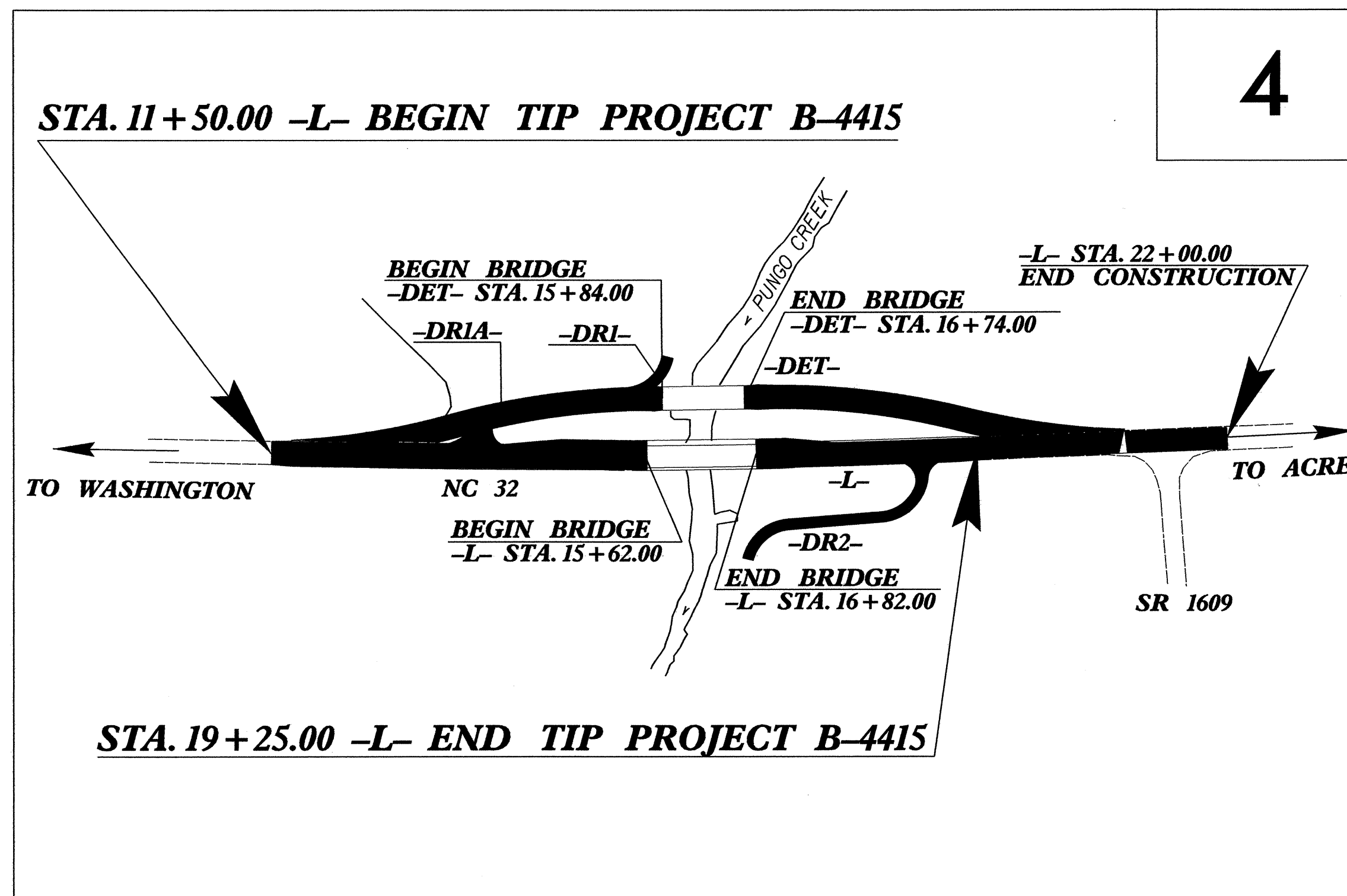
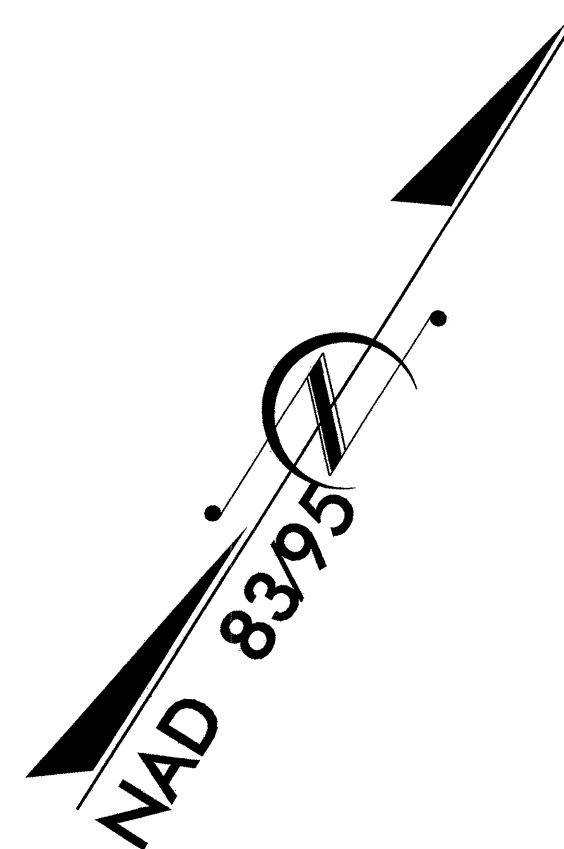


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4415	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**TIP PROJECT: B-4415**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
PLAN FOR PROPOSED  
HIGHWAY EROSION CONTROL  
**BEAUFORT COUNTY**

**LOCATION: BRIDGE NO. 21 OVER PUNGO CREEK ON NC 32**  
**TYPE OF WORK: GRADING, DRAINAGE, GUARDRAIL, PAVING,**  
**AND STRUCTURES**



**EROSION AND SEDIMENT CONTROL MEASURES**

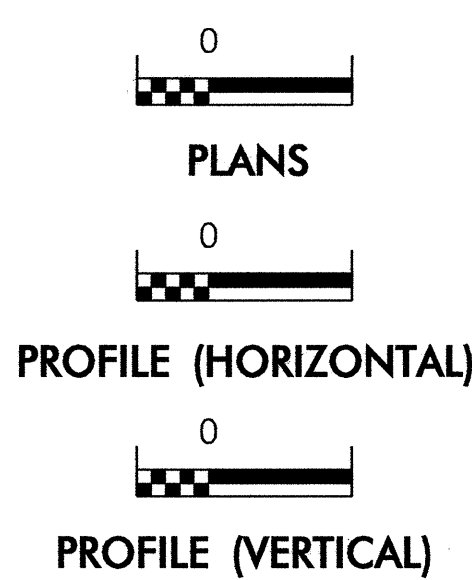
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1633.01	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
1633.01	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.01	Temporary Rock Silt Check Type-B	
1633.01	Wattle/Coir Fiber Wattle	
1633.01	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
1632.01	Rock Inlet Sediment Trap: Type A	
1632.02	Type B	
1632.03	Type C	
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

**THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.**

**THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.**

**ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT**  
*Refer To E. C. Special Provisions for Special Considerations.*

**GRAPHIC SCALE**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

Prepared In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611  
**2006 STANDARD SPECIFICATIONS**

Roadway Standard Drawings

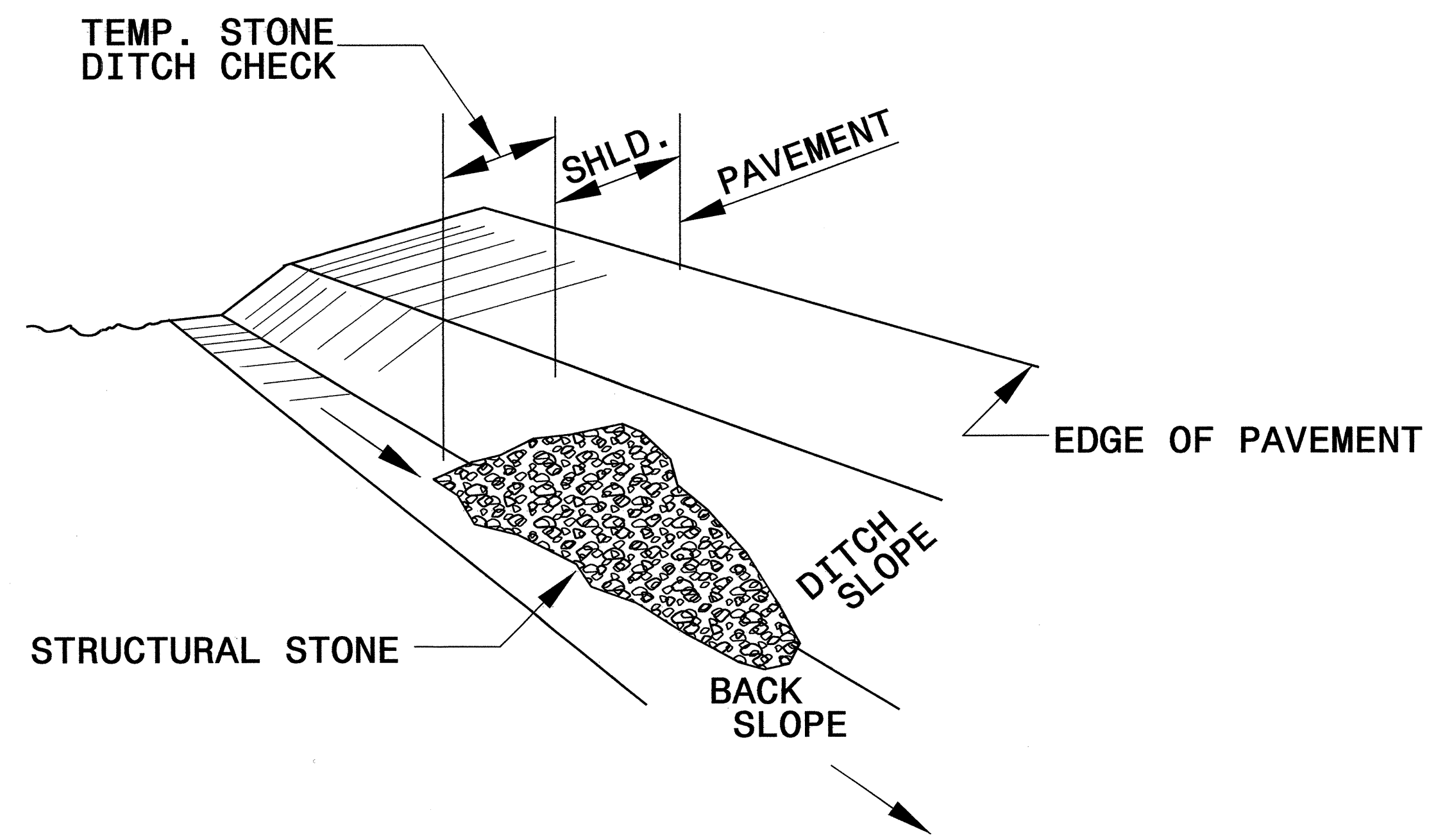
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1630.03 Temporary Silt Ditch
1606.01 Special Sediment Control Fence	1632.02 Rock Inlet Sediment Trap Type B
1607.01 Gravel Construction Entrance	1632.03 Rock Inlet Sediment Trap Type C
1622.01 Temporary Berms and Slope Drains	1633.01 Temporary Rock Silt Check Type A
	1635.02 Rock Pipe Inlet Sediment Trap Type B

25-JUL-2011 10:06 AM R:\25-JUL-2011\20110706\B-4415.EC.tch.dgn mehencock

PROJECT REFERENCE NO. B-4415	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

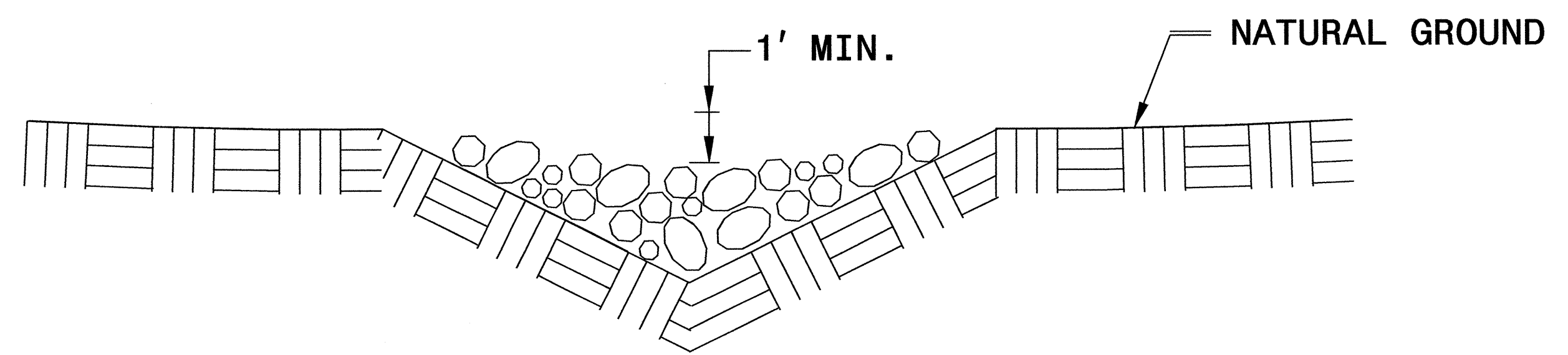


**ISOMETRIC VIEW**

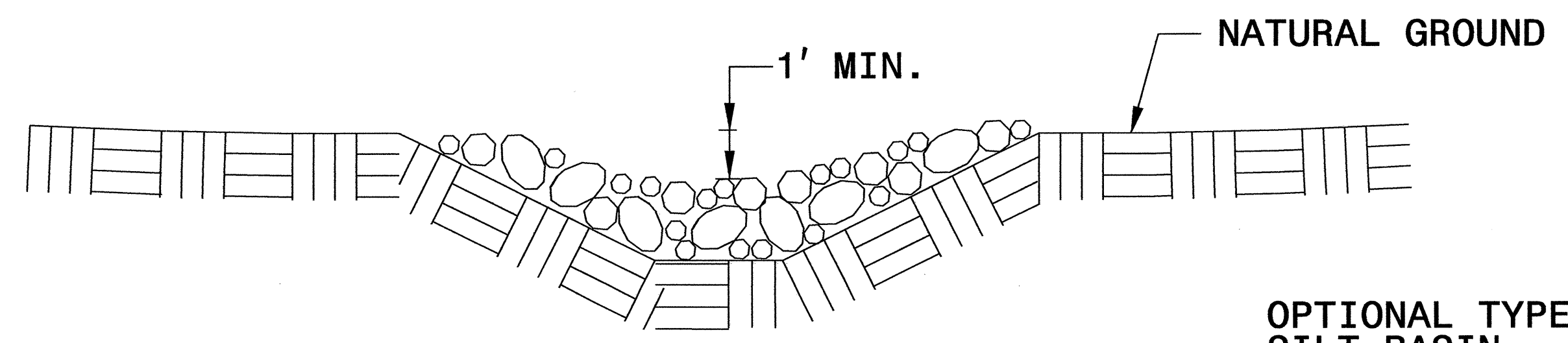
**NOTES:**

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

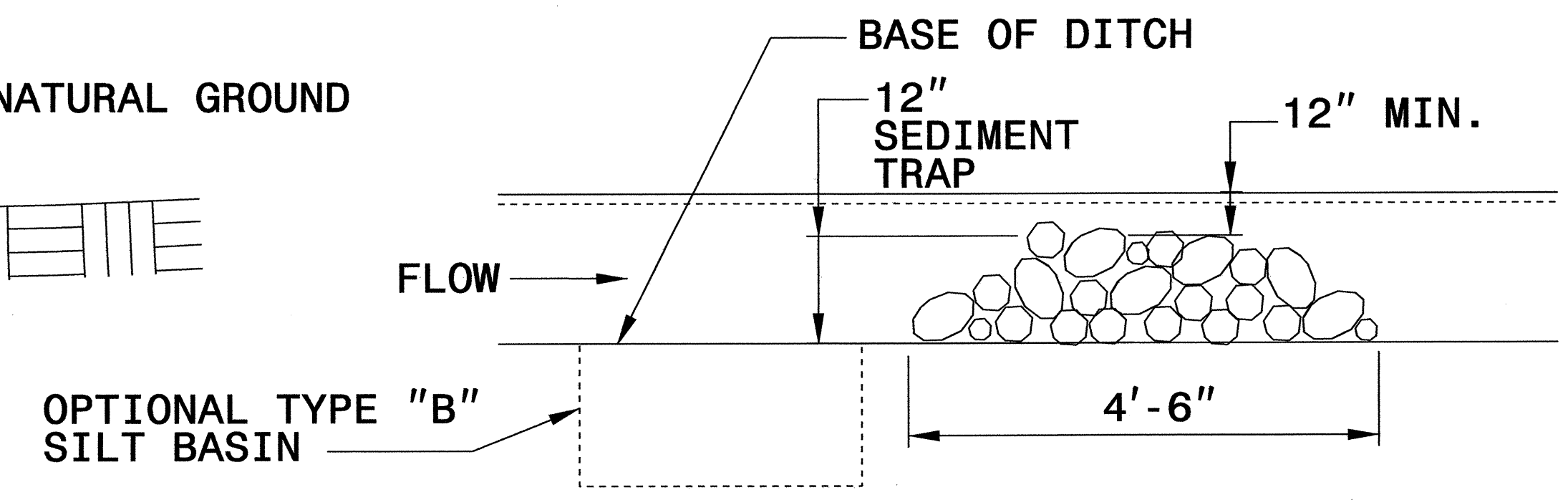
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION VEE DITCH**



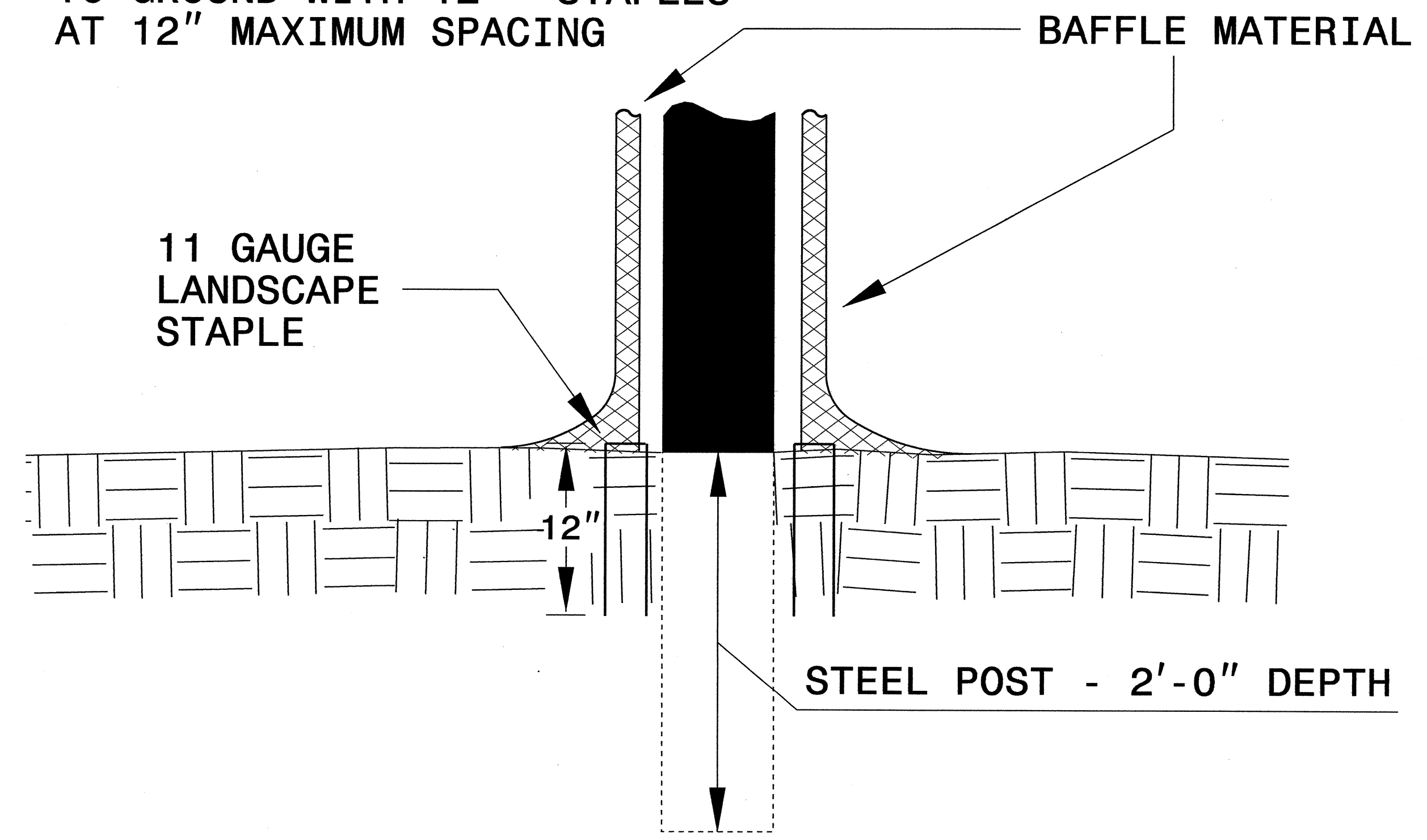
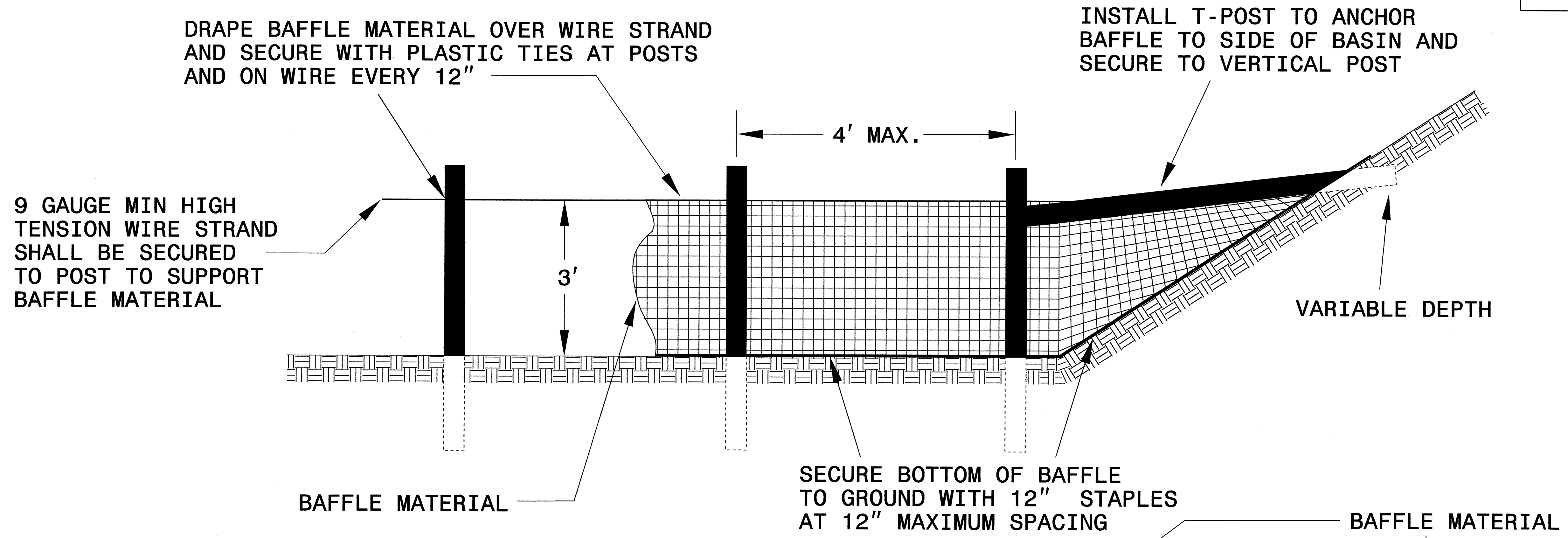
**CROSS SECTION TRAPEZOIDAL DITCH**



**ELEVATION VIEW**

PROJECT REFERENCE NO. B-4415	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER BAFFLE DETAIL



**NOTES:**

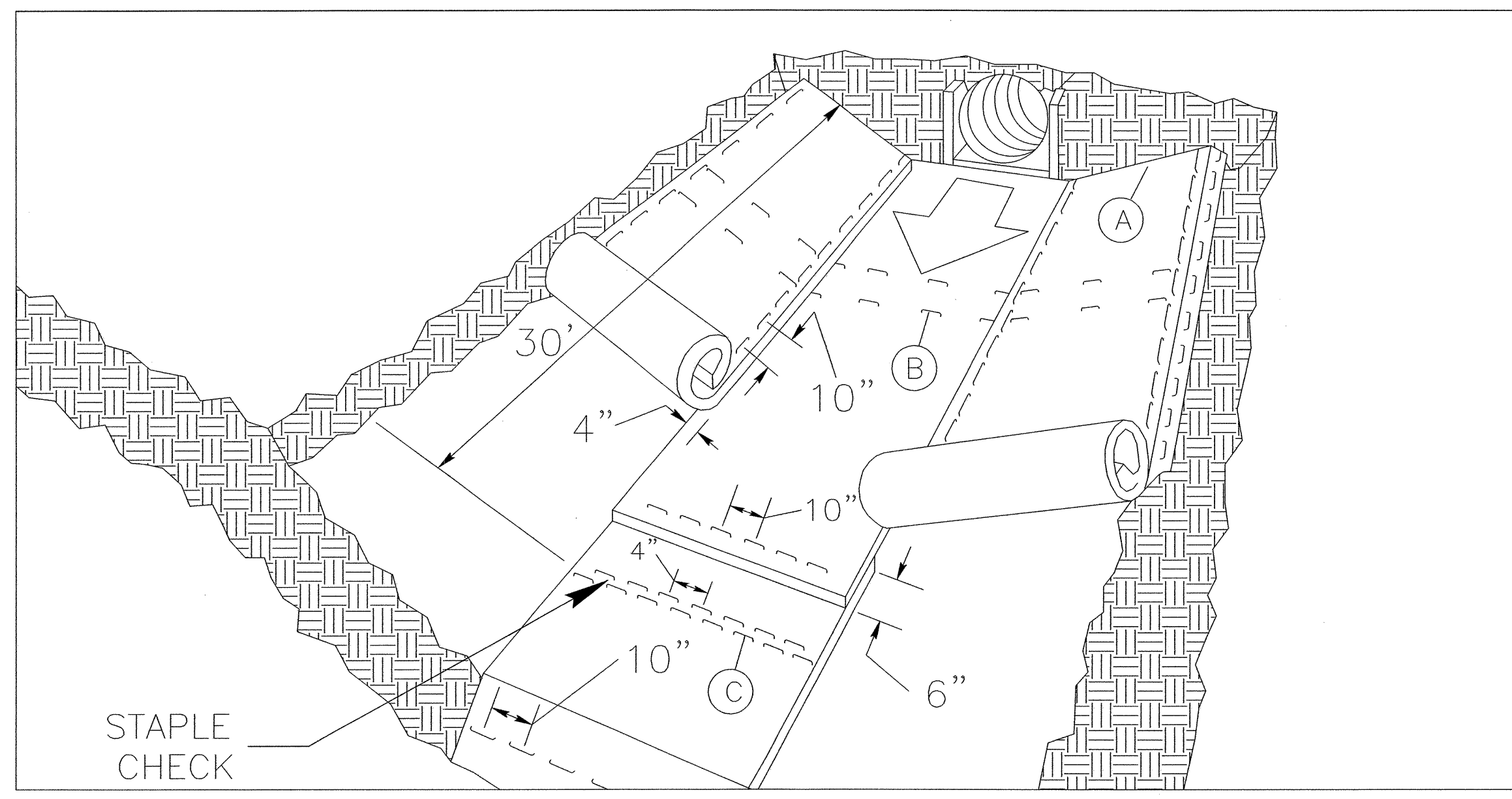
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF  $\frac{1}{4}$  THE BASIN LENGTH.
2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF  $\frac{1}{3}$  THE BASIN LENGTH.
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES



PROJECT REFERENCE NO.	SHEET NO.
B-4415	EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# MATTING INSTALLATION DETAIL



**MATTING IN DITCHES**

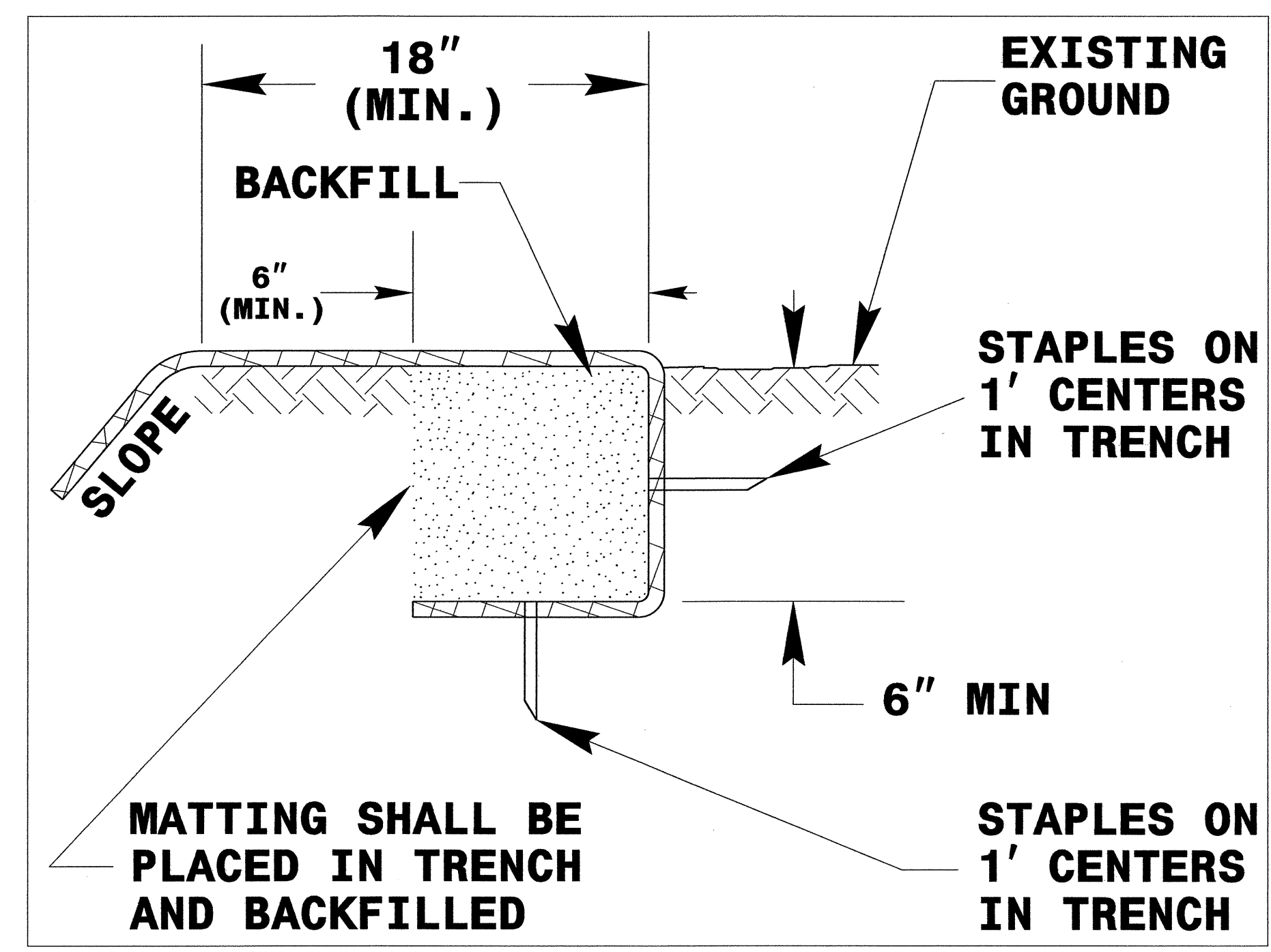
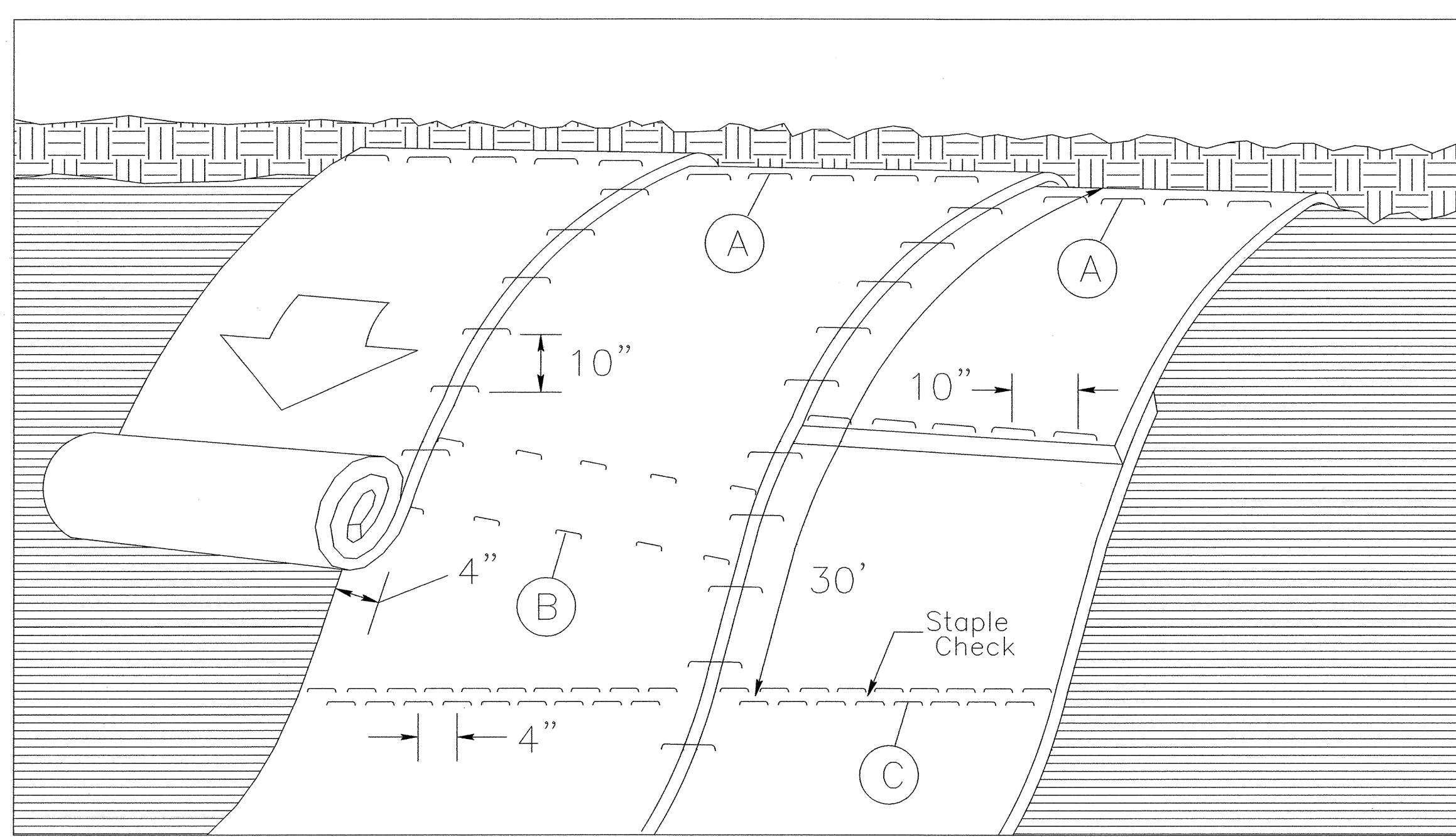


DIAGRAM (A)



**MATTING ON SLOPES**

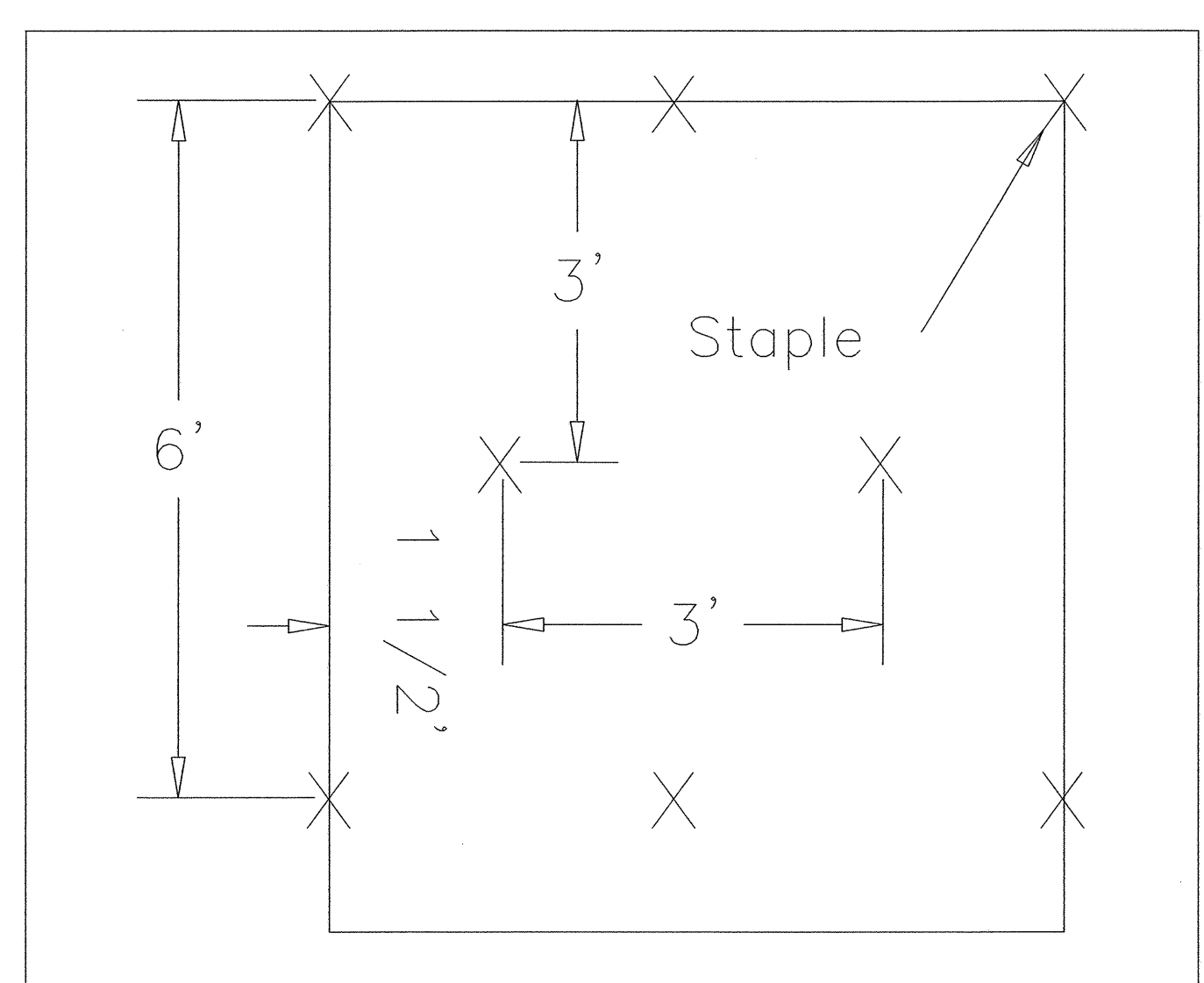


DIAGRAM (B)

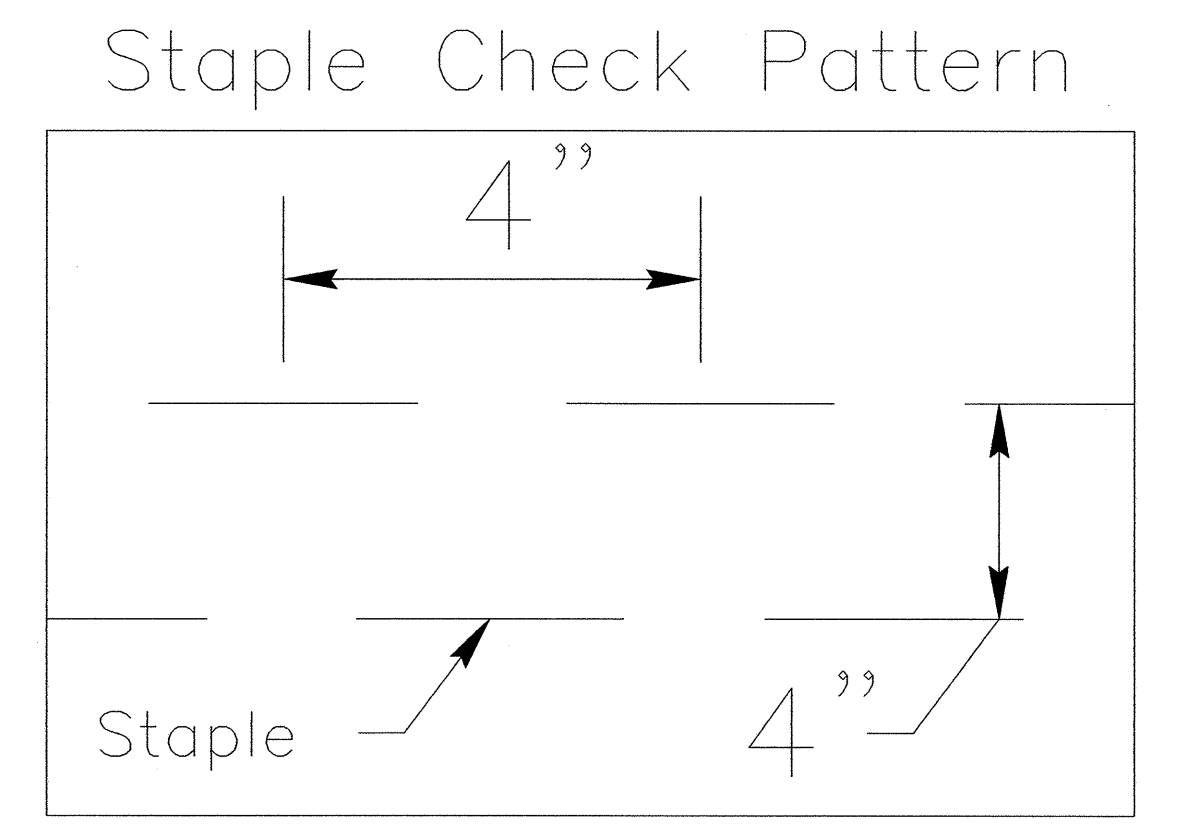


DIAGRAM (C)

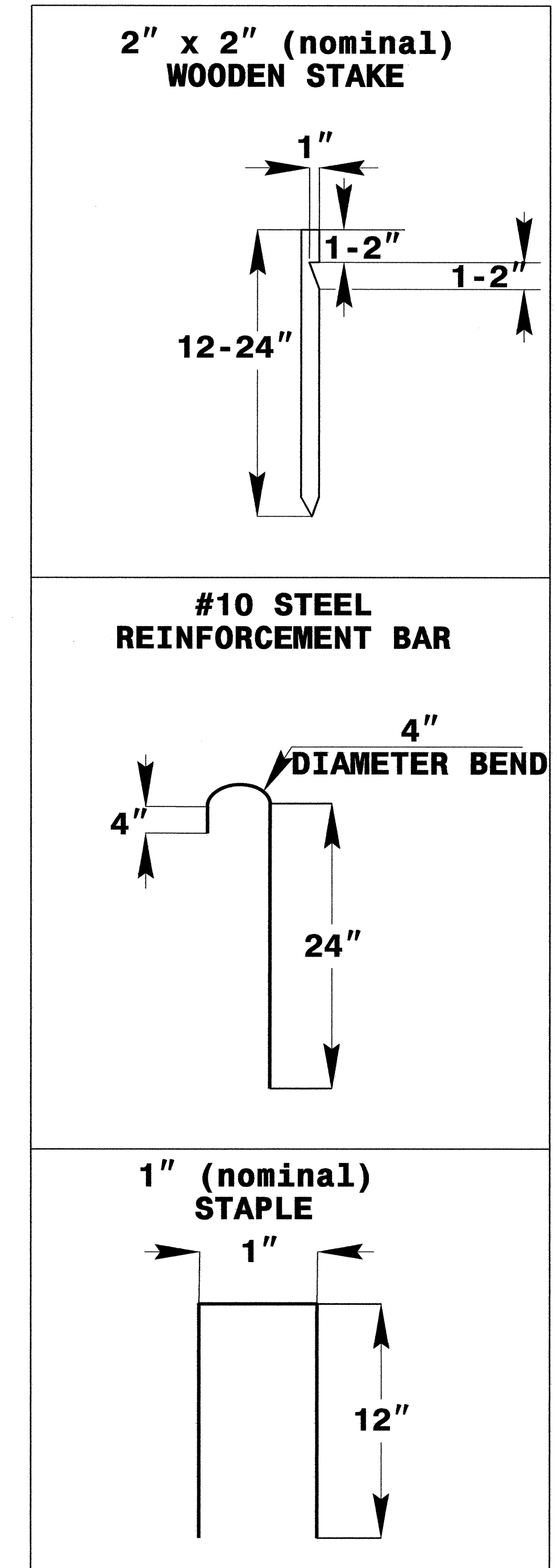
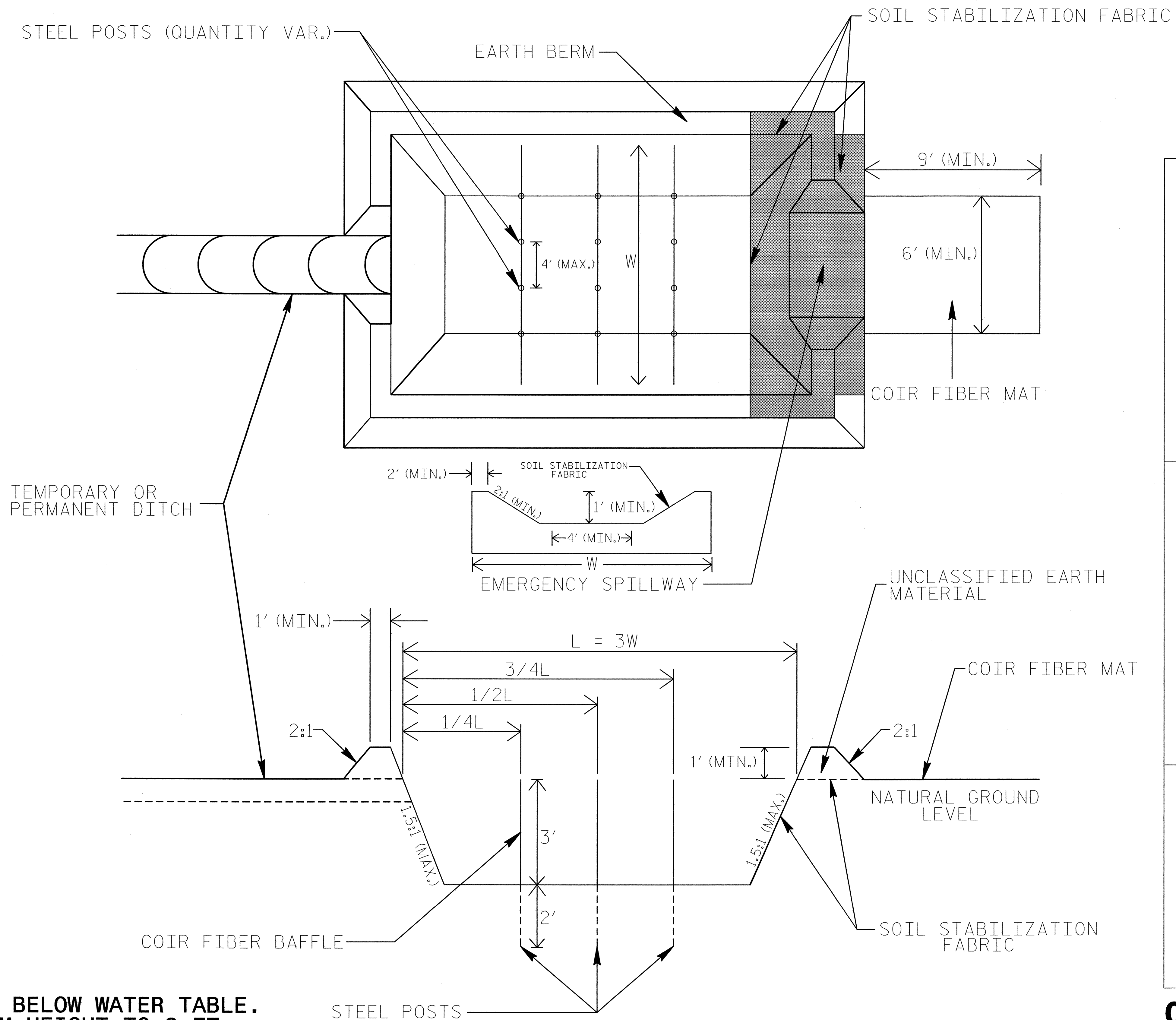
**NOTES:**

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.  
 STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

# INFILTRATION BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4415	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



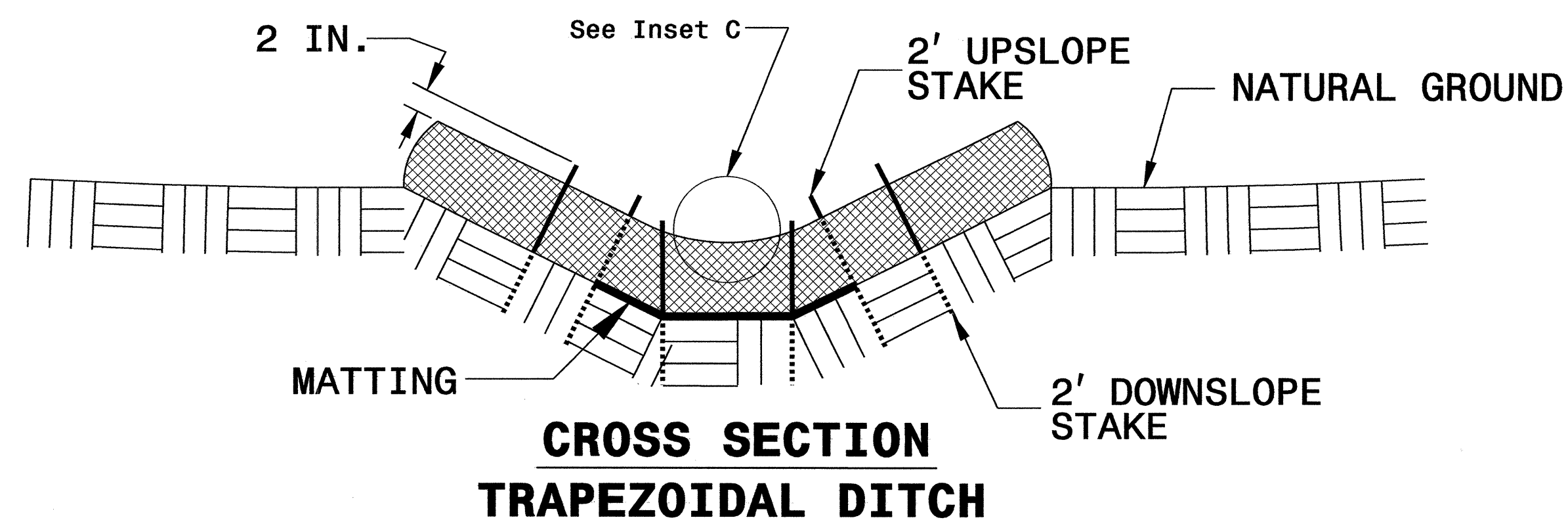
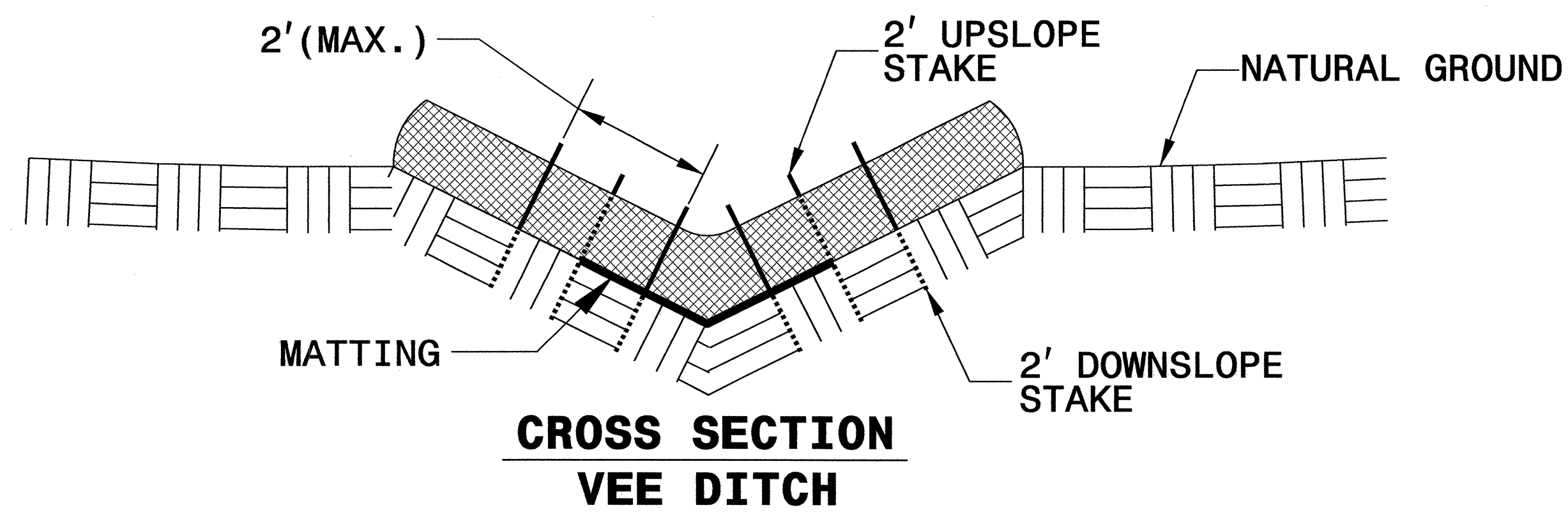
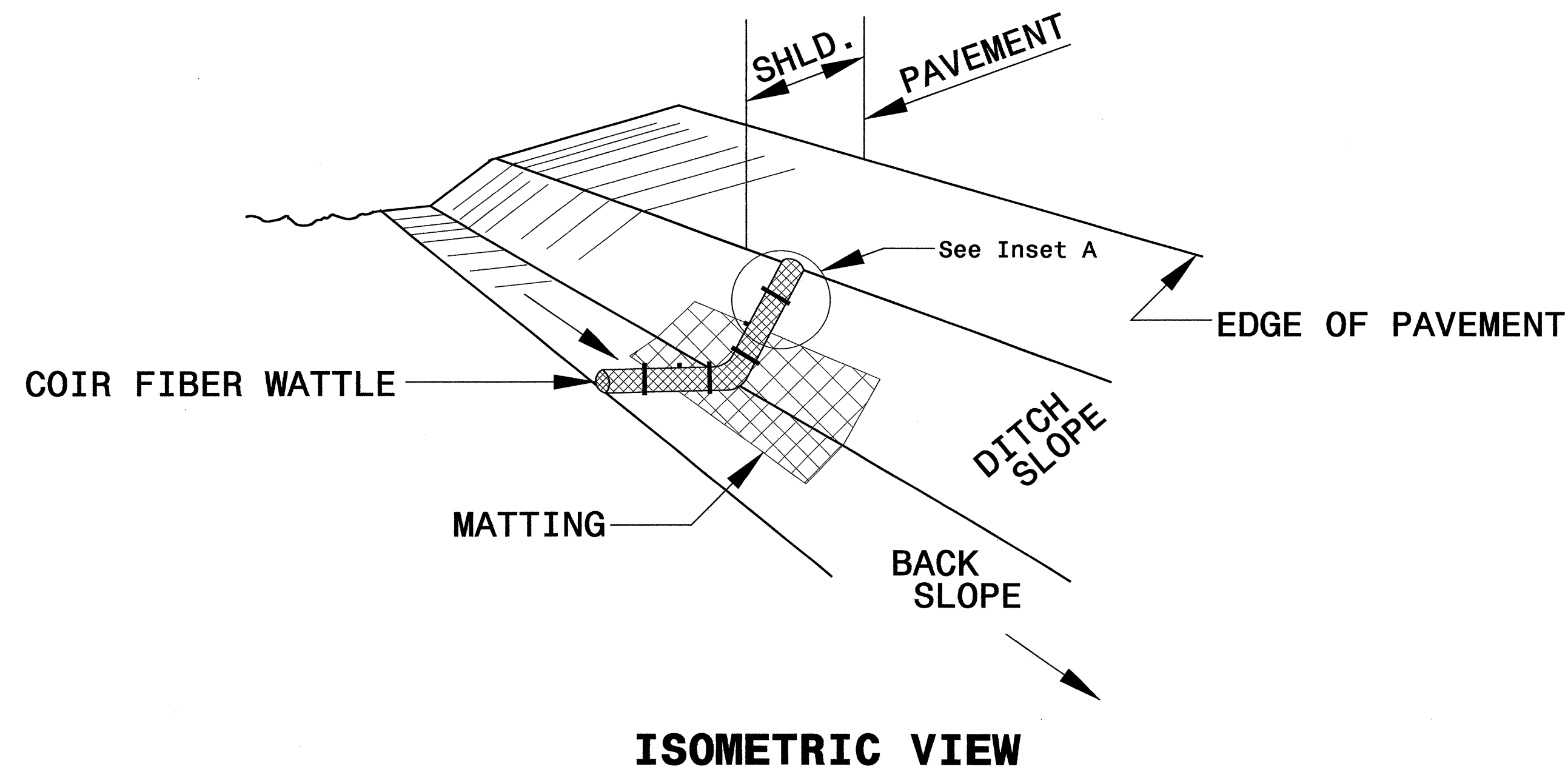
**COIR FIBER MAT ANCHOR OPTIONS**

## NOTES

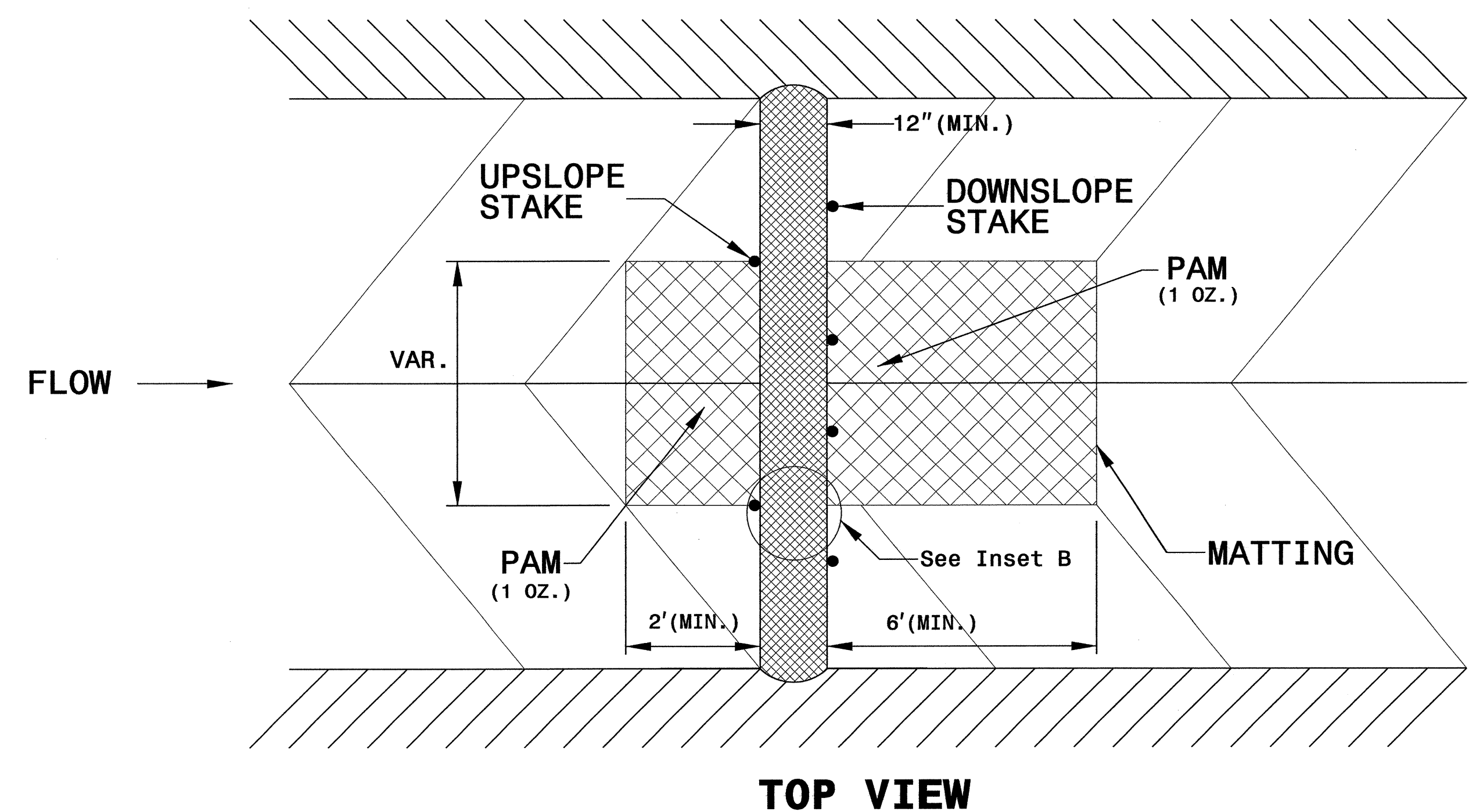
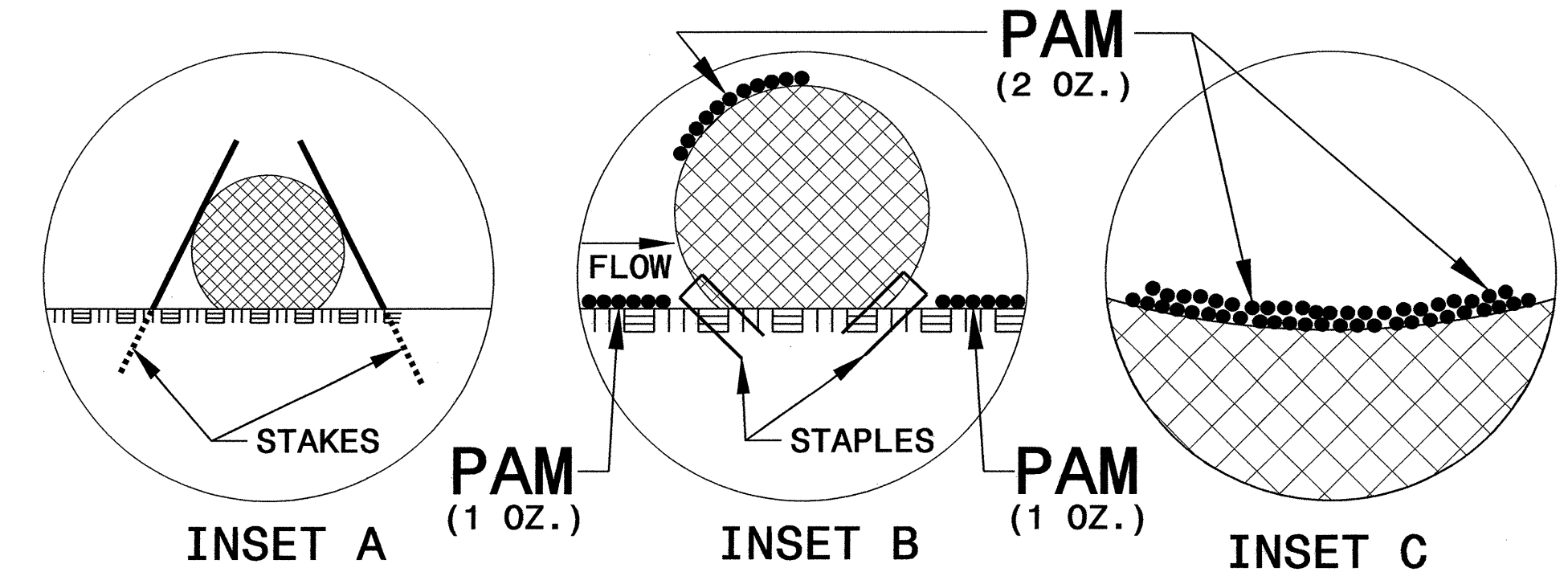
1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.

PROJECT REFERENCE NO.		SHEET NO.	
B-4415		EC-2D	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



- NOTES:
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
  - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
  - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
  - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
  - PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
  - INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



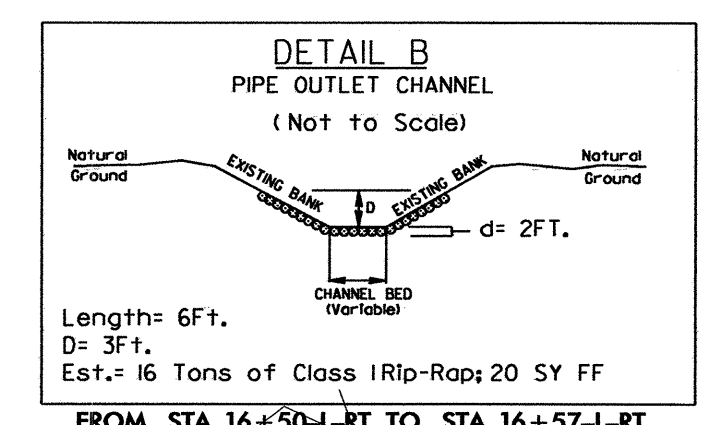






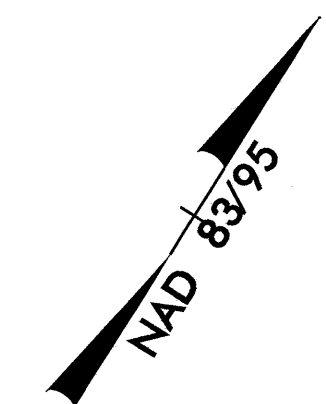
8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
B-4415		EC-04/CONST.04	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

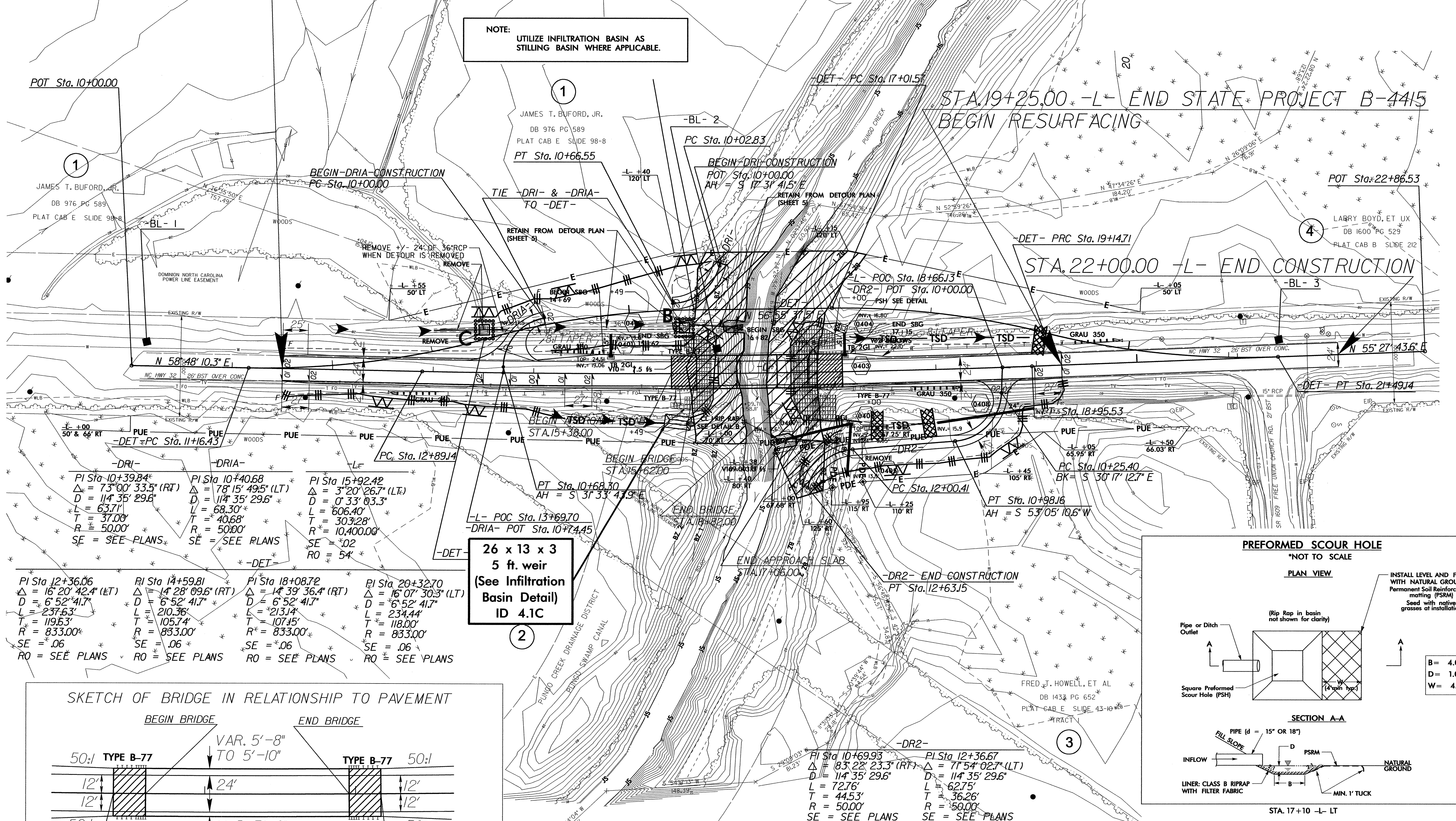
NOTE:  
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.



STA. 11+50.00 -L- BEGIN STATE PROJECT B-4415

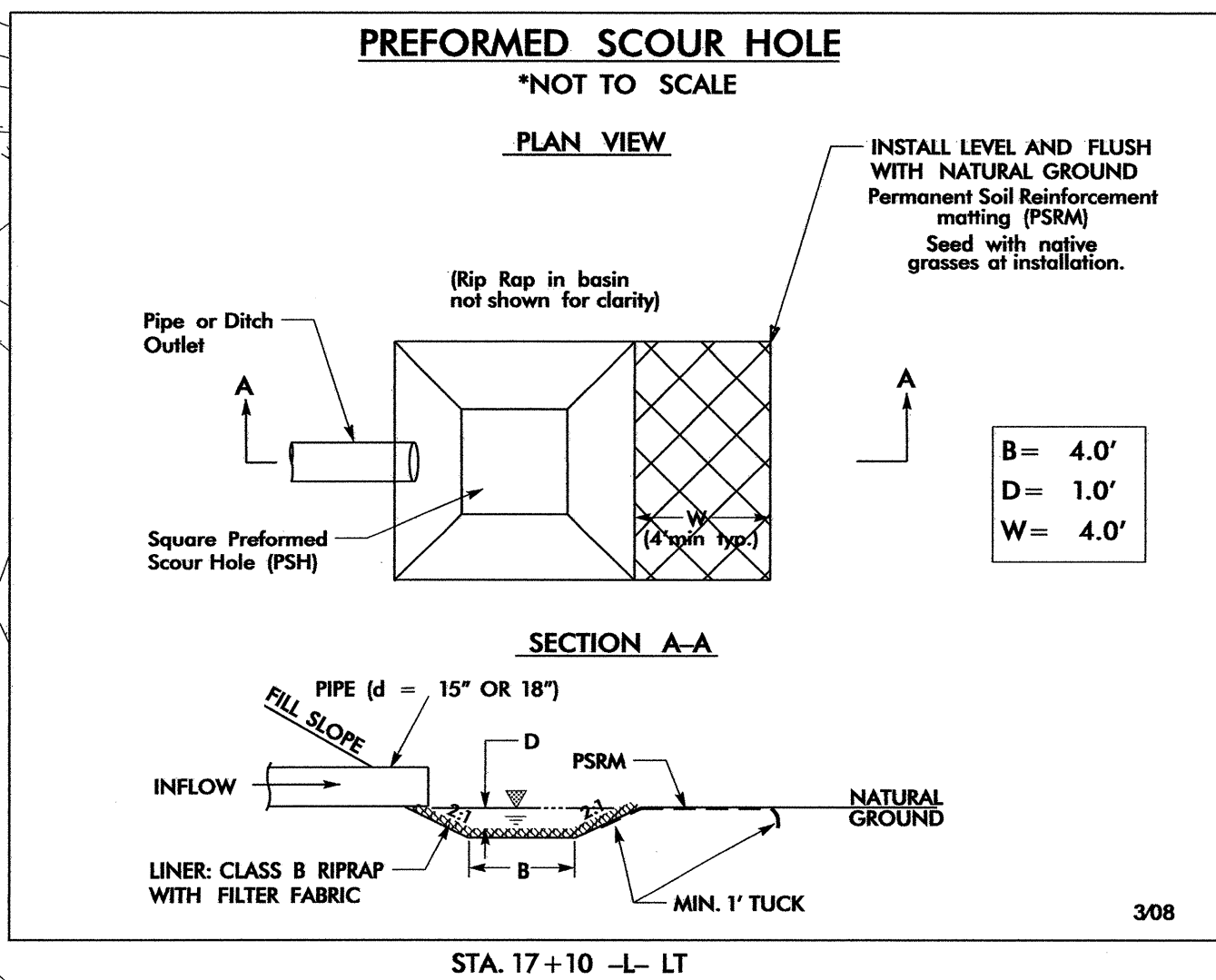
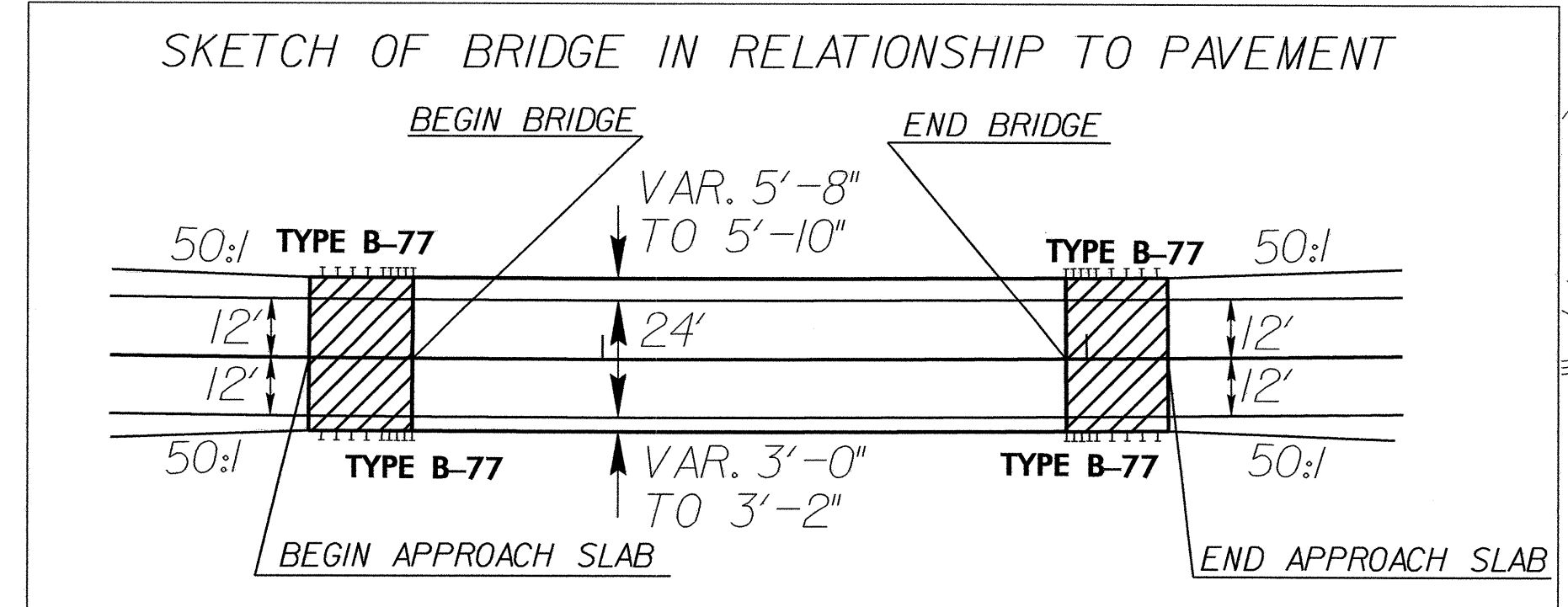
STA. 19+25.00 -L- END STATE PROJECT B-4415  
BEGIN RESURFACING

STA. 22+00.00 -L- END CONSTRUCTION



PI Sta. 10+39.84 Δ = 73°00' 33.5" (RT) D = 114' 35' 29.6" L = 63.71' T = 37.00' R = 50.00' SE = SEE PLANS	PI Sta. 10+40.68 Δ = 78°15' 49.5" (LT) D = 114' 35' 29.6" L = 68.30' T = 40.68' R = 50.00' SE = SEE PLANS	PI Sta. 15+92.42 Δ = 3°20' 26.7" (LT) D = 0' 33' 03.3" L = 606.40' T = 303.28' R = 10,400.00' SE = .02 RO = 54'	PI Sta. 12+36.06 Δ = 16°20' 42.4" (LT) D = 6' 52' 41.7" L = 237.63' T = 119.63' R = 833.00' SE = .06 RO = SEE PLANS	RI Sta. 14+59.81 Δ = 14°28' 09.6" (RT) D = 6' 52' 41.7" L = 210.36' T = 105.74' R = 833.00' SE = .06 RO = SEE PLANS	PI Sta. 18+08.72 Δ = 14°39' 36.4" (RT) D = 6' 52' 41.7" L = 213.14' T = 107.45' R = 833.00' SE = .06 RO = SEE PLANS	RI Sta. 20+32.70 Δ = 16°07' 30.3" (LT) D = 6' 52' 41.7" L = 234.44' T = 118.00' R = 833.00' SE = .06 RO = SEE PLANS
---	---	--	--	--	--	--

26 x 13 x 3  
5 ft. weir  
(See Infiltration  
Basin Detail)  
ID 4.1C



SBG: SHOULDER BERM GUTTER  
SBG -L- STA. 14+69 TO -L- STA. 15+62 LT.  
SBG -L- STA. 16+82 TO -L- STA. 17+15 LT.

FOR -L- PROFILE SEE SHEET 6  
FOR -DR1- & -DR2- PROFILE SEE SHEET 7  
FOR -DET- PLAN VIEW SEE SHEET 5  
FOR STRUCTURES SEE SITO SX

REVISIONS

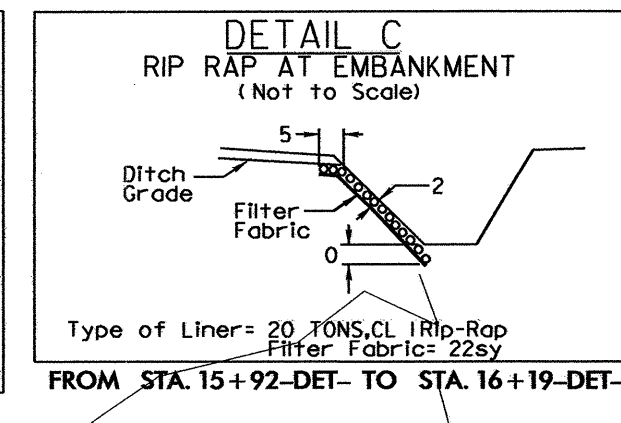
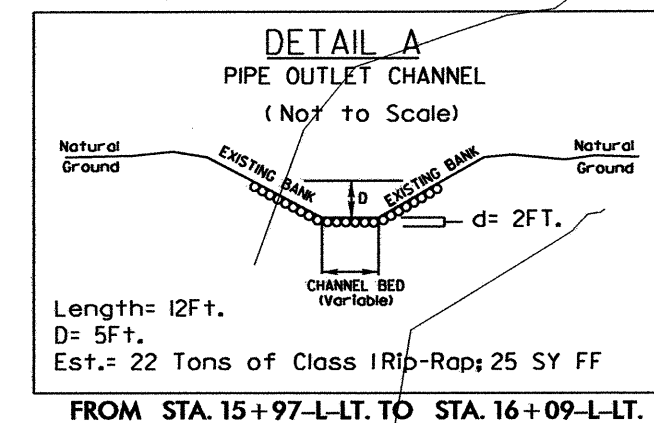
25 JUL 2010 08:17  
C:\Users\jrb\Documents\B-4415-EC-dm-psh4.dgn  
REV 17/99



PROJECT REFERENCE NO. B-4415	SHEET NO. EC-05/CONST.05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

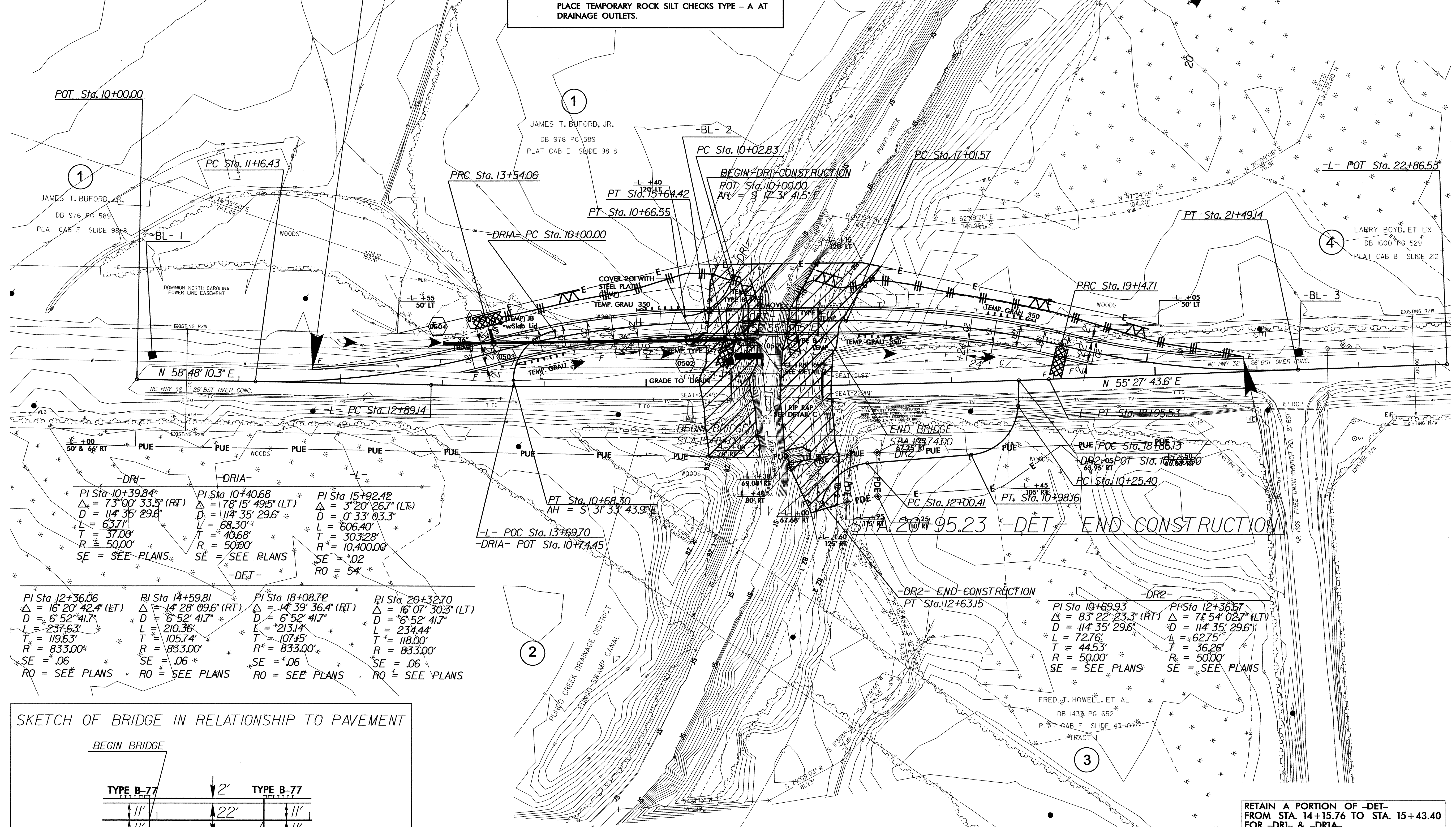
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5

ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

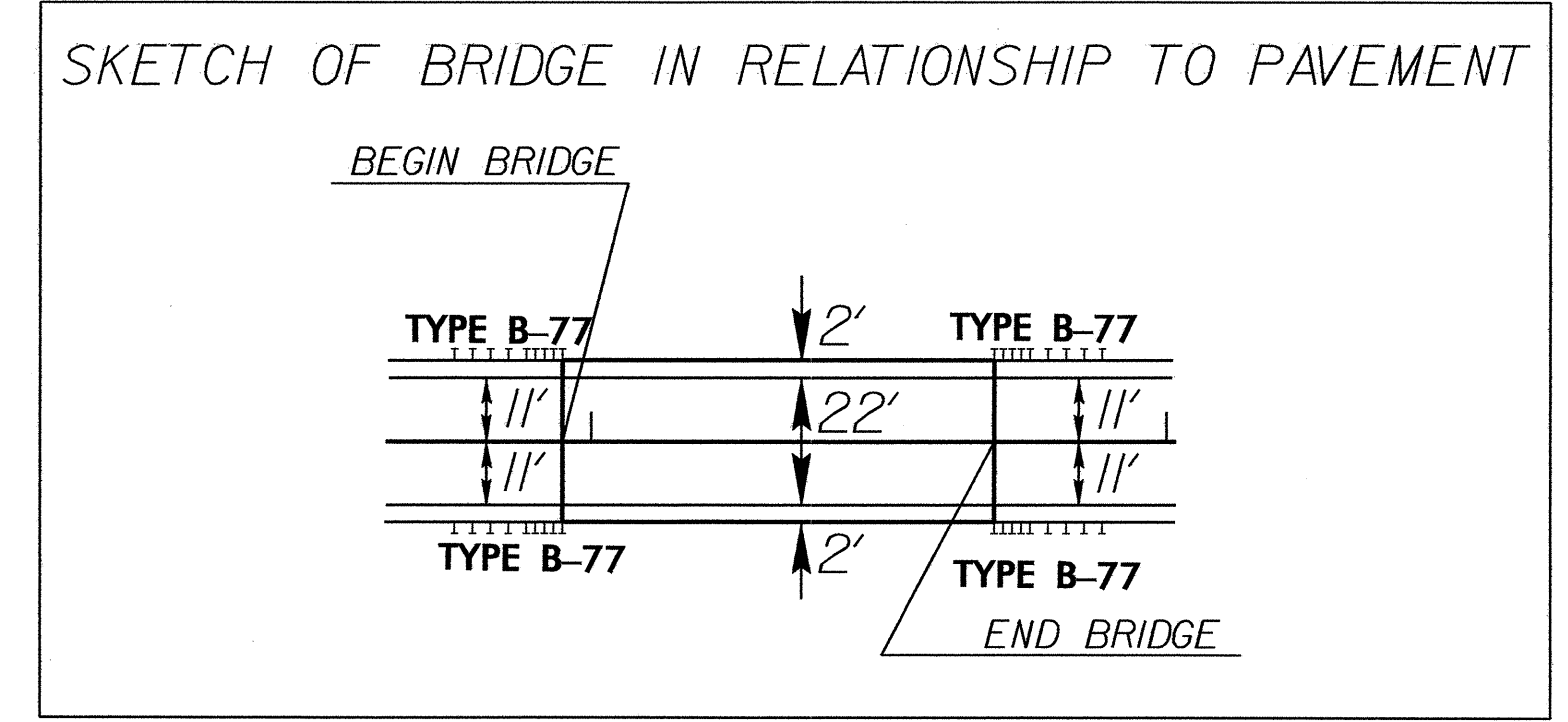


STA. 11+72.65 -DET- BEGIN CONSTRUCTION

NOTE:  
PLACE TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.



<p>-DRI-</p> <p>PI Sta 10+39.84 Δ = 73°00'33.5" (RT) D = 114'35'29.6" L = 63.71' T = 37.00' R = 50.00' SE = SEE PLANS</p>	<p>-DRIA-</p> <p>PI Sta 10+40.68 Δ = 78°15'49.5" (LT) D = 114'35'29.6" L = 68.30' T = 40.68' R = 50.00' SE = SEE PLANS</p>	<p>-L-</p> <p>PI Sta 15+92.42 Δ = 3°20'26.7" (LT) D = 0'33'03.3" L = 606.40' T = 303.28' R = 10,400.00' SE = .02 RO = 54'</p>
<p>PI Sta 12+36.06 Δ = 16°20'42.4" (LT) D = 6'52'41.7" L = 237.63' T = 119.63' R = 833.00' SE = .06 RO = SEE PLANS</p>	<p>RI Sta 14+59.81 Δ = 14°28'09.6" (RT) D = 6'52'41.7" L = 210.36' T = 105.74' R = 833.00' SE = .06 RO = SEE PLANS</p>	<p>PI Sta 18+08.72 Δ = 14°39'36.4" (RT) D = 6'52'41.7" L = 213.14' T = 107.45' R = 833.00' SE = .06 RO = SEE PLANS</p>
<p>PI Sta 20+32.70 Δ = 16°07'30.3" (LT) D = 6'52'41.7" L = 234.44' T = 118.00' R = 833.00' SE = .06 RO = SEE PLANS</p>	<p>-DR2- END CONSTRUCTION</p> <p>PT Sta. 12+63.15</p> <p>PI Sta 10+69.93 Δ = 83°22'23.3" (RT) D = 114'35'29.6" L = 72.76' T = 44.53' R = 50.00' SE = SEE PLANS</p>	<p>-DR2-</p> <p>PI Sta 12+36.67 Δ = 78°54'02.7" (LT) D = 114'35'29.6" L = 62.75' T = 36.26' R = 50.00' SE = SEE PLANS</p>



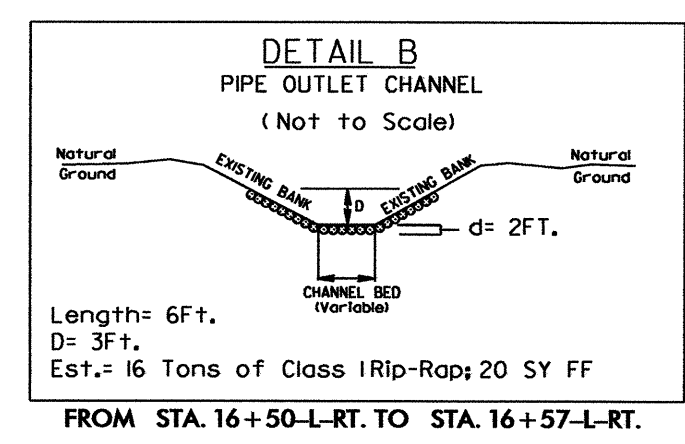
RETAIN A PORTION OF -DET- FROM STA. 14+15.76 TO STA. 15+43.40 FOR -DRI- & -DRIA-

USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY  
FOR -L- PLAN VIEW SEE SHEET 4  
FOR -DET- PROFILE SEE SHEET 6  
FOR -DET- STRUCTURES SEE SHEET 5 TO 5X

REVISIONS

8/17/99  
25-JUL-2011 14:50  
R:\Environmental\Design\B-4415-EC.dwg - pah5.dgn  
mabcock 51 REV 27/28



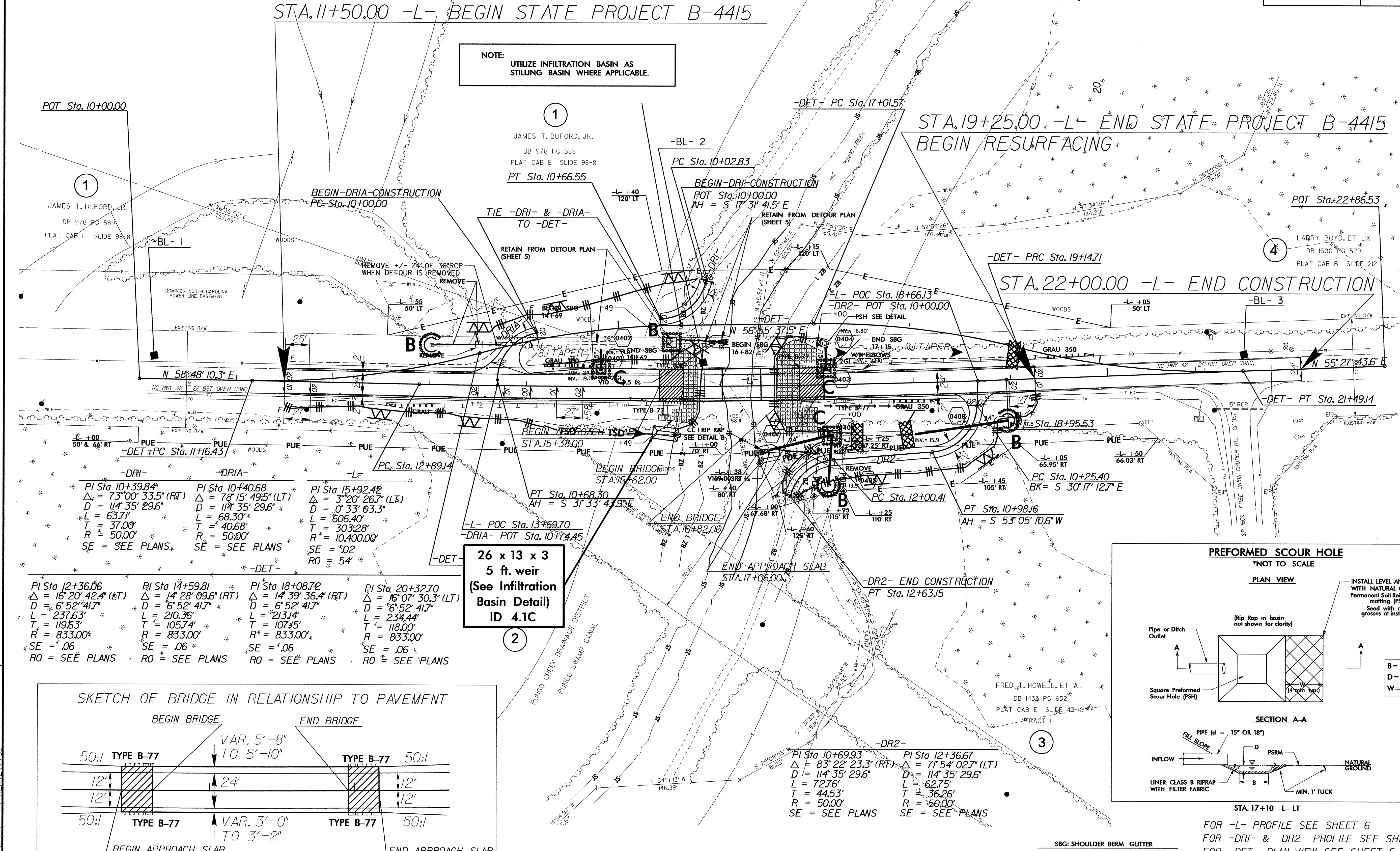


STA. 11+50.00 -L- BEGIN STATE PROJECT B-4415

NOTE: UTILIZE INFILTRATION BASIN AS STILLING BASIN WHERE APPLICABLE.

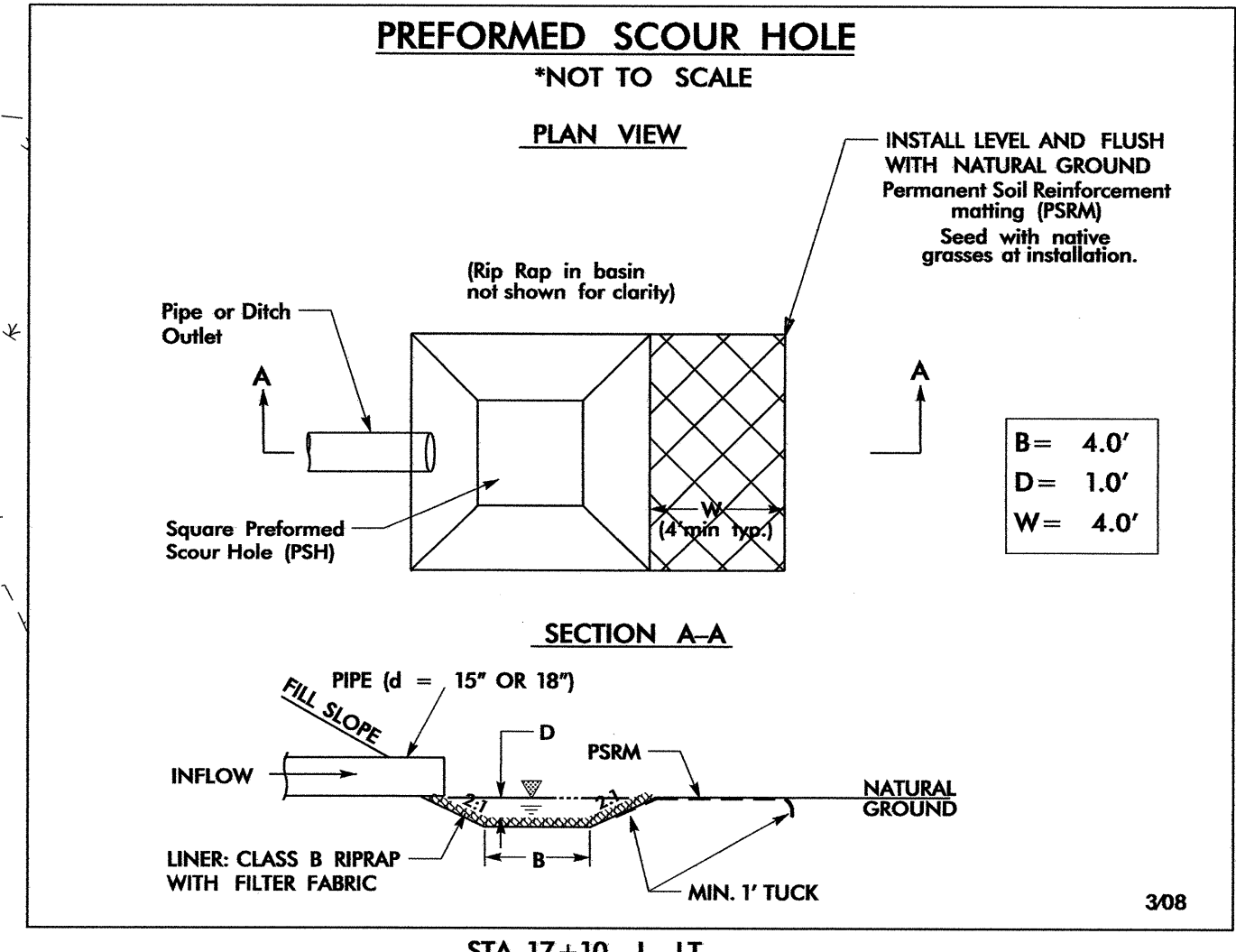
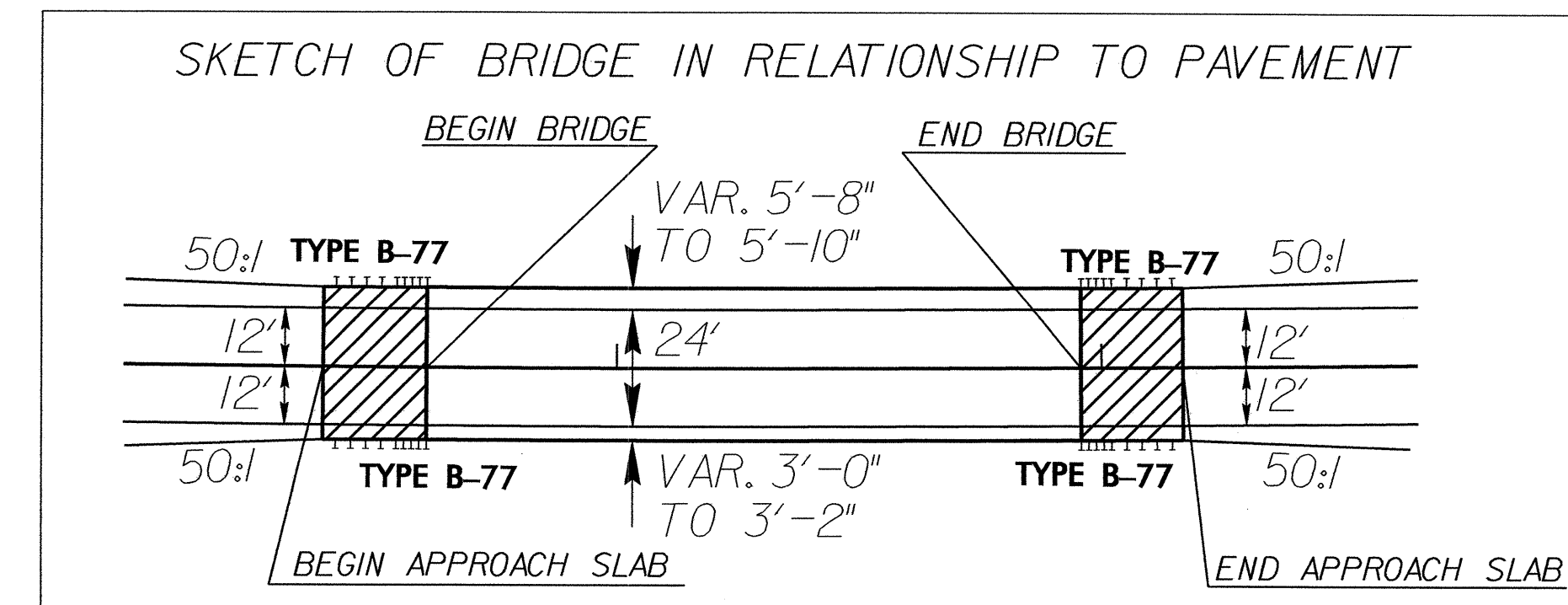
STA. 19+25.00 -L- END STATE PROJECT B-4415  
BEGIN RESURFACING

STA. 22+00.00 -L- END CONSTRUCTION



-DRI-		-DRIA-		-DET-	
PI Sta 10+39.84	PI Sta 10+40.68	PI Sta 15+92.42	PI Sta 18+08.72	PI Sta 20+32.70	PI Sta 22+00.00
$\Delta = 73^{\circ}00'33.5"$ (RT)	$\Delta = 78^{\circ}15'49.5"$ (LT)	$\Delta = 3^{\circ}20'26.7"$ (LT)	$\Delta = 14^{\circ}39'36.4"$ (RT)	$\Delta = 16^{\circ}07'30.3"$ (LT)	$\Delta = 17^{\circ}31'41.5"$ E
D = 114'35'29.6"	D = 114'35'29.6"	D = 0'33'03.3"	D = 6'52'41.7"	D = 6'52'41.7"	D = 114'35'29.6"
L = 63.71'	L = 68.30'	L = 606.40'	L = 213.14'	L = 234.44'	L = 627.5'
T = 37.00'	T = 40.68'	T = 303.28'	T = 105.74'	T = 118.00'	T = 36.26'
R = 50.00'	R = 50.00'	R = 10,400.00'	R = 833.00'	R = 833.00'	R = 50.00'
SE = SEE PLANS	SE = SEE PLANS	SE = .02	SE = .06	SE = .06	SE = SEE PLANS
RO = SEE PLANS	RO = SEE PLANS	RO = 54'	RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

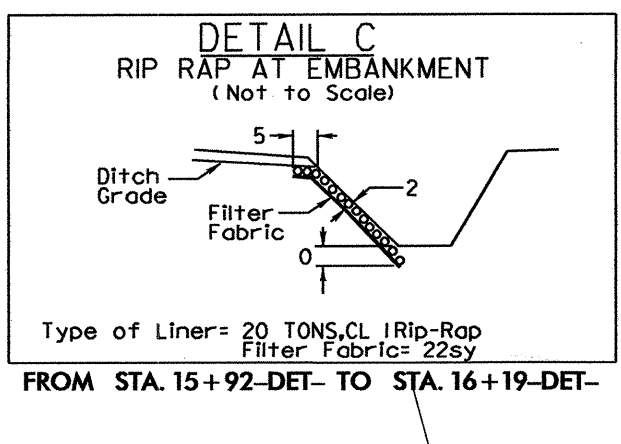
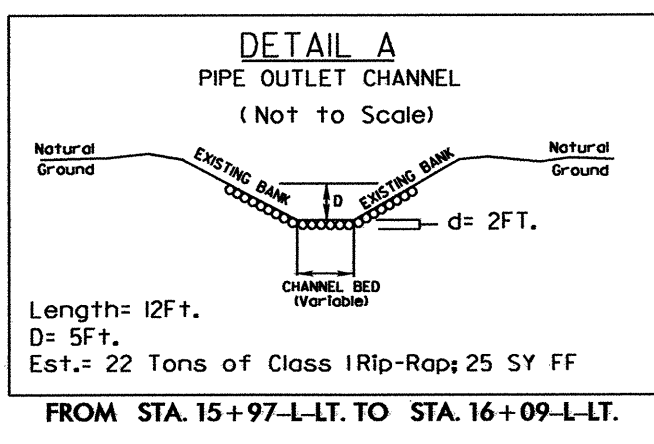
26 x 13 x 3  
5 ft. weir  
(See Infiltration  
Basin Detail)  
ID 4.1C



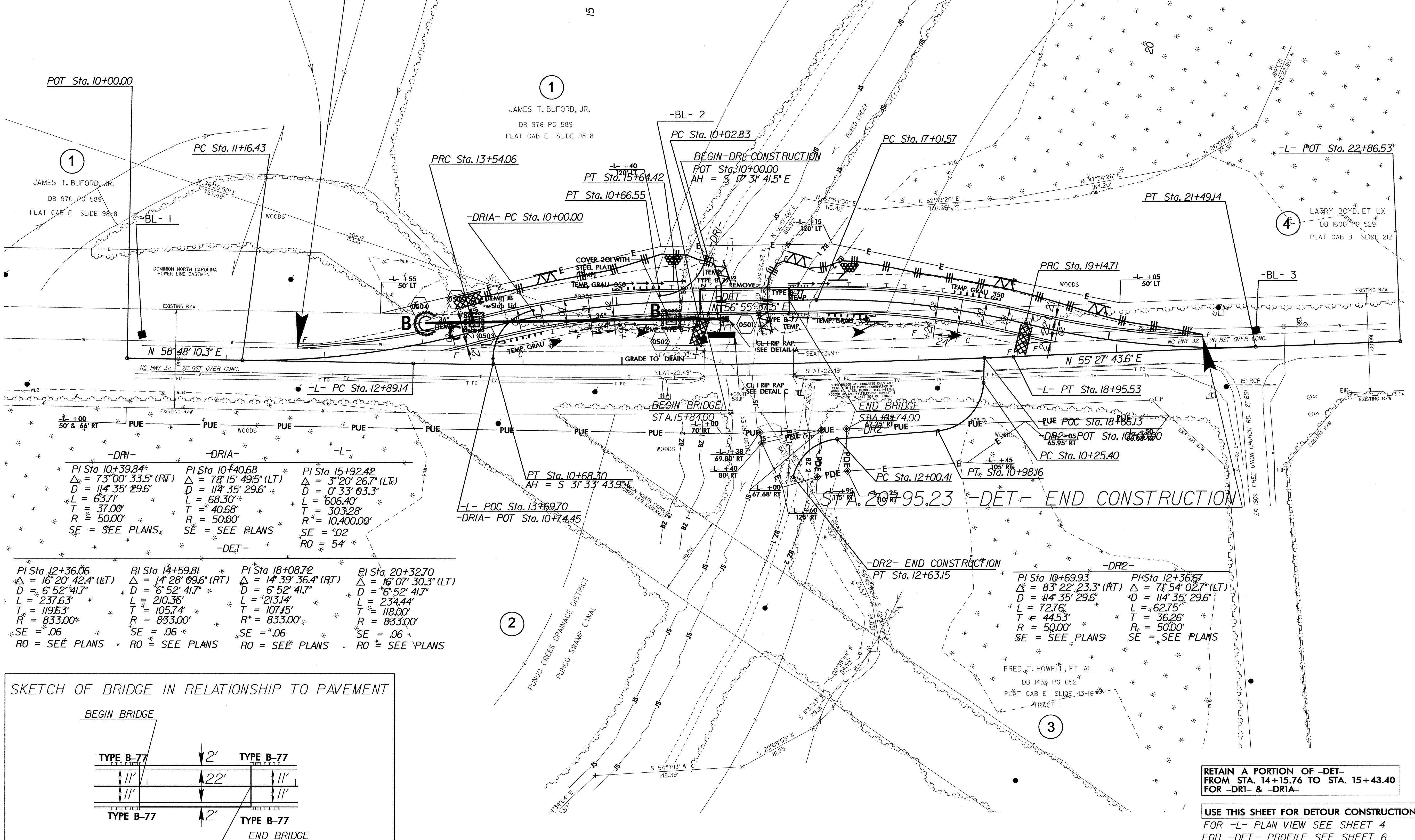
FOR -L- PROFILE SEE SHEET 6  
FOR -DRI- & -DR2- PROFILE SEE SHEET 7  
FOR -DET- PLAN VIEW SEE SHEET 5  
FOR STRUCTURES SEE SHEET S10 SX

REVISIONS  
 25-JUL-2011 12:42  
 R:\Environmental\B-4415-EC-dan\_psh4.dgn  
 mchancek

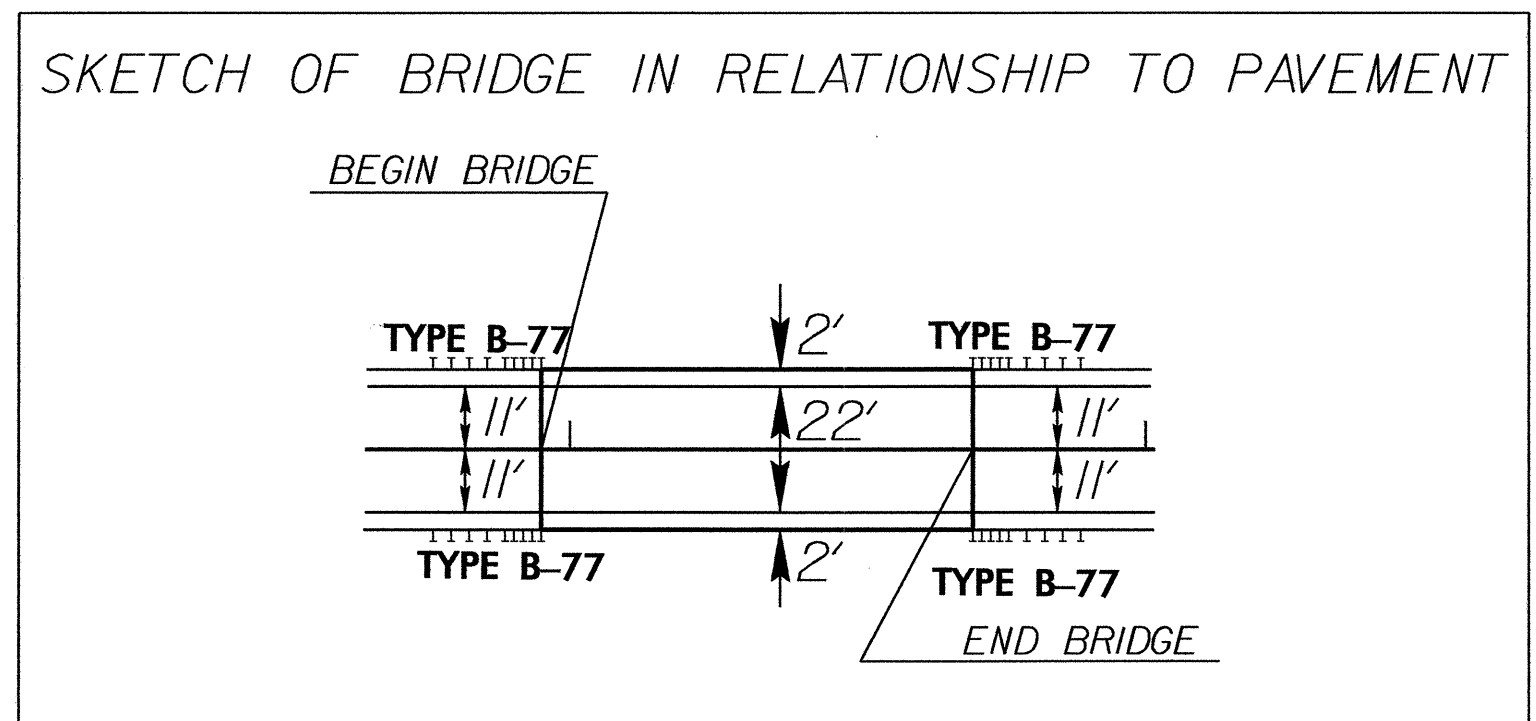




STA. 11+72.65 -DET- BEGIN CONSTRUCTION



-DRI-		-DRIA-		-L-	
PI Sta 10+39.84	PI Sta 10+40.68	PI Sta 15+92.42	PI Sta 18+08.72	PI Sta 20+32.70	PI Sta 12+36.06
$\Delta = 73^{\circ}00'33.5"$ (RT)	$\Delta = 78^{\circ}15'49.5"$ (LT)	$\Delta = 3^{\circ}20'26.7"$ (LT)	$\Delta = 14^{\circ}39'36.4"$ (RT)	$\Delta = 16^{\circ}07'30.3"$ (LT)	$\Delta = 16^{\circ}20'42.4"$ (LT)
D = 114'35'29.6"	D = 114'35'29.6"	D = 0'33'03.3"	D = 6'52'41.7"	D = 6'52'41.7"	D = 6'52'41.7"
L = 63.71'	L = 68.30'	L = 606.40'	L = 213.14'	L = 234.44'	L = 237.63'
T = 37.00'	T = 40.68'	T = 303.28'	T = 107.45'	T = 118.00'	T = 119.63'
R = 50.00'	R = 50.00'	R = 10,400.00'	R = 833.00'	R = 833.00'	R = 833.00'
SE = SEE PLANS	SE = SEE PLANS	SE = .02	SE = .06	SE = .06	SE = .06
RO = SEE PLANS	RO = SEE PLANS	RO = 54'	RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS



RETAIN A PORTION OF -DET- FROM STA. 14+15.76 TO STA. 15+43.40 FOR -DRI- & -DRIA-

USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY FOR -L- PLAN VIEW SEE SHEET 4 FOR -DET- PROFILE SEE SHEET 6 FOR -DET- STRUCTURES SEE SHEET S TO SX

REVISIONS

8/17/09  
R5: JUL 20 2011 09:22  
R3: E:\Projects\2011\08\15\B-4415-EC.dwg  
R2: E:\Projects\2011\08\15\B-4415-EC.dwg  
R1: E:\Projects\2011\08\15\B-4415-EC.dwg