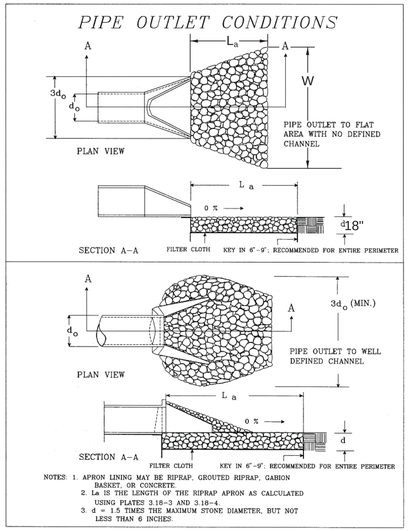
1992 3.18



NOTES: 1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18–3 AND 3.18–4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

Source: Va. DSWC

Plate 3.18-1

III - 157

OP

OUTLET PROTECTION

SCALE: NTS SOURCE: VESCH CG102 D1

OUTLET PROTECTION COMPUTATIONS

RIP RAP AND OUTLET PROTECTION APRON SIZING

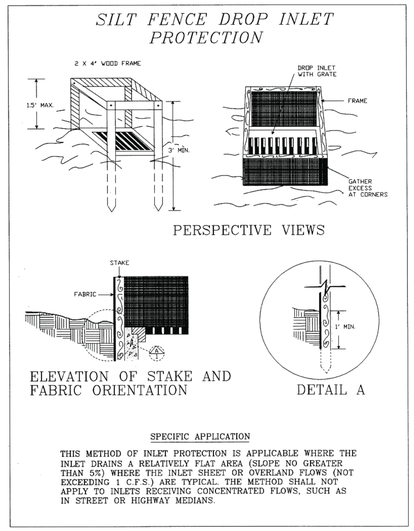
STRUCTURE ID	Q_{10} (CFS)	d_0 (IN.)	$3*d_0$ (FT)	MIN. L_a (FT)	W (FT) ($W = 3*d_0 + L_a$)
ES 1	3.86	18	4.5	6	10.5
ES 2	3.42	15	3.75	6	9.75
ES 3	9.09	18	4.5	8	12.5
ES 4	5.08	18	4.5	8	12.5
ES 5	14.06	27	6.75	12	18.75
ES 6	14.83	27	6.75	12	18.75
ES 7	24.00	24	6	19	25.00
ES 8	0.86	15	3.75	6	9.75
ES 9	5.45	15	3.75	6	3.75
ES 10	6.21	18	4.5	6	10.5
ES 11	6.21	18	4.5	6	10.5
ES 12	0.86	15	3.75	6	9.75

NOTE:
1. TYPE OF OUTLET PROTECTION MATERIAL FOR ALL IS CLASS A1 DRY RIP RAP, d50 SIZE 10.8", 18" DEEP MIN.
2. SIZING BASED ON PLATE 3.18-3 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

VDOT STD. EC–1

NOT TO SCALE C2

1992 3.07



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

Source: N.C. Erosion and Sediment Control Planning and Design Manual, 1988

Plate 3.07-1

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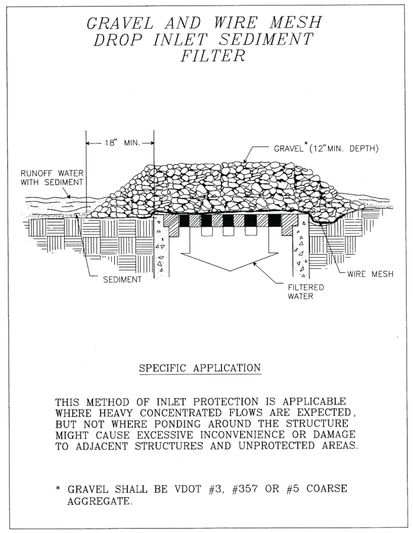
IP

DROP INLET PROTECTION DETAIL

SCALE: NTS SOURCE: VESCH CG102 C3

1992 3.07



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

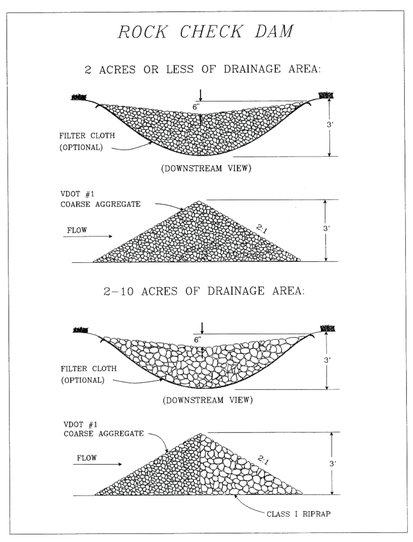
Plate 3.07-2

III - 36

DROP INLET SEDIMENT FILTER

SCALE: NTS SOURCE: VESCH CG102 C4

1992 3.20



Source: Va. DSWC

Plate 3.20-1

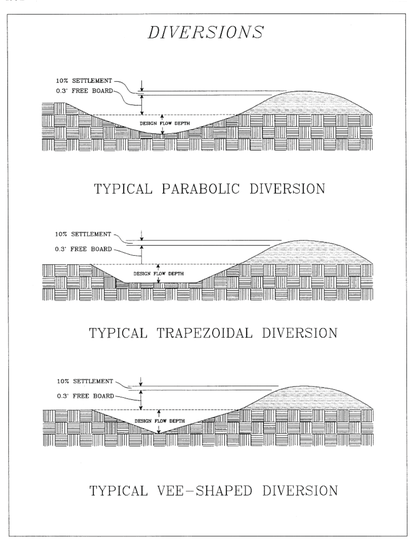
III - 187

CD

ROCK CHECK DAM DETAIL

SCALE: NTS SOURCE: VESCH A1

1992 3.12



Source: Va. DSWC

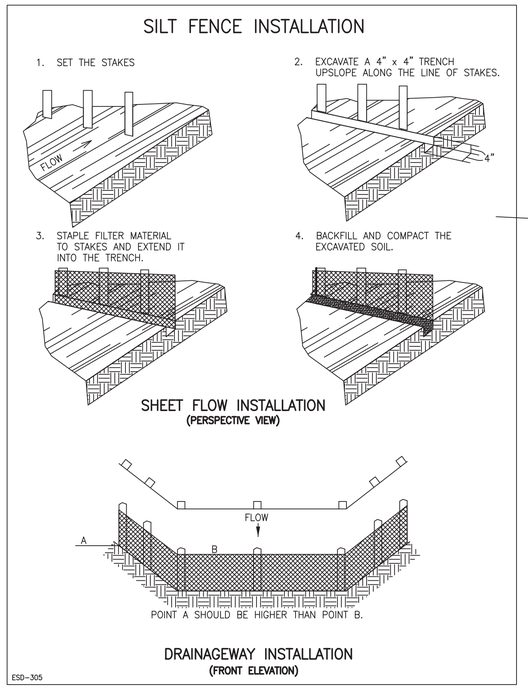
Plate 3.12-1

III - 67

DD

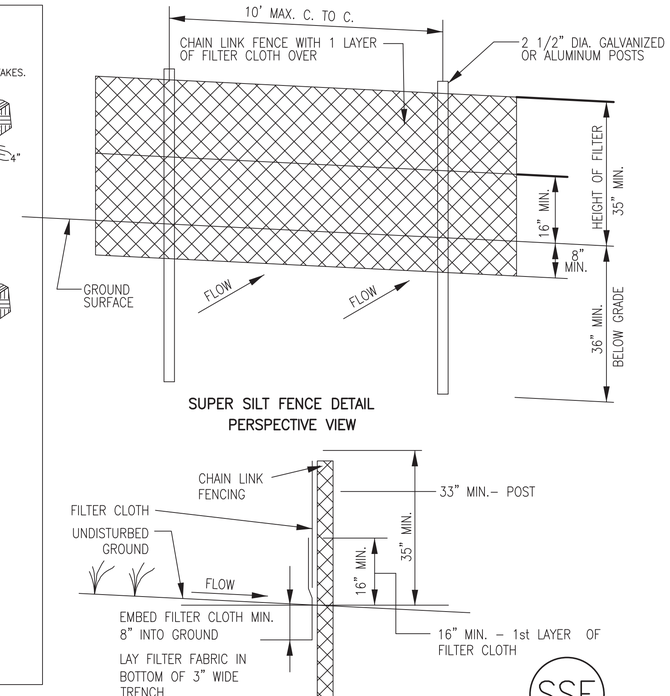
DIVERSION DIKE

SCALE: NTS SOURCE: VESCH A2



SILT FENCE

SCALE: NTS SOURCE: VESCH CG104, CG105, CG106, AND CG112 A3 SF



SUPER SILT FENCE

SCALE: NTS SOURCE: VESCH CG101, CG102, CG103, CG104, CG111, CG112, AND CG113 A4 SSF

APPR.	DATE	DESCRIPTION	SYM.

NAVFAC

COMMONWEALTH OF VIRGINIA
06/10/2015
BRADFORD D. WEINERT
No. 022244
PROFESSIONAL ENGINEER
SEAL

JACOBS
1100 NORTH GLEBE ROAD SUITE 500
ARLINGTON, VIRGINIA 22201
TEL (571) 218–1000 FAX (571) 218–1600
A/E INFO

APPROVED
FOR COMMANDER NAVFAC 10 June 2015
ACTIVITY
SATISFACTORY TO DATE 12 May 2015

DES	HR	DRW HR	CHK RC
<<PM/DM>>			
BRANCH MANAGER		MS	
CHIEF ENG/ARCH		THC	
FIRE PROTECTION		KTD	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE – QUANTICO
QUANTICO, VA
P-635 ASP EXPANSION
EROSION AND SEDIMENT CONTROL DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1312142
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 13072280
SHEET 64 OF 201
CG-503
DRAWFORM REVISION: 10 MARCH 2009

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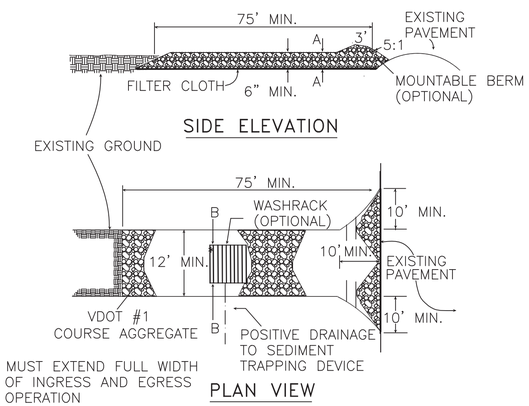
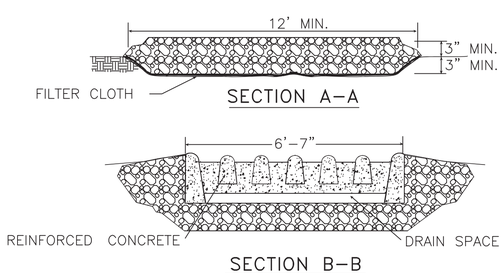




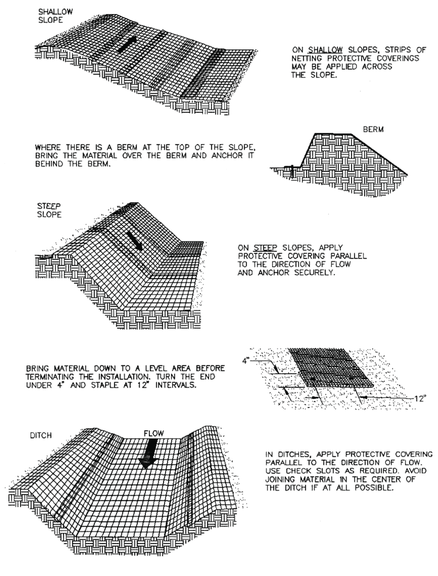
SOURCE: ADAPTED from Virginia Erosion and Sediment Control Handbook

1. CONTRACTOR SHALL PROVIDE A SOURCE OF NON–POTABLE WATER TO REMOVE SILT FROM TRUCKS OR OTHER CONSTRUCTION VEHICLES PRIOR LEAVING THE SITE IN ACCORDANCE TO THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. Plate 3.02–1.

CONSTRUCTION ENTRANCE

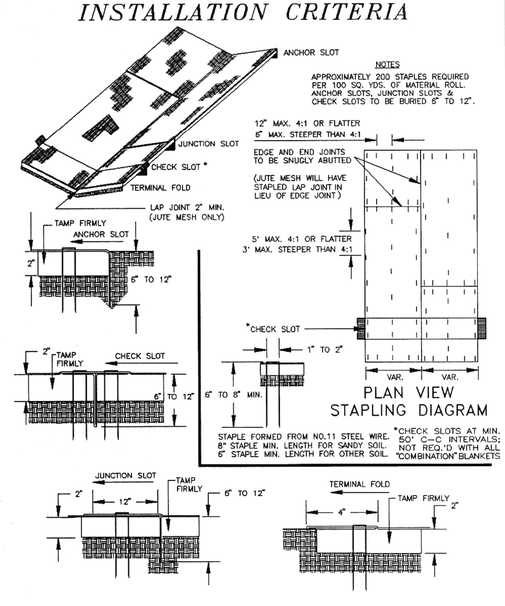
SCALE: NTS SOURCE: VESCH CG102, CG103, AND CG113 A1 CE

TYPICAL ORIENTATION OF TREATMENT – 1 (SOIL STABILIZATION BLANKET)



NOTE:
1. SEE DETAIL A6/CG-501 FOR INSTALLATION CRITERIA

TYPICAL TREATMENT – 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



SOIL STABILIZATION DETAILS

SCALE: NTS SOURCE: VESCH CG102 A4

TABLE 3.31-B

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS

"QUICK REFERENCE FOR ALL REGIONS"

Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (Lolium multi-florum)	60 - 100
May 1 - Aug 31	German Millet (Setaria italica)	50

TABLE 3.31-C

TEMPORARY SEEDING PLANT MATERIALS, SEEDING RATES, AND DATES

SPECIES	SEEDING RATE		NORTH[a]			SOUTH[b]			PLANT CHARACTERISTICS
	Acre	1000 ft^2	3/1 to 4/30	5/1 to 8/15	8/15 to 11/1	2/15 to 4/30	5/1 to 9/1	9/1 to 11/15	
OATS (Avena sativa)	3 bu. (up to 100 lbs., not less than 50 lbs.)	2 lbs.	X	-	-	X	-	-	Use spring varieties (e.g., Noble).
RYE[d] (Secale cereale)	2 bu. (up to 110 lbs., not less than 50 lbs.)	2.5 lbs.	X	-	X	X	-	X	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
GERMAN MILLET (Setaria italica)	50 lbs.	approx. 1 lb.	-	X	-	-	X	-	Warm-season annual. Dies at first frost. May be added to summer mixes.
ANNUAL RYEGRASS[c] (Lolium multi-florum)	60 lbs.	1½ lbs.	X	-	X	X	-	X	May be added in mixes. Will mow out of most stands.
WEEPING LOVEGRASS (Eragrostis curvula)	15 lbs.	5½ ozs.	-	X	-	-	X	-	Warm-season perennial. May bunch. Tolerates hot, dry slopes and acid, infertile soils. May be added to mixes.
KOREAN LESPEDEZA[c] (Lespedeza stipulacea)	25 lbs.	approx. 1½ lbs.	X	X	-	X	X	-	Warm season annual legume. Tolerates acid soils. May be added to mixes.

[a] Northern Piedmont and Mountain region. See Plates 3.22-1 and 3.22-2.
[b] Southern Piedmont and Coastal Plain.
[c] May be used as a cover crop with spring seeding.
[d] May be used as a cover crop with fall seeding.
X May be planted between these dates.
\- May not be planted between these dates.

NOTE:
ANNUAL RYEGRASS IS PREFERRED SPECIES FOR TEMPORARY SEEDING.

1992 III - 288 3.31

SEEDING CHARTS

SCALE: NTS SOURCE: CG102 A3

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
06/10/2015
BRADFORD D. WEINERT
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A/E INFO

APPROVED
FOR COMMANDER NAVFAC 18 June 2015
ACTIVITY
SATISFACTORY TO DATE 5 May 2015 signed by email
DES HR DRW HR CHK RC
<<PM/DM>>
BRANCH MANAGER MS
CHIEF ENG/ARCH THC
FIRE PROTECTION KTD

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE – QUANTICO
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EROSION AND SEDIMENT CONTROL DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1312142
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 13072281
SHEET 65 OF 201
CG-504
DRAWFORM REVISION: 10 MARCH 2009

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