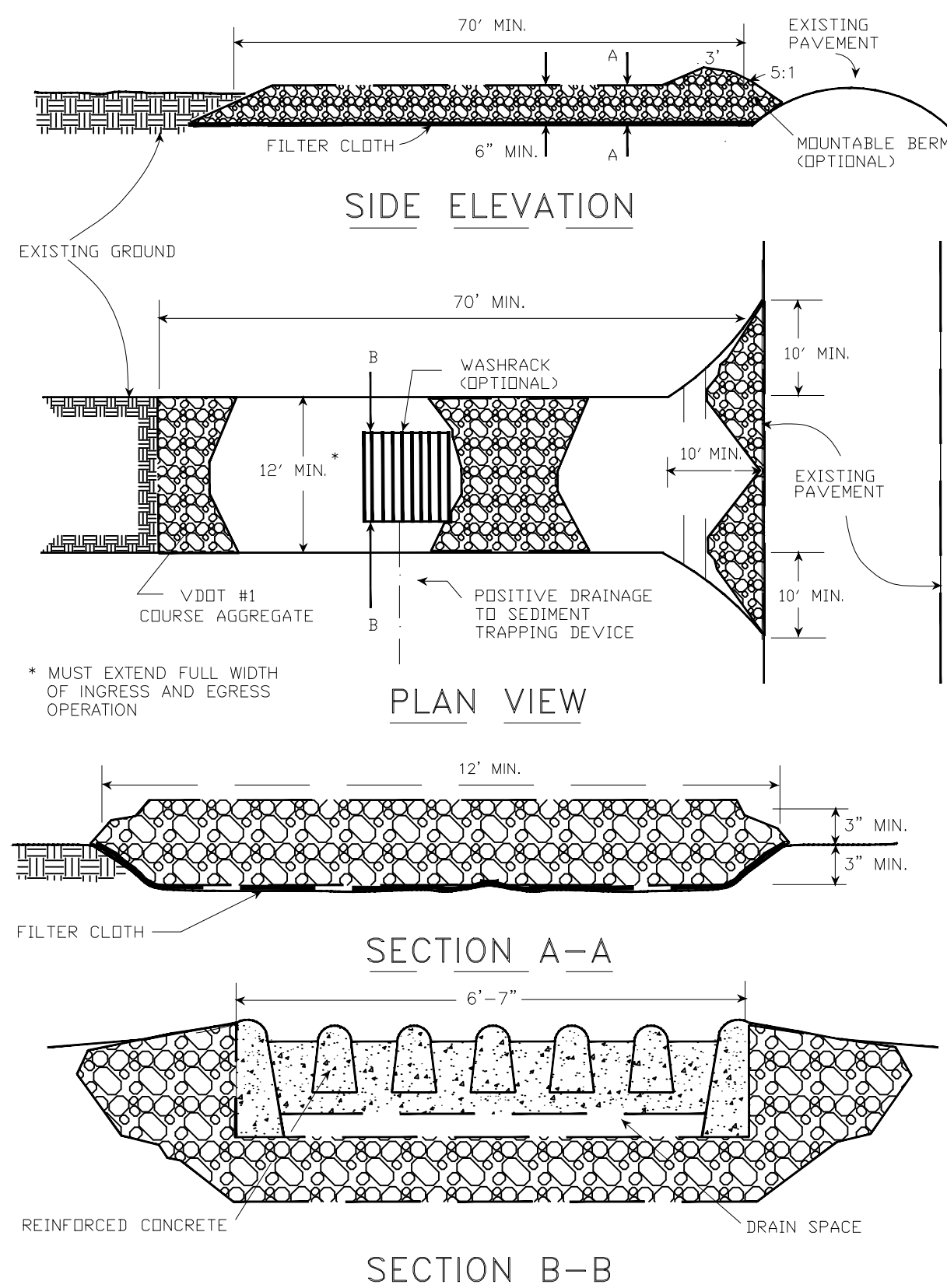


# STONE CONSTRUCTION ENTRANCE

NOT TO SCALE

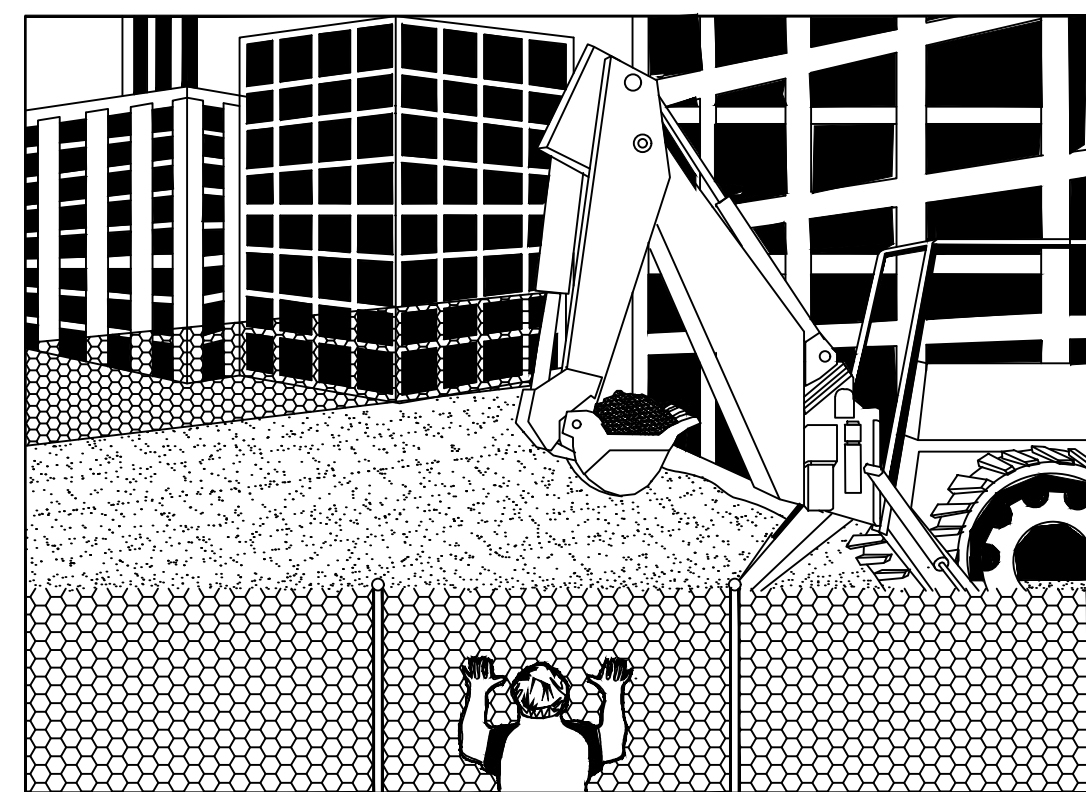


### NOTES

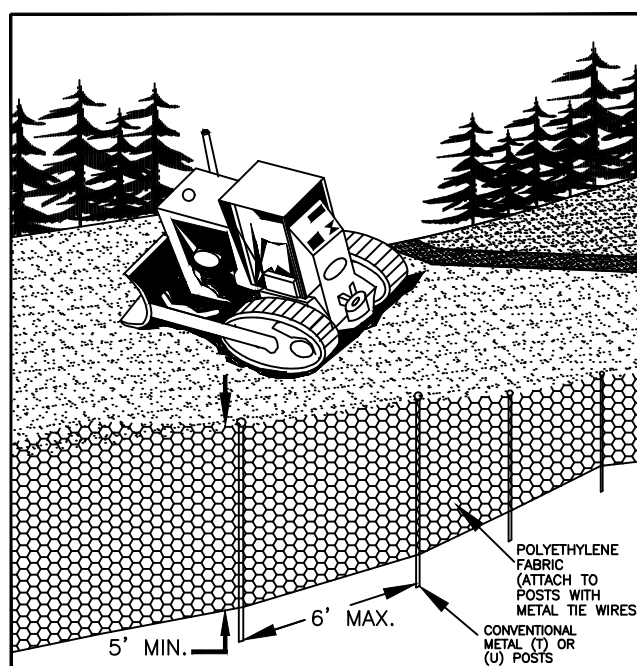
- WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD SURFACE BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

# SAFETY FENCE

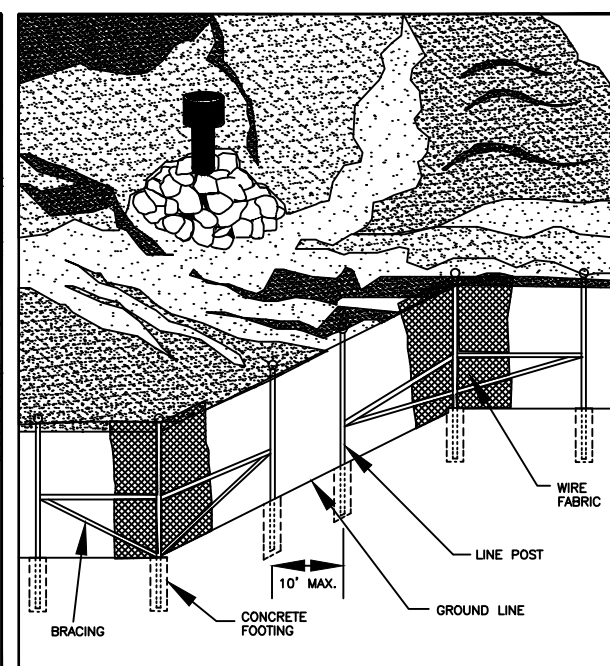
NOT TO SCALE



PERSPECTIVE VIEW



PERSPECTIVE VIEW PLASTIC FENCE



PERSPECTIVE VIEW METAL FENCE

SOURCE: CONWED PLASTICS  
VDOT ROAD AND BRIDGE STANDARDS  
VA. DSWC

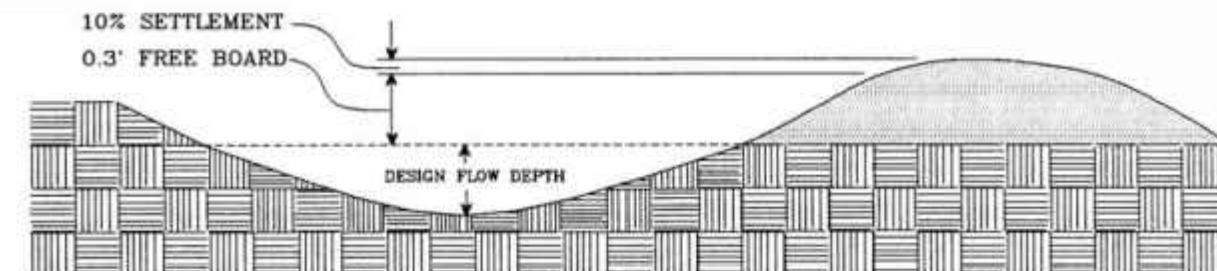
PLATE. 3.1-1

### NOTES

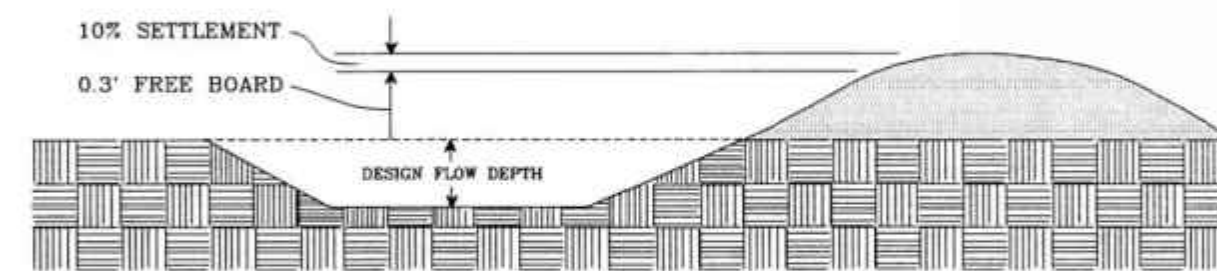
- STAKES WILL BE INSTALLED TO THE MINIMUM EMBEDMENT DEPTH OF 18 INCHES TO THE EXTENT POSSIBLE TO ENSURE THE FUNCTIONALITY OF THE SAFETY FENCE. WHERE ADEQUATE EMBEDMENT DEPTH CANNOT BE ACHIEVED ADDITIONAL MEASURES, INCLUDING BUT NOT LIMITED TO SANDBAGS, MOUNDED EARTH, ETC. WILL BE UTILIZED TO SECURE THE FENCE.

# DIVERSIONS

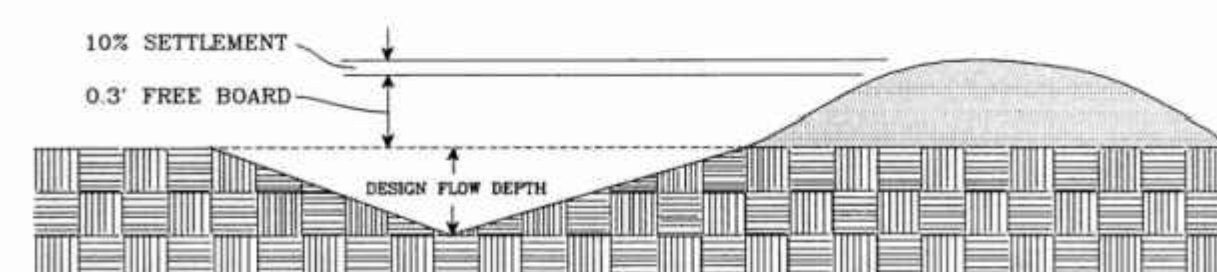
NOT TO SCALE



TYPICAL PARABOLIC DIVERSION



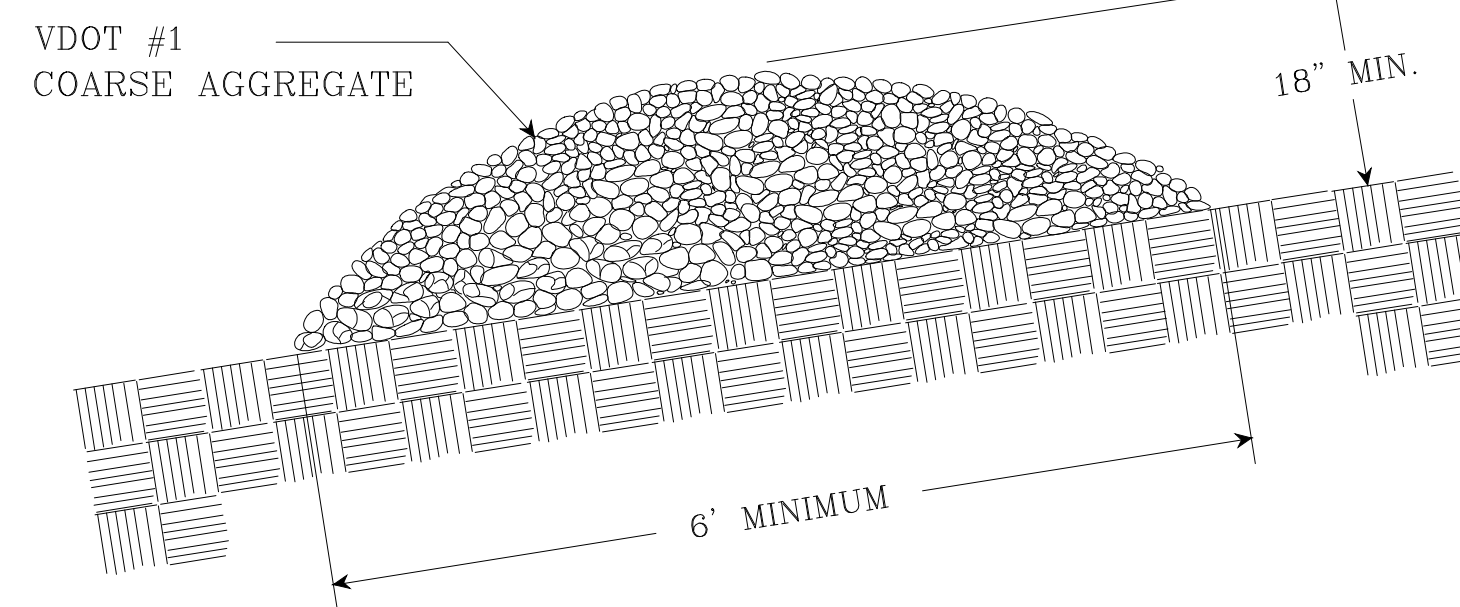
TYPICAL TRAPEZOIDAL DIVERSION



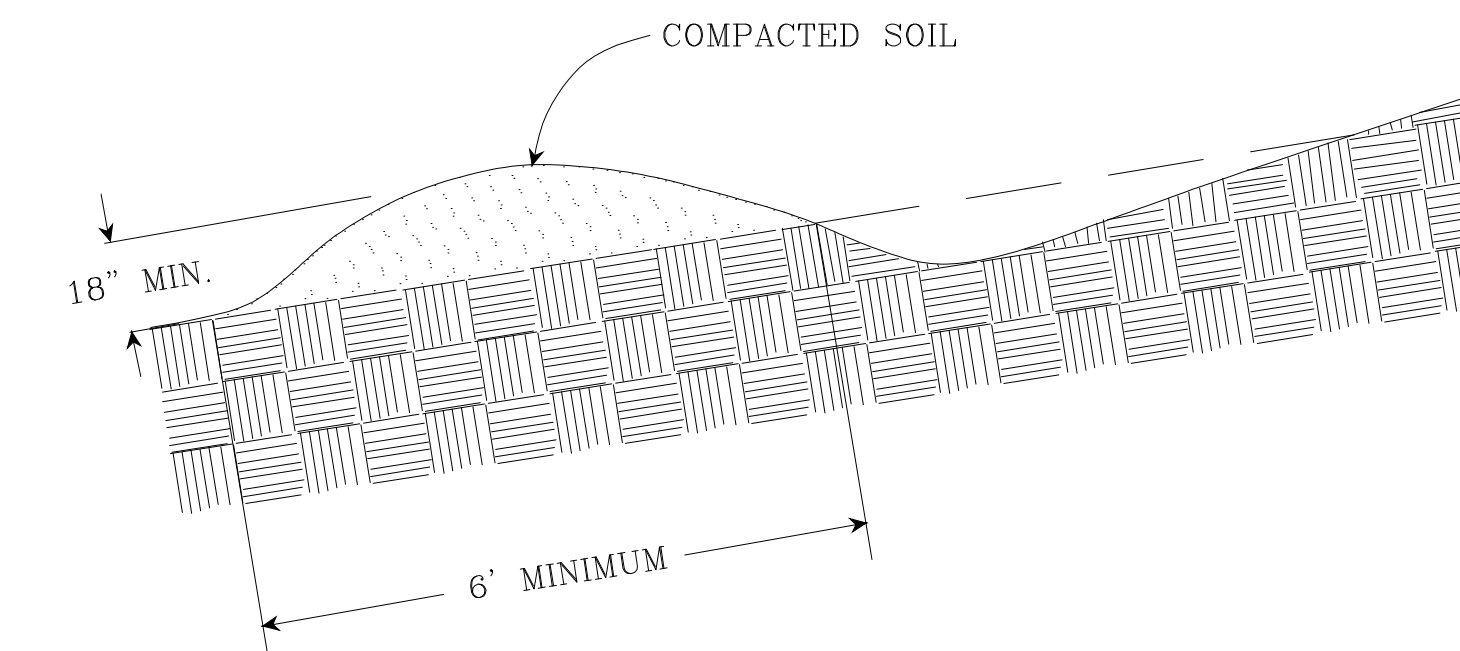
TYPICAL VEE-SHAPED DIVERSION

# TEMPORARY RIGHT-OF-WAY DIVERSIONS

NOT TO SCALE



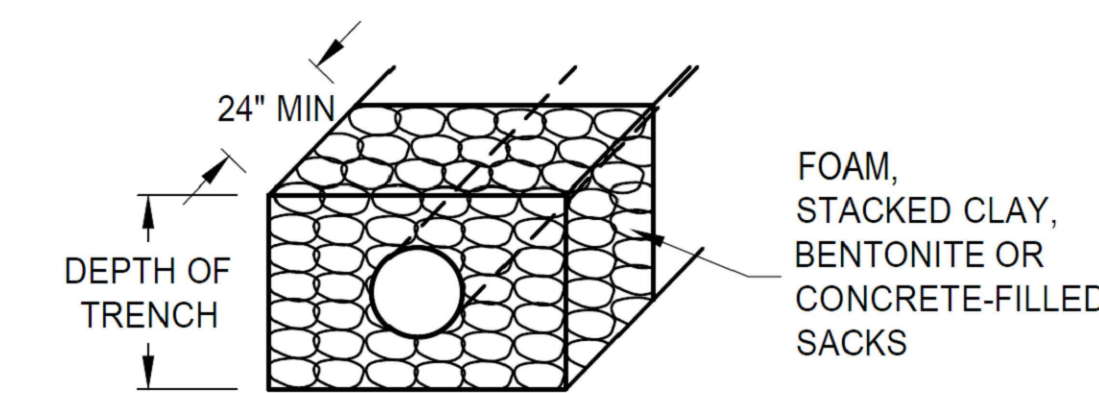
TYPICAL GRAVEL STRUCTURE



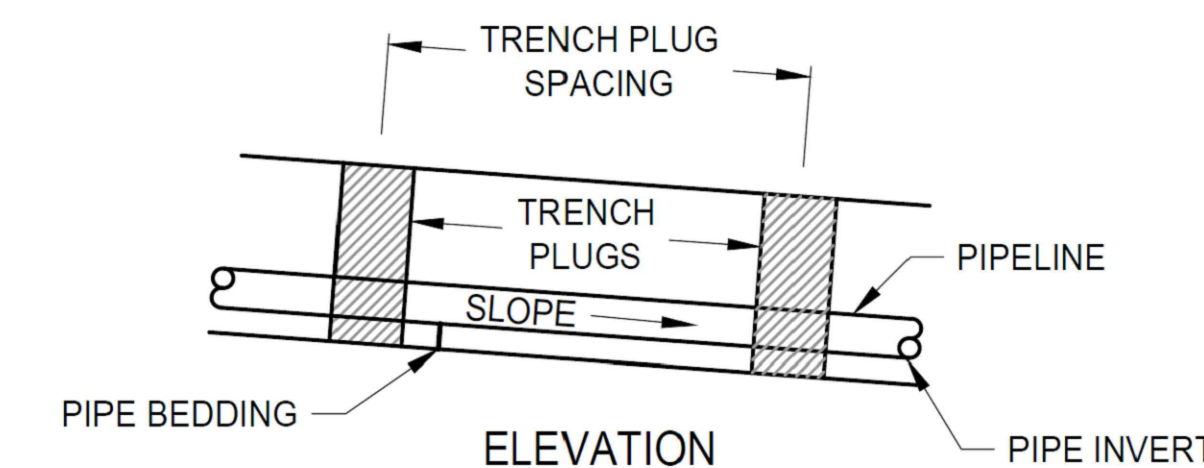
TYPICAL EARTHEN STRUCTURE

# TRENCH PLUG DETAIL

NOT TO SCALE



SECTION VIEW



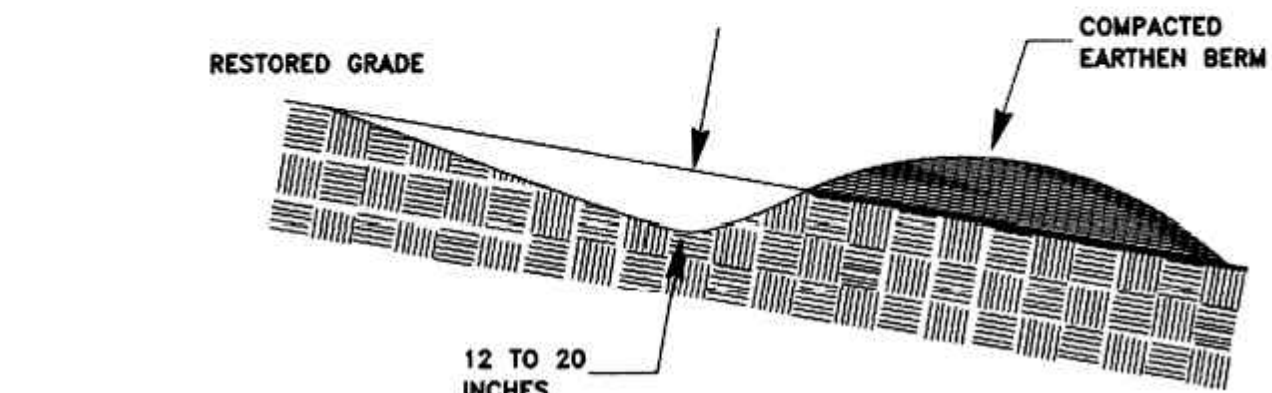
ELEVATION

### CONSTRUCTION NOTES:

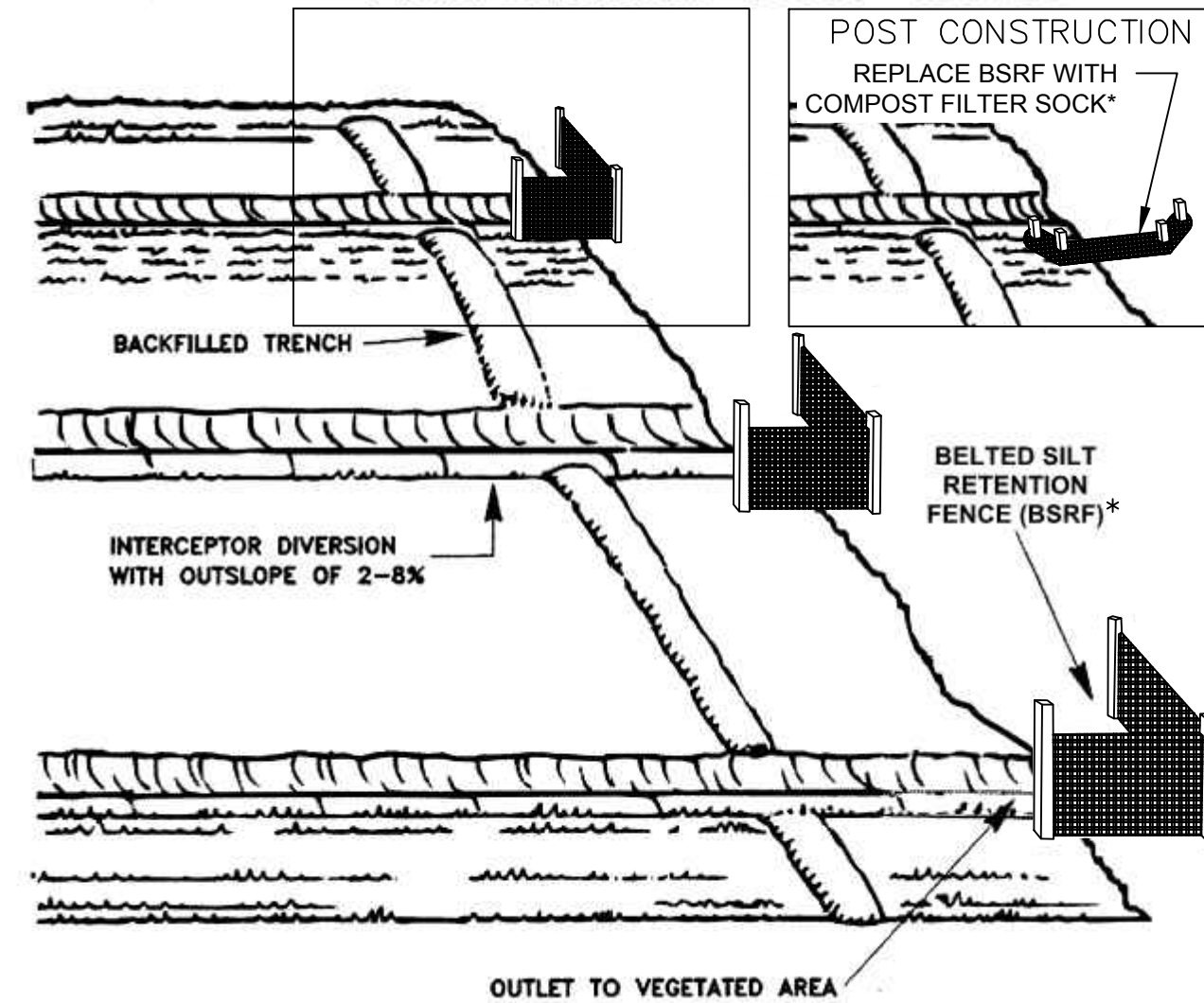
- TRENCH PLUGS ARE REQUIRED AT ALL STREAM, RIVER, WETLAND, OR OTHER WATER BODY CROSSINGS REGARDLESS OF TRENCH SLOPE.
- TOPSOIL MAY NOT BE USED TO FILL SACKS.
- TRENCH PLUG LOCATION AND SPACING SHALL BE IN ACCORDANCE WITH CONSTRUCTION ALIGNMENT SHEETS, OR AS OTHERWISE DIRECTED BY THE EI.

# RIGHT-OF-WAY DIVERSION

NOT TO SCALE

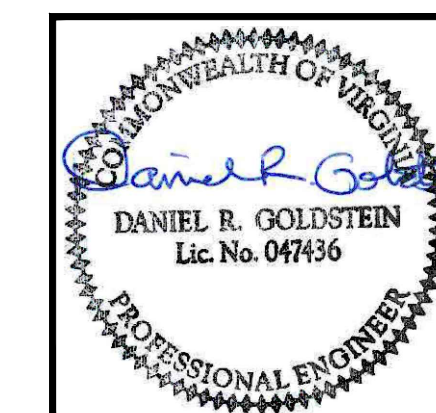


FINAL DIVERSION CROSS-SECTION



Design Criteria: No formal design is required. The following criteria shall be met:  
 Height- The minimum allowable height of the diversion is 18 inches;  
 Side Slopes- Side slopes should be 2:1 or flatter to allow the passage of construction traffic, along with a minimum base width of 6 feet;  
 Width- The measure should be constructed completely across the disturbed portion of the right-of-way;  
 Spacing- Use the following to determine the spacing of right-of-way diversions within the VA Erosion Control Handbook;  
 - less than 7% slope: 100 ft.  
 - between 7% and 25% slope: 75ft.  
 - between 25% and 40% slope: 50ft.  
 - Greater than 40%: 25 ft.  
 Grade- Positive drainage (with less than 2% slope) should be provided to a stabilized outlet, sediment-trapping facility, or a vegetative buffer strip of adequate size.  
 Outlet- Interceptor dikes must have an outlet which is not subject to erosion. The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet. Concentrated flows should spread over the widest possible area after release. Flows with high sediment concentrations should pass through an appropriate sediment-trapping measure.

\*CONTRACTOR MAY SUBSTITUTE STRAW WATTLES, COIR LOGS, MULCH SOCK OR SIMILAR BMP. FURTHER, SALVAGED OR IMPORTED ROCK MAY ALSO BE USED TO REDUCE VELOCITY AND DISTRIBUTE FLOW.

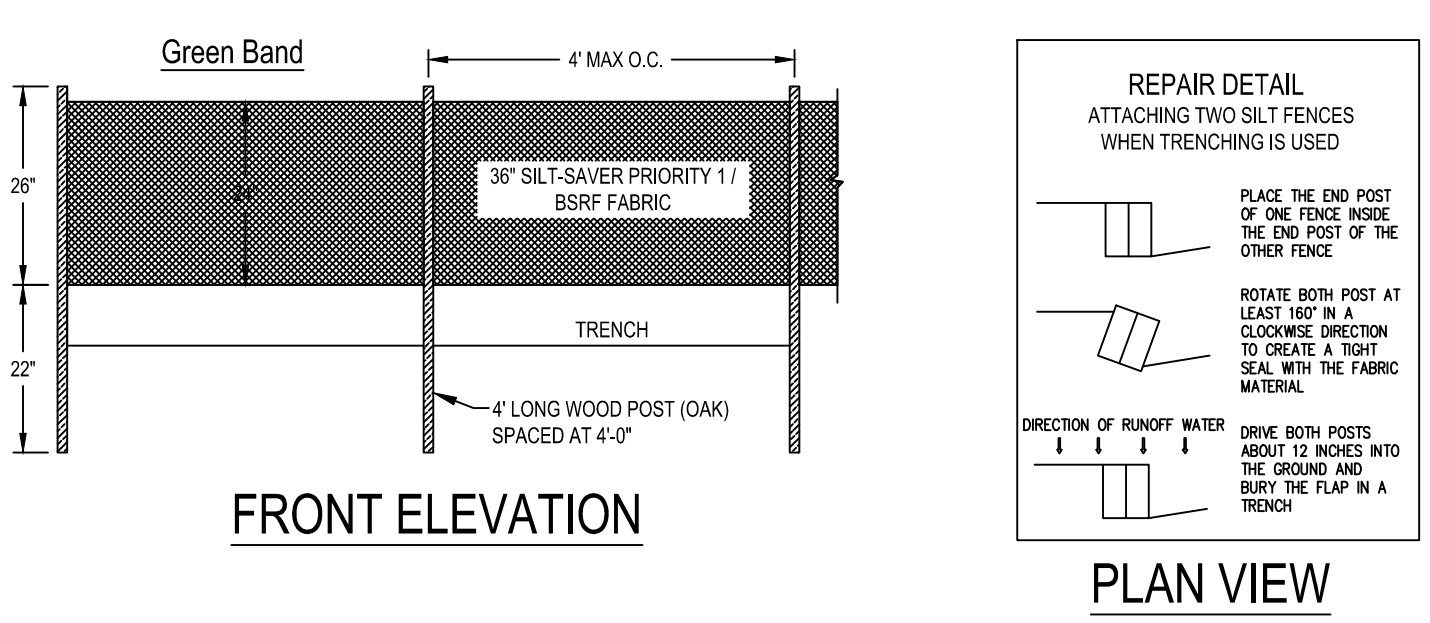
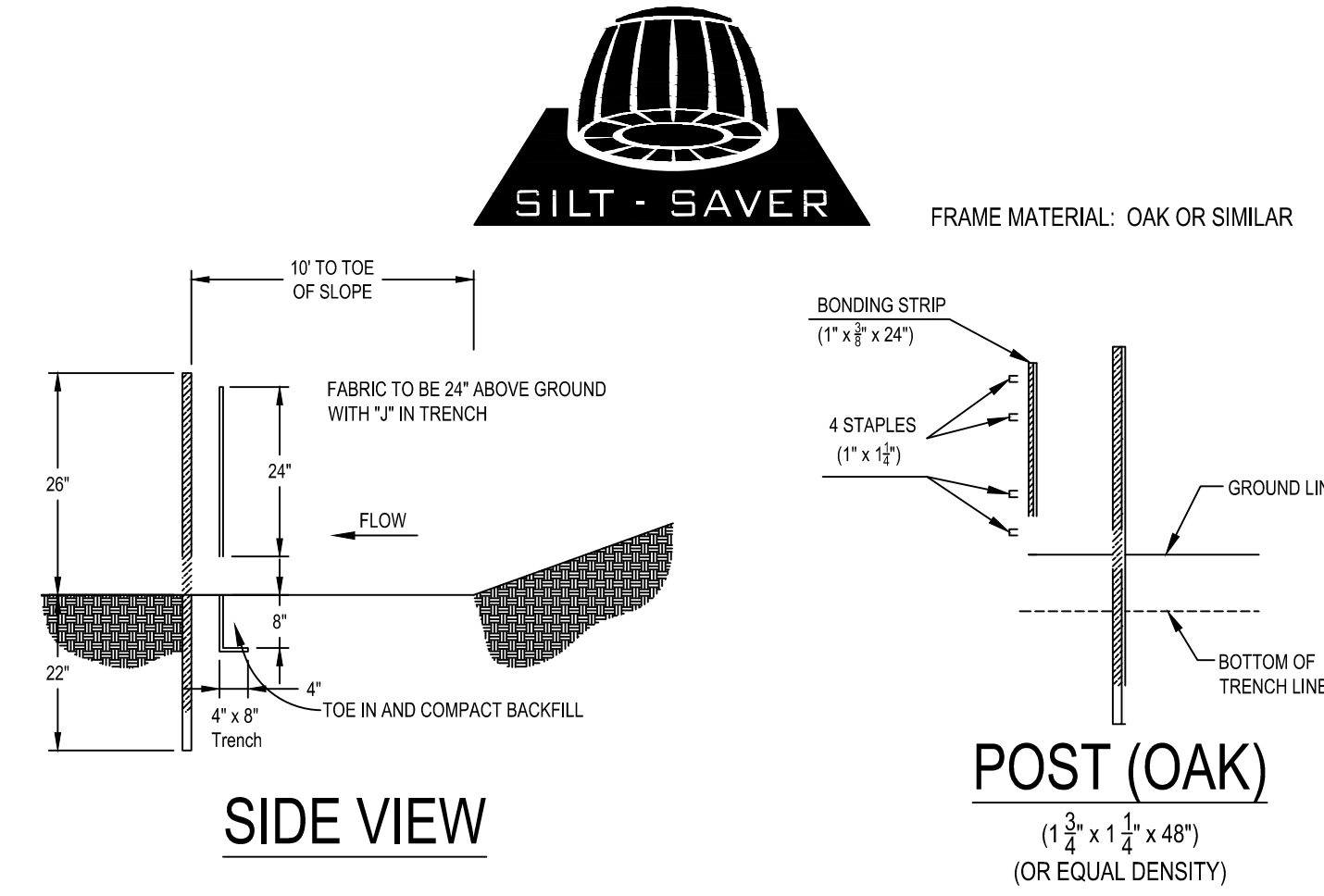


Environmental Resources ERM Management	DRAWN: EJB	05/22/2017
CHECKED: JEY	05/22/2017	
APP. FOR BID:		
APP. FOR CONST.:		
SCALE: AS NOTED		

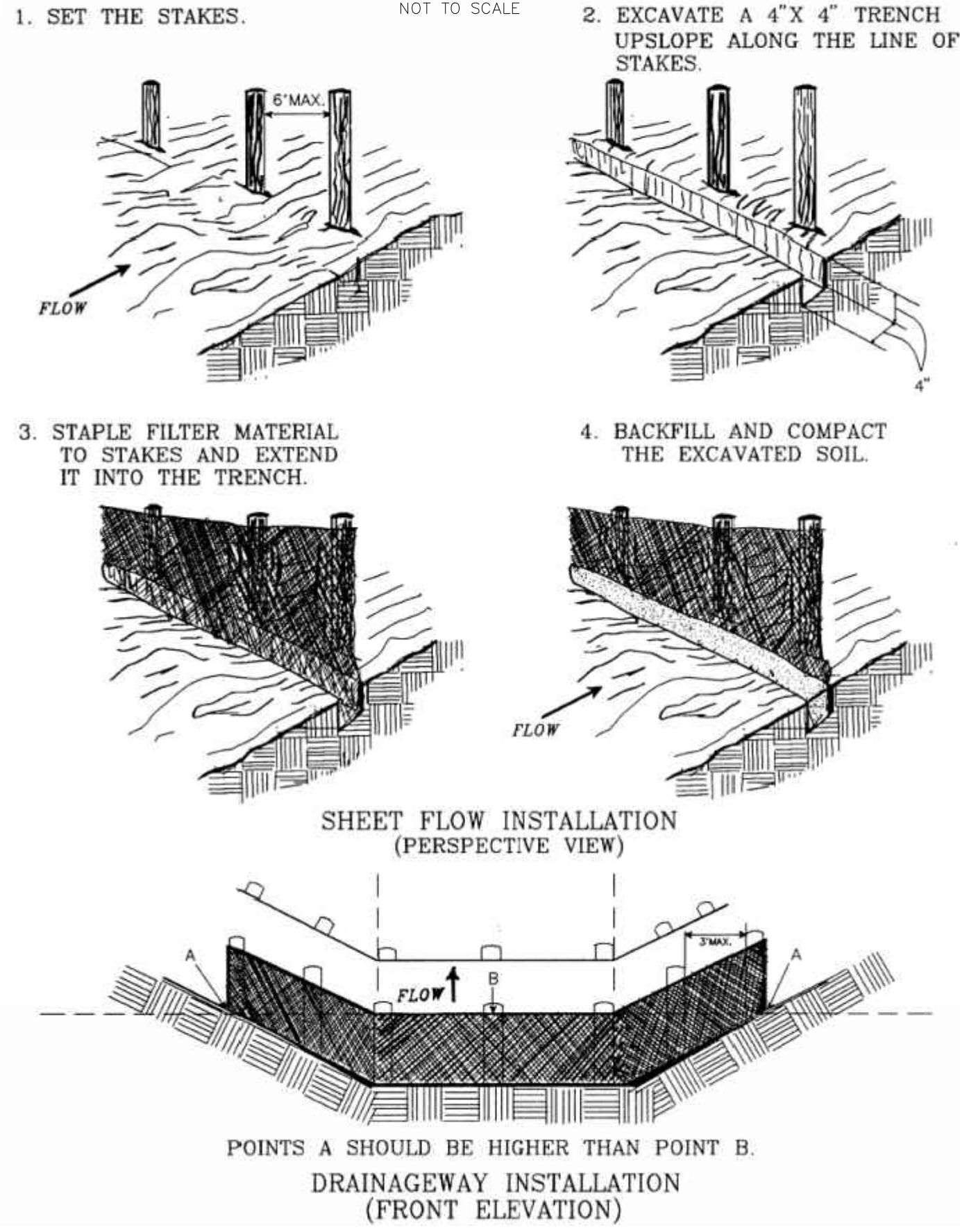
<b>Atlantic Coast Pipeline, LLC</b>			
925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000			
TITLE: <b>ATLANTIC COAST PIPELINE EROSION AND SEDIMENT CONTROL DETAILS</b>			
DISTRICT: -	COUNTY: -	STATE: VA	GROUP: -
DIR/FILE: ACP/Virginia/Details	DWG. NO: 1 OF 7	REV: 0	

# BELTED SILT RETENTION FENCE - (BSRF) PRIORITY 1 - GREEN BAND

NOT TO SCALE

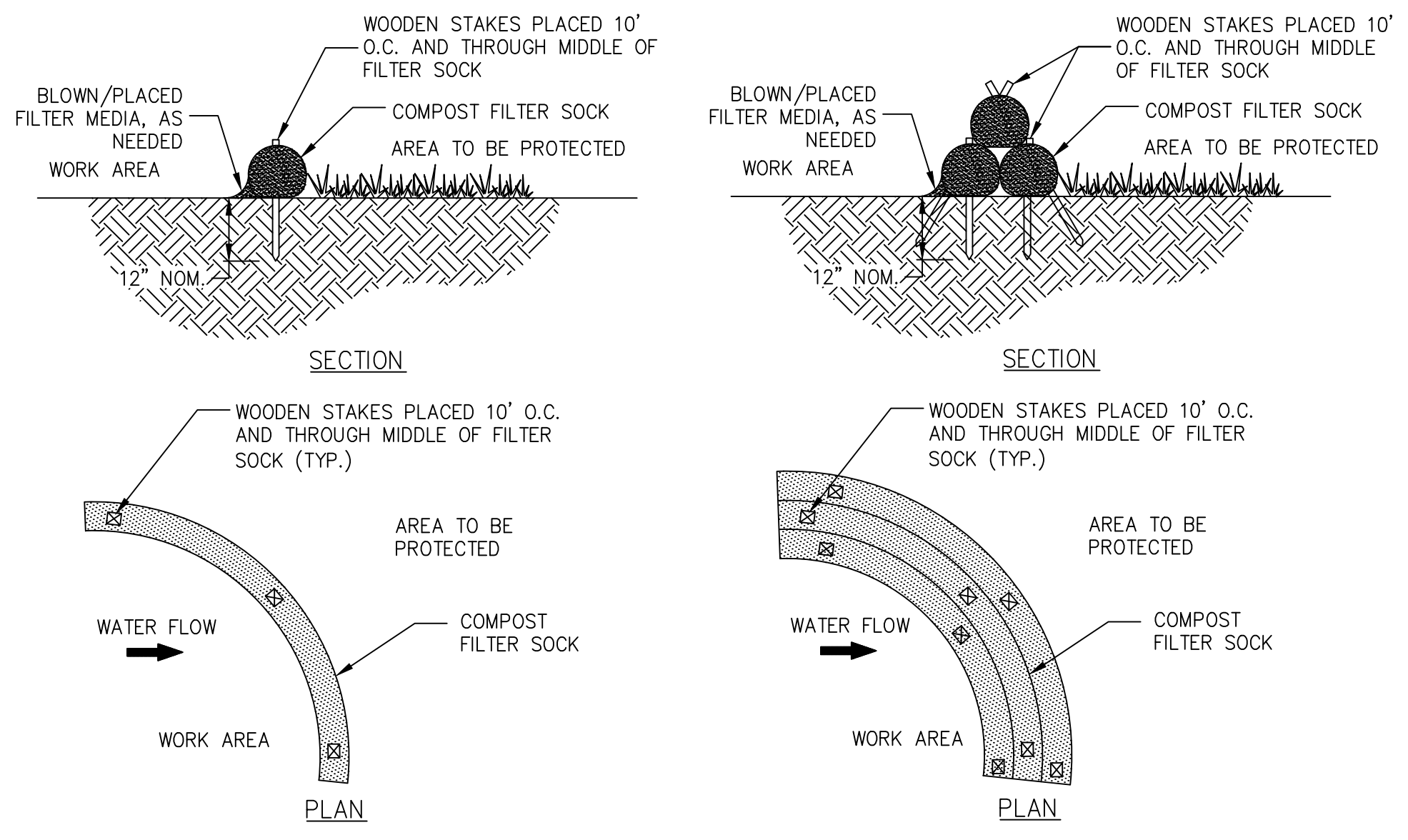


# CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



# COMPOST FILTER SOCK

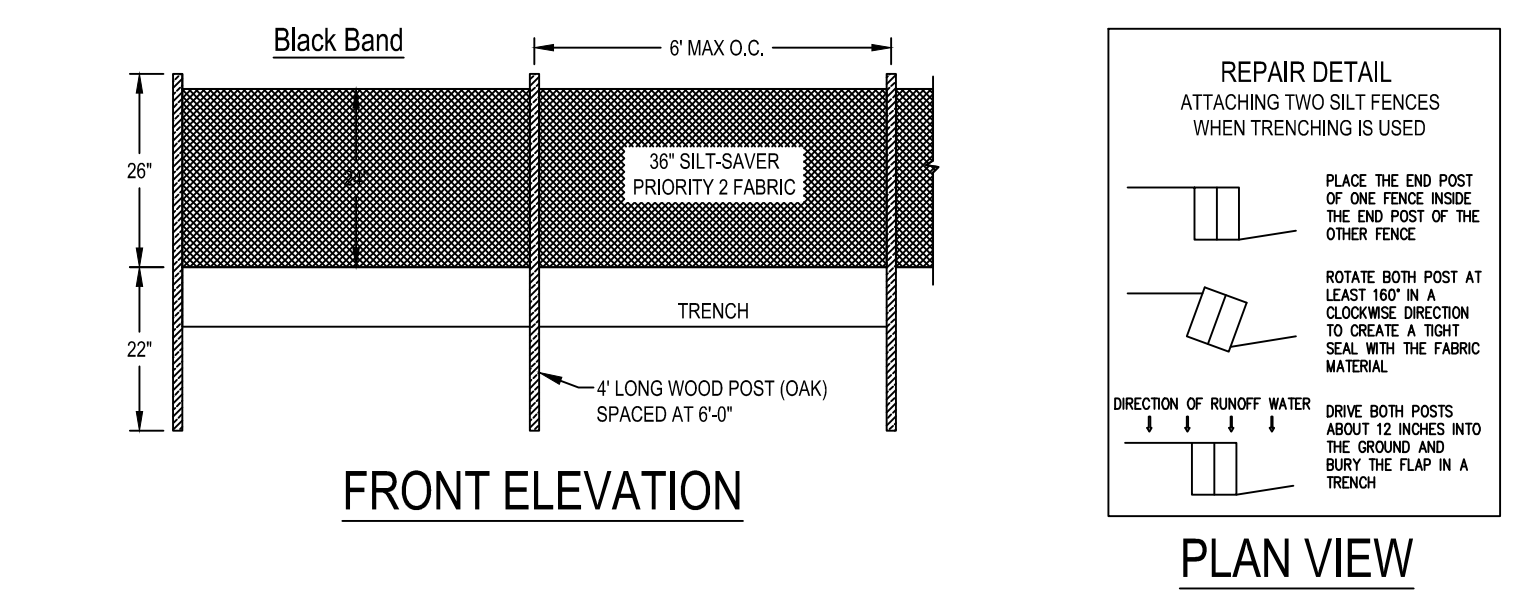
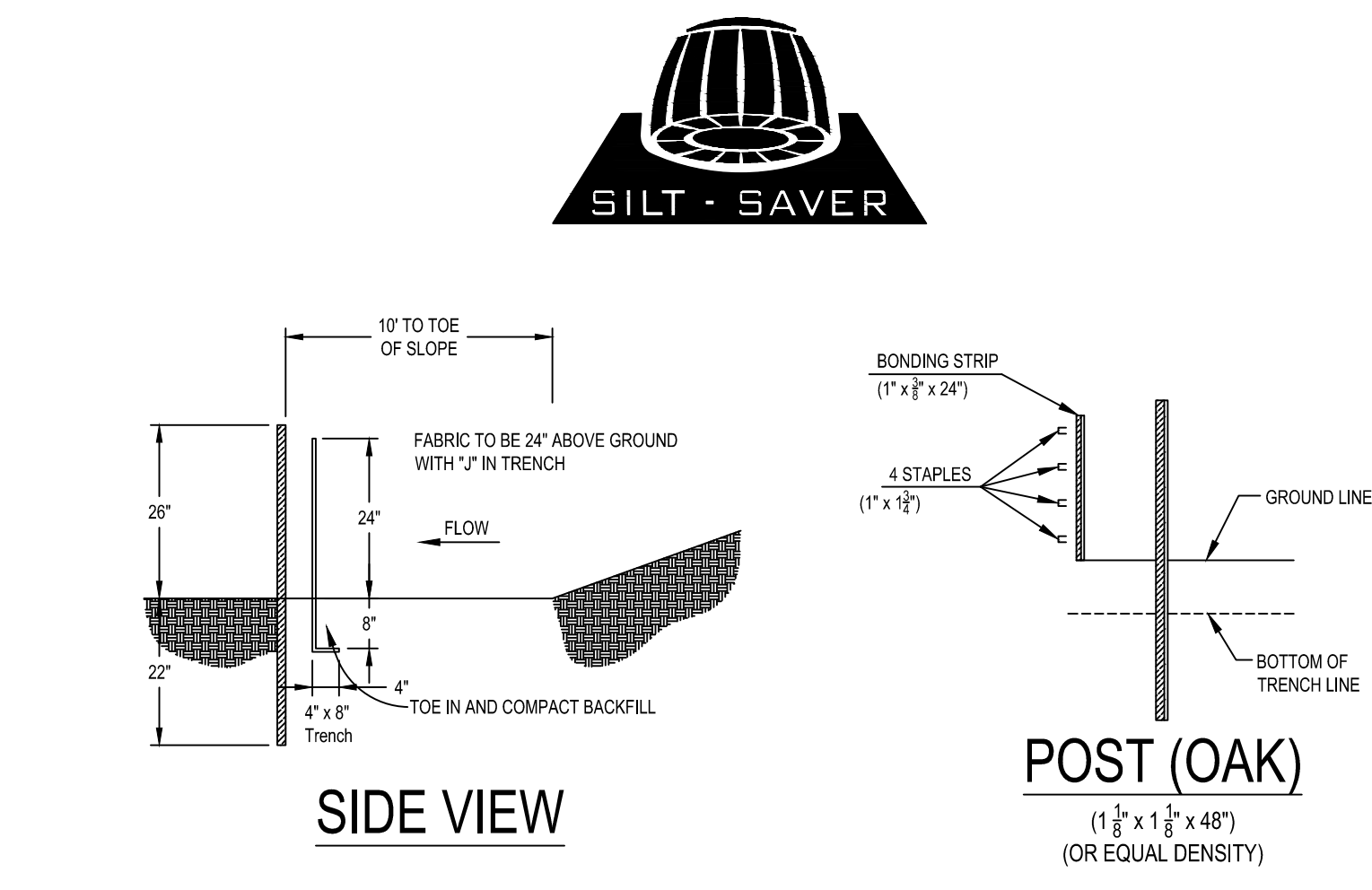
NOT TO SCALE



- NOTES:**
1. FILTER SOCK TO BE FILTREXX SEDIMENT CONTROL SILT50XX OR APPROVED EQUAL. FILTER MEDIA INSIDE AND, AS NECESSARY UP-SLOPE OF FILTER SOCK, TO BE FILTREXX FILTERMEDIA OR APPROVED EQUAL.
  2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FILTER SOCK.

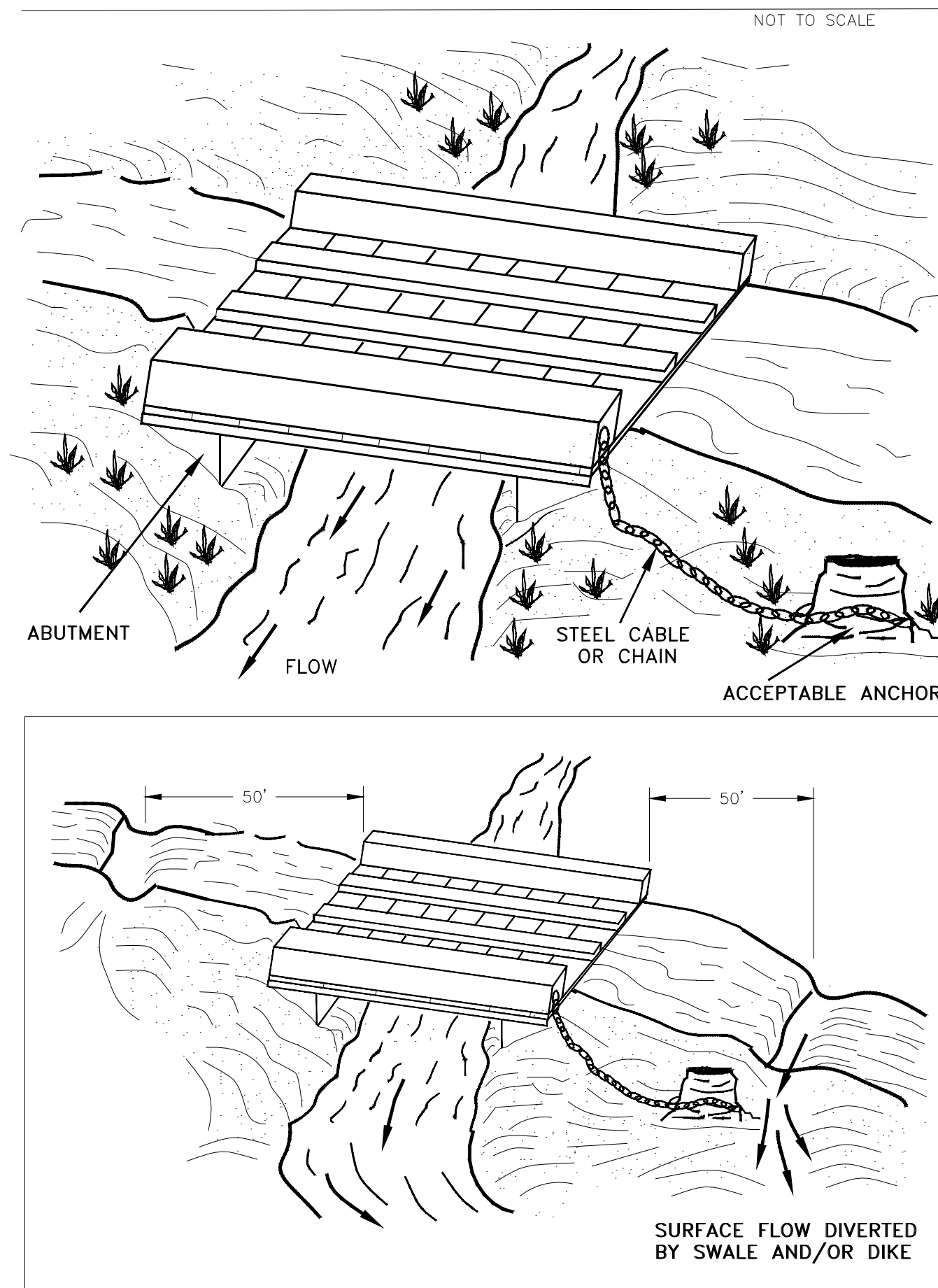
# BELTED SILT RETENTION FENCE - (BSRF) PRIORITY 2 - BLACK BAND

NOT TO SCALE

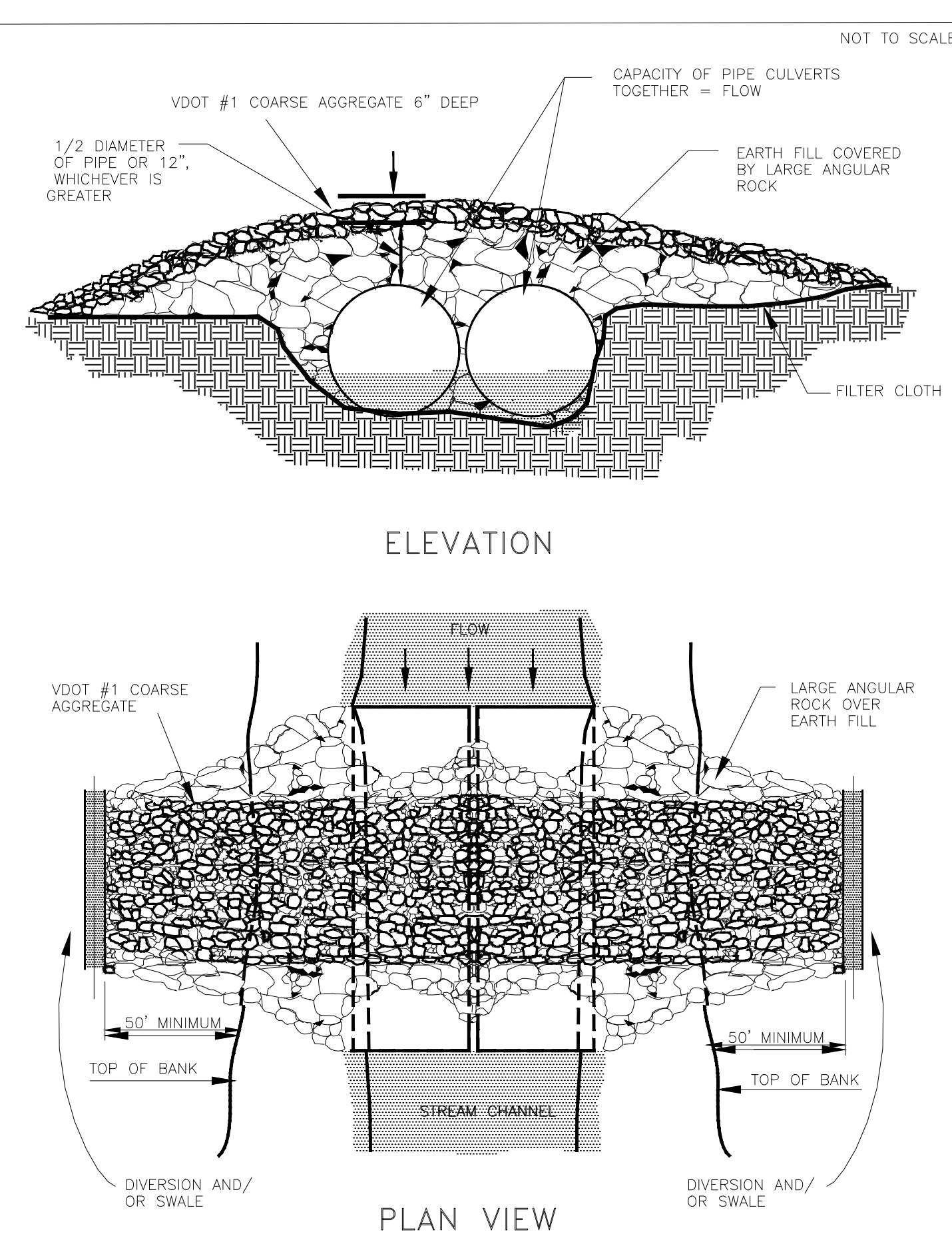


	<b>Environmental Resources Management</b> ERM		<b>Atlantic Coast Pipeline, LLC</b> 925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000					
	DRAWN: EJB CHECKED: JEY APP. FOR CONST.: SCALE: AS NOTED	05/22/2017 05/22/2017	<b>TITLE: ATLANTIC COAST PIPELINE EROSION AND SEDIMENT CONTROL DETAILS</b>					
			DISTRICT: -	COUNTY: -	STATE: VA	GROUP: -	DWG. NO: 2 OF 7	REV: 0
			DIR/FILE: ACP/Virginia/Details					

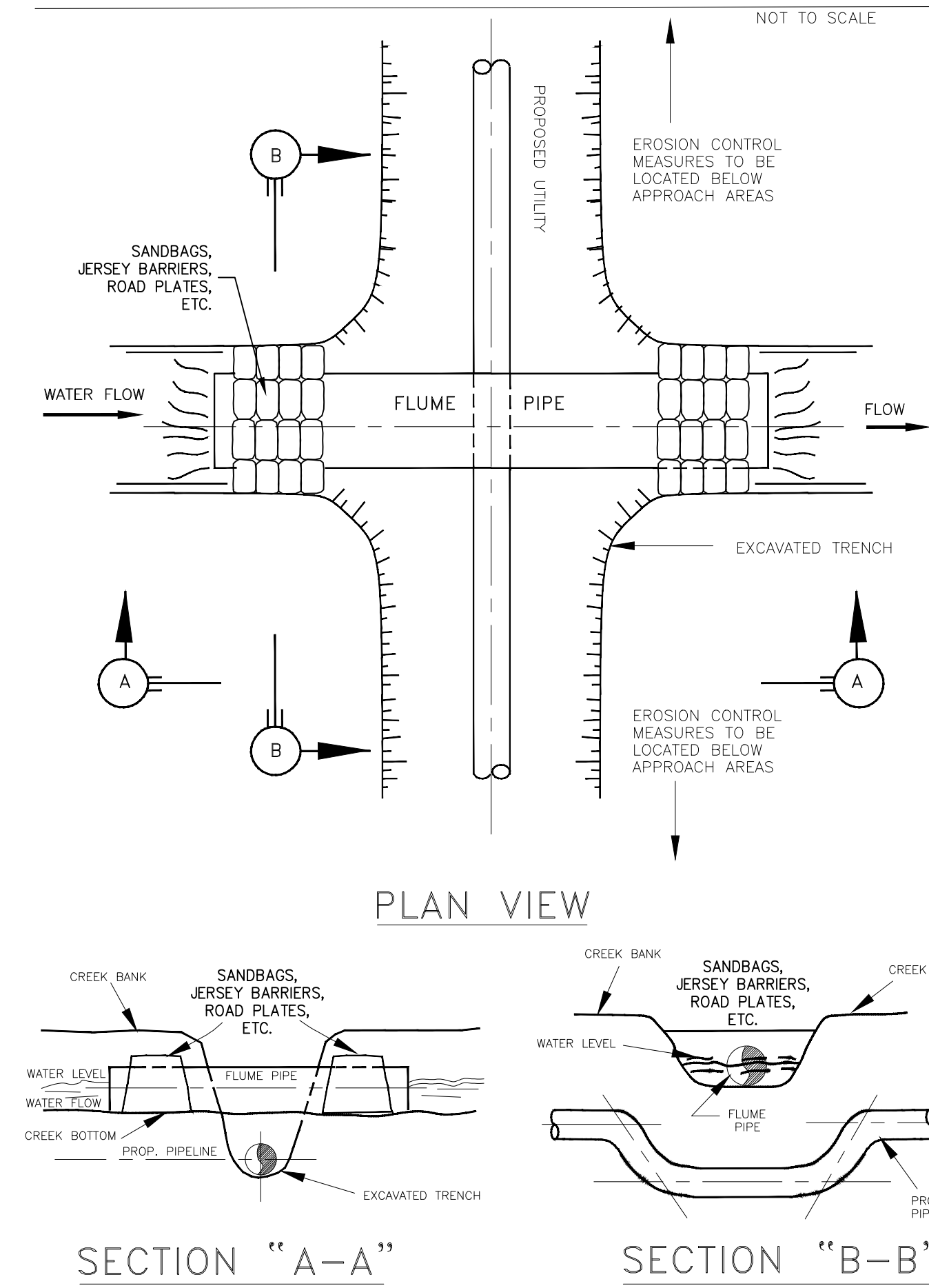
### TEMPORARY BRIDGE CROSSING



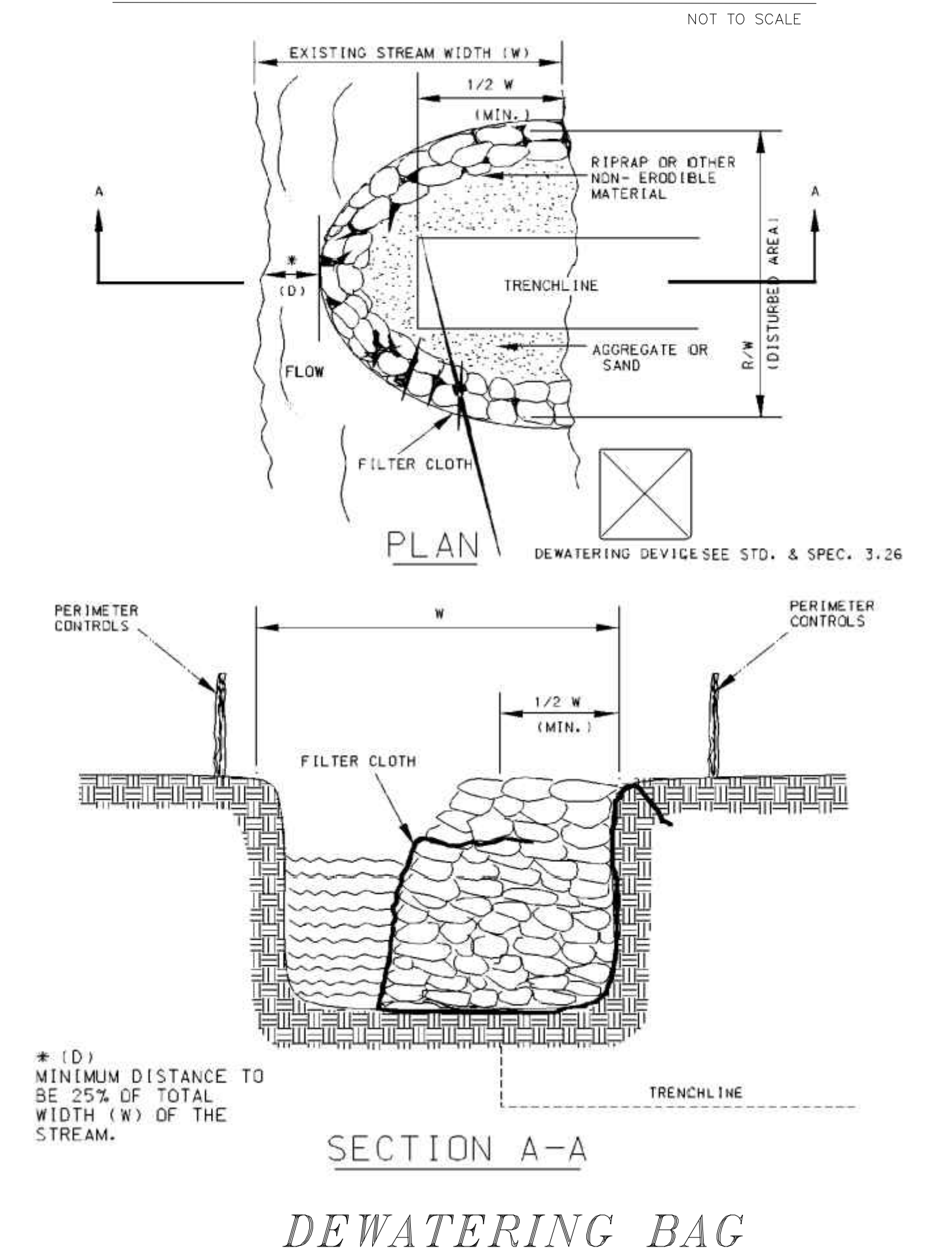
### TEMPORARY CULVERT CROSSING



### FLUME PIPE CROSSING



### COFFERDAM CROSSING - 3.25



**TABLE 3.24-A**  
**PIPE DIAMETER (INCHES) FOR STREAM CROSSINGS<sup>a</sup>**

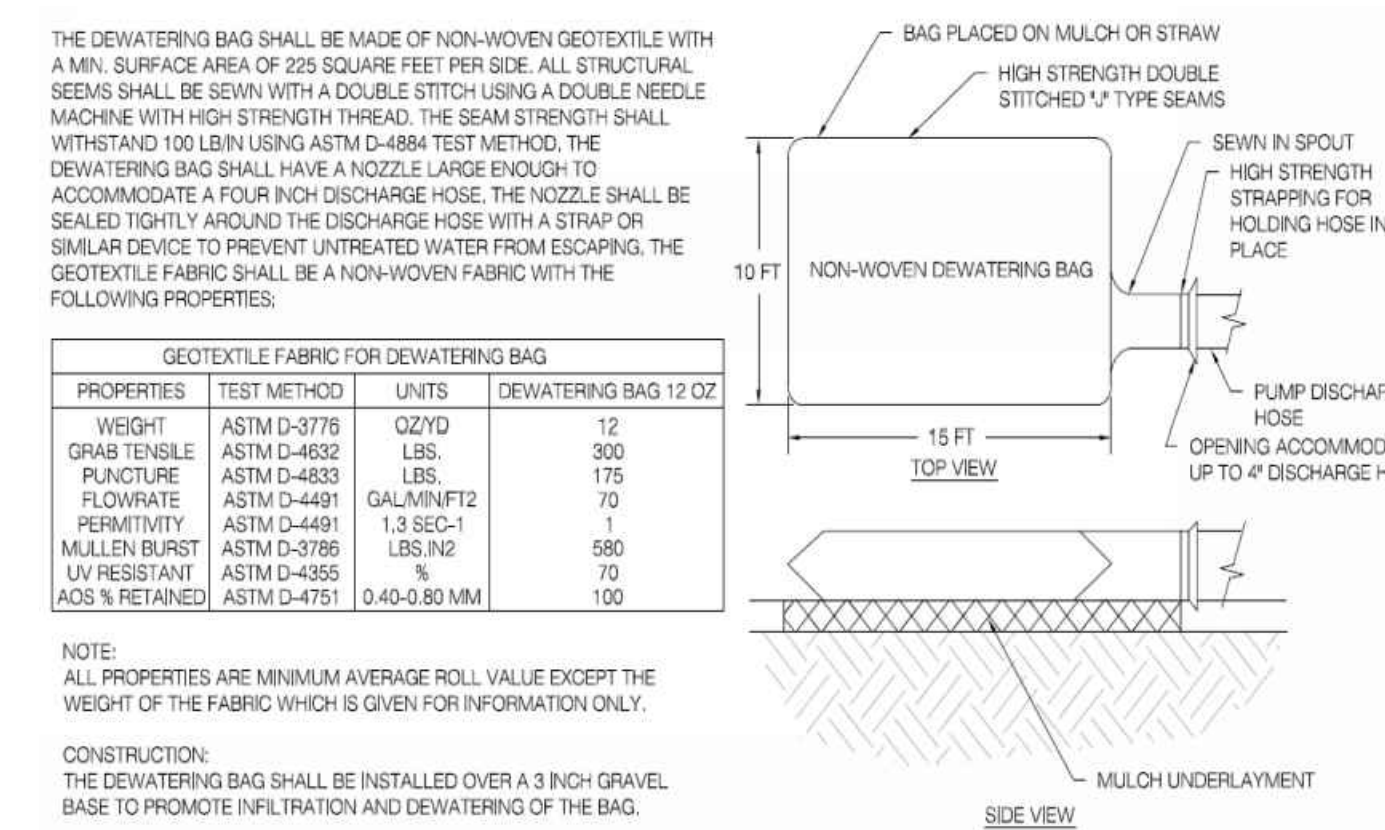
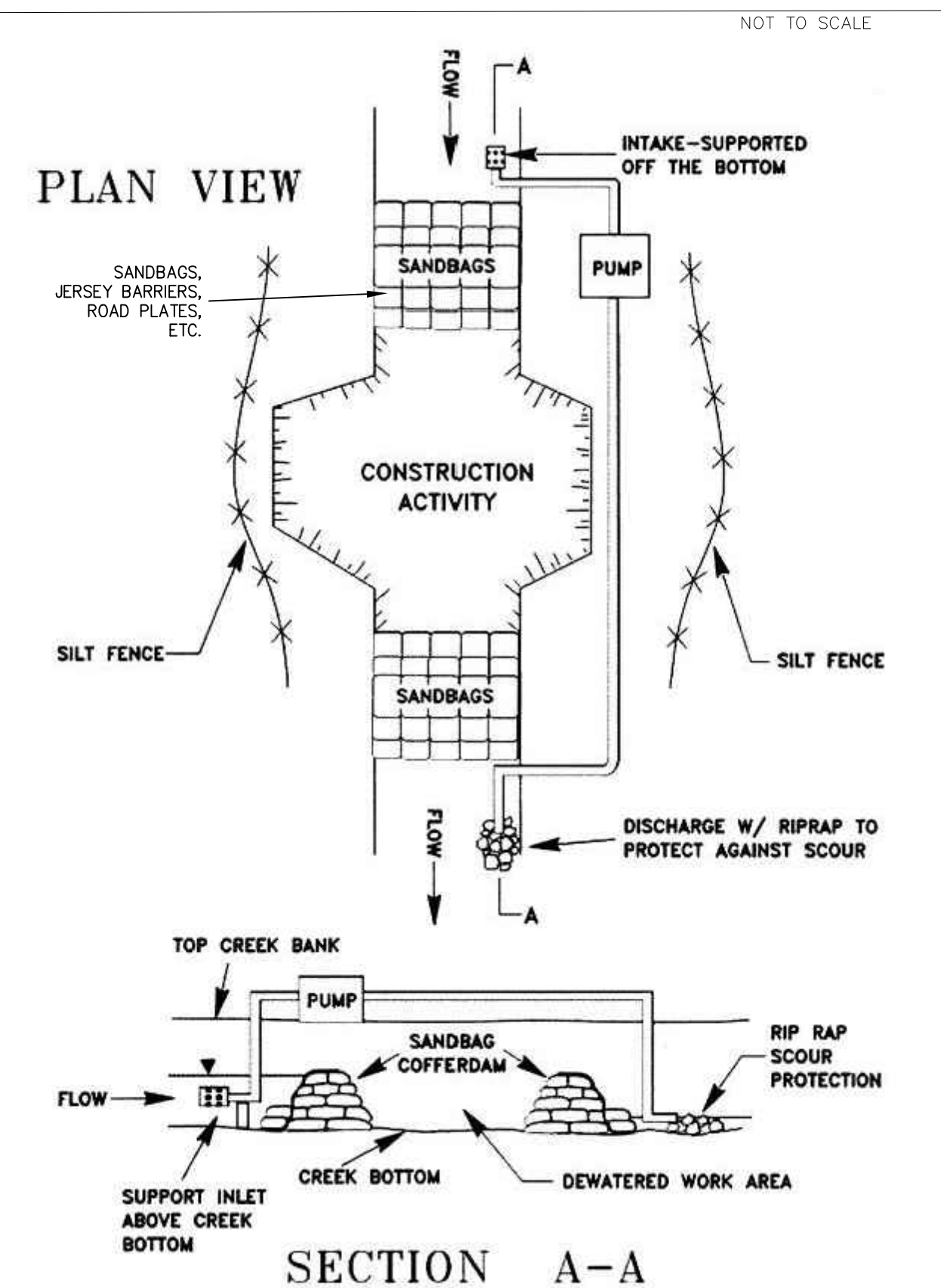
Drainage Area (Acres)	Average Slope of Watershed			
	1%	4%	8%	16%
1 - 25	24	24	30	30
26 - 50	24	30	36	36
51 - 100	30	36	42	48
101 - 150	30	42	48	48
151 - 200	36	42	48	54
301 - 350	42	48	60	60
351 - 400	42	54	60	60
451 - 500	42	54	60	72
501 - 550	48	60	60	72
551 - 600	48	60	60	72
601 - 640	48	60	72	72

<sup>a</sup> Note: Table is based on USDA-SCS Graphical Peak Discharge Method for 2-year frequency storm event, CN = 65; Rainfall depth = 3.5 inches (average for Virginia).

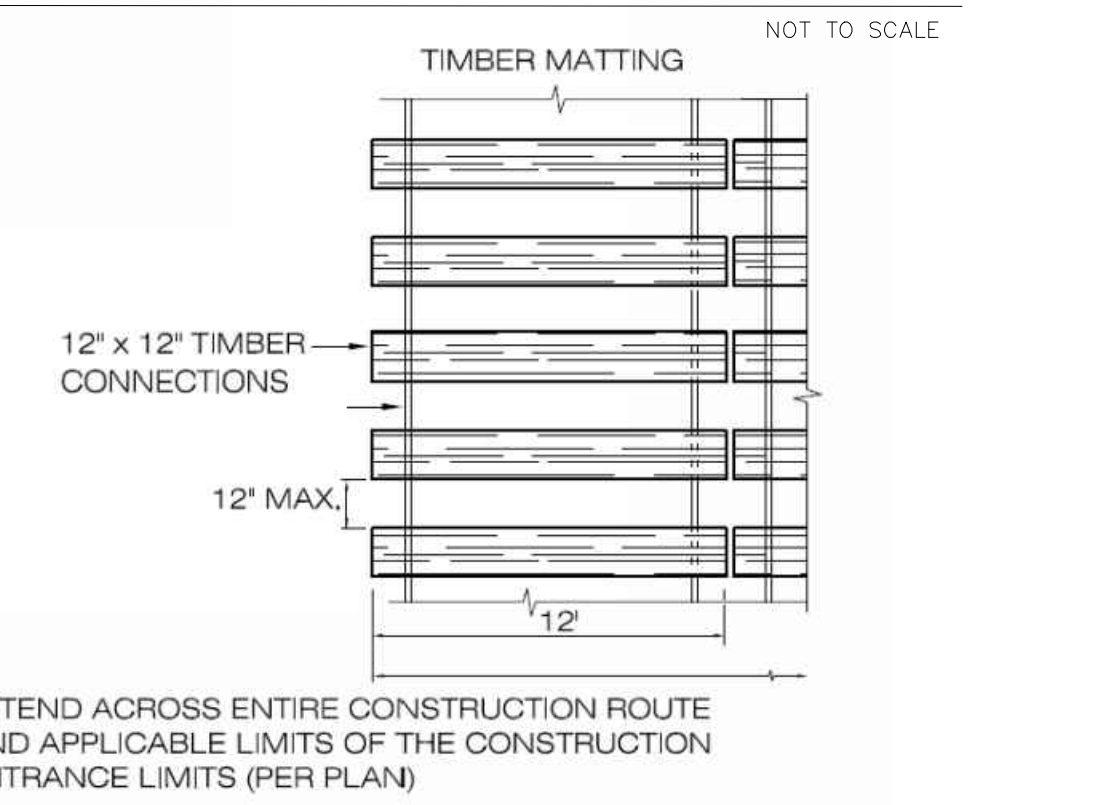
Source: Va. DSWC

- NOTES**
- IF APPLICATION OF SIZING CRITERIA DEPICTED HEREIN RESULTS IN A CULVERT THAT IS LARGER THAN THE CROSS-SECTION OF THE WATERBODY, THE SELECTED CULVERT SIZE WILL BE BASED ON THAT WHICH CAN BE ACCOMMODATED WITHOUT MODIFICATION OF THE STREAM GEOMETRY.

### PUMP AROUND



### TIMBER MATTING



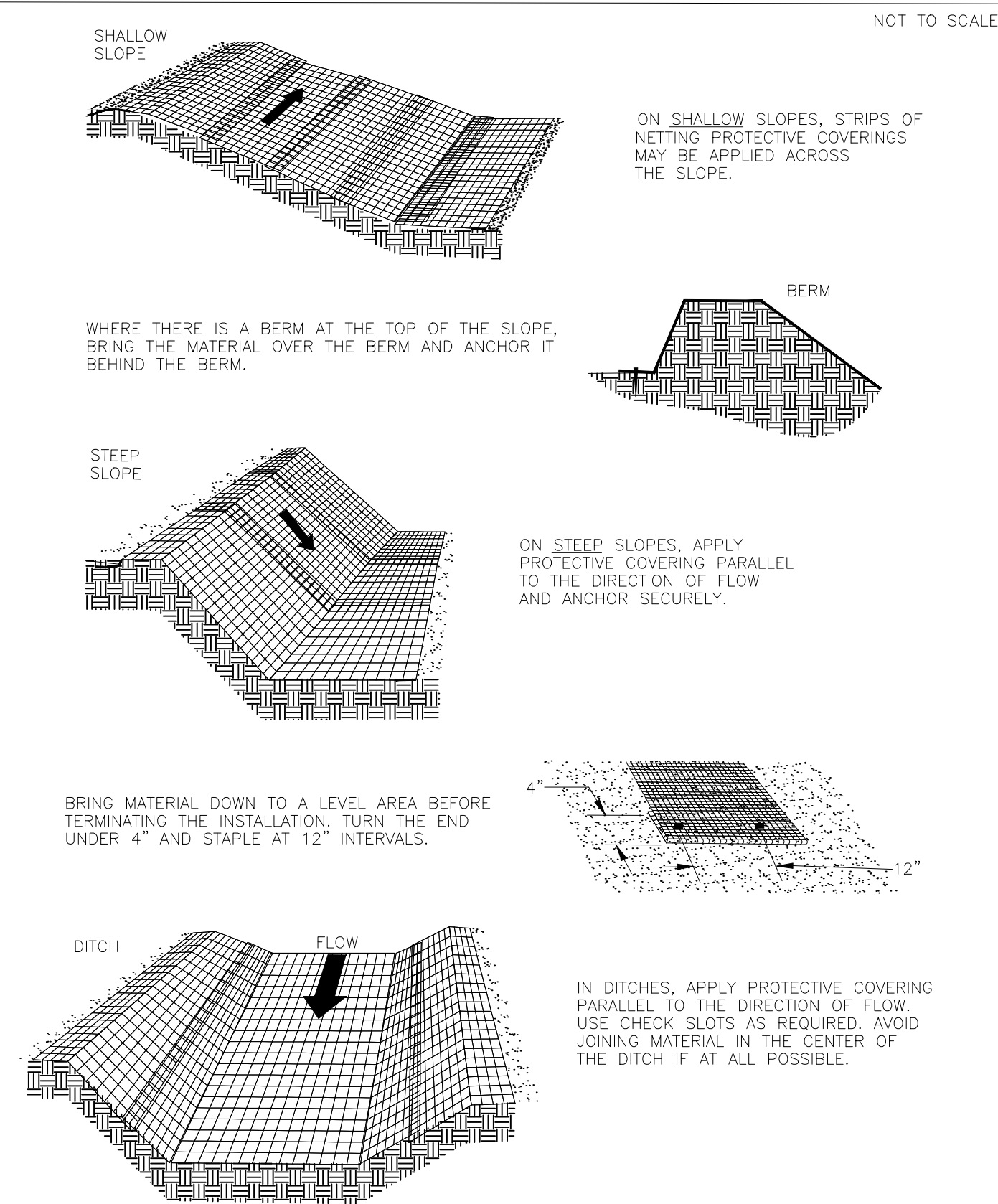
DANIEL R. GOLDSTEIN  
Lic. No. 047436

Environmental Resources Management

**Atlantic Coast Pipeline, LLC**  
925 White Oaks Blvd, Bridgeport, West Virginia 26330 / 681-842-8000

DRAWN:	EJB	05/22/2017	TITLE:	<b>ATLANTIC COAST PIPELINE EROSION AND SEDIMENT CONTROL DETAILS</b>	
CHECKED:	JEY	05/22/2017	DISTRICT:		
APP. FOR BID:			STATE:	VA	GROUP:
APP. FOR CONST.:			DWG. NO.:	3 OF 7	REV.:
SCALE:	AS NOTED		DIR/FILE:	ACPVirginiaDetails	0

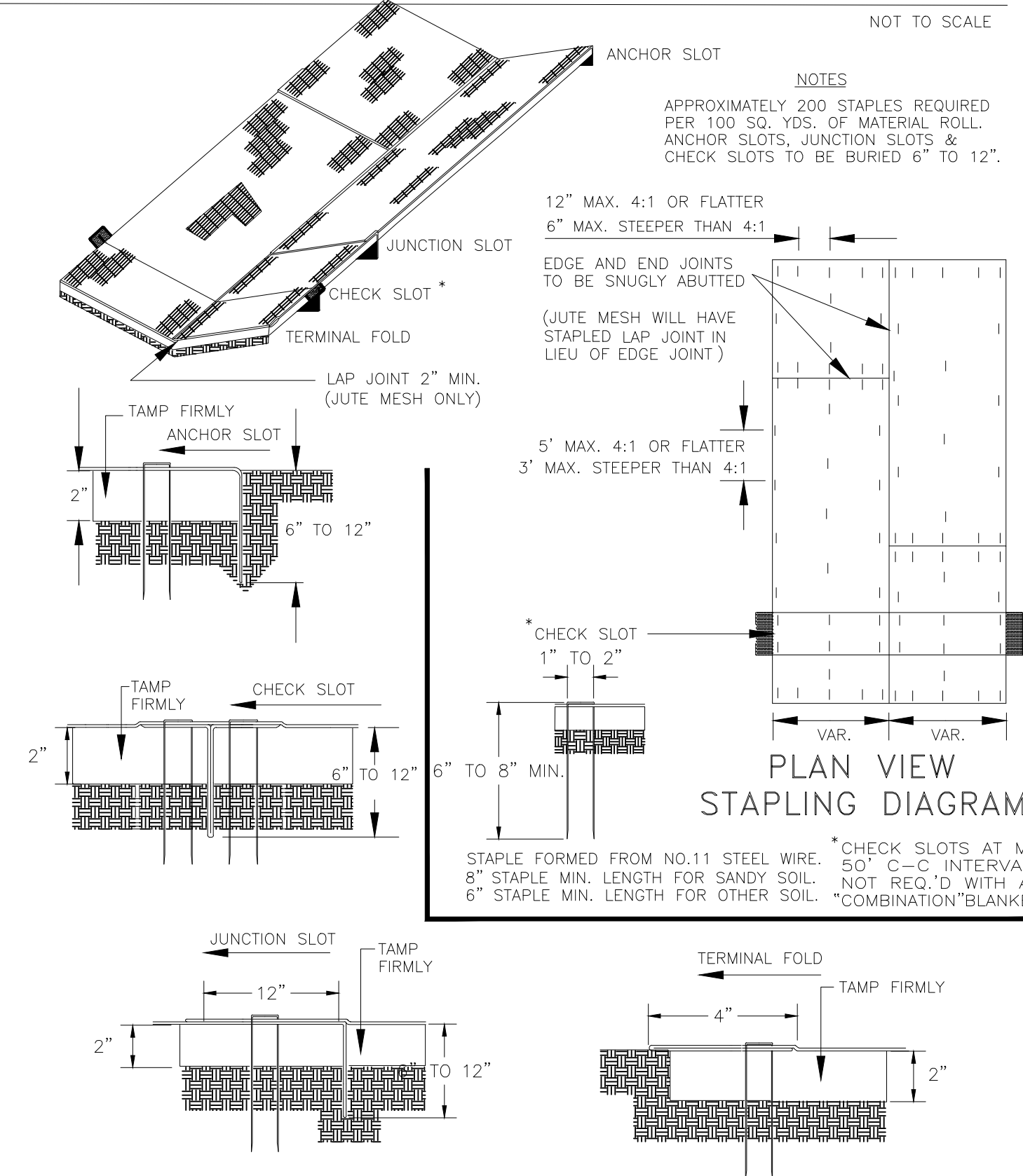
## TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)



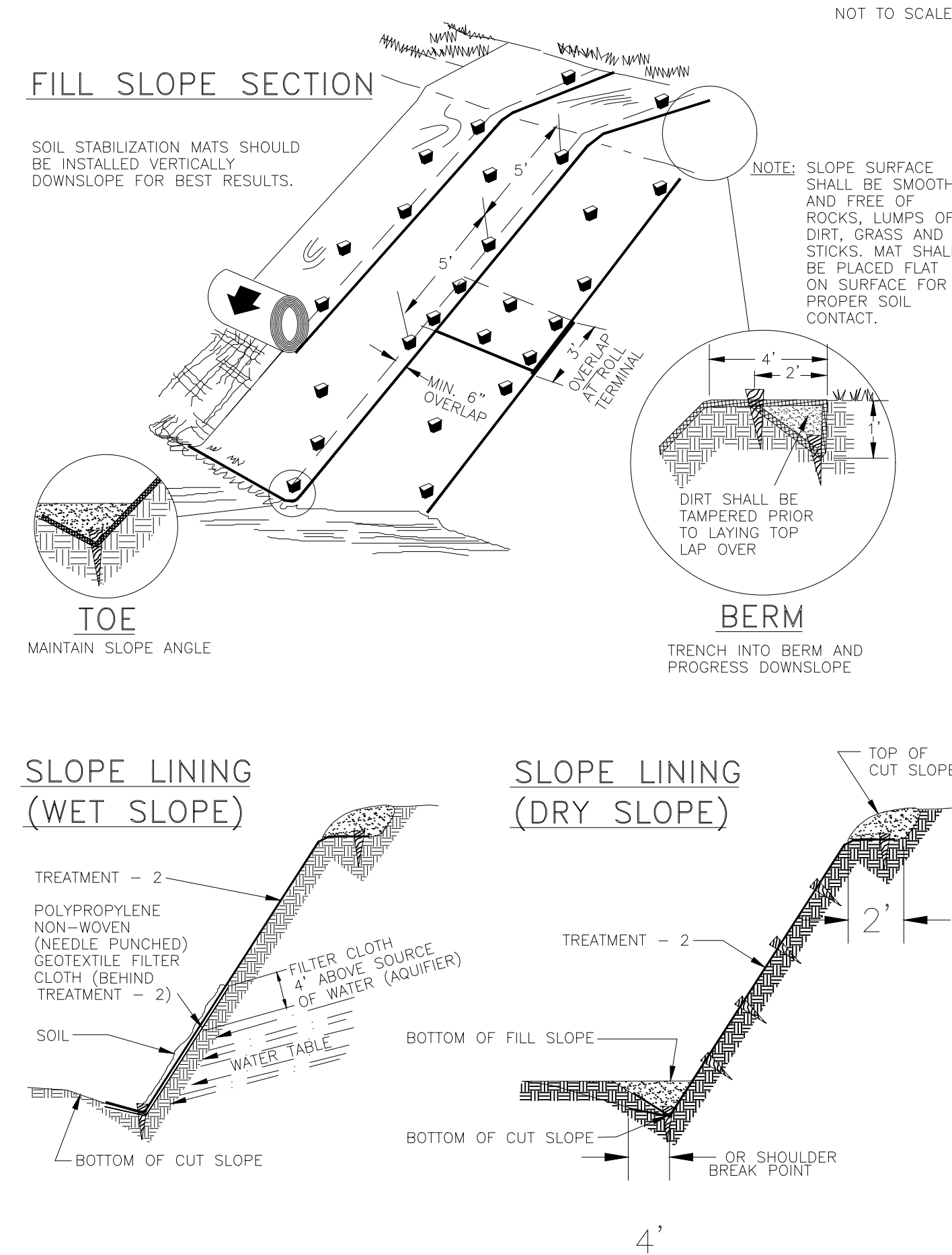
### NOTES

1. EROSION CONTROL MATS/BLANKETS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

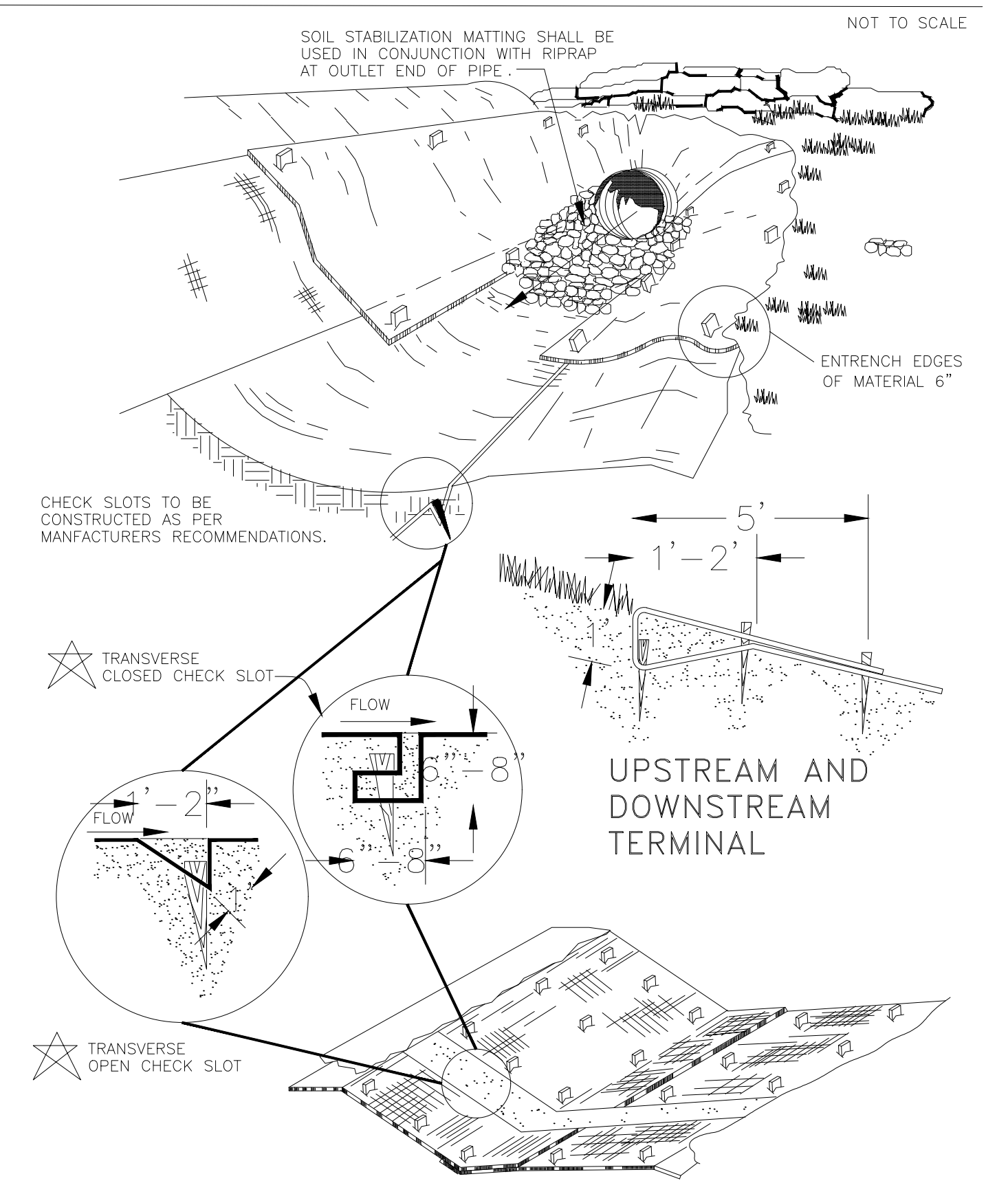
## TYPICAL TREATMENT - 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



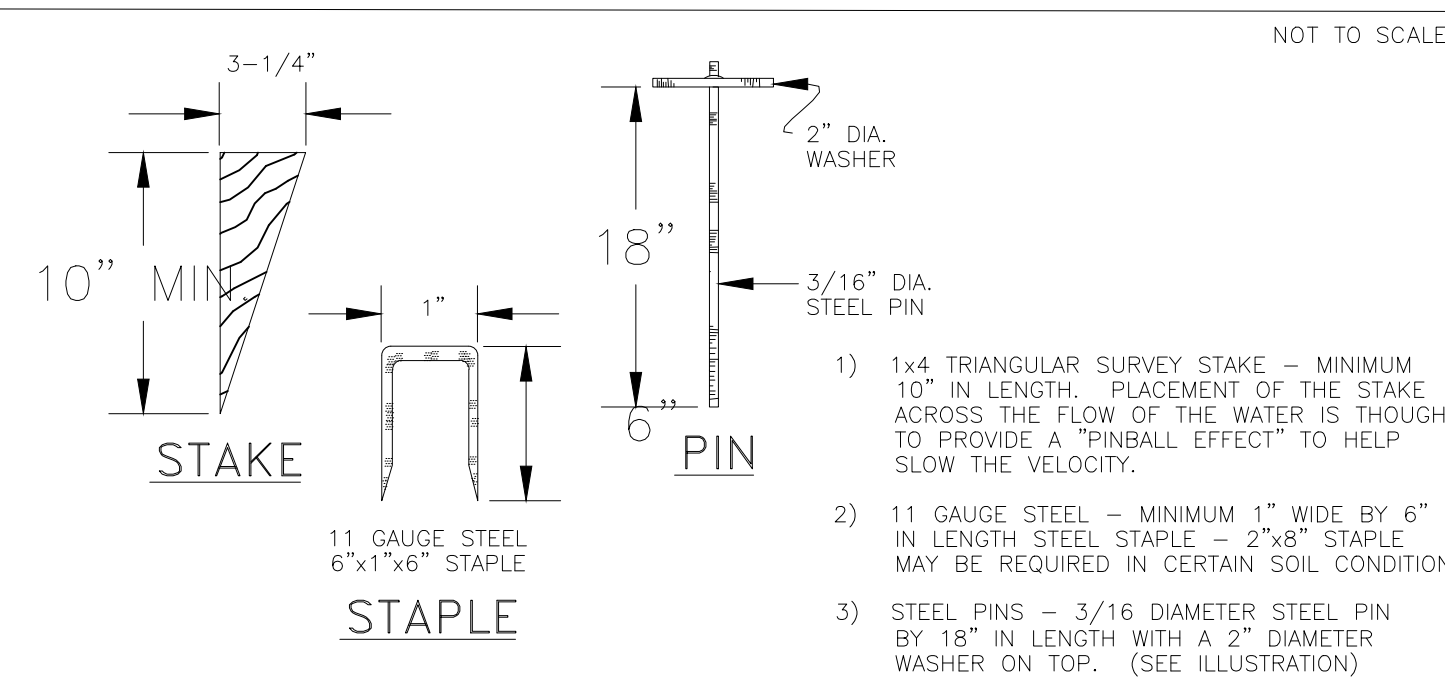
## TYPICAL TREATMENT - 2 SOIL STABILIZATION MATTING SLOPE INSTALLATION



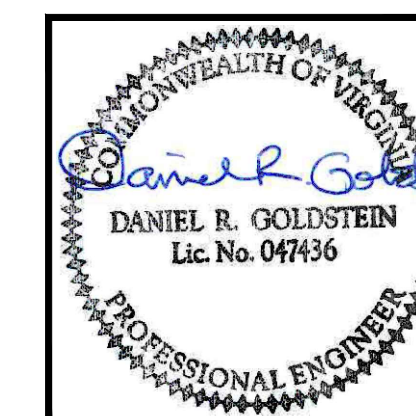
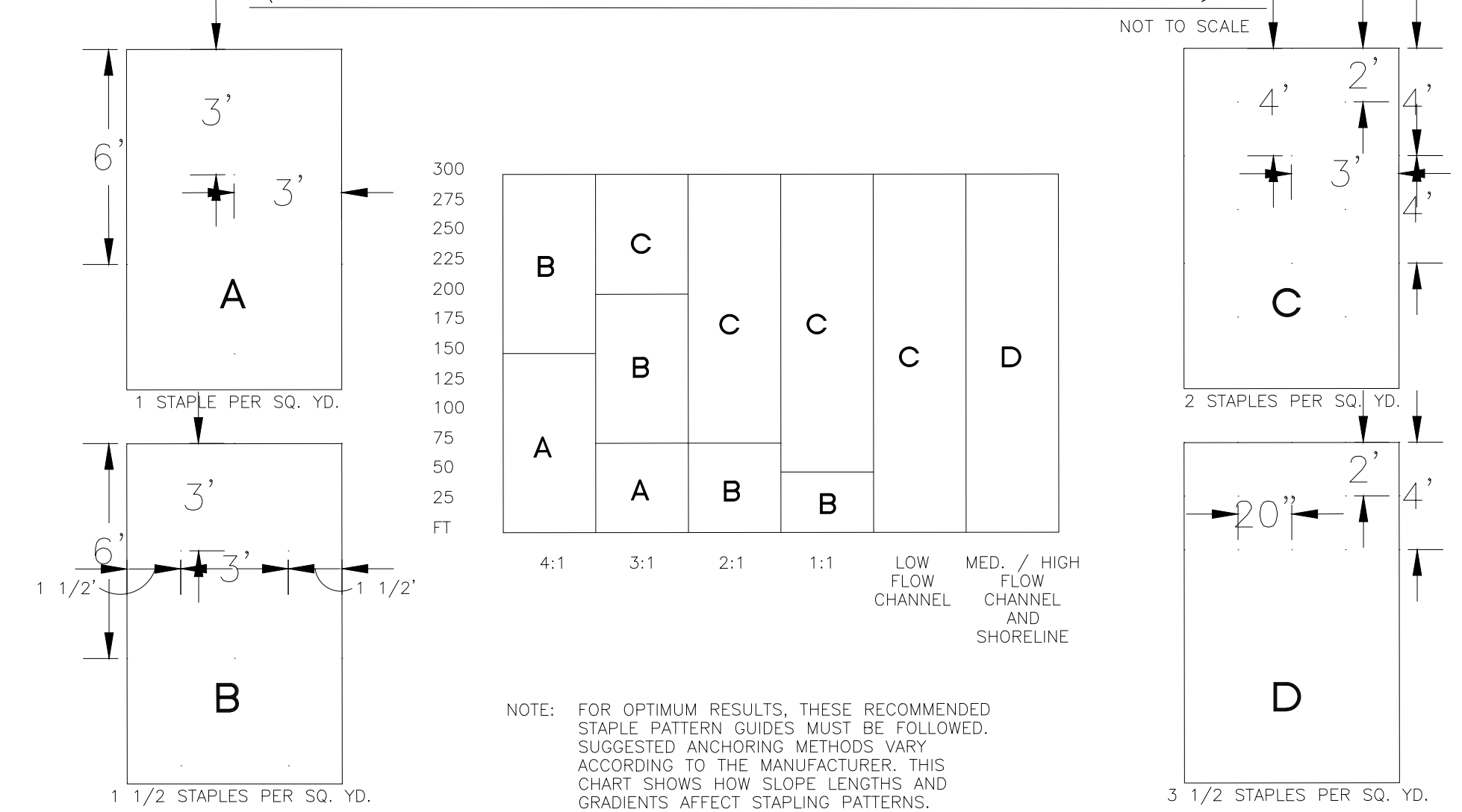
## TYPICAL TREATMENT-2 SOIL STABILIZATION MATTING INSTALLATION



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



## GENERAL STAPLE PATTERN GUIDE AND RECOMMENDATIONS FOR TREATMENT - 2 (SOIL STABILIZATION MATTING)

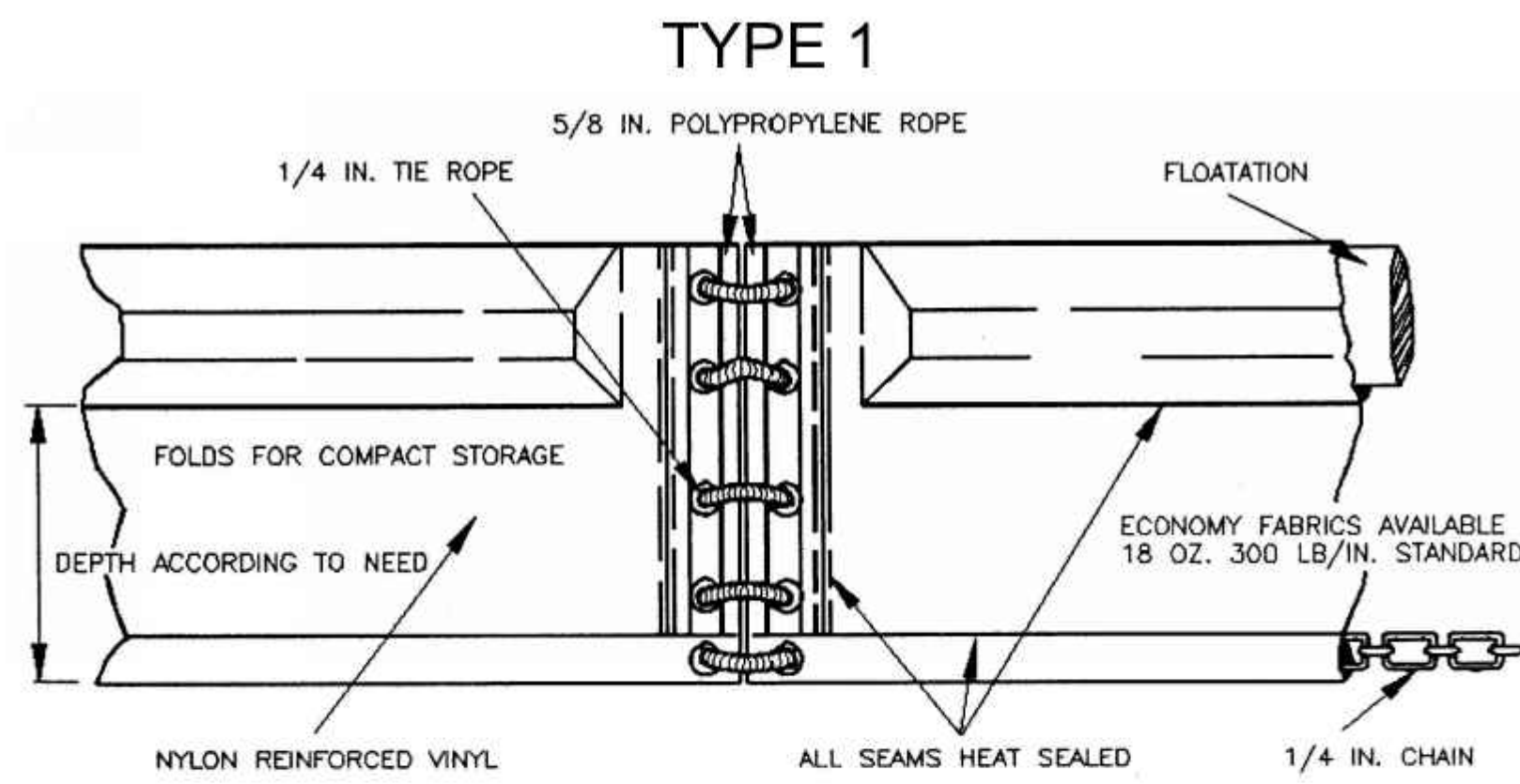


<b>Environmental Resources Management</b> ERM	<b>DRAWN:</b> EJB	05/22/2017
	<b>CHECKED:</b> JEY	05/22/2017
	<b>APP. FOR BID:</b>	
	<b>APP. FOR CONST.:</b>	
	<b>SCALE:</b> AS NOTED	

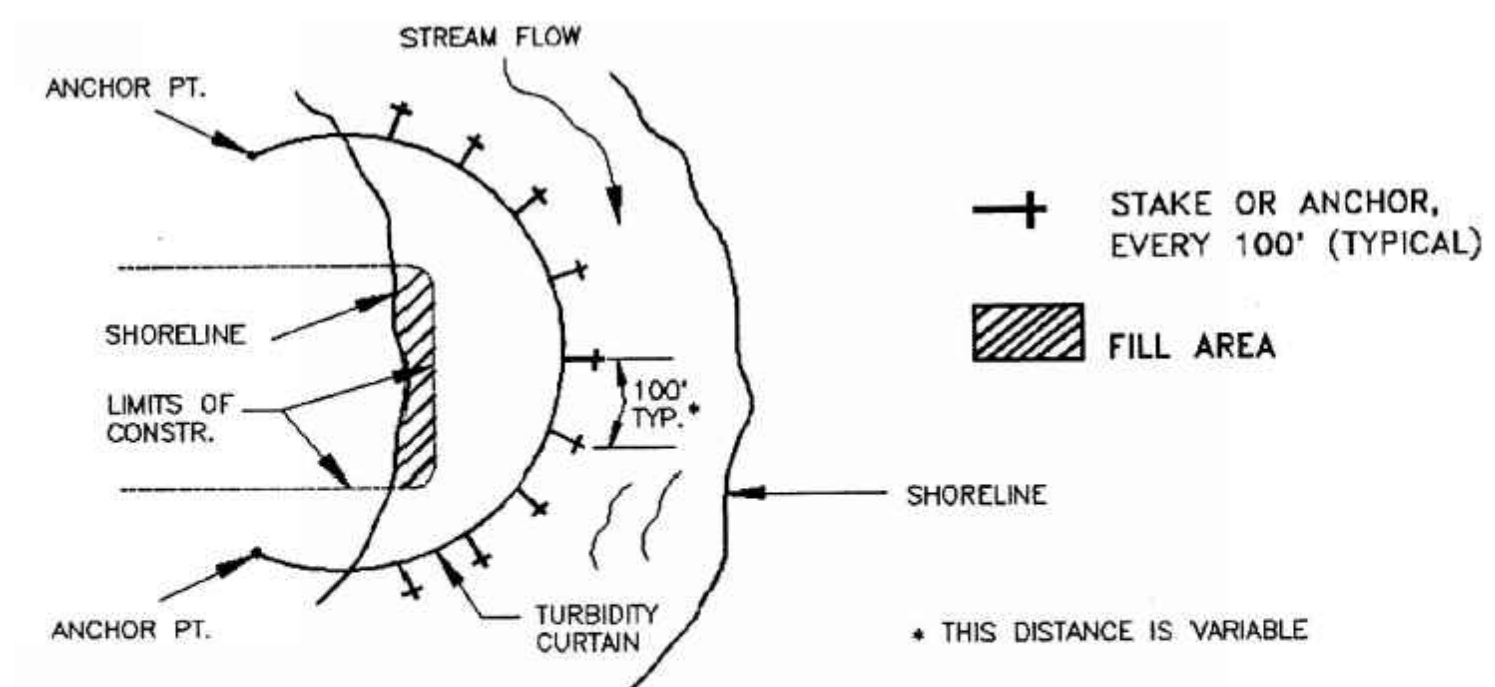
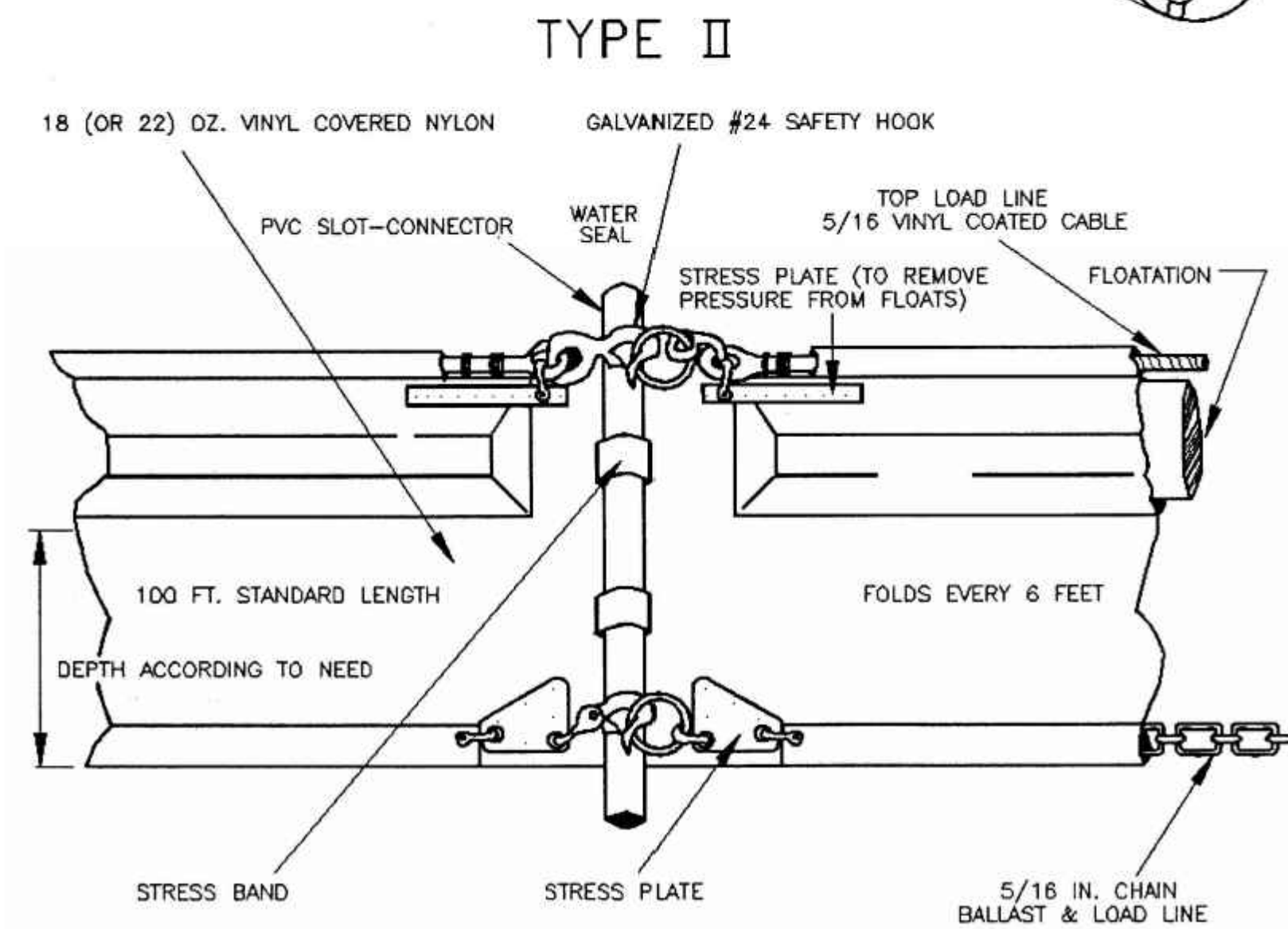
<b>Atlantic Coast Pipeline, LLC</b>					
925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000					
<b>TITLE: ATLANTIC COAST PIPELINE EROSION AND SEDIMENT CONTROL DETAILS</b>					
<b>DISTRICT:</b> -	<b>COUNTY:</b> -	<b>STATE:</b> VA	<b>GROUP:</b> -	<b>DWG. NO.:</b> 4 OF 7	<b>REV.:</b> 0
<b>DIR/FILE:</b> ACP/Virginia/Details					

## TURBIDITY CURTAIN

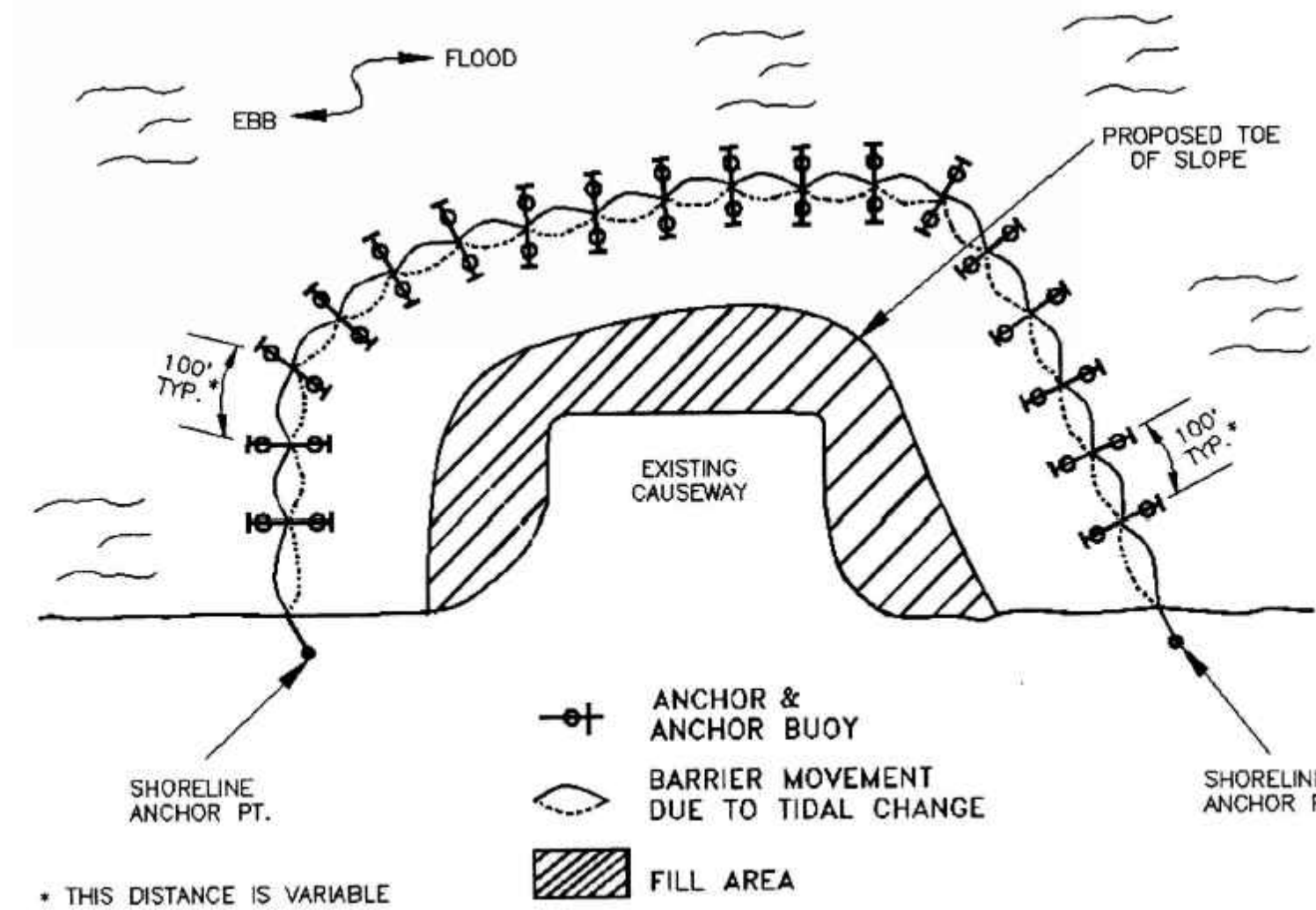
NOT TO SCALE



(BLOW-UP OF SHACKLE CONNECTION)



TIDAL WATERS AND/OR HEAVY WIND & WAVE ACTION

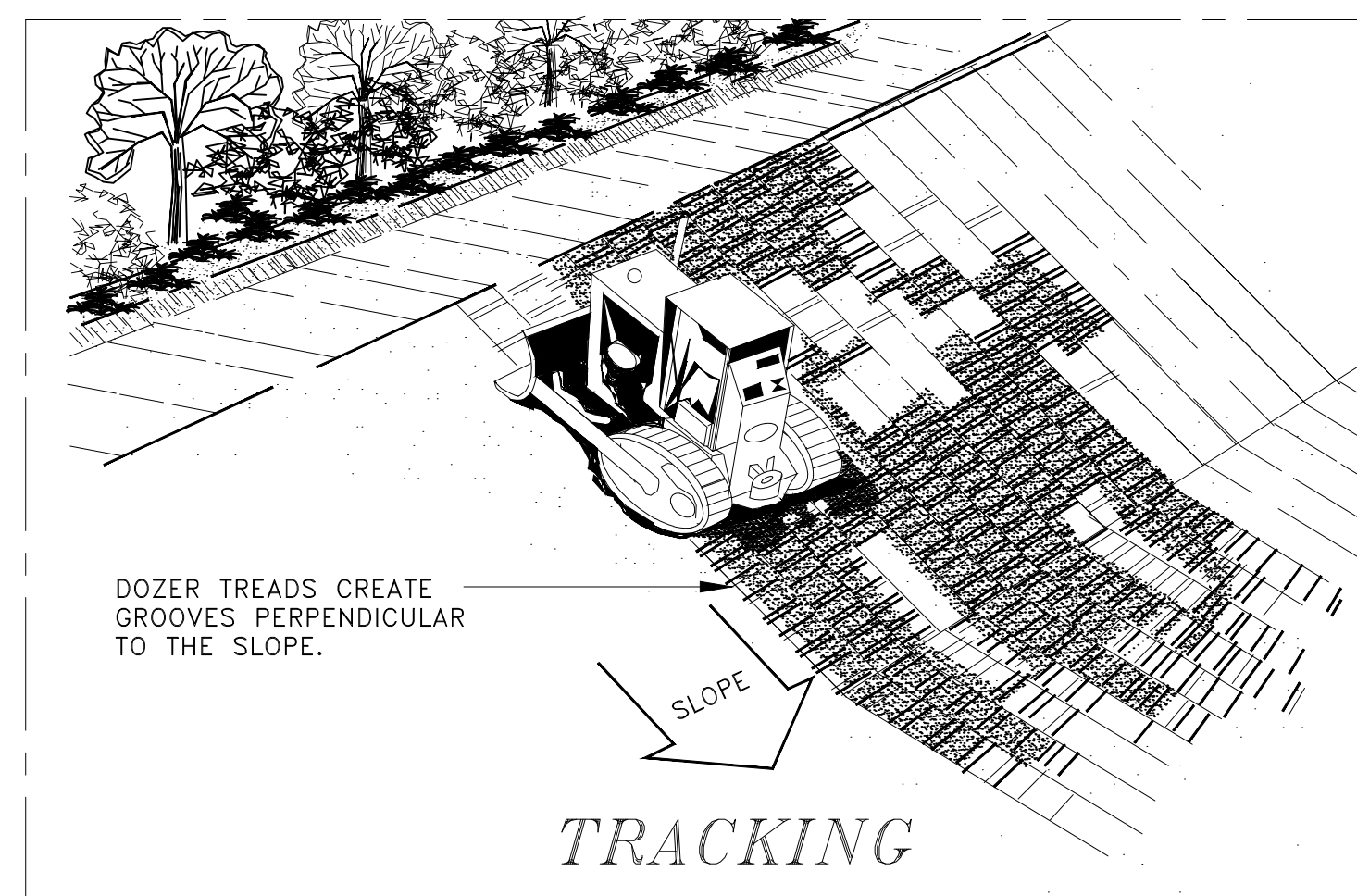
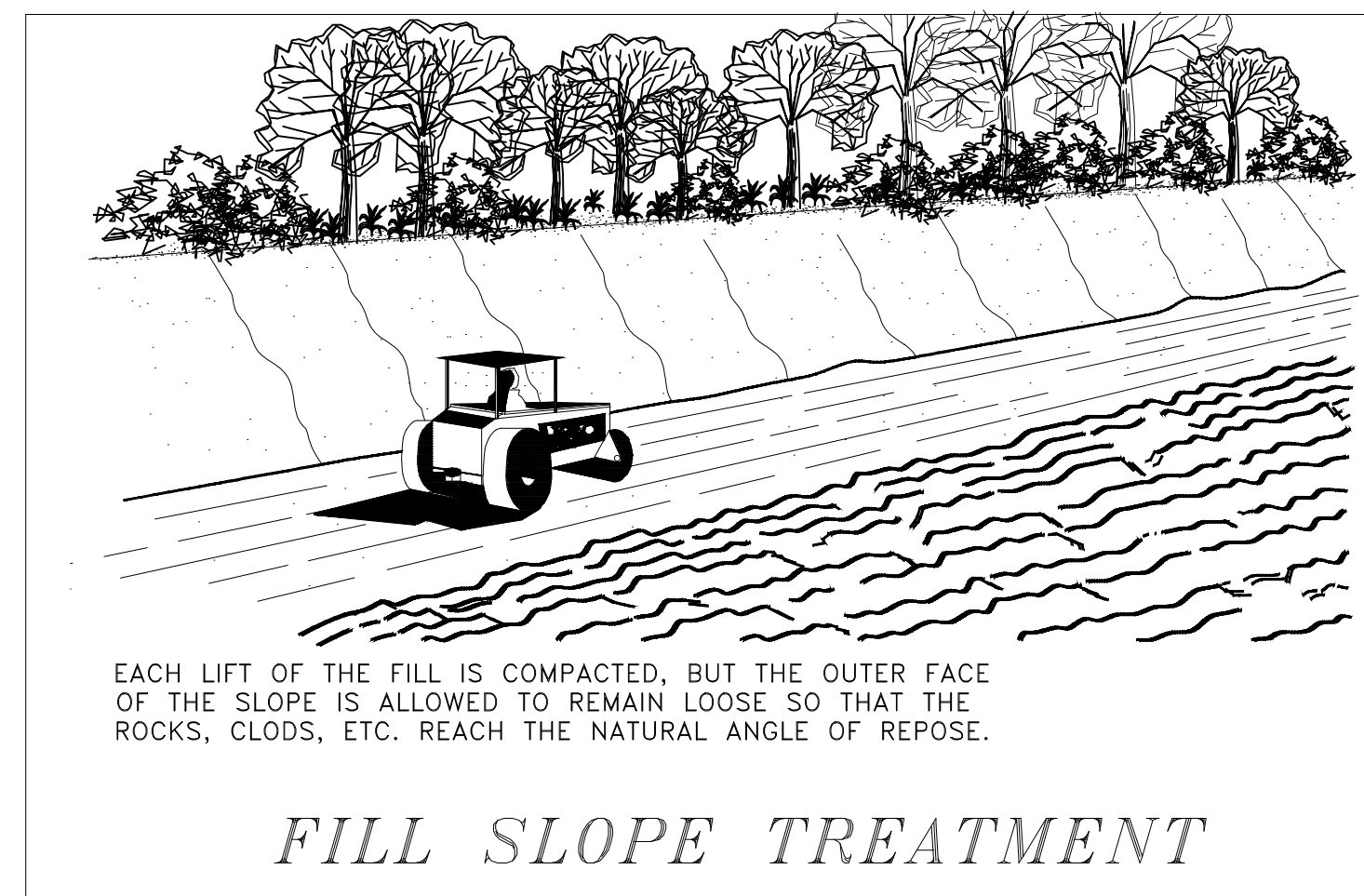


## SURFACE ROUGHENING DETAIL

NOT TO SCALE

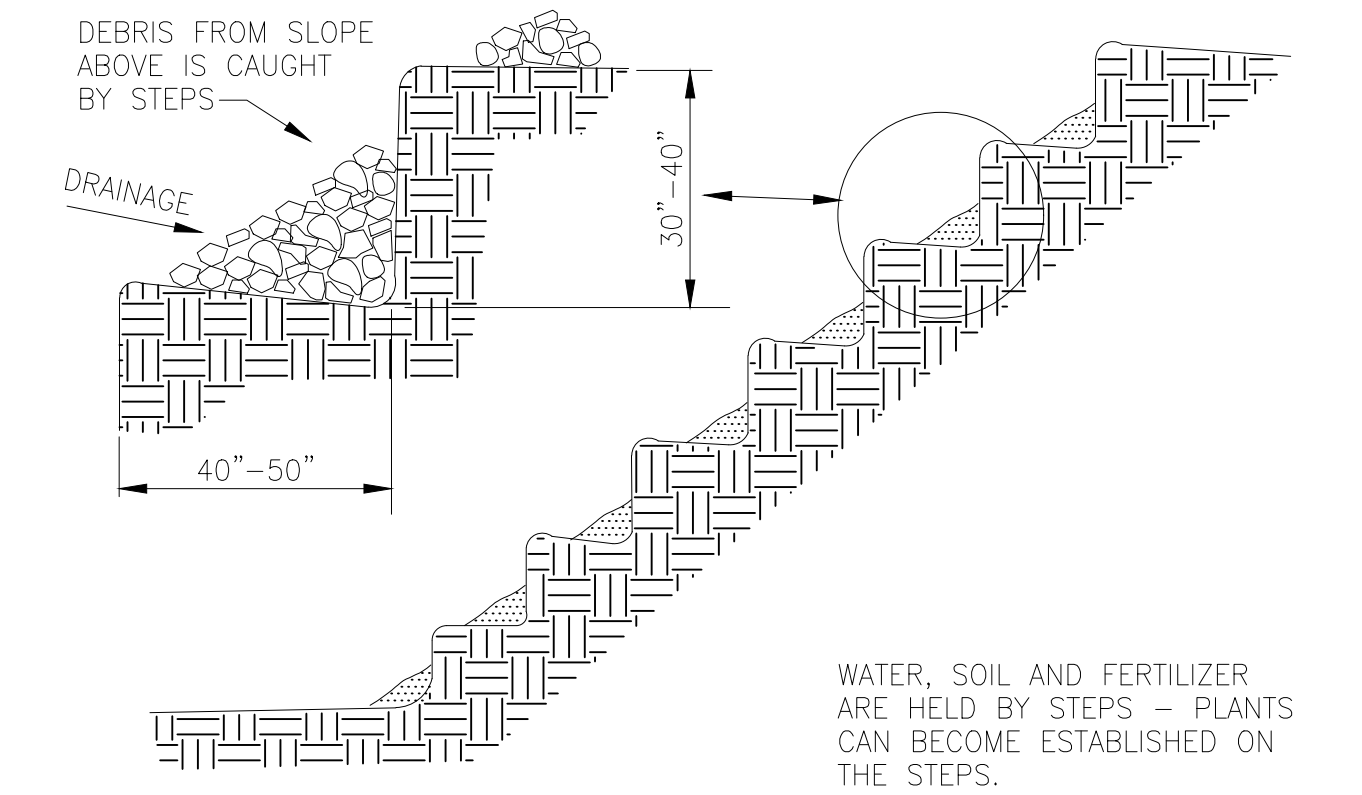
Notes

- All slopes steeper than 3:1 require surface roughening, either stair-step grading, grooving, furrowing, or tracking if they are to be stabilized with vegetation;
- Areas with grades less steep than 3:1 should have the soil surface lightly roughened and loose to a depth of 2 to 4 inches prior to seeding;
- Areas which have been graded and will not be stabilized immediately may be roughened to reduce runoff velocity until seeding takes place;
- Slopes with a stable rock face do not require roughening or stabilization.
- Individual vertical cuts shall not be more than 30 inches on soft soil materials and not more than 40 inches in rocky materials.
- Grooves shall not be less than 3 inches deep nor further than 15 inches apart.

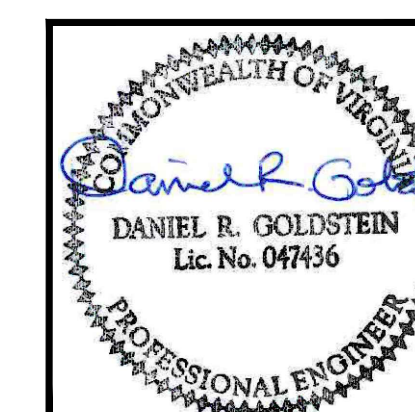
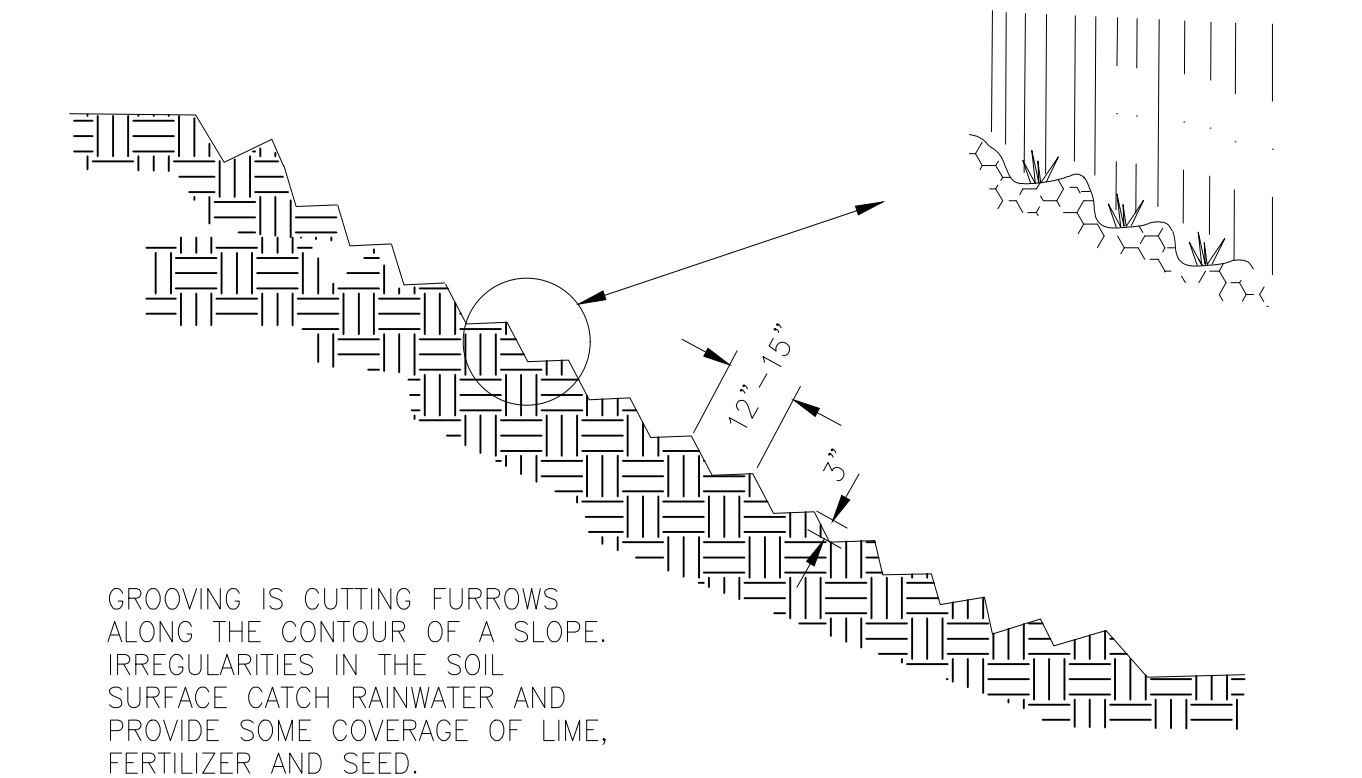


## STAIR STEPPING CUT SLOPES

NOT TO SCALE



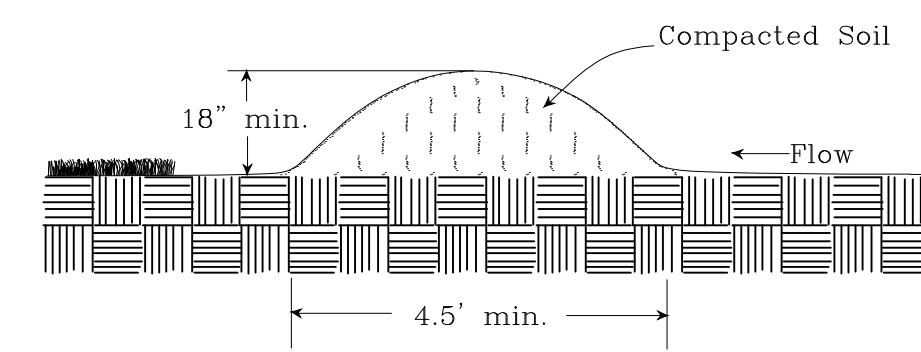
## GROOVING SLOPES



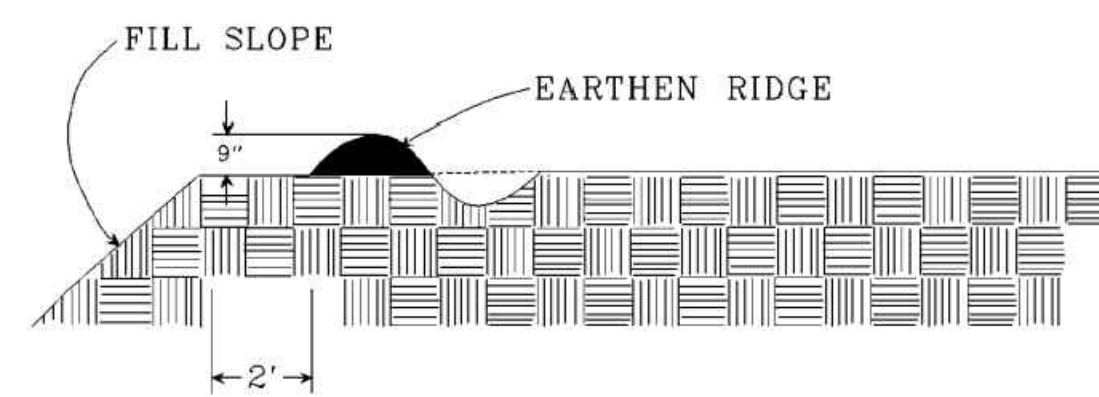
Environmental Resources Management ERM		
DRAWN:	EJB	05/22/2017
CHECKED:	JEY	05/22/2017
APP. FOR BID:		
APP. FOR CONST.:		
SCALE:	AS NOTED	

<b>Atlantic Coast Pipeline, LLC</b>					
925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000					
TITLE: <b>ATLANTIC COAST PIPELINE EROSION AND SEDIMENT CONTROL DETAILS</b>					
DISTRICT:	COUNTY:	STATE: VA	GROUP:	DWG. NO.	REV.
				5 OF 7	0
DIR/FILE: ACP/VirginiaDetails					

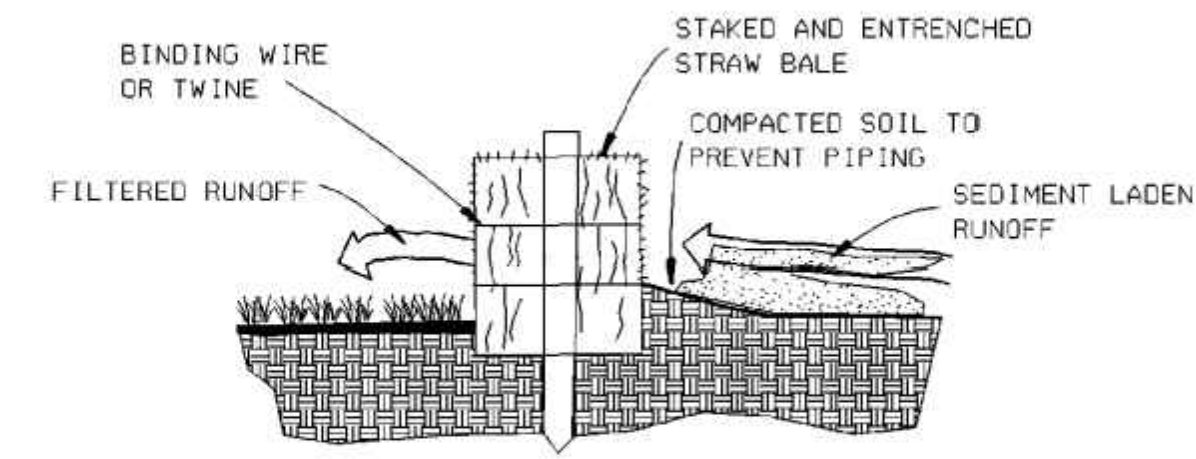
**TEMPORARY DIVERSION DIKE**  
NOT TO SCALE



**TEMPORARY FILL DIVERSION - 3.10**  
NOT TO SCALE

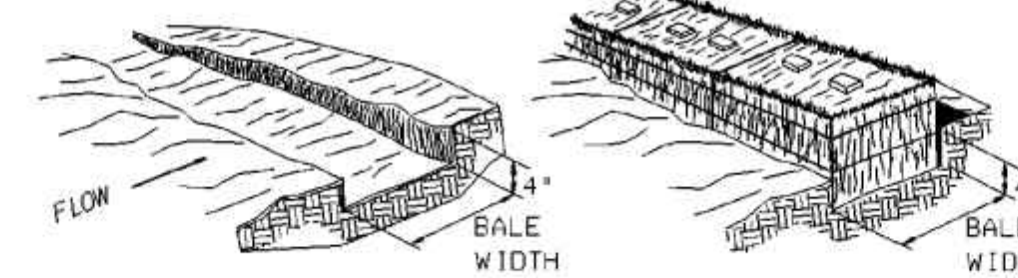


**STRAW BALE BARRIER - 3.04**  
NOT TO SCALE

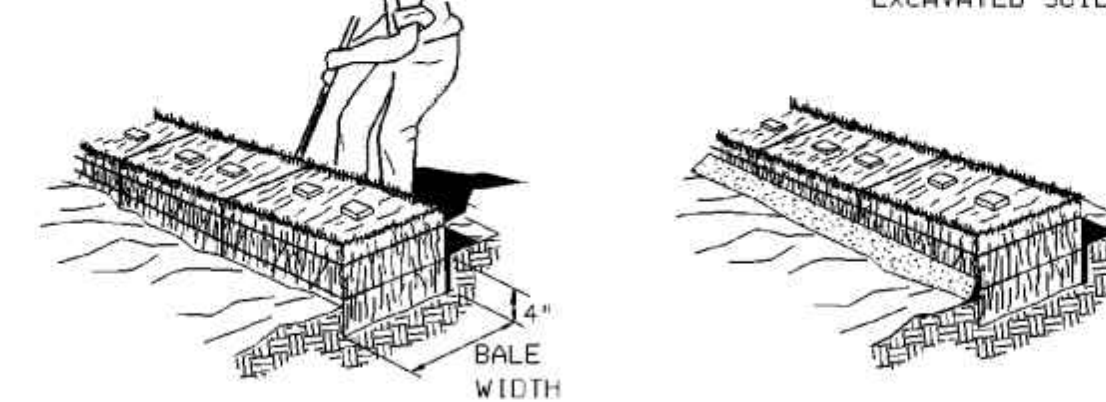


**PROPERLY INSTALLED STRAW BALE CROSS SECTION**

1. EXCAVATE THE TRENCH
2. PLACE AND STAKE STRAW BALES

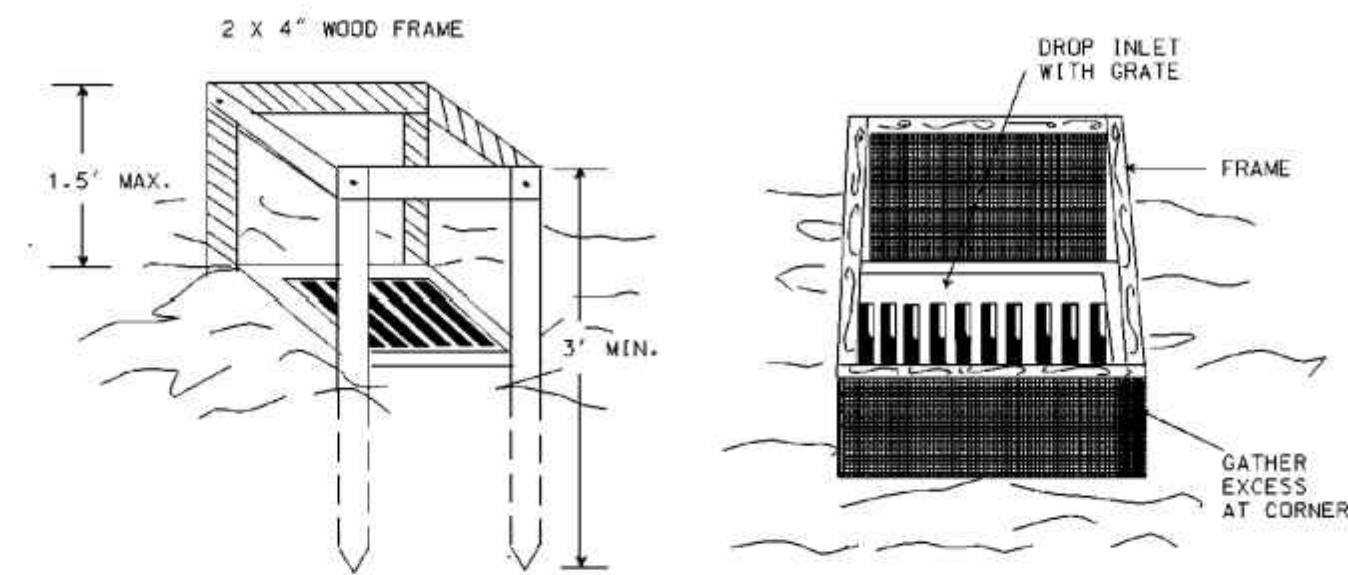


3. WEDGE LOOSE STRAW BETWEEN BALES
4. BACKFILL AND COMPACT THE EXCAVATED SOIL

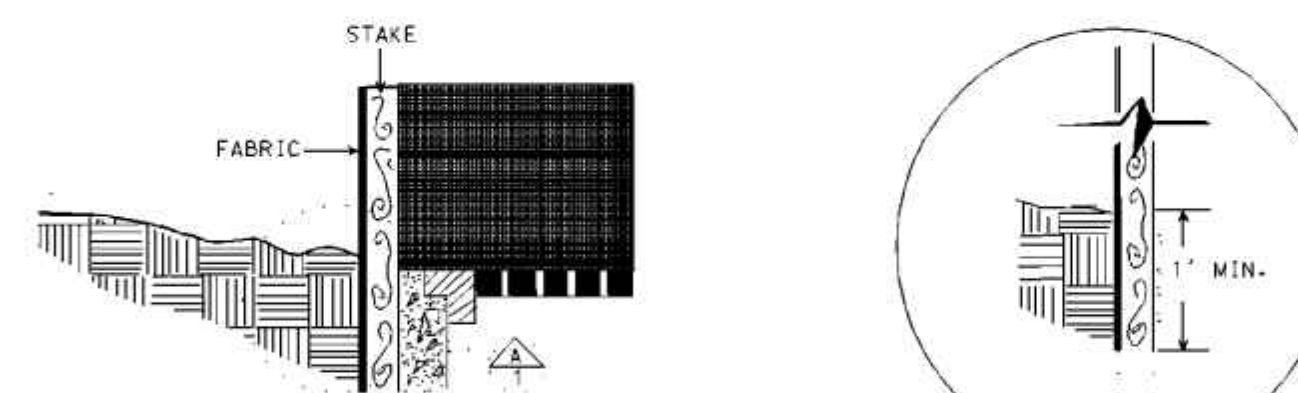


**CONSTRUCTION OF STRAW BALE BARRIER**

**SILT FENCE DROP INLET PROTECTION - 3.07-1**  
NOT TO SCALE



**PERSPECTIVE VIEWS**



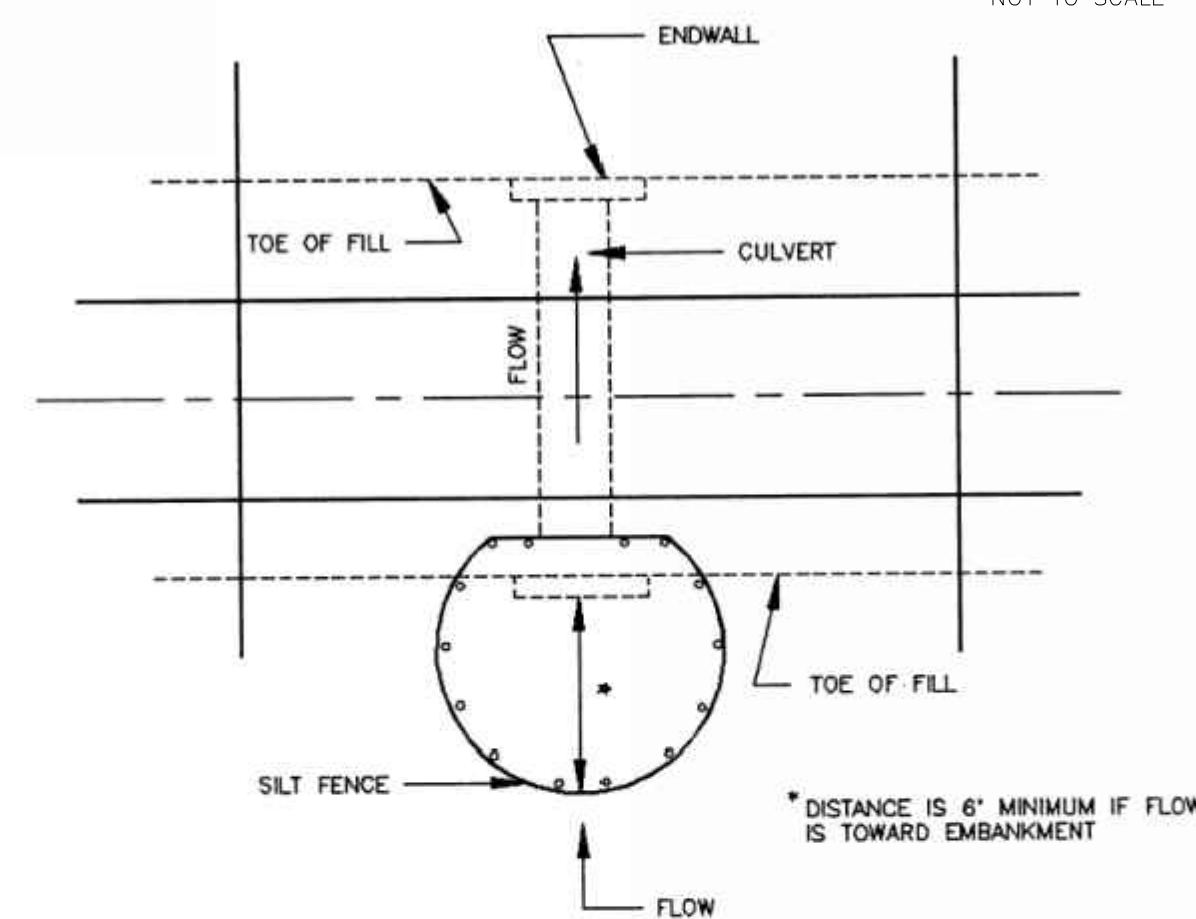
**ELEVATION OF STAKE AND FABRIC ORIENTATION**

**DETAIL A**

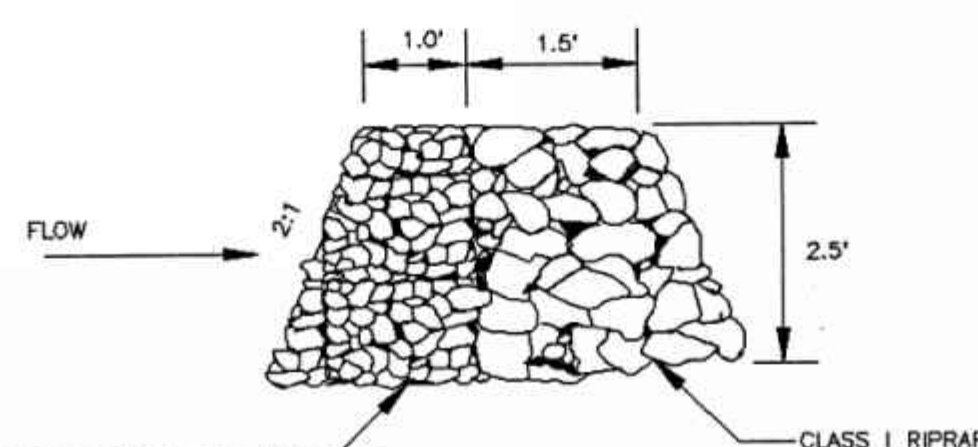
**SPECIFIC APPLICATION**

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.

**SILT FENCE CULVERT INLET PROTECTION**  
NOT TO SCALE

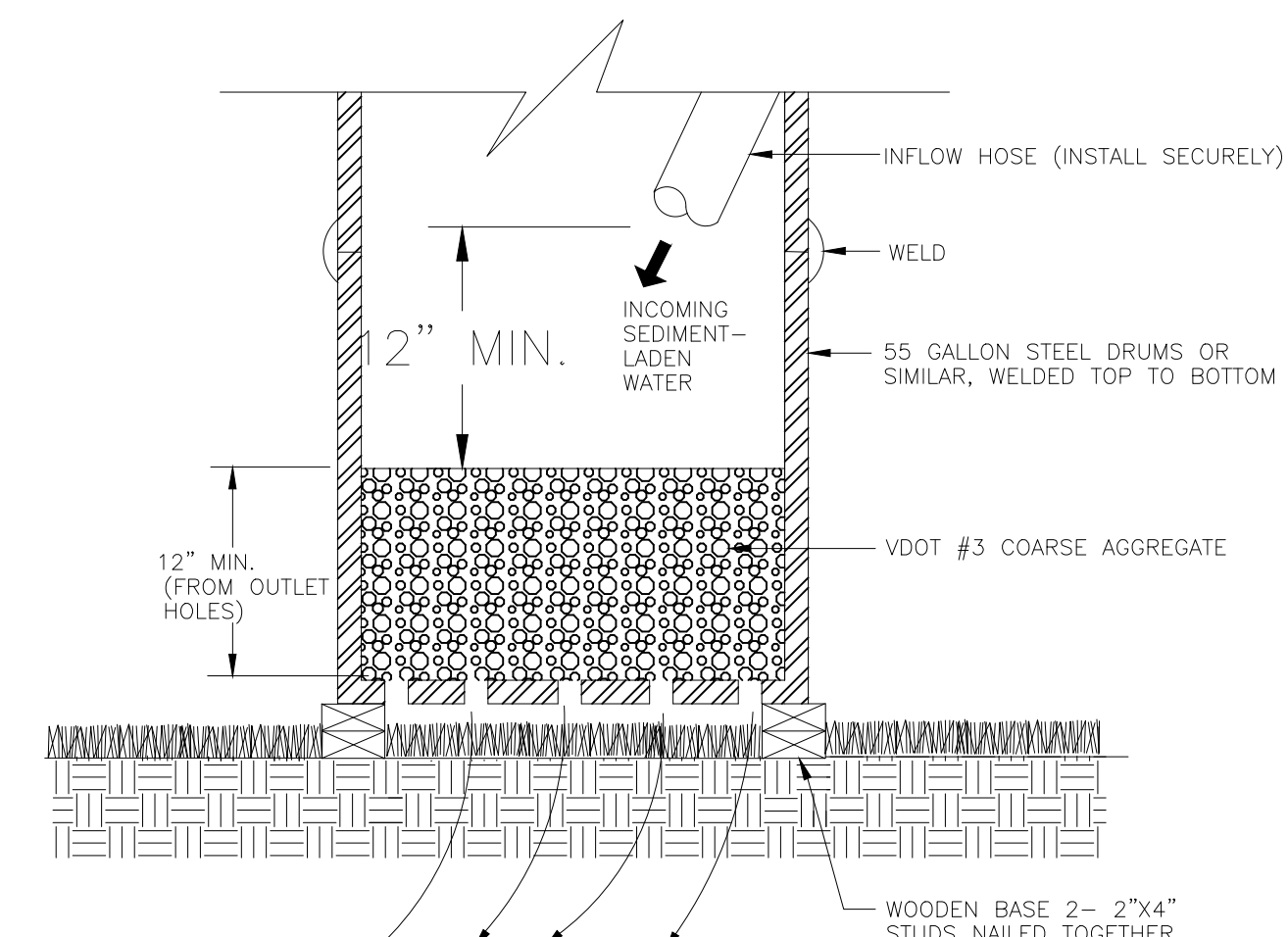


**OPTIONAL STONE COMBINATION \*\***



\*\* VDOT #3, #357 OR #5 COARSE AGGREGATE TO REPLACE SILT FENCE IN "HORSESHOE" WHEN HIGH VELOCITY OF FLOW IS EXPECTED

**FILTER BOX**  
NOT TO SCALE



**ELEVATION VIEW**

Environmental Resources Management  
EJB 05/22/2017  
JEY 05/22/2017  
AS NOTED

*Daniel R. Goldstein*  
DANIEL R. GOLDSTEIN  
Lic. No. 049436  
PROFESSIONAL ENGINEER

**Atlantic Coast Pipeline, LLC**

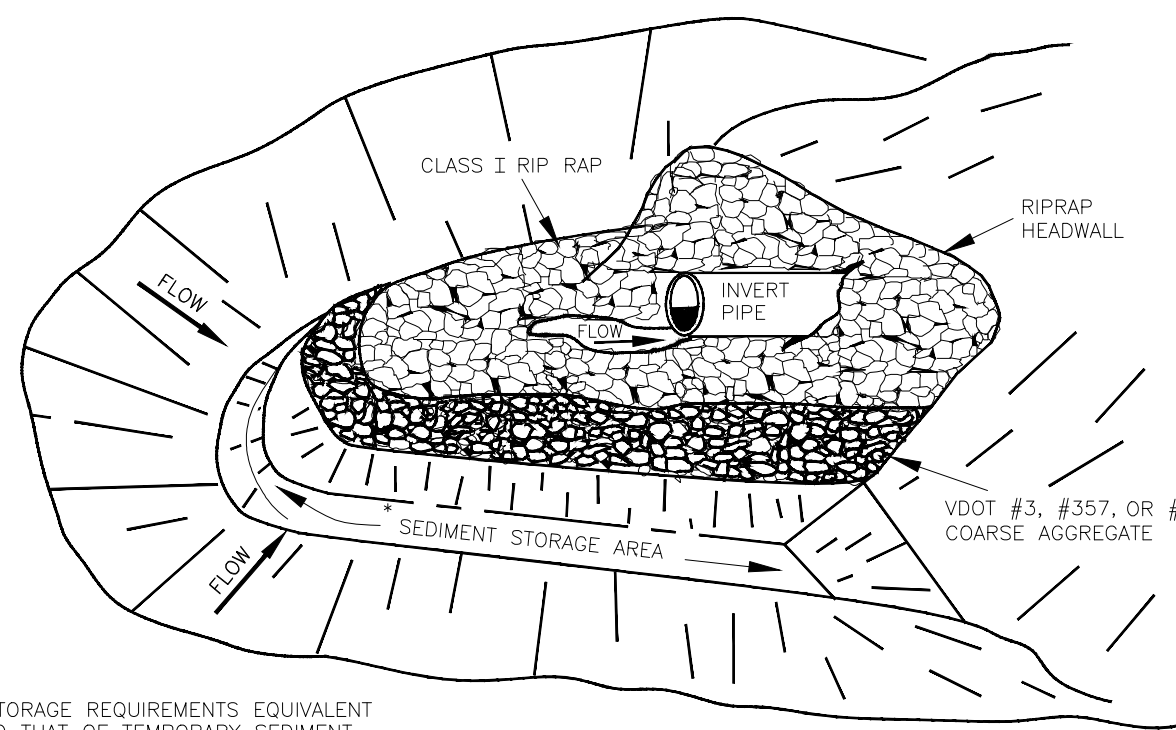
925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000

**TITLE: ATLANTIC COAST PIPELINE EROSION AND SEDIMENT CONTROL DETAILS**

DISTRICT:	COUNTY:	STATE: VA	GROUP:	DWG. NO.:	REV.:
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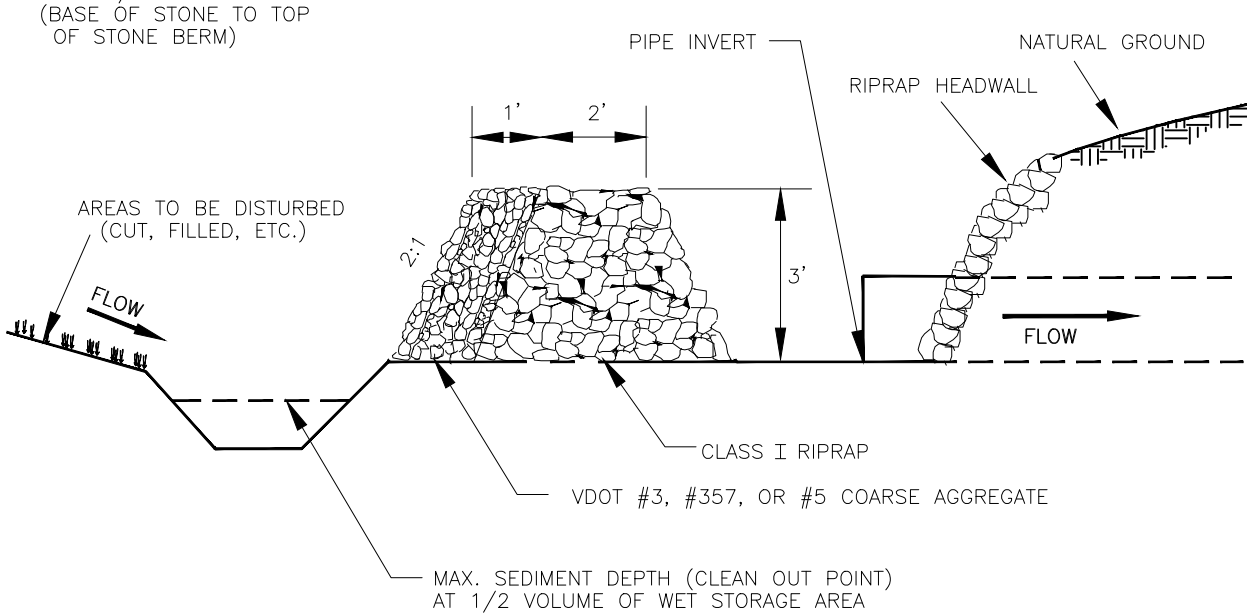
### CULVERT INLET SEDIMENT TRAP

NOT TO SCALE



#### PERSPECTIVE VIEW

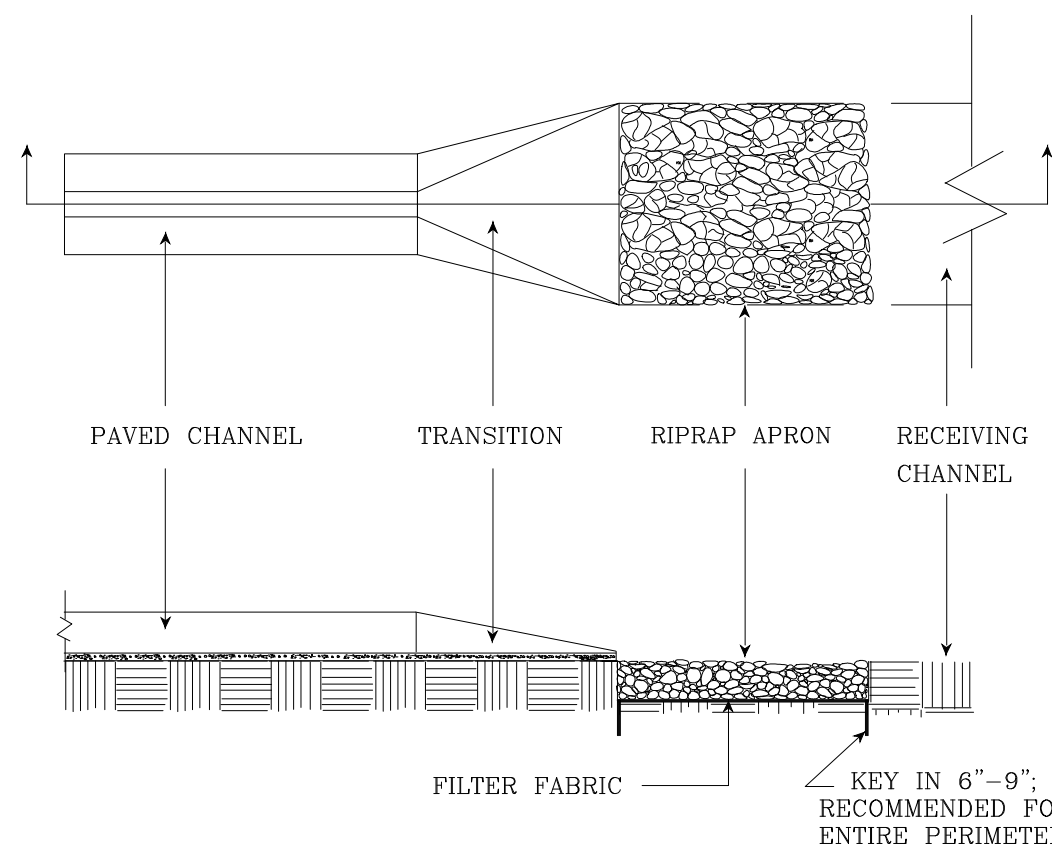
\* STORAGE REQUIREMENTS EQUIVALENT TO THAT OF TEMPORARY SEDIMENT TRAP, STD. & SPEC. 3.13  
 67 C.Y./ACRE WET STORAGE (BELOW BASE OF STONE)  
 67 C.Y./ACRE DRY STORAGE (BASE OF STONE TO TOP OF STONE BERM)



#### ELEVATION

### PAVED CHANNEL OUTLET

NOT TO SCALE



#### NOTES:

1. RIPRAP APRON REDUCES THE FLOW VELOCITY BELOW THE PERMISSIBLE VELOCITY OF THE NATURAL RECEIVING CHANNEL.
2. TRANSITION SIDE DIVERGENCE IS 1 IN 3P, WHERE

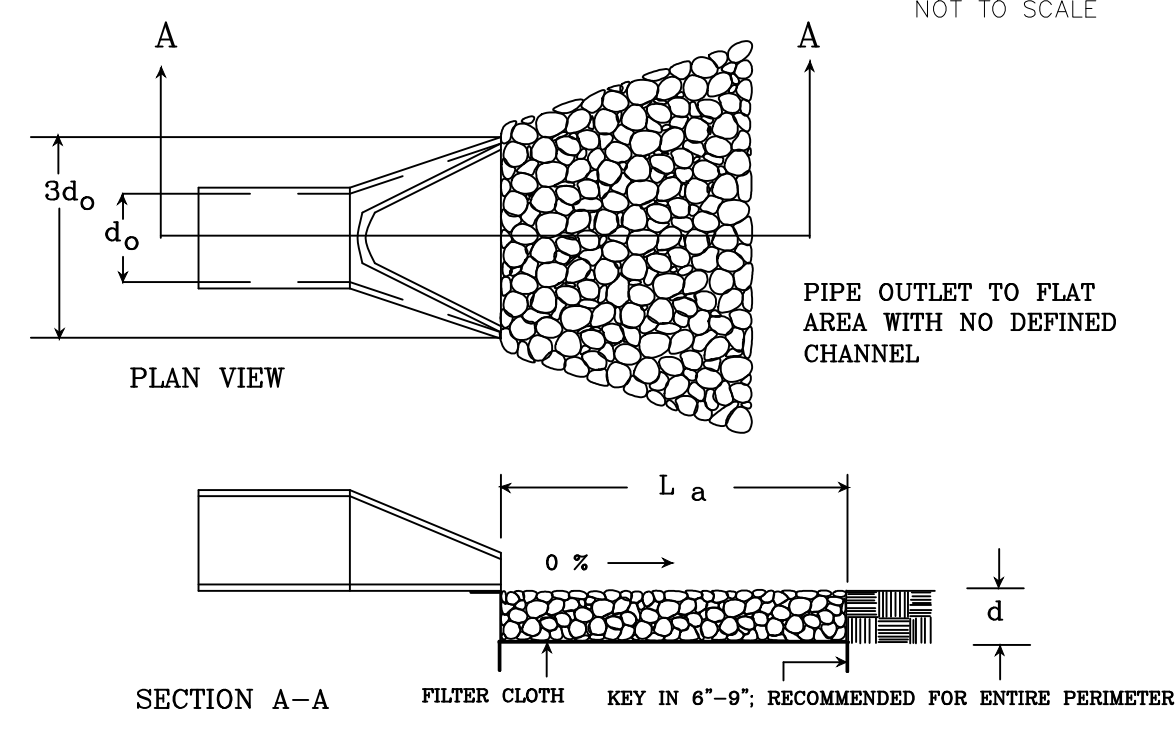
$$F = \text{FROUDE NUMBER} = \frac{v}{\sqrt{gd}}, \text{ WHERE}$$

v = VELOCITY AT THE BEGINNING OF THE TRANSITION  
 d = DEPTH OF FLOW AT THE BEGINNING OF THE TRANSITION

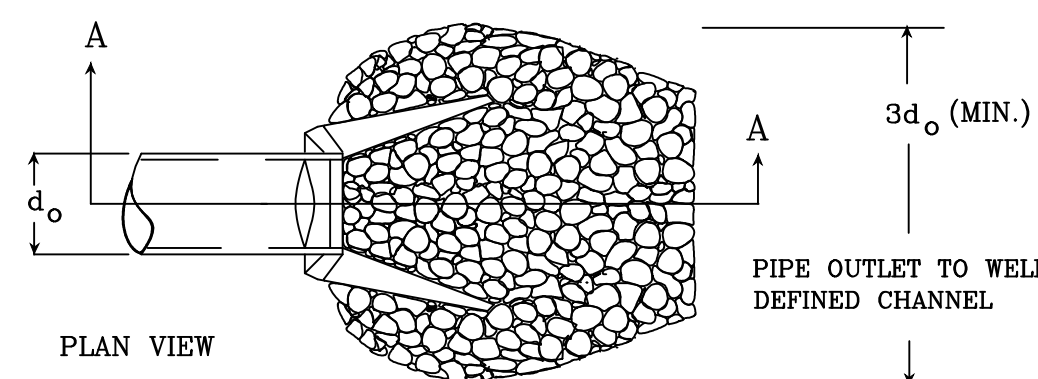
$$g = 32.2 \text{ ft./sec}^2$$

### PIPE OUTLET CONDITIONS

NOT TO SCALE



SECTION A-A FILTER CLOTH KEY IN 6"-9"; RECOMMENDED FOR ENTIRE PERIMETER

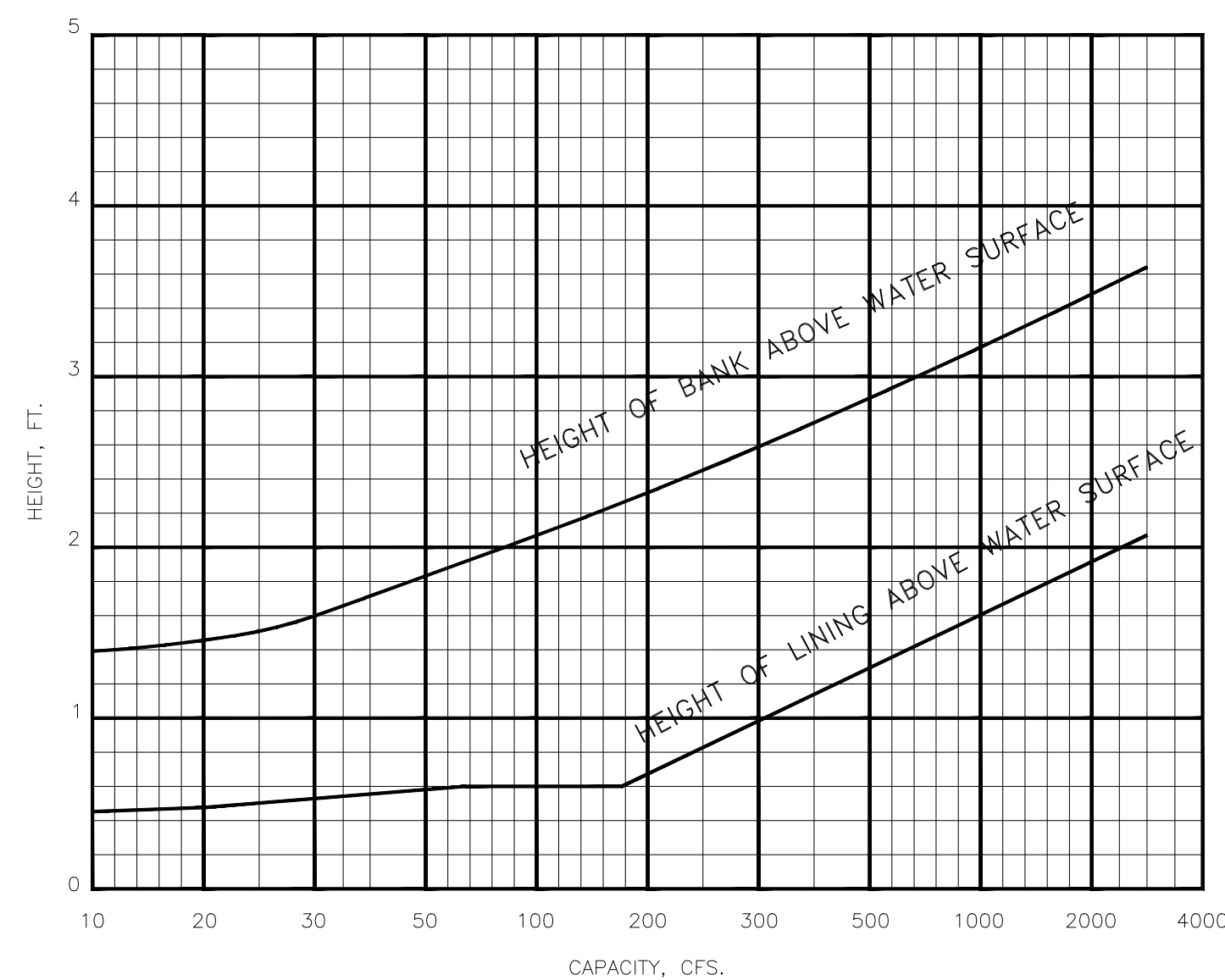


SECTION A-A FILTER CLOTH KEY IN 6"-9"; RECOMMENDED FOR ENTIRE PERIMETER

- NOTES:
1. APRON LINING MAY BE RIPRAP, GROUDED RIPRAP, GABION BASKET, OR CONCRETE.
  2. L<sub>a</sub> 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.

### RECOMMENDED FREEBOARD AND HEIGHT OF BANK OF LINED CHANNELS

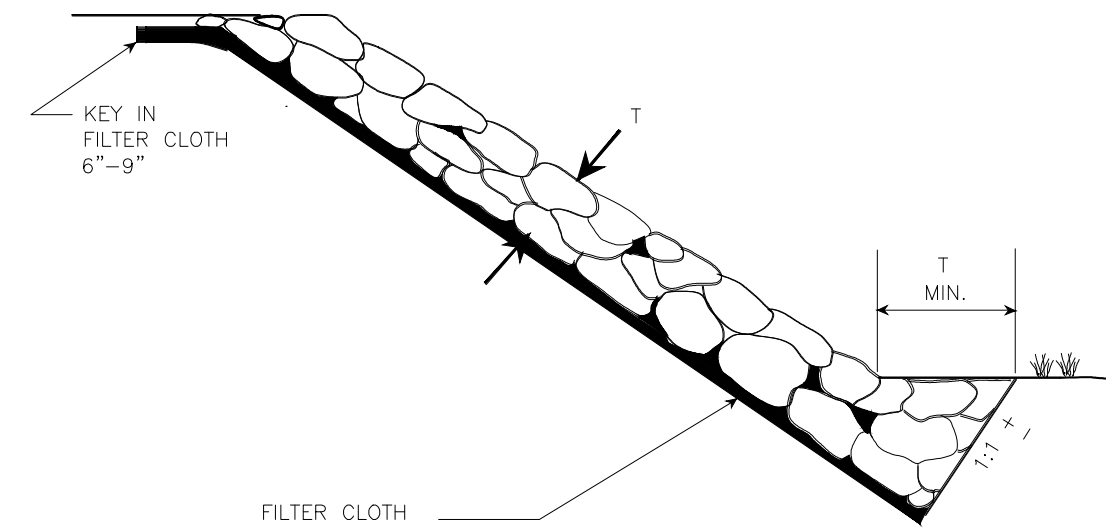
NOT TO SCALE



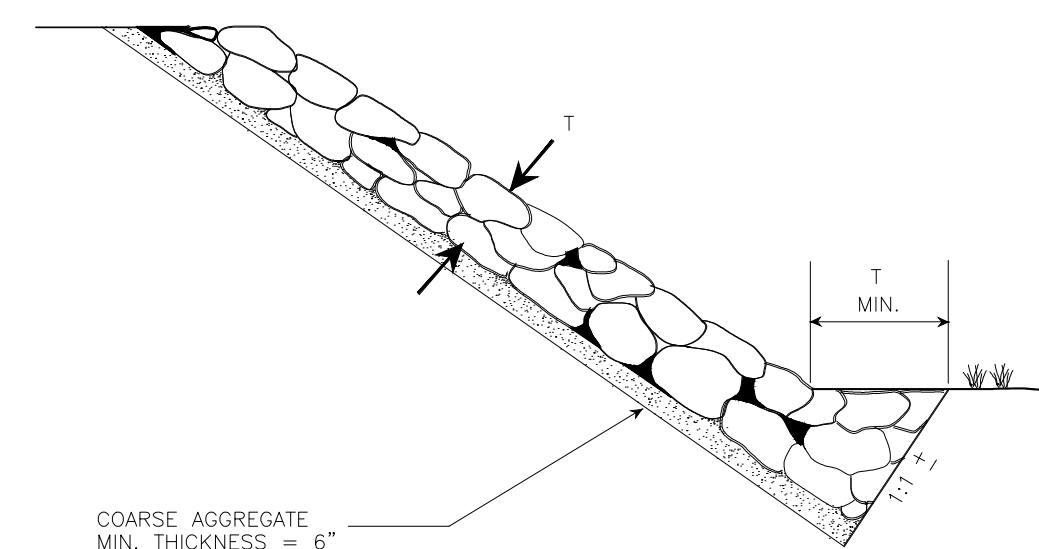
### TOE REQUIREMENTS FOR BANK STABILIZATION

NOT TO SCALE

#### FILTER CLOTH UNDERLINER (PREFERRED)



#### GRANULAR FILTER

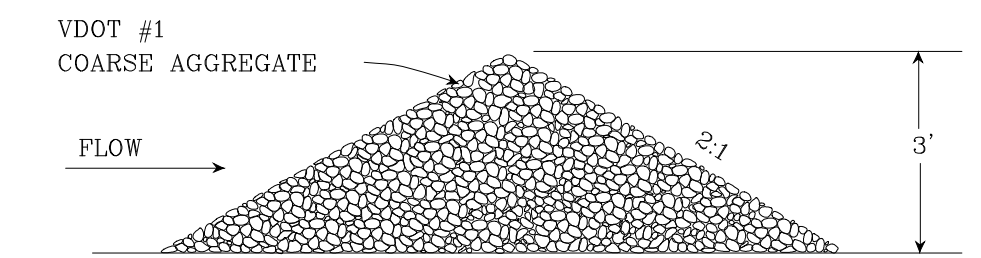
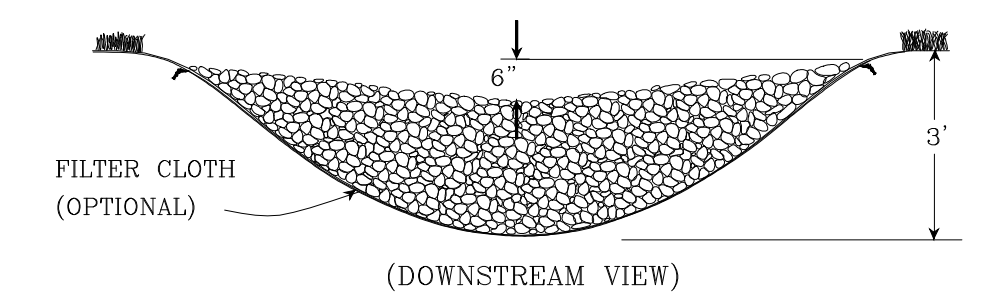


Notes:  
 Filter Fabric Underlining: A lining of engineering filter fabric (geotextile) shall be placed between the riprap and the underlying soil surface to prevent soil movement into or through the riprap. The filter fabric must have opening size equal to or greater than U.S. No. 50 sieve; tensile strength of at least 30 lb/linear in. and puncture strength of at least 80 lbs. Filter fabric shall not be used on slopes greater than 1 1/2:1 as slippage may occur and should be used in conjunction with a layer of coarse aggregate (granular filter blanket) when the riprap to be placed is Class II or larger.

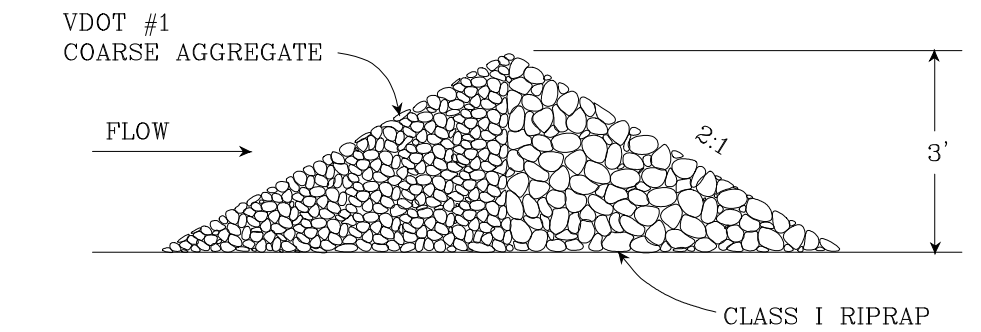
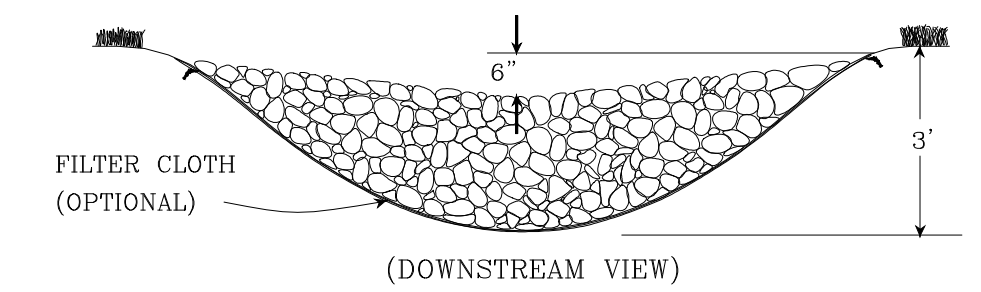
### ROCK CHECK DAM

NOT TO SCALE

2 ACRES OR LESS OF DRAINAGE AREA:



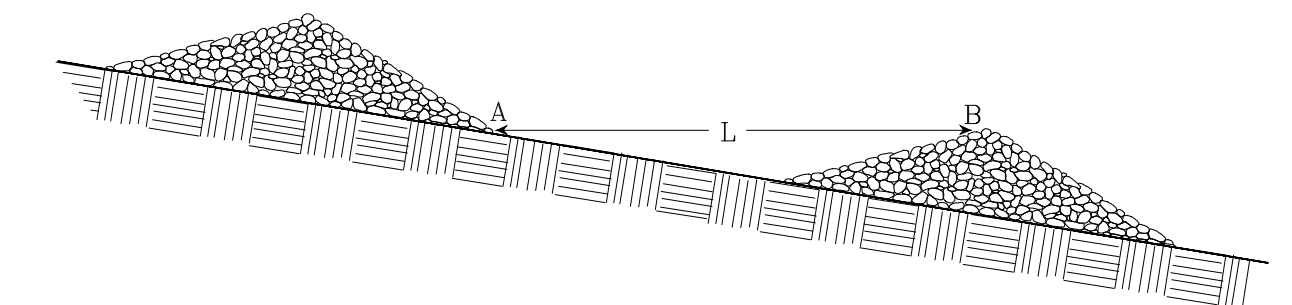
2-10 ACRES OF DRAINAGE AREA:



### SPACING BETWEEN CHECK DAMS

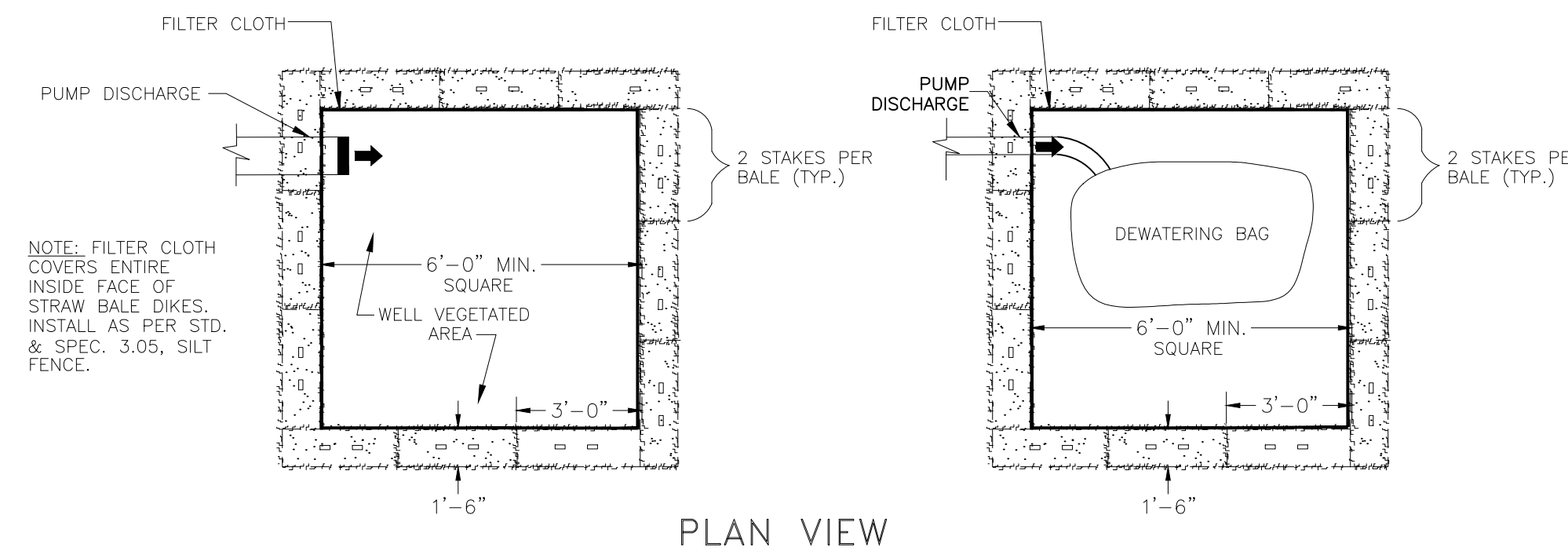
NOT TO SCALE

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



### STRAW BALE/SILT FENCE PIT

NOT TO SCALE

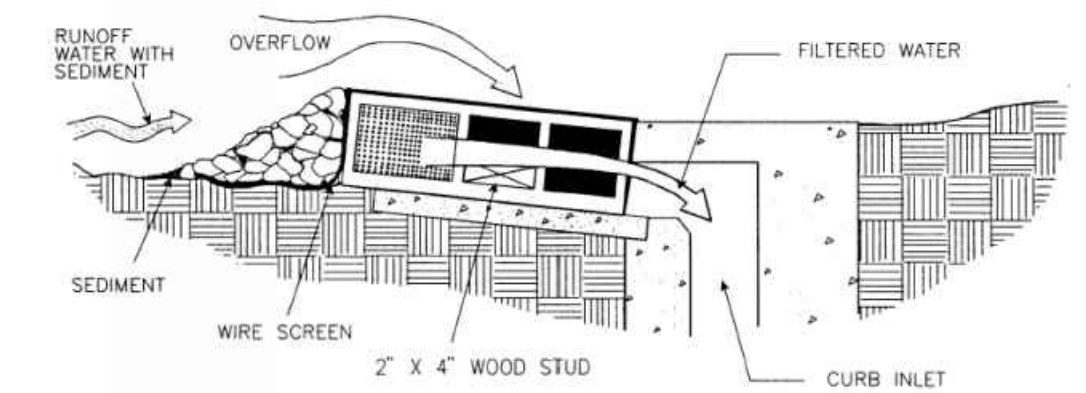
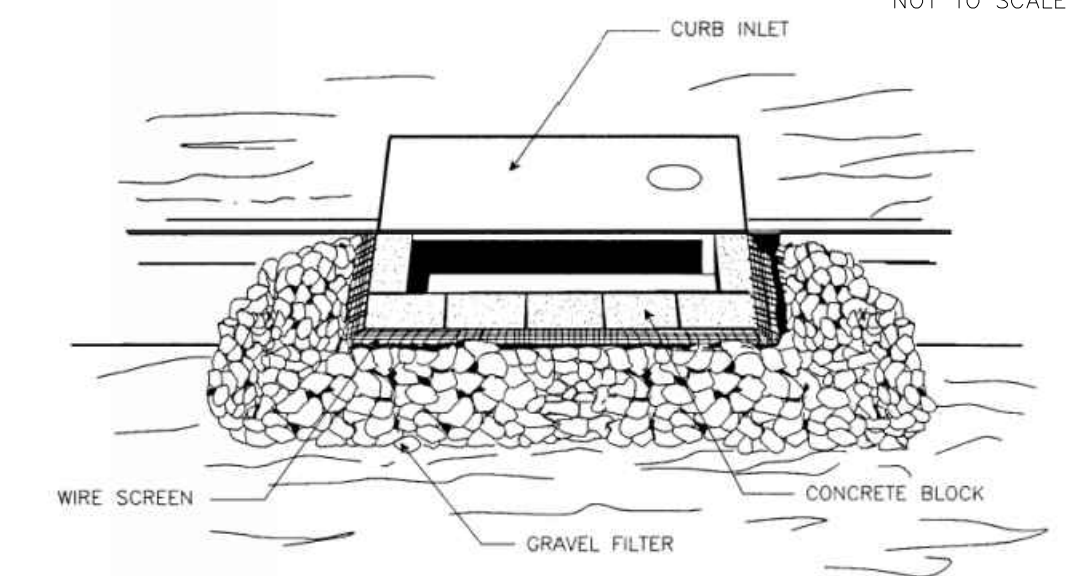


#### NOTES

1. ADDITIONAL ENERGY DISSIPATING DEVICES MAY BE INSTALLED DOWNGRADIENT OF THE DEWATERING STRUCTURE, AS NECESSARY.

### BLOCK & GRAVEL CURB INLET SEDIMENT FILTER

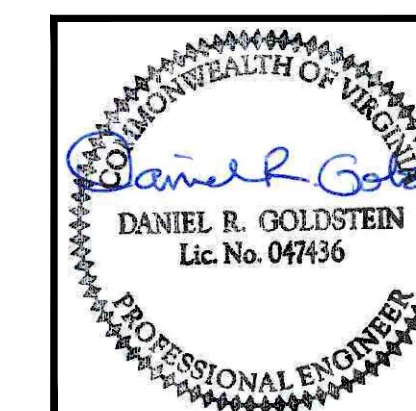
NOT TO SCALE



#### SPECIAL APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

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



Environmental Resources Management		
DRAWN: EJB	CHECKED: JEY	DATE: 05/22/2017
APP. FOR CONST.:	SCALE: AS NOTED	

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