Erosion & Sediment Control Technical Bulletin No. 4
Nutrient Management for Development Sites

C. When applying maintenance fertilizer on established sod,

Pounds of nitrogen per 1,000 sq. ft. if the fertilizer is less than 50 percent WIN

Month	Type of Grass			
	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass
September	1	1	0	0
October	1	1	0	0
Early November	0	0	0	0
April	0	0	0	0
May	0-0.5	0-0.05	1	1
June	0	0	1	0
July/August	0	0	0	1
Yearly Lbs. N/1000 sf	2.5	2.5	2	2

Pounds of nitrogen per 1,000 sq. ft. if the fertilizer is more than 50 percent WIN

Month	Type of Grass			
	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass
August 15	1.5	1.5	0	0
October 1	1.5	1.5	0	0
April	0	0	1.5	1.5
May 15	0	0	0	0
June	0	0	1.5	1.5
Yearly Lbs. N/1000 sf	3	3	3	3

FERTILIZER SPECIFICATIONS AND RATES FOR MANAGEMENT

TABLE 3.31-B
(Revised June 2003)
TEMPORARY SEEDING SPECIFICATIONS QUICK REFERENCE FOR ALL REGIONS

SEED

APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (ioium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 -100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (ioium multi-florum)	60 - 100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

FERTILIZER & LIME

- Apply 10-10-10 **fertilizer** at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)
- Apply **Pulverized Agricultural Limestone** at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:
1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
2 - Incorporate the lime and fertilizer into the top 4 – 6 inches of the soil by disking or by other means.
3 - 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/esfbk.htm#pubs

TS TEMPORARY SEEDING SPECIFICATIONS

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

SEED[1]

LAND USE	SPECIES	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue[2] Perennial Ryegrass[2] Kentucky Bluegrass[3]	80-100 lb 0-10 lb 0-10 lb TOTAL: 200-250 lbs.
High-Maintenance Lawn	Minimum of three (3) up to five (5) varieties of Kentucky Bluegrass from approved list for use in Virginia[3]	TOTAL: 125 lbs.
General Slope (3-1 or less)	Tall Fescue[2] Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop[5]	120 lbs. 2 lbs. 20 lbs. TOTAL: 150 lbs.
Low-Maintenance Slope (Steeper than 3-1)	Tall Fescue[2] Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop[5] Crownvetch[4]	105 lbs. 2 lbs. 20 lbs. 20 lbs. TOTAL: 150 lbs.

1 - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (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://auden.cses.vt.edu/html/Turfs/PublicationsIndustryIssues2.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 15th ..... Annual Rye
May 16th - August 15th ..... Foxtail Millet
August 16th - 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 30 -40 lbs/acre.

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.)

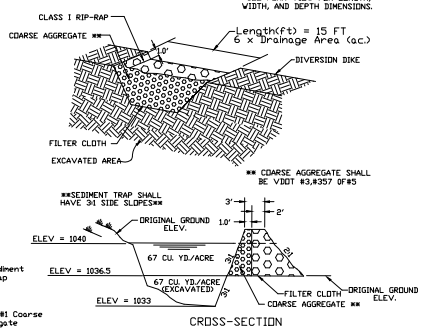
NOTE:
- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- Incorporate the lime and fertilizer into the top 4 – 6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin # 4, 2003 Nutrient Management for Development Sites at http://www.dcr.state.va.us/sw/esfbk.htm#pubs

PS PERMANENT SEEDING SPECIFICATIONS

SEDIMENT TRAP SUMMARY TABLE

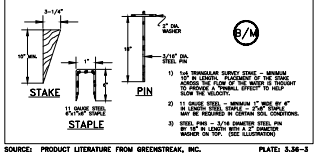
DRAINAGE AREA ID	ST-1
TOTAL DRAINAGE AREA SIZE	2.42 AC
BOTTOM/TOP LENGTH	22LF/86LF
BOTTOM/TOP WIDTH	12LF/62LF (AVG.)
DEPTH	7'
BERM HEIGHT	3'
WEIR LENGTH	15 LF
WEIR HEIGHT	1'
STORAGE REQUIRED (CY)	162 WET – 162 DRY
STORAGE PROVIDED (CY)	333 WET – 333 DRY

SEDIMENT TRAP #1 DETAIL



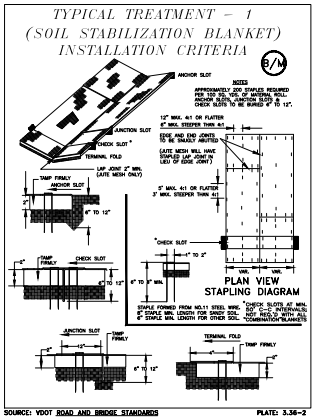
ST TEMPORARY SEDIMENT TRAP #1 SPECIFICATIONS

STAKES, STAPLES, & PINS FOR INSTALLATION OF TREATMENT – 2 SOIL STABILIZATION MATTING



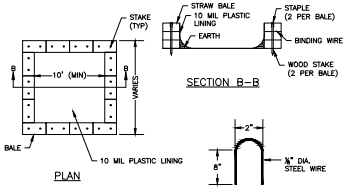
SOURCE: PRODUCT LITERATURE FROM GREENSTREAK, INC. PLATE: 3.36-3

TYPICAL TREATMENT – 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



SOURCE: VDOT ROAD AND BRIDGE STANDARDS PLATE: 3.36-2

B/M BLANKET MATTING



CONCRETE TRUCK WASHOUT DETAIL
NTS

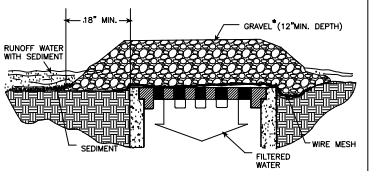
GENERAL NOTES:

1. ACTUAL SIZE TO BE DETERMINED IN FIELD. A MINIMUM OF 10' WIDE BY 10' LONG AND SIZED TO CONTAIN ALL LIQUID AND SOLID WASTE. A MINIMUM OF 12" FREEBOARD SHALL BE INCLUDED.
2. THE CONCRETE WASHOUT SHALL NOT BE PLACED WITHIN 50' OF STORM DRAINS.
3. EXCESS AND SLUMP TEST SOLIDS SHALL BE PLACED ON PLASTIC LINER UNTIL HARDENED. CONTRACTOR MAY CONSIDER INSTALLING WIRE OR REBAR HOOD FOR LATER PICKUP REMOVAL.
4. INSPECTORS SHALL USE THE WASHOUT FACILITY OR PLASTIC FOR CLEANING OF THEIR TOOLS.

MAINTENANCE NOTES:

1. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75% CAPACITY. THE FACILITY SHALL BE CLEANED OUT OR CHANGED WHEN 75% FULL.
2. INSPECT LINERS DAILY TO ENSURE THAT LINERS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. LINERS SHALL BE REPLACED IF THERE ARE HOLES OR TEARS OBSERVED.
3. CONCRETE WASTE SHALL BE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN. THE HARDENED CONCRETE SHALL BE BROKEN UP AND DISPOSED OF OFFSITE PER APPLICABLE VA. DEQ. RULES AND REGULATIONS. LIQUIDS SHALL NOT BE DISCHARGED DIRECTLY INTO WATERWAYS, STORM DRAINS, SWALES, OR DIRECTLY ONTO THE GROUND.
4. REMOVE LIQUIDS OR COVER STRUCTURE BEFORE PREDICTED STORMS TO PREVENT OVERFLOWS.
5. INSTALL A NEW PLASTIC LINER AFTER EVERY CLEANING.

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

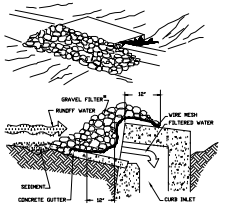


SPECIFIC APPLICATION

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.

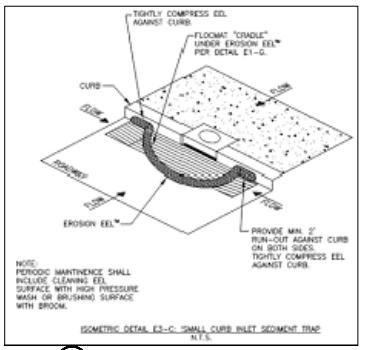
* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

SOURCE: VA. DSWC PLATE. 3.07-2



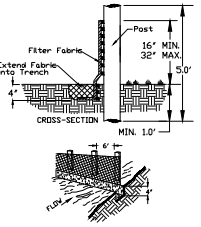
IP GRAVEL CURB INLET SEDIMENT FILTER

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.

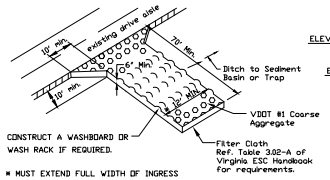


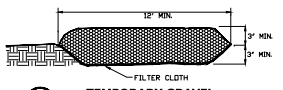
ISOMETRIC DETAIL E3-C: SMALL CURB INLET SEDIMENT TRAP
N.T.S.

IP EROSION EEL INLET SEDIMENT FILTER



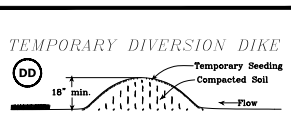
SF CONSTRUCTION OF A SILT FENCE
EROSION AND SEDIMENT CONTROL STANDARD – 3.05





CE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

TEMPORARY DIVERSION DIKE



OUTLET PROTECTION STRUCTURE DATA:

OUTLET PROTECTION (PIPE 10)
EC-3, TYPE B RIP RAP
LENGTH OF APRON=12.0' (La)
WIDTH OF APRON=13.25' (Wa)
MIN. STONE SIZE=6"
MIN. DEPTH OF STONE=12"

OUTLET PROTECTION (PIPE 17)
EC-3, TYPE B RIP RAP
LENGTH OF APRON=15.0' (La)
WIDTH OF APRON=16.25' (Wa)
MIN. STONE SIZE=6"
MIN. DEPTH OF STONE=12"

OUTLET PROTECTION (PIPE 19)
EC-3, TYPE B RIP RAP
LENGTH OF APRON=12.0' (La)
WIDTH OF APRON=13.25' (Wa)
MIN. STONE SIZE=6"
MIN. DEPTH OF STONE=12"

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 1.36d and 1.36e.
3. d = 1.5 times the maximum stone diameter, but not less than 6".

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PROFESSIONAL ENGINEER

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by Aaron Cypher 05/18/2021

ROANOKE HILLS
EROSION & SEDIMENT CONTROL DETAILS

3641 & 3661 BLUE HILLS VILLAGE DR NE
CITY OF ROANOKE, VIRGINIA

DRAWN BY	SMD
DESIGNED BY	BTC
CHECKED BY	BTC
DATE	2/25/2021
SCALE	N/A
REVISIONS	
3/31/2021	
4/15/2021	

C10
PROJECT NO. 04190070.00

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