

(SF) CONSTRUCTION OF A SILT FENCE

VDOT #1 Coars Aggregate CONSTRUCT A WASHBOARD OR Filter Cloth WASH RACK IF REQUIRED. Ref. Table 3.02-A of Virginia ESC Handbook for requirements. * MUST EXTEND FULL WIDTH OF INGRESS & EGRESS OPERATION.

-FILTER CLOTH

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

DEFINITION - THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING SITH APPROPRIATE

LIMING REQUIREMENTS FOR TEMPORARY SITES RECOMMENDED APPLICATION OF AGRICULTURAL LIMESTONE
3 TONS PER ACRE 2 TONS PER ACRE

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIAL

QUICK REFERENCE FOR ALL REGIONS'

RYEGRASS &

WINTER RYE ANNUAL RYEGRASS 60 - 100

GERMAN MILLET

TEMPORARY SEEDING

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- 1. 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.
- 2. 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.
- 3. 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

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.
- 7. THE LOCATION OF ALL OFF-SITE FILL OR BORROW AREAS ASSOCIATED WITH THE CONSTRUCTION PROJECT WILL BE PROVIDED TO ROANOKE COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT. AN EROSION CONTROL PLAN OR MEASURES MAY BE REQUIRED FOR THIS AREA.
- 8. THIS SHEET MAY NOT BE MODIFIED EXCEPT FOR TABLES

TOTAL DISTURBED AREA = 1.10 AC.= 47,916 SO. FT.

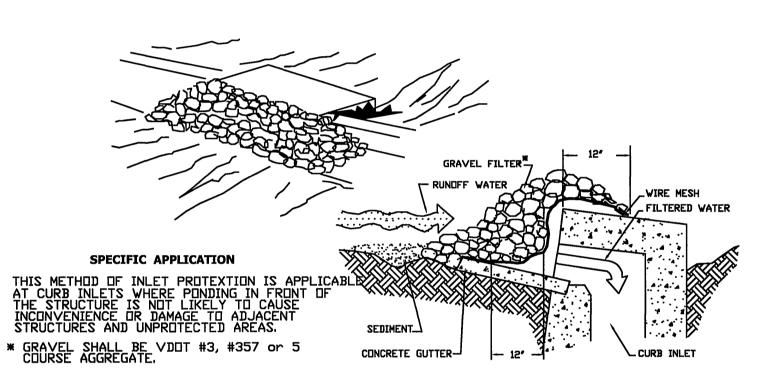
COST ESTIMATE ALL COSTS GIVEN ARE COMPLETE IN PLACE UNIT COST TOTAL COST DESCRIPTION QUANTITY CONSTRUCTION 1,500 EΑ 1,500 ENTRANCE SILT FENCE LF 785 4.00 3,140 INLET PROTECTION EΑ 400 100.00 TEMPORARY LF DIVERSION DIKE TEMPORARY LF FILL DIVERSION EΑ SEDIMENT TRAP **BLANKET MATTING** S.Y. 1000 SF PERMANENT SEEDING EA OUTLET PROTECTION SEDIMENT BASIN EA 1000 SF TEMP. SEEDING LF ROW DIVERSION 5,740.00 SUB-TOTAL 1,435 25% CONTINGENCY 7,175.00 TOTAL PROJECT COST

EROSION & SEDIMENT CONTROL

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



GRAVEL CURB INLET SEDIMENT FILTER

TYPE A 15 OCTOBER TO 1 FEBRUARY

15 MARCH TO 1 MAY K-31 FESCUE • 5 LB / 1000 SF CROWN VETCH • 1/2 LB / 1000 SF BORZY WINTER RYE • 1/2 LB / 1000 SF PERENNIAL RYEGRASS • 1/2 LB / 1000 SF RED TOP • 1/8 LB / 1000 SF

TYPE B (SLOPES 3:1 OR STEEPER)

CROWN VETCH • 1/2 LB / 1000 SF

RED TOP • 1/8 LB / 1000 SF

PERENNIAL RYEGRASS • 1/2 LB / 1000 SF

15 AUGUST TO 1 OCTOBER

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

140 LB / 1000 SF PULVERIZED AGRICULTURAL LIMESTONE

38-0-0 6 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.

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.

BY THE INSPECTOR.

PERMANENT SEEDING MIXTURE

STORMWATER MANAGMENT **COST ESTIMATE:**

BMP # 1 FILTERRA #1 (6'x12')

COST \$ 16,000.00

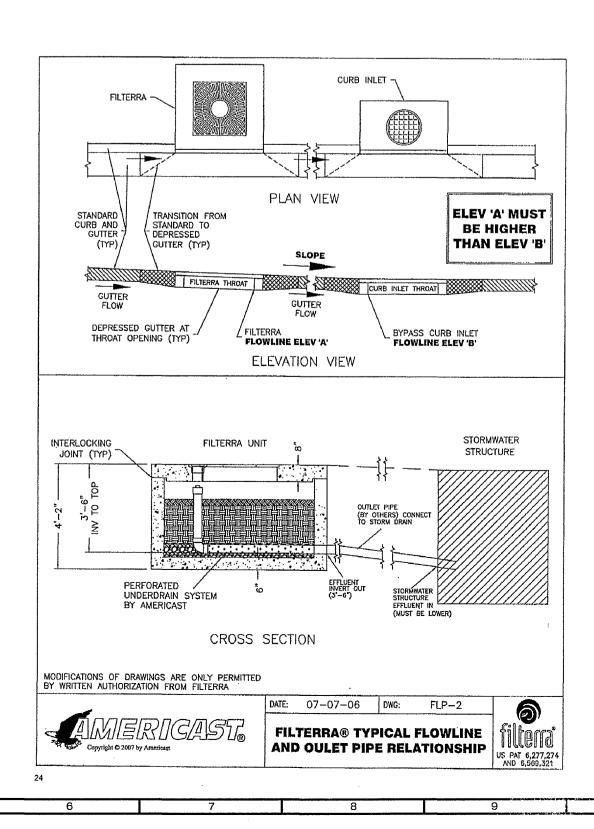
BMP # 2 FILTERRA #2 (6'x8')

COST \$ 11,000.00

LUMP SUM \$

24,750.00			
	3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE
	3.05	SILT FENCE	SF
	3.31	TEMPORARY SEEDING	TS
	3.32	PERMANENT SEEDING	PS
	3.35	MULCHING	MU
	3.07	STORM DRAIN INLET PROTECTION	(IP

- CURB (BY OTHERS) SDR-35 PVC COUPLING CAST INTO PRECAST BOX WALL --(OUTLET PIPE LOCATION VARIES) PLANT AS SUPPLIED TREE FRAME & GRATE _____ CAST IN TOP SLAB ____ (NOT SHOWN ANGLE NOSING FOR CLARITY) CURB AND GUTTER TOP SLAB --INTERLOCKING JOINT (TYP) -(BY OTHERS) BY AMERICAST PERFORATED MULCH PROVIDED BY AMERICAST -UNDERDRAIN STONE PROVIDED BY AMERICAST -SECTION A-A W TREE GRATE OUTLET QTY & SIZE PIPE DESIGNATION 6'-0" 4'-0" (1) 3x3 4" SDR-35 PVC 8 x 4 8'-0" 4'-0" (1) 3x3 4" SDR-35 PVC FILTERRA #2 8 x 6 8'-0" 6'-0" (1) 4x4 4" SDR-35 PVC 10 x 6 10'-0" 6'-0" (1) 4x4 6" SDR-35 PVC 12 x 4 12'-0" 4'-0" (2) 3x3 4" SDR-35 PVC DRAWING AVAILABLE IN TIF FILE FORMAT DATE: 09-04-07 | DWG: FTNW-3 PRECAST FILTERRA® UNIT IARROW WIDTH CONFIGURATION Copyright & 2007 by American



FILTERRA CONSTRUCTION & INSTALLATION NOTES:

1. EACH UNIT SHALL BE CONSTRUCTED AT THE LOCATIONS AND ELEVATIONS ACCORDING TO THE SIZES SHOWN ON THE APPROVED DRAWINGS. ANY MODIFICATIONS TO THE ELEVATION OR LOCATION SHALL BE AT THE DIRECTION OF AND APPROVED BY THE ENGINEER. 2. IF THE FILTERRA IS STORED BEFORE INSTALLATION, THE TOP SLAB MUST BE PLACED ON THE BOX USING THE 2x4 WOOD PROVIDED, TO PREVENT ANY CONTAMINATION FROM THE SITE. ALL INTERNAL FITTINGS SUPPLIED (IF ANY), MUST BE LEFT IN PLACE AS PER THE

3. THE UNIT SHALL BE PLACED ON A COMPACTED SUBGRADE WITH A MINIMUM 6-INCH GRAVEL BASE MATCHING THE FINAL GRADE OF THE CURB LINE IN THE AREA OF THE UNIT. THE UNIT TO BE PLACED SUCH THAT THE UNIT AND TOP SLAB MATCH THE GRADE OF THE CURB IN THE AREA OF THE UNIT.

4. OUTLET CONNECTIONS SHALL BE ALIGNED AND SEALED TO MEET THE APPROVED DRAWINGS WITH MODIFICATIONS NECESSARY TO MEET SITE CONDITIONS AND LOCAL REGULATIONS.

5. ONCE THE UNIT IS SET, THE INTERNAL WOODEN FORMS AND PROTECTIVE MESH COVER MUST BE LEFT INTACT. REMOVE ONLY THE TEMPORARY WOODEN SHIPPING BLOCKS BETWEEN THE BOX AND TOP SLAB. THE TOP LID SHOULD BE SEALED ONTO THE BOX SECTION BEFORE BACKFILLING, USING A NON-SHRINK GROUT, BUTYL RUBBER OR SIMILAR WATERPROOF SEAL. THE BOARDS ON TOP OF THE LID AND BOARDS SEALED IN THE UNIT'S THROAT MUST NOT BE REMOVED. THE SUPPLIER (AMERICAST OR ITS AUTHORIZED DEALER) WILL REMOVE THESE SECTIONS AT THE TIME OF ACTIVATION. BACKFILLING SHOULD BE PERFORMED IN A CAREFUL MANNER, BRINGING THE APPROPRIATE FILL MATERIAL UP IN 6" LIFTS ON ALL SIDES. PRECAST SECTIONS SHALL BE SET IN A MANNER THAT WILL RESULT IN A WATERTIGHT JOINT. IN ALL INSTANCES, INSTALLATION OF FILTERRA UNIT SHALL CONFORM TO ASTM SPECIFICATION C891 "STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST UTILITY STRUCTURES", UNLESS DIRECTED OTHERWISE IN CONTRACT DOCUMENTS.

6. CURB AND GUTTER CONSTRUCTION (WHERE PRESENT) SHALL ENSURE THAT THE FLOWLINE OF THE FILTERRA UNITS IS AT A GREATER ELEVATION THAN THE FLOWLINE OF THE BYPASS STRUCTURE OR RELIEF (DROP INLET, CURB CUT OR SIMILAR). FAILURE TO COMPLY WITH THIS GUIDELINE MAY CAUSE FAILURE AND/OR DAMAGE TO THE FILTERRA ENVIRONMENTAL

7. EACH FILTERRA UNIT MUST RECEIVE ADEQUATE IRRIGATION TO ENSURE SURVIVAL OF THE LIVING SYSTEM DURING PERIODS OF DRIER WEATHER. THIS MAY BE ACHIEVED THROUGH GUTTER FLOW OR THROUGH THE TREE GRATE.

1. ACTIVATION OF THE FILTERRA UNIT IS PERFORMED ONLY BY THE SUPPLIER. PURCHASER IS RESPONSIBLE FOR FILTERRA INLET PROTECTION AND SUBSEQUENT CLEAN OUT COST. THIS PROCESS CANNOT COMMENCE UNTIL THE PROJECT SITE IS FULLY STABILIZED AND CLEANED (FULL LANDSCAPING, GRASS COVER, FINAL PAVING AND STREET SWEEPING COMPLETED), NEGATING THE CHANCE OF CONSTRUCTION MATERIALS CONTAMINATING THE FILTERRA SYSTEM. CARE SHALL BE TAKEN DURING CONSTRUCTION NOT TO DAMAGE THE PROTECTIVE THROAT AND TOP PLATES.

2. ACTIVATION INCLUDES INSTALLATION OF PLANT(S) AND MULCH LAYERS AS NECESSARY.

INCLUDED MAINTENANCE:

1. EACH CORRECTLY INSTALLED FILTERRA UNIT IS TO BE MAINTAINED BY THE SUPPLIER, OR A SUPPLIER APPROVED CONTRACTOR FOR A MINIMUM PERIOD OF 1 YEAR. THE COST OF THIS SERVICE IS TO BE INCLUDED IN THE PRICE OF EACH FILTERRA UNIT. EXTENDED MAINTENANCE CONTRACTS ARE AVAILABLE AT EXTRA COST UPON REQUEST. 2. ANNUAL INCLUDED MAINTENANCE CONSISTS OF A MAXIMUM OF TWO (2) SCHEDULED VISITS. THE VISITS ARE SCHEDULED SEASONALLY; THE SPRING VISIT AIMS TO CLEAN UP AFTER WINTER LOADS THAT MAY INCLUDE SALTS AND SANDS. THE FALL VISIT HELPS THE SYSTEM BY REMOVING EXCESS LEAF LITTER.

3. EACH INCLUDED MAINTENANCE VISIT CONSISTS OF THE FOLLOWING TASKS:

A. FILTERRA UNIT INSPECTION

B. FOREIGN DEBRIS, SILT, MULCH, AND TRASH REMOVAL C. FILTER MEDIA EVALUATION AND RECHARGE AS NECESSARY

D. PLANT HEALTH EVALUATION AND PRUNING OR REPLACEMENT AS

NECESSARY E. REPLACEMENT OF MULCH

F. DISPOSAL OF ALL MAINTENANCE REFUSE ITEMS

G. MAINTENANCE RECORDS UPDATED AND STORED (REPORTS AVAILABLE UPON REQUEST)

4. THE BEGINNING AND ENDING DATE OF SUPPLIER'S OBLIGATION TO MAINTAIN THE INSTALLED SYSTEM SHALL BE DETERMINED BY THE SUPPLIER AT THE TIME THE SYSTEM IS ACTIVATED. OWNERS MUST PROMPTLY NOTIFY THE SUPPLIER OF ANY DAMAGE TO THE PLANT(S), WHICH CONSTITUTE(S) AN INTEGRAL PART OF THE BIORETENTION TECHNOLOGY.

2-12-09



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SCALE: 1"=20'

SHEET NO.

R0800067.00