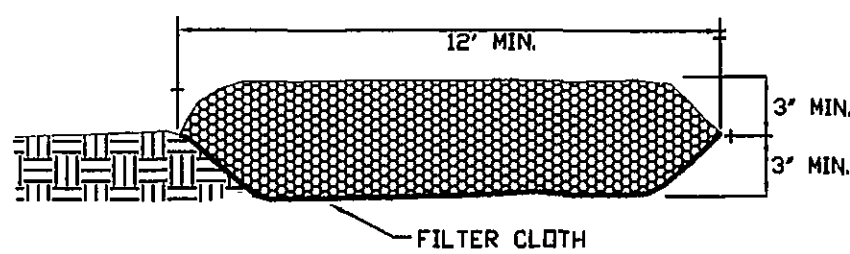
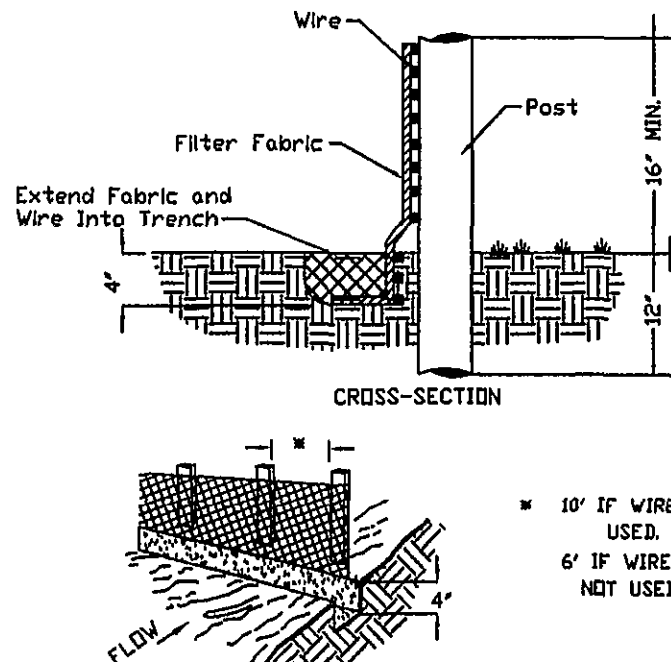


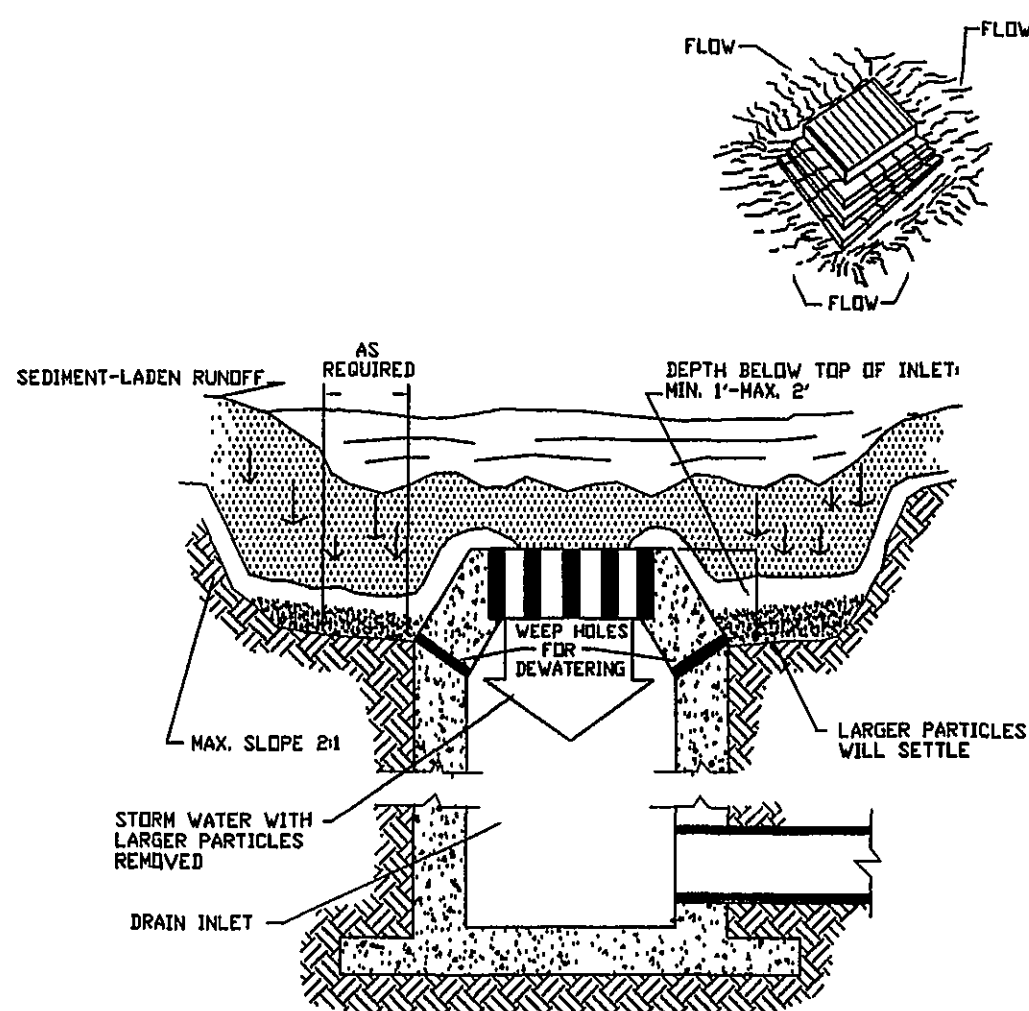
\* MUST EXTEND FULL WIDTH OF INGRESS & EGRESS OPERATION.



**CE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**



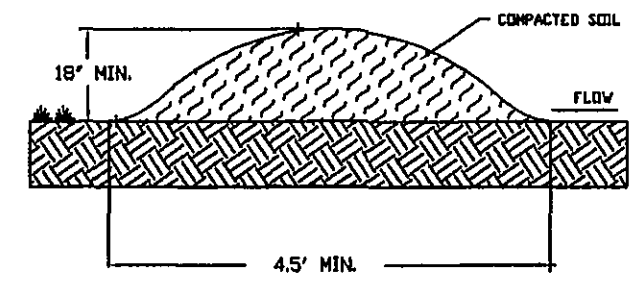
**SF CONSTRUCTION OF A SILT FENCE**



**IP EXCAVATED DROP INLET SEDIMENT TRAP**

SPECIFIC APPLICATION

This method of inlet protection is applicable where heavy flows are expected and where an overflow capability and ease of maintenance are desirable.

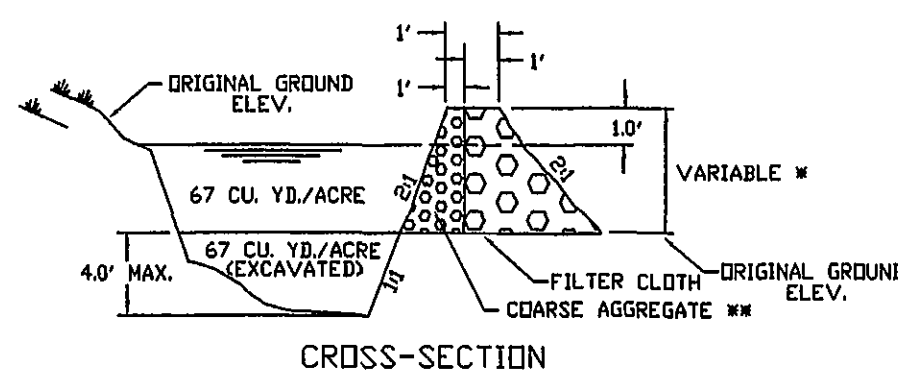


**DD TEMPORARY DIVERSION DIKE**

**FD TEMPORARY FILL DIVERSION**

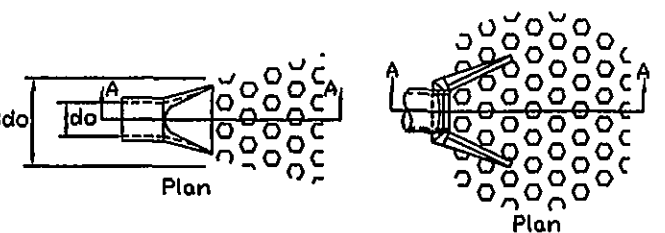
**RWD TEMPORARY RIGHT-OF-WAY DIVERSION**

**DV DIVERSION**



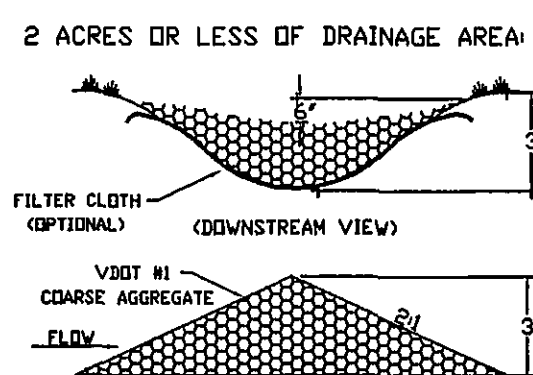
**ST SEDIMENT TRAP**

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

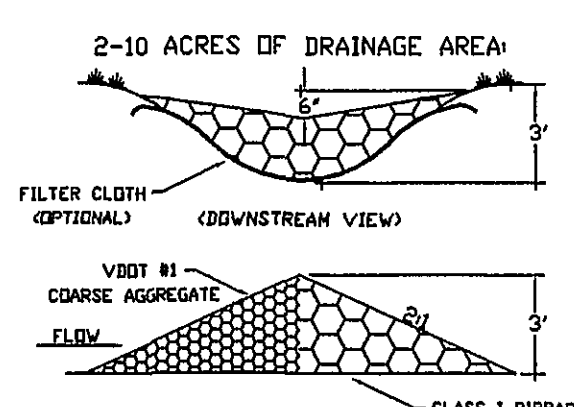


**OP OUTLET PROTECTION**

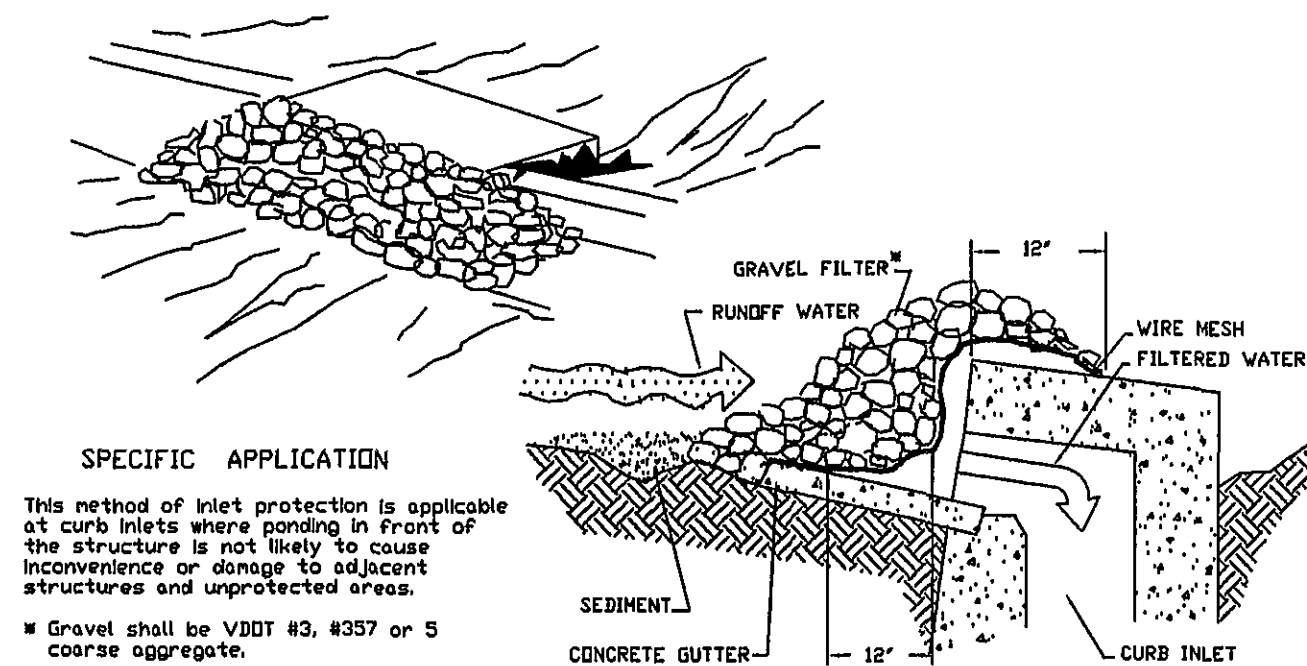
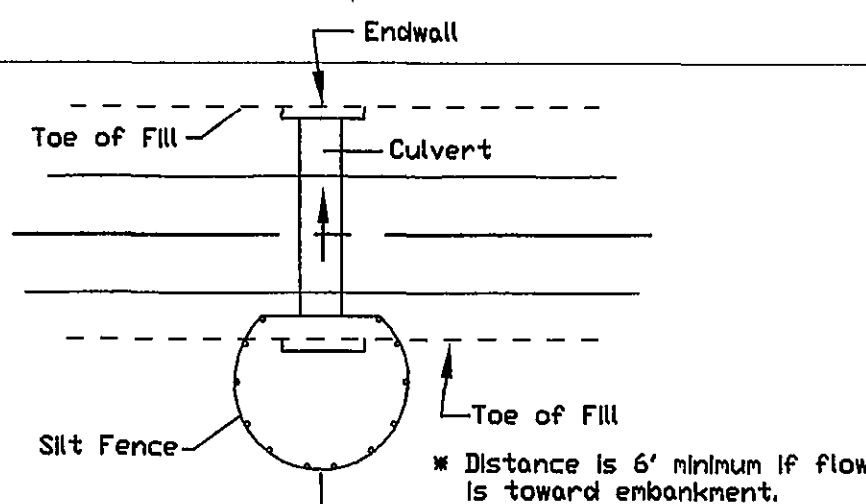
NOTES:  
1. Apron lining may be rip-rap, grouted rip-rap, or concrete.  
2. L<sub>a</sub> is the length of the rip-rap apron as calculated using plates 136d and 136e.  
3. d = 15 times the maximum stone diameter, but not less than 6".



**CD ROCK CHECK DAM**



**CIP SILT FENCE CULVERT INLET PROTECTION**

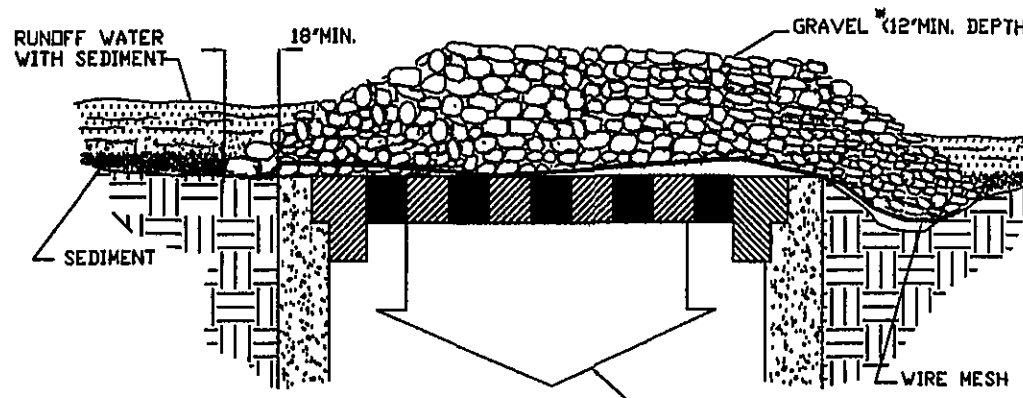


**IP GRAVEL CURB INLET SEDIMENT FILTER**

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.



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**

TEMPORARY SEDIMENT TRAP DATA					
STRUCTURE	DRAINAGE AREA (ACRES)	STORAGE (C.Y.) REQ'D	DESIGN	WEIR LENGTH (F.T.)	WEIR HEIGHT (F.T.)
ST1	1.8	242	247	10.8	2.5
			WET = 44' X 22' X 4' (TOP) = 122 CY		
			DRY = 54' X 32' X 2.5' (TOP) = 125 CY		
ST2	1.9	255	272	11.4	2.5
			WET = 48' X 24' X 3.5' (TOP) = 127 CY		
			DRY = 58' X 34' X 2.5' (TOP) = 145 CY		

NO.	TITLE	KEY	SYMBOL	NO.	TITLE	KEY	SYMBOL
3.01	SAFETY FENCE	SAF	[Symbol]	3.20	ROCK CHECK DAMS	CD	[Symbol]
3.02	TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	CE	[Symbol]	3.21	LEVEL SPREADER	LS	[Symbol]
3.03	CONSTRUCTION ROAD STABILIZATION	CRS	[Symbol]	3.22	VEGETATIVE STREAM BANK STABILIZATION	VSS	[Symbol]
3.04	STRAW BALE BARRIER	STB	[Symbol]	3.23	STRUCTURAL STREAM BANK STABILIZATION	SSS	[Symbol]
3.05	SILT FENCE	SF	[Symbol]	3.24	TEMPORARY VEHICULAR STREAM CROSSING	VSC	[Symbol]
3.06	BRUSH BARRIER	BB	[Symbol]	3.25	UTILITY STREAM CROSSING	USC	[Symbol]
3.07	STORM DRAIN INLET PROTECTION	IP	[Symbol]	3.26	DEWATERING STRUCTURE	DS	[Symbol]
3.08	CULVERT INLET PROTECTION	CIP	[Symbol]	3.27	TURBIDITY CURTAIN	TC	[Symbol]
3.09	TEMPORARY DIVERSION DIKE	DD	[Symbol]	3.28	SUBSURFACE DRAIN	SD	[Symbol]
3.10	TEMPORARY FILL DIVERSION	FD	[Symbol]	3.29	SURFACE ROUGHENING	SR	[Symbol]
3.11	TEMPORARY RIGHT-OF-WAY DIVERSION	RWD	[Symbol]	3.30	TOPSOILING	TD	[Symbol]
3.12	DIVERSION	DV	[Symbol]	3.31	TEMPORARY SEEDING	TS	[Symbol]
3.13	TEMPORARY SEDIMENT TRAP	ST	[Symbol]	3.32	PERMANENT SEEDING	PS	[Symbol]
3.14	TEMPORARY SEDIMENT BASIN	SB	[Symbol]	3.33	SODDING	SD	[Symbol]
3.15	TEMPORARY SLOPE DRAIN	TS	[Symbol]	3.34	BERMUDA GRASS AND ZOYSIAURASS ESTABLISHMENT	ZG	[Symbol]
3.16	PAVED FLUME	PF	[Symbol]	3.35	MULCHING	MU	[Symbol]
3.17	STORMWATER CONVEYANCE CHANNEL	SCC	[Symbol]	3.36	SOIL STABILIZATION BLANKETS AND MATTING	SE	[Symbol]
3.18	OUTLET PROTECTION	OP	[Symbol]	3.37	TREES, SHRUBS, VINES AND GROUND COVERS	VEG	[Symbol]
3.19	RIPRAP	RR	[Symbol]	3.38	TREE PRESERVATION AND PROTECTION	TP	[Symbol]
				3.39	DUST CONTROL	DC	[Symbol]

## EROSION AND SEDIMENT CONTROL NARRATIVE

**PROJECT DESCRIPTION**  
THIS PROJECT CONSISTS OF THE EXPANSION OF THE CONSTRUCTION OF 36 CONDOMINIUM UNITS WITH ASSOCIATED PARKING, WATER, SANITARY SEWER, AND STORM DRAIN SYSTEMS.

**EXISTING SITE CONDITIONS**  
THIS SITE CONSISTS OF MODERATELY STEEP LAND THAT DRAINS TO THE SOUTH INTO SMITH MOUNTAIN LAKE. THE SITE IS PREDOMINATELY WOODED.

**SOILS**  
SOILS EVERYWHERE ONSITE ARE CLAY-LOAM FROM 0 TO 42" IN DEPTH AND LOAM AT DEPTHS GREATER THAN 42".

**CRITICAL AREAS**  
PRESERVING THE TOPOGRAPHY AT THE LAKE SHORELINE WITHIN THE LIMITS OF THE 100 YEAR FLOODPLAIN IS CRITICAL. SPECIAL CARE SHALL BE TAKEN TO PREVENT SEDIMENT TRANSPORT AND VEGETATION DEGRADATION IN THIS AREA.

**ADJACENT AREAS**  
THIS SITE IS BORDERED TO THE NORTH BY ROUTE 654, TO THE EAST BY EXISTING RESIDENTIAL PROPERTY, TO THE WEST BY UNDEVELOPED LAND, AND TO THE SOUTH BY SMITH MOUNTAIN LAKE.

**OFFSITE AREAS**  
NO OFFSITE FILL OR BORROW SITES ARE COVERED BY THIS EROSION AND SEDIMENT CONTROL PLAN.

**EROSION AND SEDIMENT CONTROL MEASURES**  
CONSTRUCTION ENTRANCE (3.02) - A STONE CONSTRUCTION ENTRANCE WILL BE INSTALLED TO MINIMIZE THE AMOUNT OF MUD TRANSPORTED INTO EXISTING ROADS.

**SILT FENCE (3.05)** - SILT FENCE WILL BE INSTALLED AT THE LOWER ENDS OF THE SITE TO INTERCEPT AND DETAIN SEDIMENT.

**INLET PROTECTION (3.02)** - INLET PROTECTION WILL BE INSTALLED AT ALL INLETS TO MINIMIZE SEDIMENT BUILDUP WITHIN THE PIPE.

**DIVERSION DIKE (3.09)** - DIVERSION DIKES WILL BE CONSTRUCTED TO DIVERT SEDIMENT-LADEN RUNOFF TO SEDIMENT TRAPS.

**OUTLET PROTECTION (3.18)** - OUTLET PROTECTION WILL BE INSTALLED AT THE END OF ALL CULVERTS TO MINIMIZE SCOUR AND DOWNSTREAM EROSION.

**PERMANENT STABILIZATION**  
ALL AREAS ONSITE WHICH WILL NOT RECEIVE BUILDINGS OR PAVEMENT MUST RECEIVE PERMANENT SEEDING AS SOON AS THOSE AREAS REACH FINAL GRADE. FOR PERMANENT SEEDING SPECIFICATIONS PLEASE SEE THIS SHEET.

**STORMWATER MANAGEMENT**  
ALL CONCENTRATED RUNOFF FROM THIS DEVELOPMENT WILL DISCHARGE INTO AN ADEQUATE CHANNEL (SMITH MOUNTAIN LAKE).

**MAINTENANCE**  
ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. IN PARTICULAR:

- THE SEDIMENT TRAP WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP. CLEAN OUT AS NECESSARY TO MAINTAIN DESIGN VOLUMES.
- OUTLET PROTECTION WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF STONE IS CLOGGED BY SEDIMENT, IT WILL BE REMOVED AND CLEANED OR REPLACED.
- THE SILT FENCE WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT BUILDUP REACHES THE MIDWAY POINT OF THE SILT FENCE.
- ALL SEEDING AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEEDING AS REQUIRED TO ACHIEVE A GOOD STAND OF GRASS.

## TEMPORARY SEEDING

TEMPORARY SEEDING SHALL BE APPLIED WITHIN SEVEN DAYS TO ANY DISTURBED SURFACE THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM OR OFF-SITE AREAS AND TO PROVIDE PROTECTION TO BARE SOILS EXPOSED DURING CONSTRUCTION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED.

## PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS OR IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING WILL BE DONE ACCORDING TO STANDARD AND SPECIFICATION 3.32 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. PERMANENTLY SEEDING AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH STRAW MULCH.

## PS PERMANENT SEEDING MIXTURE

ACCOMPANY THE INSPECTOR (S).

Permanent Seeding:

Minimum Core Lawn: Total Lb. Per Acre

Commercial or Residential 200-250 Lb./Acre  
Kentucky 31 or turf type tall fescue 90-100%  
Improved perennial ryegrass\* 0-10%  
Kentucky Bluegrass 0-10%

High Maintenance Lawn:

Minimum of three (3) up to five (5) varieties of blue grass from approved list for use in VA 125 Lb./Ac.

General Slope (3:1 or Less):

Kentucky 31 Fescue 125 Lb./Ac.  
Red Top Grass 2 Lb./Ac.  
Seasonal Nurse Crop\*\* 20 Lb./Ac.  
150 Lb./Ac.

Low Maintenance Slope (Steeper than 3:1):

Kentucky 31 Fescue 108 Lb./Ac.  
Red Top Grass 2 Lb./Ac.  
Seasonal Nurse Crop\*\* 20 Lb./Ac.  
Crownvetch\*\*\* 20 Lb./Ac.  
150 Lb./Ac.

\*Perennial ryegrass will germinate faster and at a lower soil temperature than fescue, thereby providing cover and erosion resistance for seedbed.

\*\*Use seasonal nurse crop in accordance with seeding dates as stated below:  
March, April thru May 15.....Annual Ryegrass  
May 16th thru August 15th.....Festulolium  
August 16 thru Sept., Oct.....Annual Ryegrass  
Nov. Thru Feb.....Winter Ryegrass

\*\*\*If flatpea is used, increase to 30 Lb./Acre. All legume seed must be properly inoculated. Weeping Lovegrass may also be included in any slope or low maintenance mixture during warmer seeding periods; add 10-20 Lb./acre in mixes.

Lime shall be applied at a rate of 2 tons/acre pulverized agricultural grade limestone (90 lbs/1000 ft<sup>2</sup>)

Straw mulch shall be applied to all permanently seeded areas at a rate of ninety (90) pounds per one thousand square feet over the seeded area. Straw mulch shall be anchored or tacked down with string or other approved materials.

The contractor shall inspect seeded areas 2 weeks after seeding, at which time sparse areas shall be prepared and reseeded to establish permanent cover on all disturbed areas.

Any areas not achieving adequate stabilization within one year will be restabilized.

Permanent seeding shall be in accordance with specification 3.32 of the 1992 Virginia Erosion & Sediment Control Handbook.

**LUMSDEN ASSOCIATES, P.C.**  
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COMMONWEALTH OF VIRGINIA  
THOMAS C. DALE  
No. 033002  
1/1/93  
PROFESSIONAL ENGINEER

**EROSION AND SEDIMENT CONTROL NOTES AND DETAILS**

**SOUTH POINTE CONDOMINIUMS AT THE WATERFRONT**  
PREPARED FOR  
**WILLARD CONSTRUCTION OF ROANOKE VALLEY, INC.**  
GILLS CREEK MAGISTERIAL DISTRICT  
FRANKLIN COUNTY, VIRGINIA

NO.	DATE	DESCRIPTION
1	01/17/03	ADDED SEDIMENT TRAP DATA, REVISED INFORMATION
2		
3		
4		
5		

DATE: OCTOBER 9, 2002

SCALE: NONE

COMMISSION NO: 2001-389

CADD FILE: P:\2001\0389\ENR\0389COMP.DWG

SHEET 8 OF 9