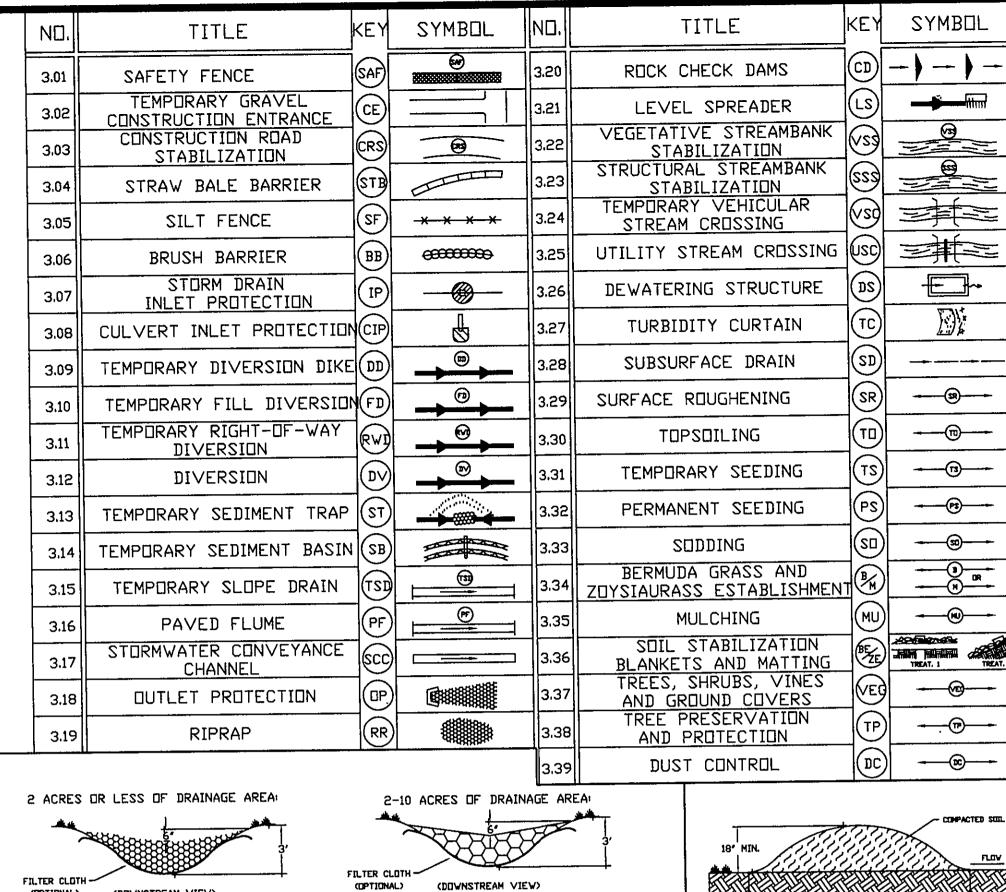
GENERAL NOTES . DESIGN OF DETENTION BASINS SHALL CONFORM TO THE REQUIREMENTS OF THE COUNTY OF ROANDKE DRAINAGE STANDARDS (REF. SECTIONS 503.02, 503.03, AND 505.02). THE DESIGN OF THE FACILITY AND PREPARATION OF AS-BUILT PLANS SHALL BE BY A CERTIFIED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH 2, ACCESS TO THE FACILITY MUST BE PROVIDED IN ACCORDANCE WITH THE COUNTY OF ROANOKE DESIGN AND CONSTRUCTION STANDARDS FOR 3.05 DETENTION PONDS, LATEST EDITION. SEDIMENT BASIN SCHEMATIC 3. IF THE FACILITY IS OVER FOUR (4) FEET DEEP, TAKES OVER TWO (2) **ELEVATIONS** HOURS TO DRAIN, OR THE INTERIOR SLOPE EXCEEDS 3 (H): 1 (V), PERMANENT FENCING MAY BE REQUIRED, ADDITIONALLY, IF THE FACILITY IS IN A CONGESTED AREA OR WILL IN ANY WAY POSE A HAZARD TO THE GENERAL PUBLIC, FENCING MAY BE REQUIRED. FENCING SHALL BE A MINIMUM OF SIX (6) FEET HIGH, A MINIMUM OF 3.08 STANDARD NINE GAUGE LINK FENCE, AND MUST HAVE DNE DR MORE LUCKING DOUBLE GATES (MINIMUM TEN FEET WIDE) FOR ACCESS. 3.09 4. DETENTION PONDS SHALL BE BONDED IN ACCORDANCE WITH THE ROANOKE COUNTY BONDING POLICY FOR SUBDIVISION AND SITE DEVELOPMENT. A SEPARATE BOND FOR THE DETENTION FACILITY WILL BE REQUIRED - CREST OF EMERGENCY DESIGN HIGH WATER (25-YR. STORM ELEV.) MIN. 1.0' AND ADMINISTERED APART FROM THE SUBDIVISION DEVELOPMENT BOND. SPILLWAY REFERENCE ESTIMATE - THIS SHEET. 3.12 5. REFERENCE THE COUNTY OF ROANOKE DESIGN AND CONSTRUCTION "DRY" STORAGE STANDARDS FOR DETENTION PONDS, LATEST EDITION, FOR ACCEPTANCE AND MAINTENANCE OF THE FACILITY. CERTIFIED AS-BUILTS ARE 67 C.Y./AC. 3.13 DEWATERING DEVICE REQUIRED AND MUST INCLUDE: A. DIMENSIONS OF THE FACILITY SEDIMENT CLEANOUT POINT 3.14 ("WET" STURAGE REDUCED B. VOLUME @ MAXIMUM DEPTH TO 34 C.Y./ACRE) C. ELEVATIONS OF STRUCTURES, SPILLWAYS, AND TOP DESIGN ELEVATIONS WITH D. MATERIALS VERIFICATION INCLUDING RESULTS OF DENSITY TESTS CONDUCTED BY AN INDEPENDENT SOIL TESTING LABORATORY 3.16 EMERGENCY SPILLWAY E. LOCATION AND ELEVATION OF BENCHMARK. 3.17 6. ONE FOOT MINIMUM FREEBOARD REQUIRED FOR THE 100 YR WATER 3.18 SURFACE ELEVATION. 3.19 DESIGN HIGH WATER (25-YR, STURM ELEV.) | MIN. 2.0' | MIN. 3.0' CONSTRUCTION NOTES MIN. 1.0' 1. SITE PREPARATION SHALL BE IN ACCORDANCE WITH THE COUNTY OF 67 C.Y./AC. --ROANDKE DESIGN AND CONSTRUCTION STANDARDS FOR DETENTION PONDS, 'DRY' STORAGE - RISER CREST FILTER CLOTH -(OPTIONAL) "WET" STORAGE - DEWATERING DEVICE 2. SLOPES STEEPER THAN 3 TO 1 (HORIZONTAL TO VERTICAL) SHALL BE VDOT #1 -BENCHED OR STEPPED PRIOR TO PLACING FILL ON THEM. SEDIMENT CLEANOUT POINT -COARSE AGGREGATE 3. ON-SITE FILL MATERIAL OR BORROW FILL MATERIAL MAY BE UTILIZED. FILL MATERIAL SUILS, IN GENERAL DESIGN ELEVATIONS WITHOUT SHALL BE COMPACTABLE EMERGENCY SPILLWAY SHALL BE WITHIN AN ACCEPTABLE RANGE OF MOISTURE CONTENT (RISER PASSES 25-YR. EVENT) WHICH IS READILY CONTROLLED SHALL NOT BE HIGHLY SUSCEPTIBLE TO VOLUME CHANGE (SHRINKAGE OR SWELL) OR SETTLEMENT 4. FILL MATERIALS CONTAINING ROCKS LARGER THAN SIX (6) INCHES (15.2 CM) SHALL NOT BE USED. THE UPPERMOST TWO (2) FEET (61 CM) SHALL NOT HAVE ANY ROCK LARGER THAN TWO (2) INCHES (5.1 CM) IN DIAMETER. 5. THE APPROVED FILL SHALL BE PLACED IN EIGHT (8) INCH (20 CM) LODSE LIFTS. EACH LIFT SHALL BE SPREAD IN UNIFORM LAYERS. FILL SOIL SHALL BE UTILIZED ONLY WITHIN A MOISTURE RANGE OF +/- 5% OF THE OPTIME CONTENT. COMPACTION OF THE FILL SHALL BE PERFORMED WITH APPROVED EQUIPMENT. COMPACTION OF THE LAYERS SHALL BE CONTINUOUS AND UNIFORM. 6. EMBANKMENT MATERIAL IN FILL AREAS SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES AND SHALL BE COMPACTED TO A MINIMUM 95% DENSITY IN ACCORDANCE WITH SECTION 303 OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS. 7. FIELD DENSITY TESTS ARE TO BE CONDUCTED BY AN INDEPENDENT SOILS TESTING LABORATORY UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER. THE RESULTS OF THESE TESTS SHALL BE SUBMITTED TO THE COUNTY OF ROANOKE WITH AS-BUILT PLANS AS A Gravel shall be VDDT #3, #357 or 5 coarse aggregate. CONDITION OF ACCEPTANCE OF THE FACILITY BY THE COUNTY, FIELD DENSITY TESTS, AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED PERIODICALLY TO DETERMINE THE DEGREE OF COMPACTION, ANY AREAS FAILING TO MEET THE ABOVE REQUIREMENTS SHALL BE REWORKED AND/OR RECOMPACTED UNTIL THE REQUIRED DEGREE OF COMPACTION IS 8. ANTI-SEEP COLLARS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. 9. ALL DISTURBED AREAS SHALL BE COVERED WITH FOUR (4) INCHES OF TOPSOIL AND SEEDED. 10, THE MINIMUM SLOPE OF THE BASIN 'FLOOR SHALL BE ONE (1) PERCENT GRADED TO DRAIN TO THE PRINCIPAL SPILLWAY. SEDIMENT-LADEN RUNDFF GRAVEL (12'NIN. DEPTH)

(DOWNSTREAM VIEW) 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.



FILTERED WATER

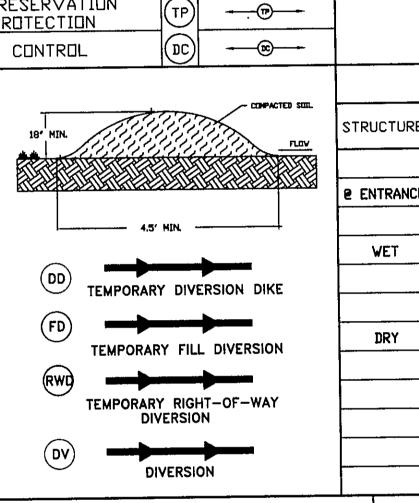
xtend Flabric and Wire Into Trench-

COARSE AGGREGAT

(CD) ROCK CHECK DAM

(IP) GRAVEL CURB INLET SEDIMENT FILTER

STORM WATER WITH LARGER PARTICLES REMOVED



CRUSS-SECTION

(SF) CONSTRUCTION OF A SILT FENCE

Section A-A

(OP) OUTLET PROTECTION

Pipe Butlet To Flat Area With No Defined Channel

m 10' IF WIRE IS

USED.

6' IF WIRE IS

NOT USED.

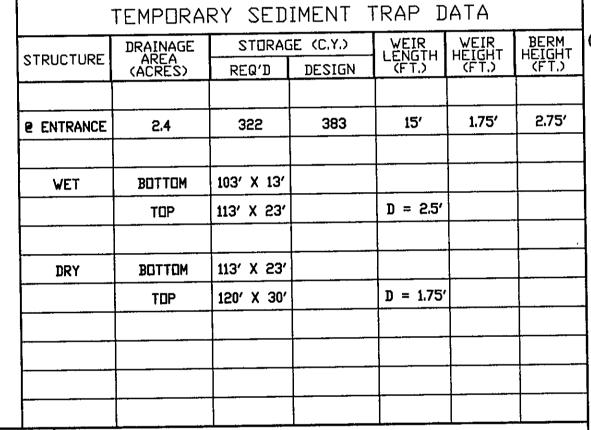
Section A-A

<u>Pipe Outlet</u> To <u>Well-Defined Chan</u>nel

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 1.36e and 1.36e.

stone dlameter, but not less

3. d = 1.5 times the maximum



(ST) SEDIMENT TRAP

FOR AREAS LESS THAN 3.0 ACRES. FOR AREAS

LARGER THAN 3.0 ACRES A SEDIMENT BASIN

IS REQUIRED. SEE DETAIL THIS SHEET.

67 CU. YD./ACRE

67 CU, YD./ACRE

₩ SEE PLATE 3.13-1

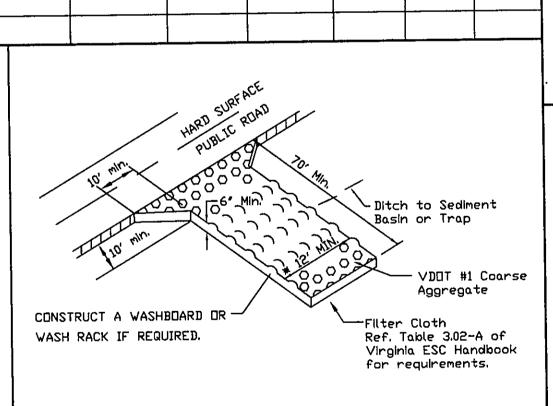
CLASS I RIP-RAP-

FILTER CLOTH -

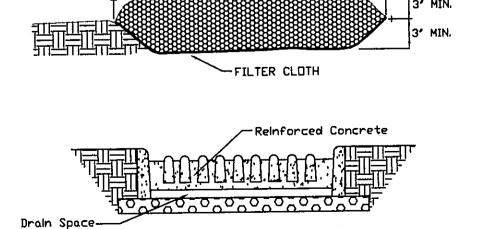
-EXCAVATED AREA-

COARSE AGGREGATE **

CRUSS-SECTION



* MUST EXTEND FULL WIDTH OF INGRESS & EGRESS OPERATION.



WASH RACK DETAIL (IF REQUIRED)

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

EROSION-SILTATION CONTROL COST ESTIMATE

VARIABLE

-Length(ft) = 6 x Brainage Area (ac.)

-DIVERSION DIKE

*** CDARSE AGGREGATE SHALL**

BE VDOT #3,#357 0F#5

CDARSE AGGREGATE **

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	970	\$3,00	\$2,910.00	
INLET PROTECTION	EA	8	\$100,00	\$800.00	
CULVERT INLET PROTECTION	EA				
TEMPORARY DIVERSION DIKE	LF	790	\$2,00	\$1580.00	
SEDIMENT TRAP	EA	2	\$1,000.00	\$2,000.00	
CHECK DAM	EA				
PERMANENT SEEDING	ACRE	1.2	\$1,200.00	\$1,440.00	
OUTLET PROTECTION	EA	1	\$100.00	\$100.00	
SEDIMENT BASIN	EA				
,					
SUB-TOTAL.				\$9,530.00	
10% CUNTINGENCY				\$970.00	
TOTAL PROJECT COS	\$10,500.00				

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- . ALL SOIL EROSION & SEDIMENT CONTROL MEASURES SHALL BE ACCOMPLISHED IN STRICT ACCURDANCE 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.
- 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 RUNDFF 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,
- 5. 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 ERUSION AND SEDIMENT CONTROL HANDBOOK, LATEST PLANS SUBMITTED TO ROANDKE COUNTY,

PERMANENT SEEDING MIXTURE

TYPE B (SLOPES 31 OR STEEPER) 15 MARCH TO 1 MAY 15 DCTOBER TO 1 FEBRUARY CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF K-31 FESCUE @ 5 LB / 1000 SF BURZY WINTER RYE @ 1/2 LB / 1000 S RED TOP @ 1/8 LB / 1000 SF K-31 FESCUE @ 5 LB / 1000 SF 15 AUGUST TO 1 OCTOBER CROWN VETCH @ 1/2 LB / 1000 SF PERENNIAL RYEGRASS @ 1/2 LB / 1000 SF ANNUAL RYE @ 1/2 LB / 1000 SF JUNE TO 1 SEPTEMBER RED TOP @ 1/8 LB / 1000 SF

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

FERTILIZER: 5-20-10 @ 25 LB / 1000 SF 38-0-0 2 7 LB / 1000 SF

BY THE INSPECTOR.

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.

> 2.1 AC TOTAL DISTURBED AREA

DEPARTMENT ENGINEERING AND INSPECTIONS

to adjacent structures and unprotected areas.

* Gravel shall be VDDT #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

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

	1	ENGR. & INSPEC.	04-10-93
	2	ENGR. & INSPEC.	08-05-9
	3	ENGR. & INSPEC.	10-27-93
	4		
	5_		
	6_		
ļ	NO.	REVISIONS	DATE

are desIrable.

SPECIFIC APPLICATION

an overflow capability and ease of maintenance

This method of inlet protection is applicable where heavy flows are expected and where

> ROANOKE COUNTY

EXCAVATED DROP INLET SEDIMENT TRAP

DATE: 11/02/93 SCALE: NO SCALE DRAWING BY: CLN,AF DESIGNED BY: G:\CAD\DETAILS\EROSION\EROSION) APPROVED BY: GWS,III

EROSION & SEDIMENT CONTROL STORMWATER MANAGEMENT DETAILS COMM No.: 2003-054