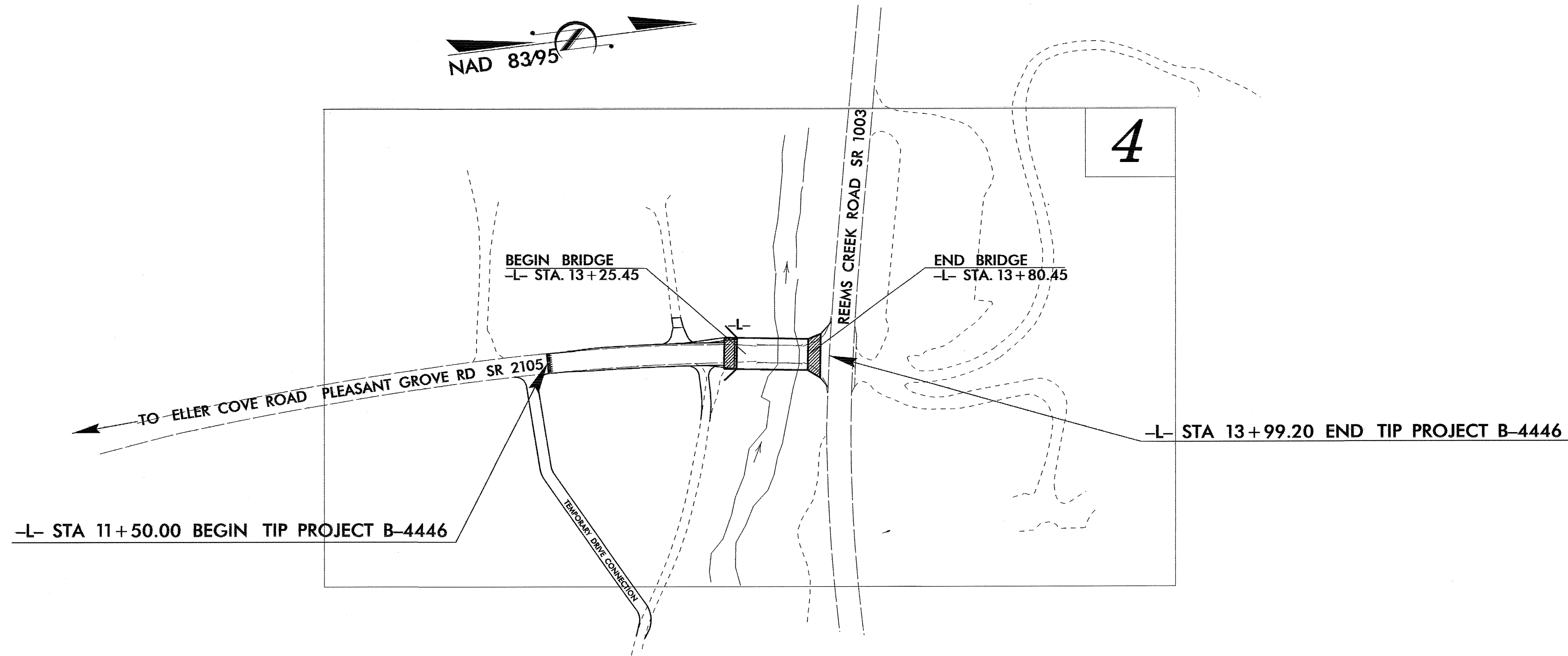


**TIP PROJECT: B-4446**

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

**LOCATION: BRIDGE NO. 227 OVER REEMS CREEK  
 ON SR 2105**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4446	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

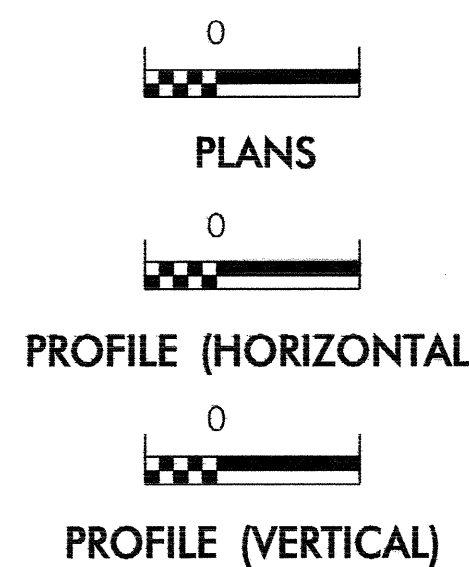
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch.....	TSD
1630.05	Temporary Diversion.....	TD
1605.01	Temporary Silt Fence.....	
1606.01	Special Sediment Control Fence.....	~ ~ ~ ~ ~
1622.01	Temporary Berms and Slope Drains.....	—
1630.01	Riser Basin.....	⊙
	Silt Basin Type B.....	▨
1633.01	Temporary Rock Silt Check Type-A.....	▨
	Temporary Rock Silt Check Type-B.....	▶
	Wattle.....	⤿
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.....	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A.....	A
1632.02	Type B.....	B
1632.03	Type C.....	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**

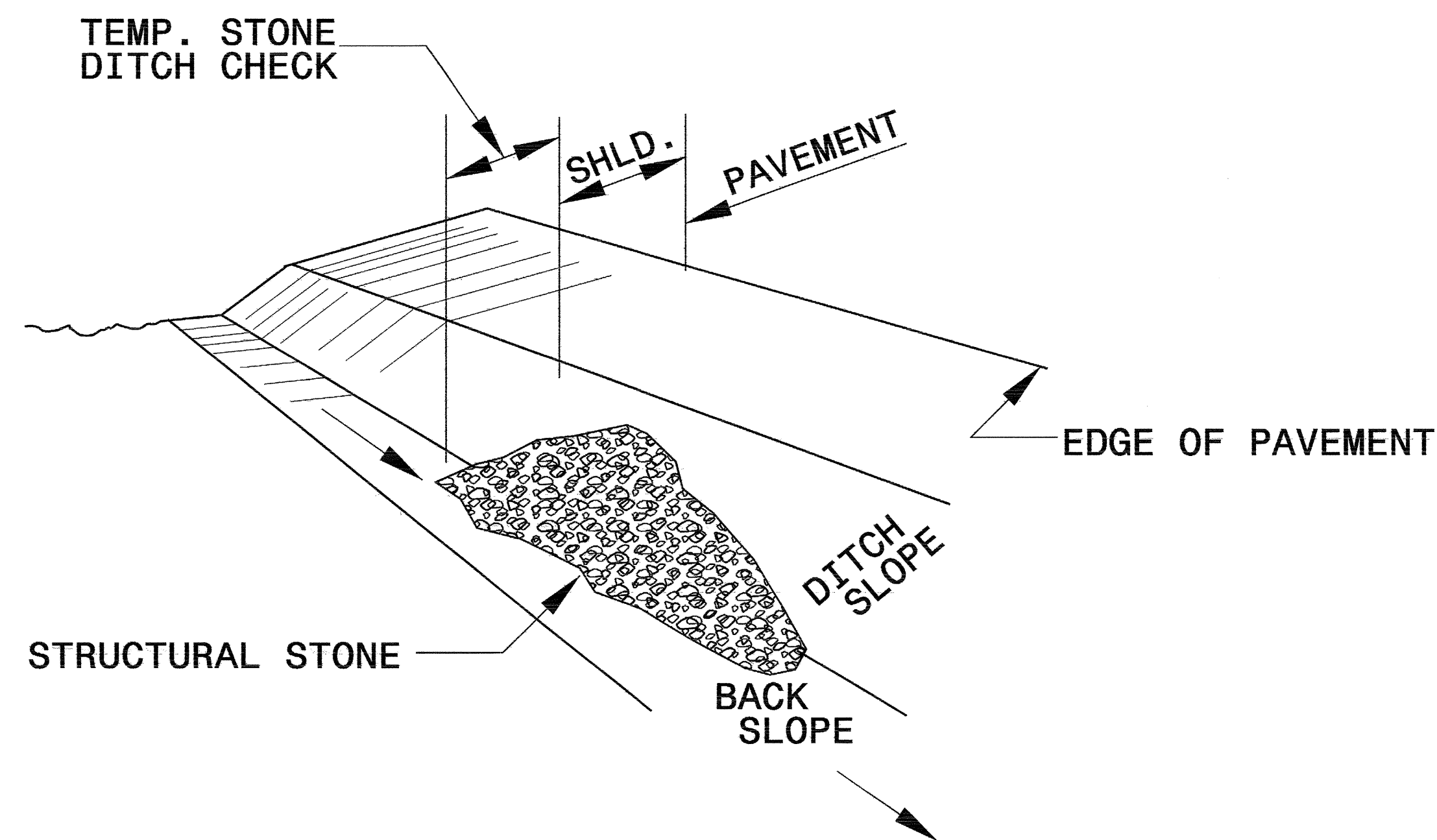
Roadway Standard Drawings  
 The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered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

1605.01 Temporary Silt Fence	1630.05 Temporary Diversion
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	

31-AUG-2009 14:57 n:\hwy\env\road\ec\16446.ec.tsh.dgn

PROJECT REFERENCE NO. B-4446	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

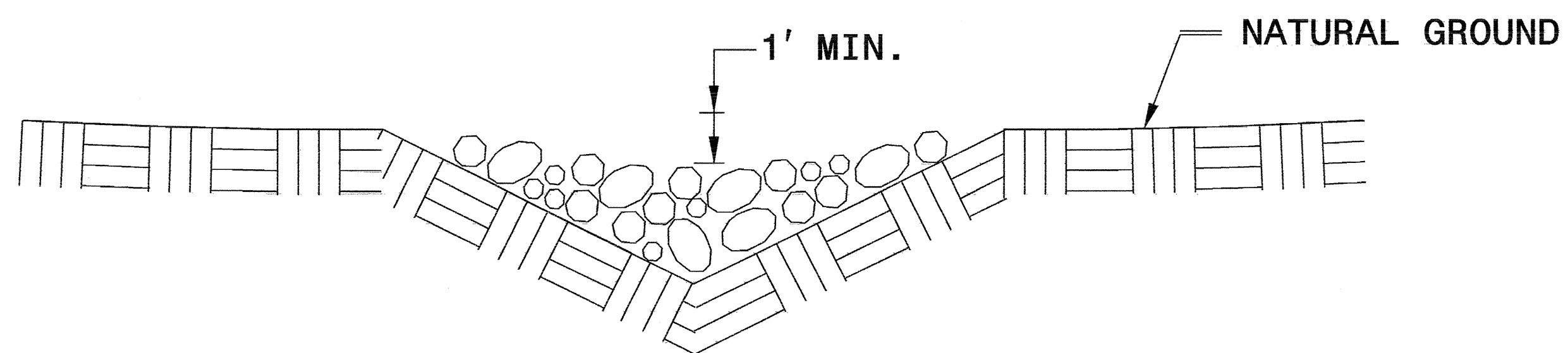


**ISOMETRIC VIEW**

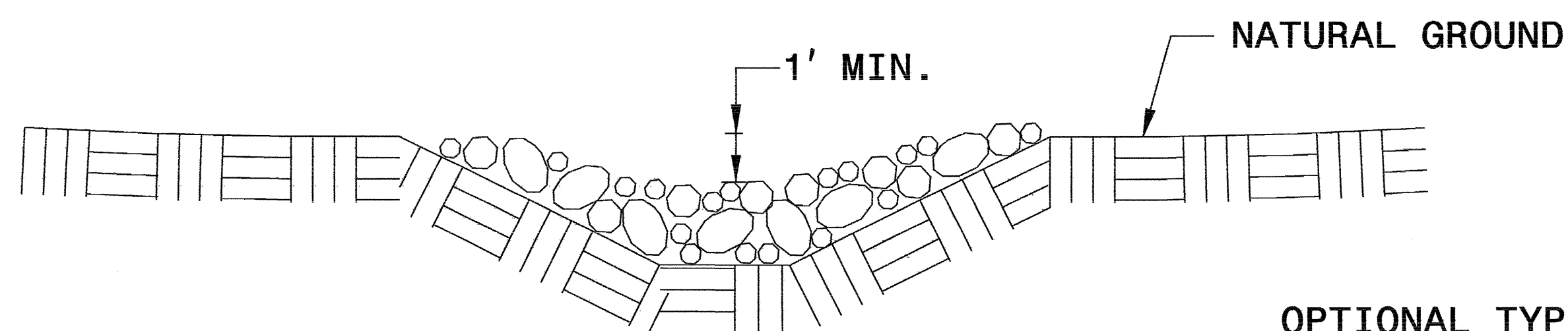
**NOTES:**

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

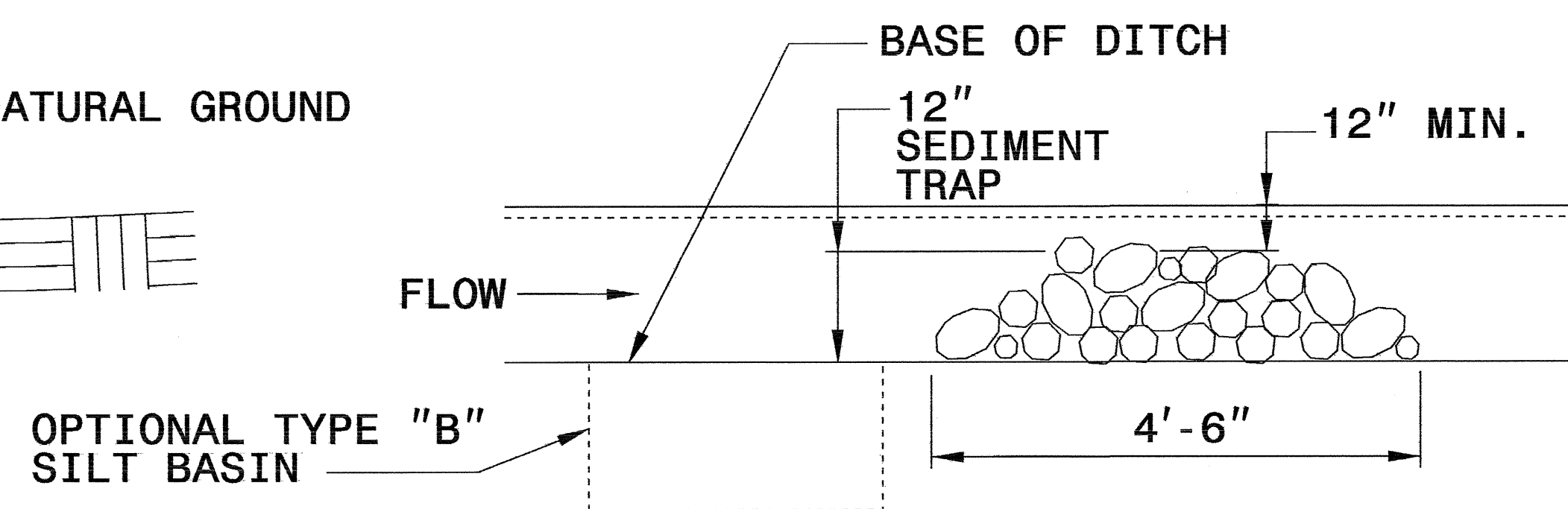
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION  
VEE DITCH**



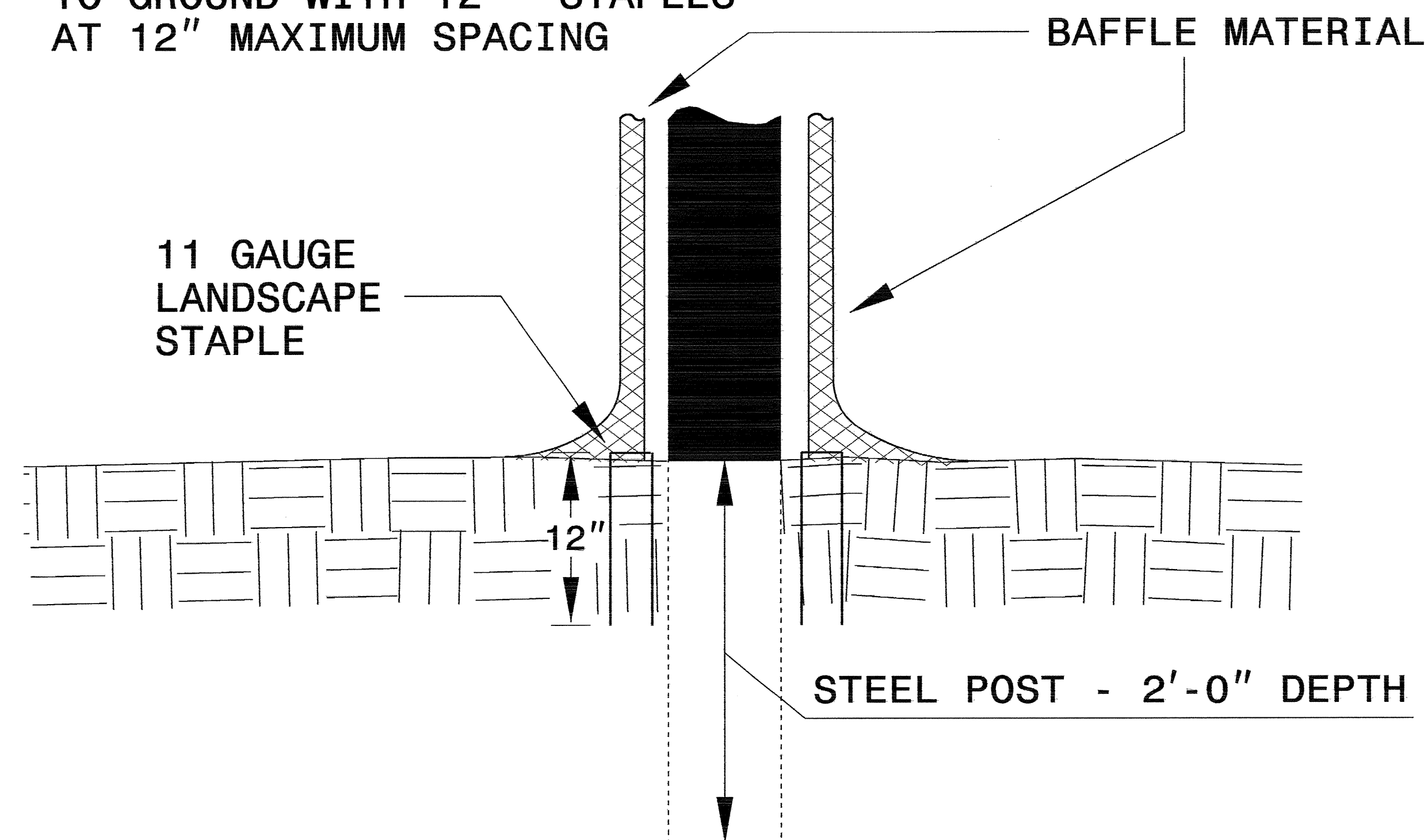
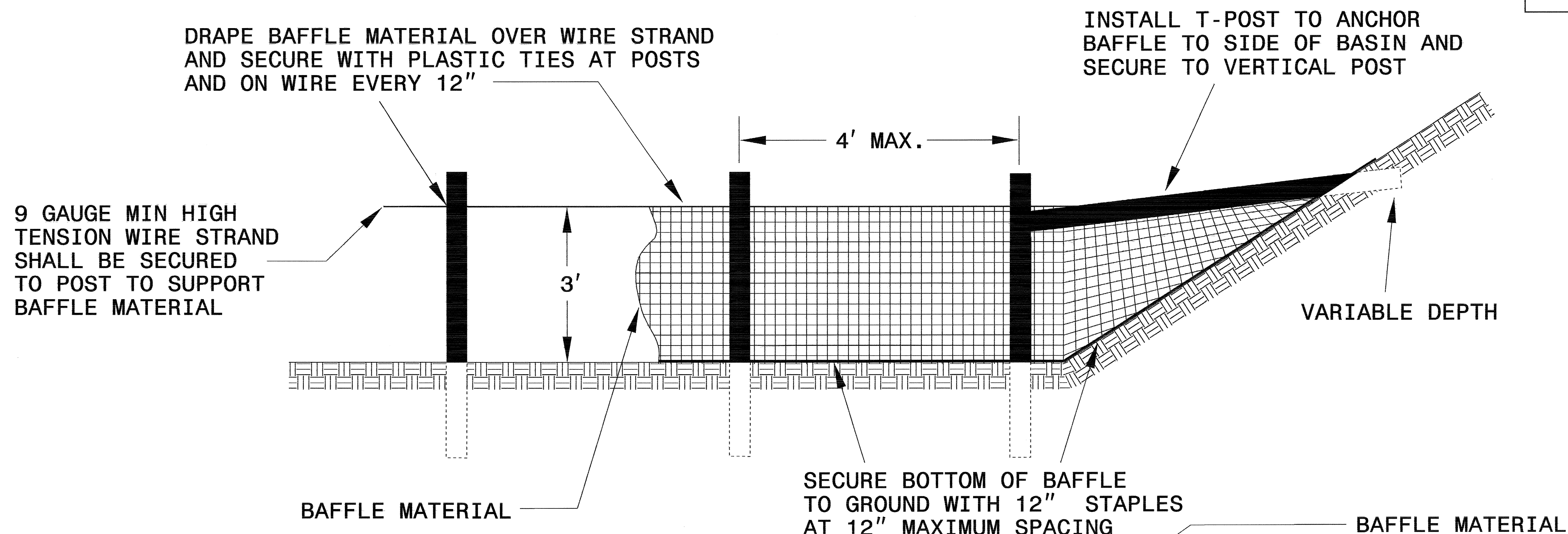
**CROSS SECTION  
TRAPEZOIDAL DITCH**



**ELEVATION VIEW**

PROJECT REFERENCE NO. B-4446	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER BAFFLE DETAIL



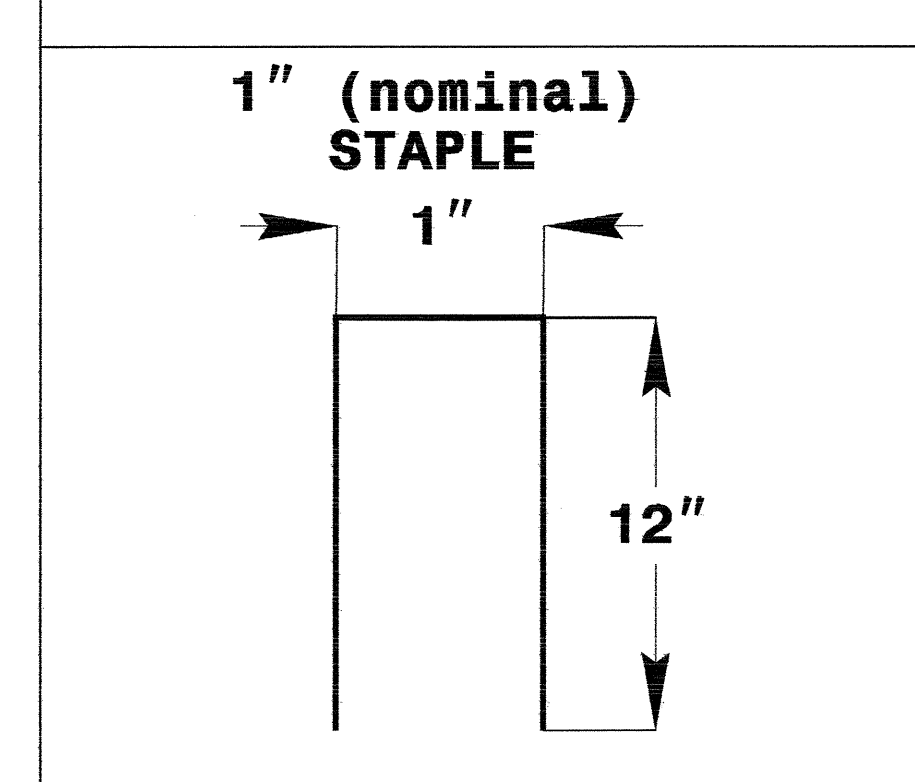
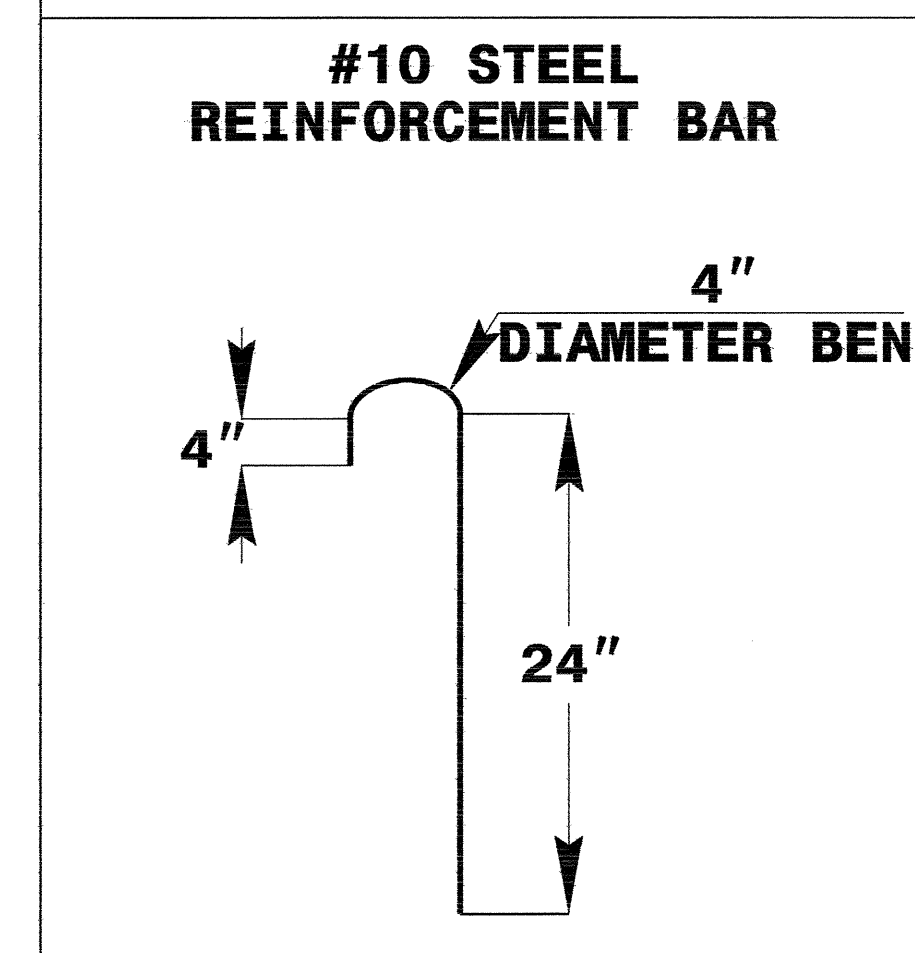
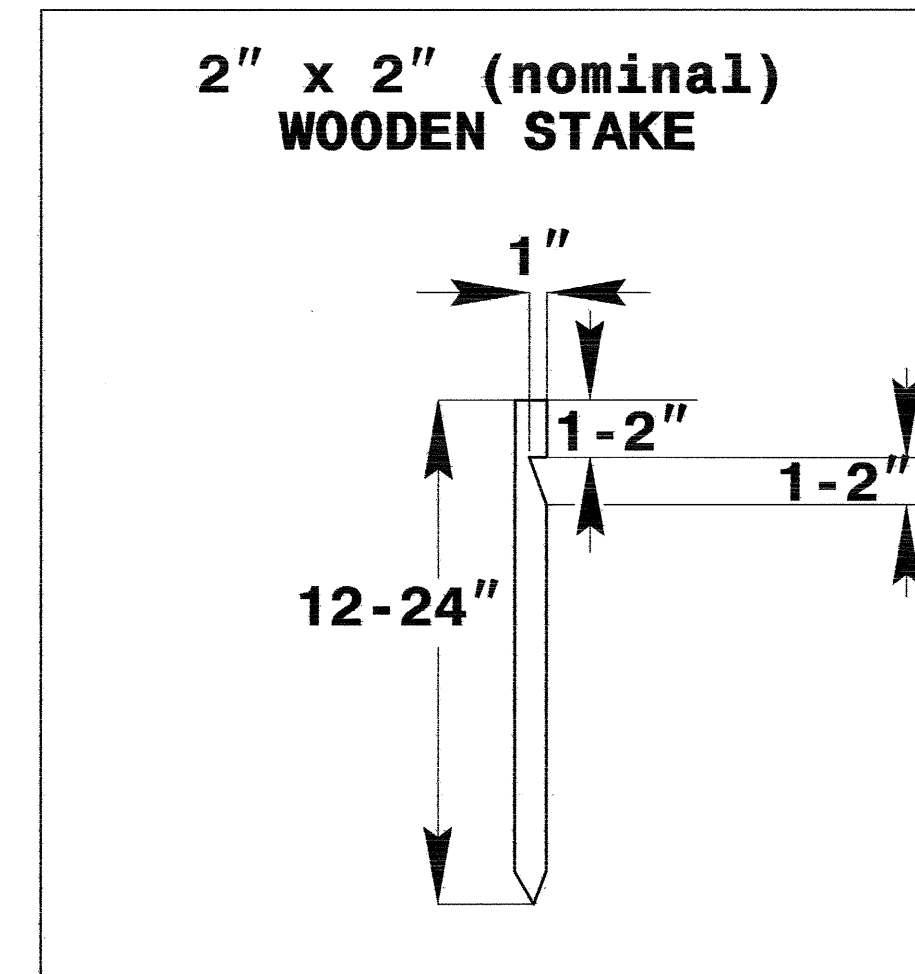
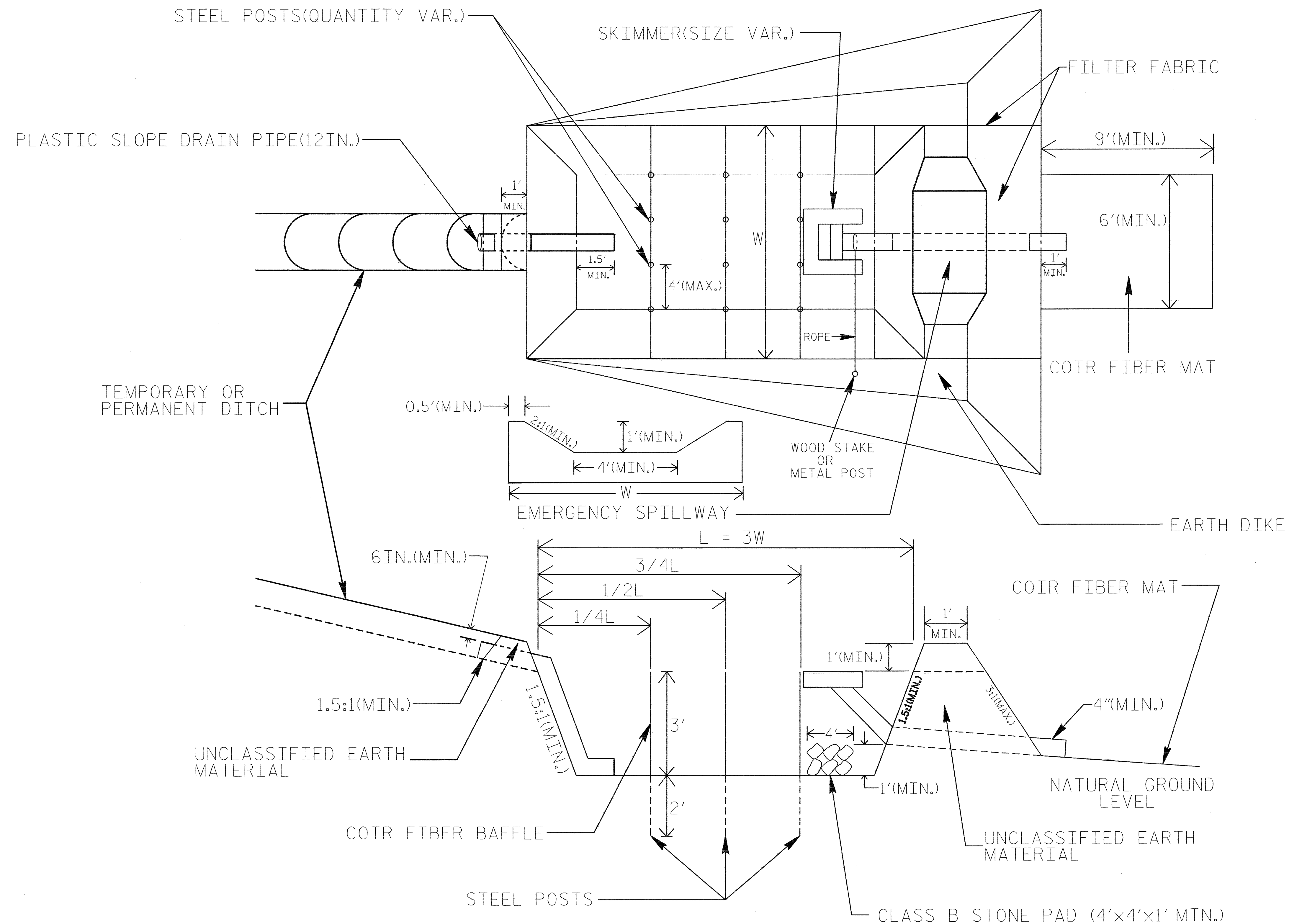
## NOTES:

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

# SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4446	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**COIR FIBER MAT ANCHOR OPTIONS**

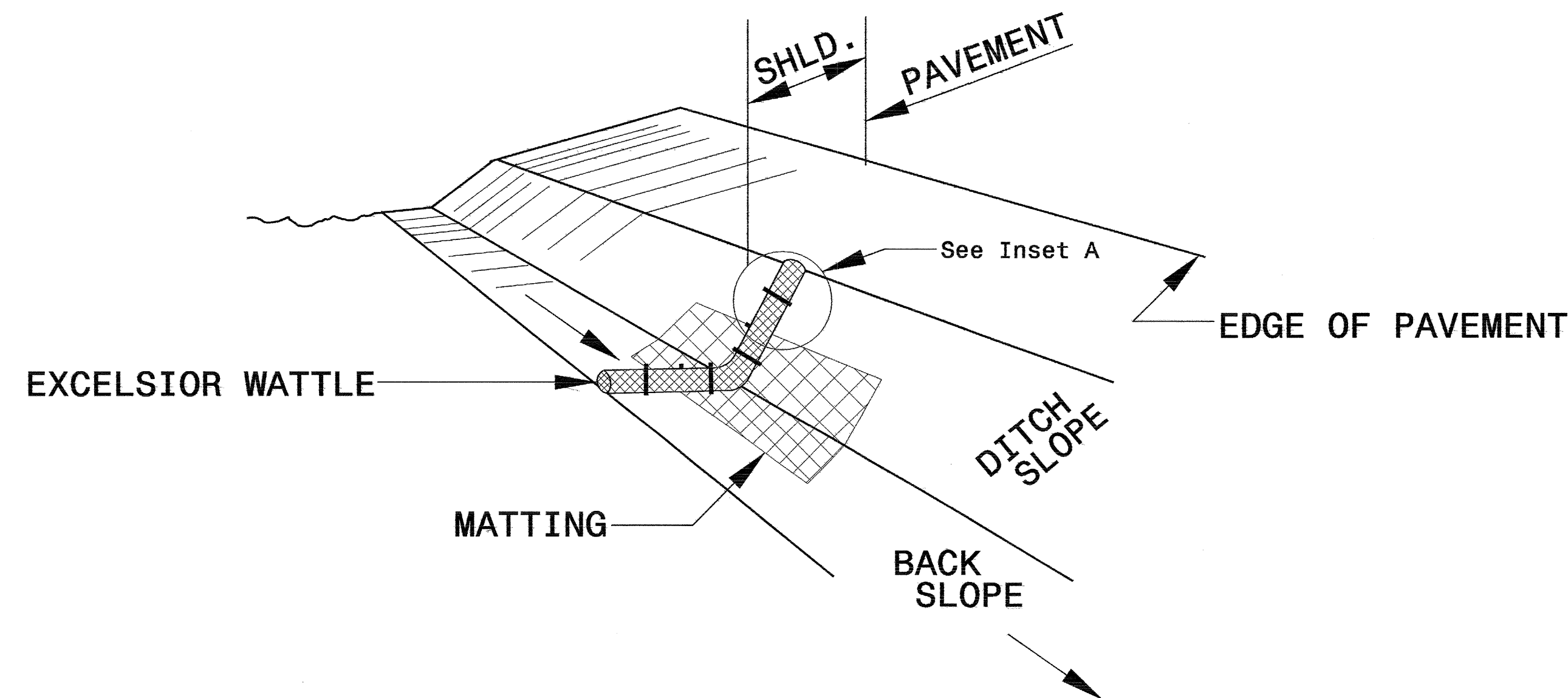
## NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.

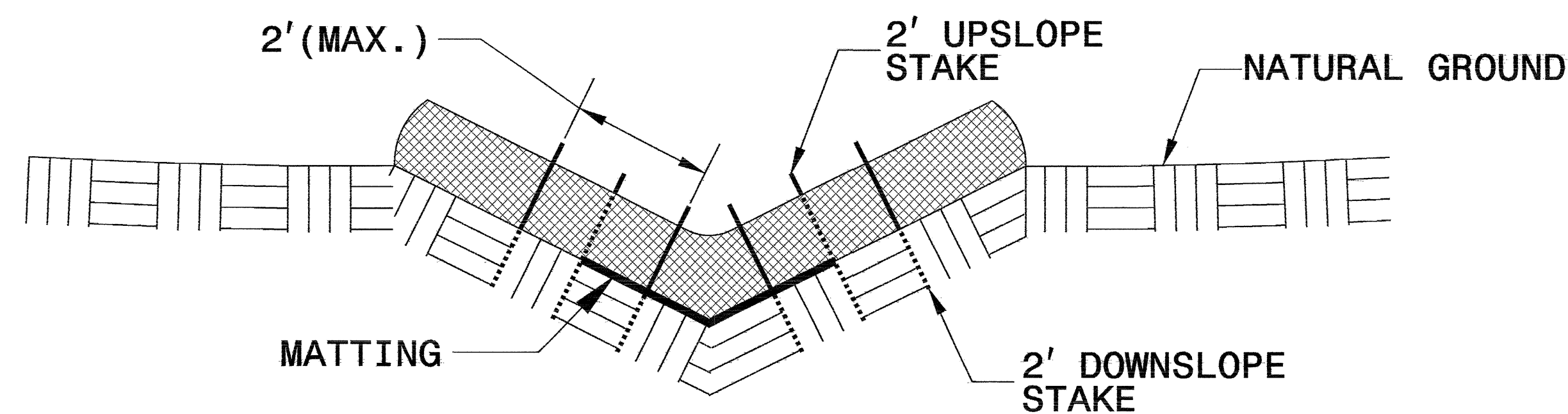
NOT TO SCALE

PROJECT REFERENCE NO. B-4446	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

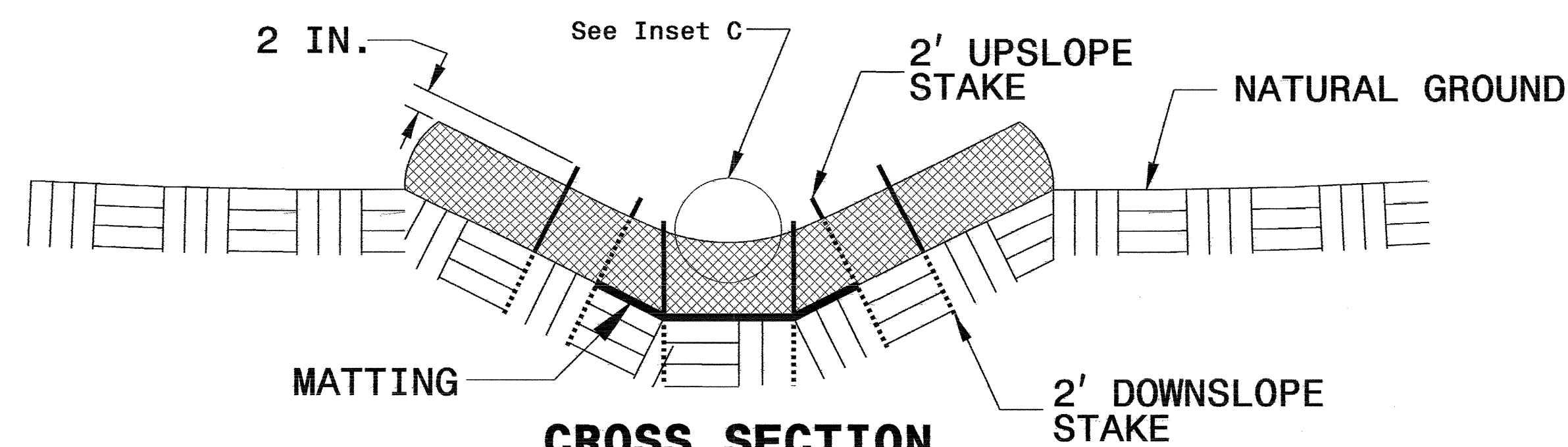
# WATTLE WITH POLYACRYLAMIDE DETAIL



**ISOMETRIC VIEW**



**CROSS SECTION VEE DITCH**



**CROSS SECTION TRAPEZOIDAL DITCH**

**NOTES:**

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. 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.

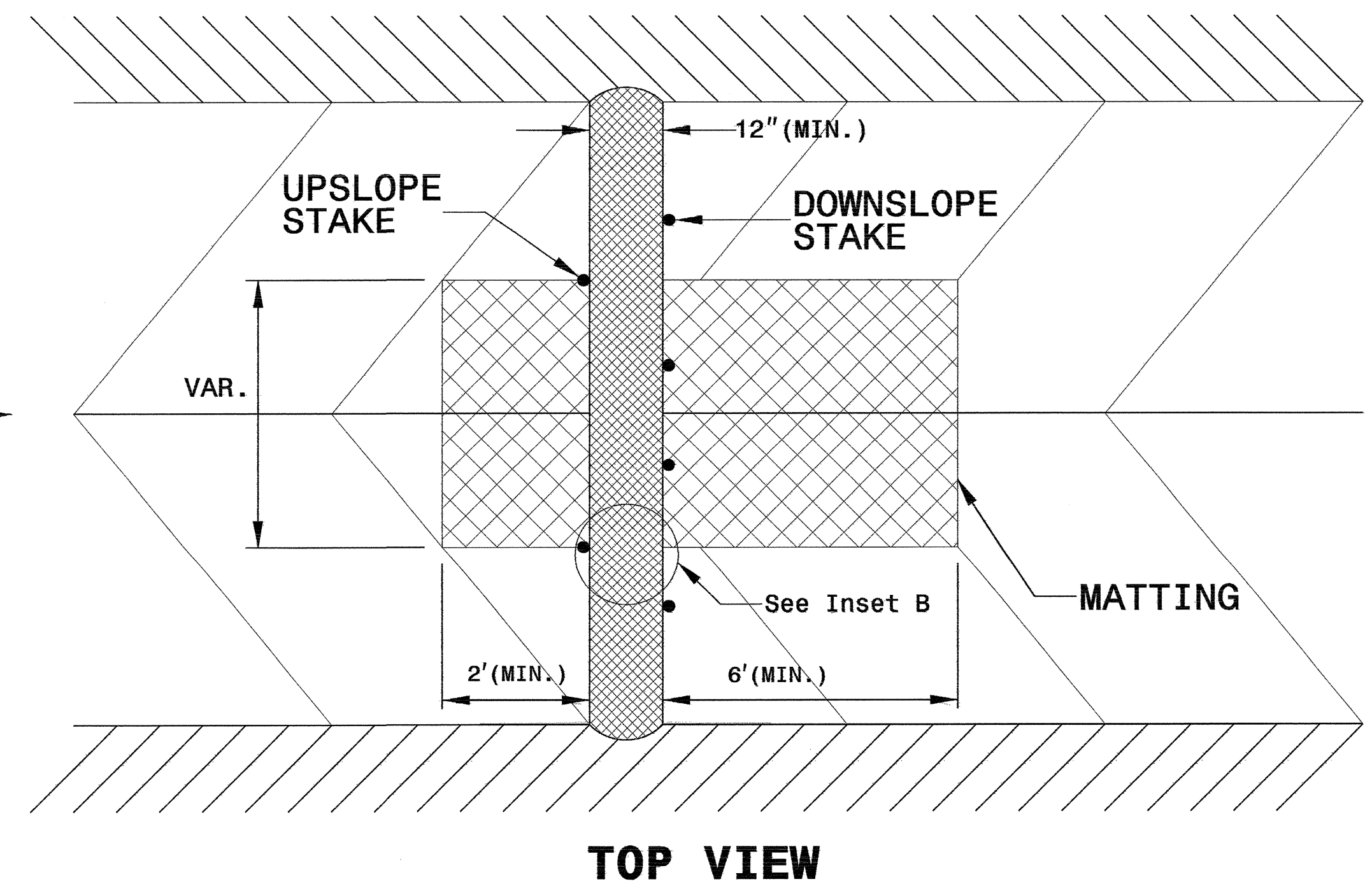
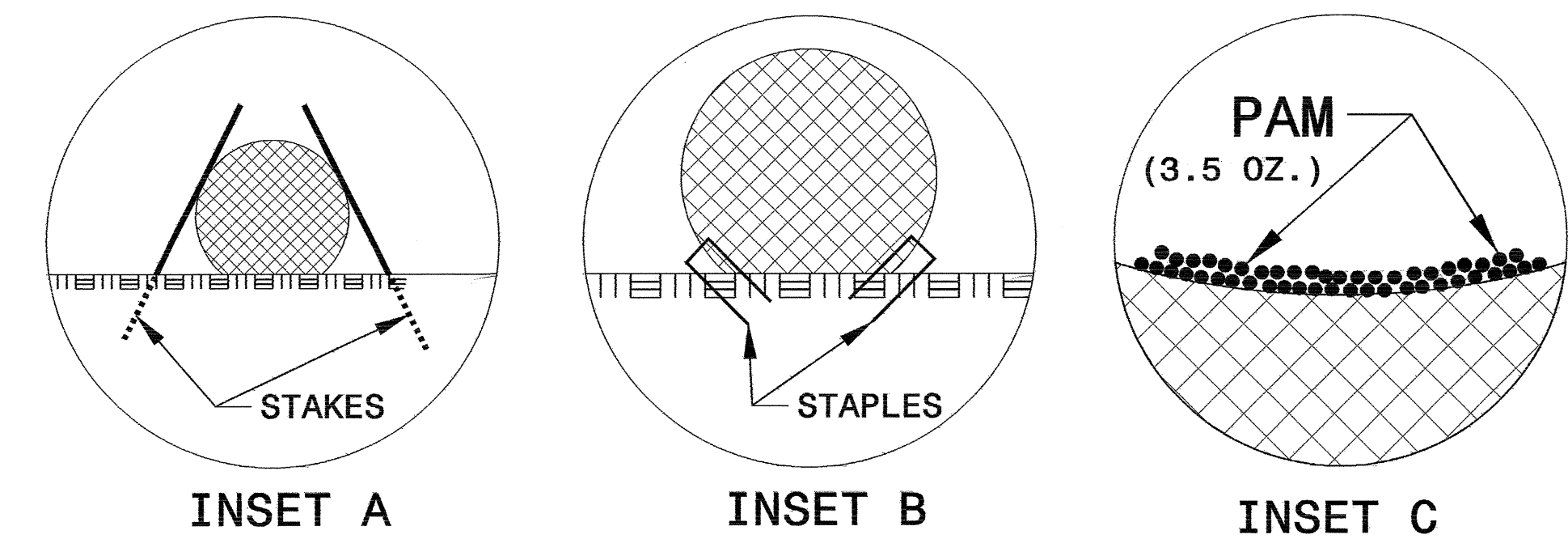
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



**TOP VIEW**



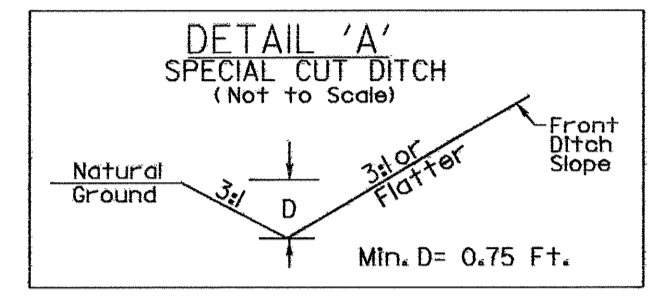
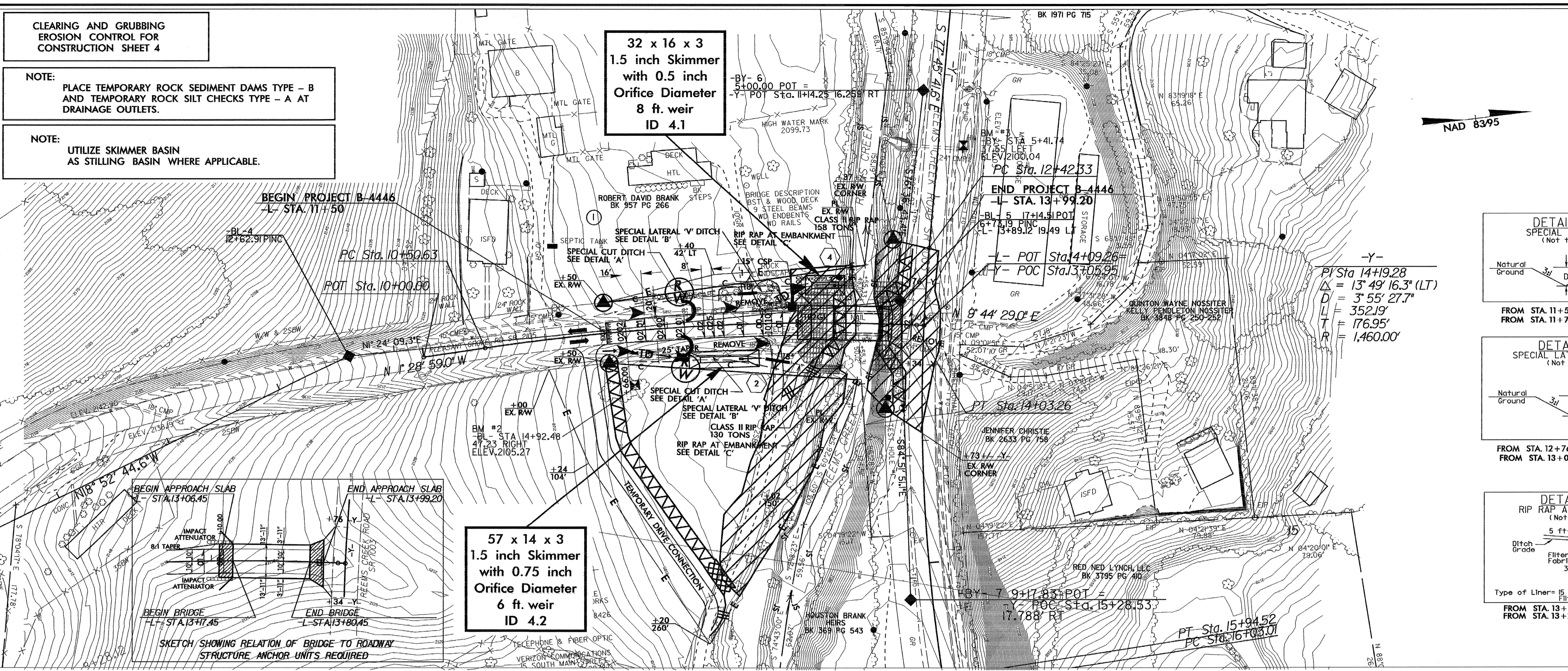
8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

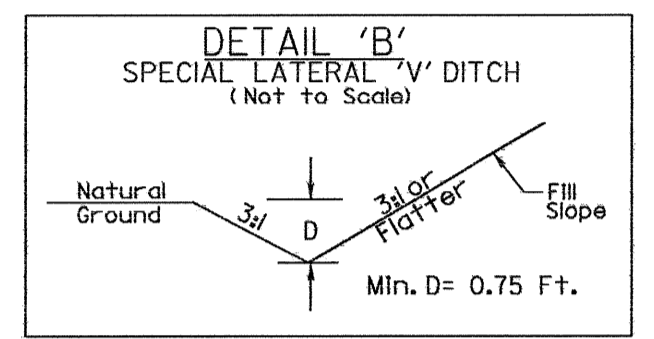
NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

NOTE:  
UTILIZE SKIMMER BASIN  
AS STILLING BASIN WHERE APPLICABLE.

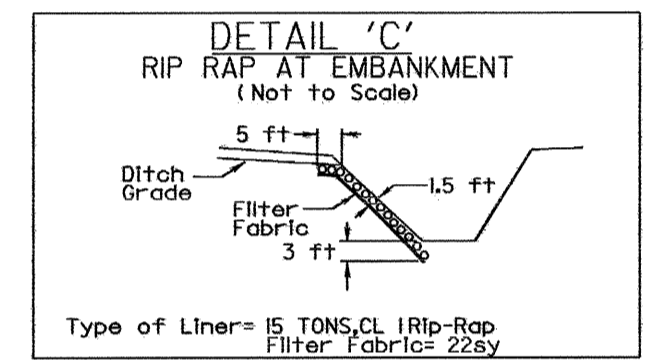
PROJECT REFERENCE NO. <b>B-4446</b>	SHEET NO. <b>EC-4/CONST.4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



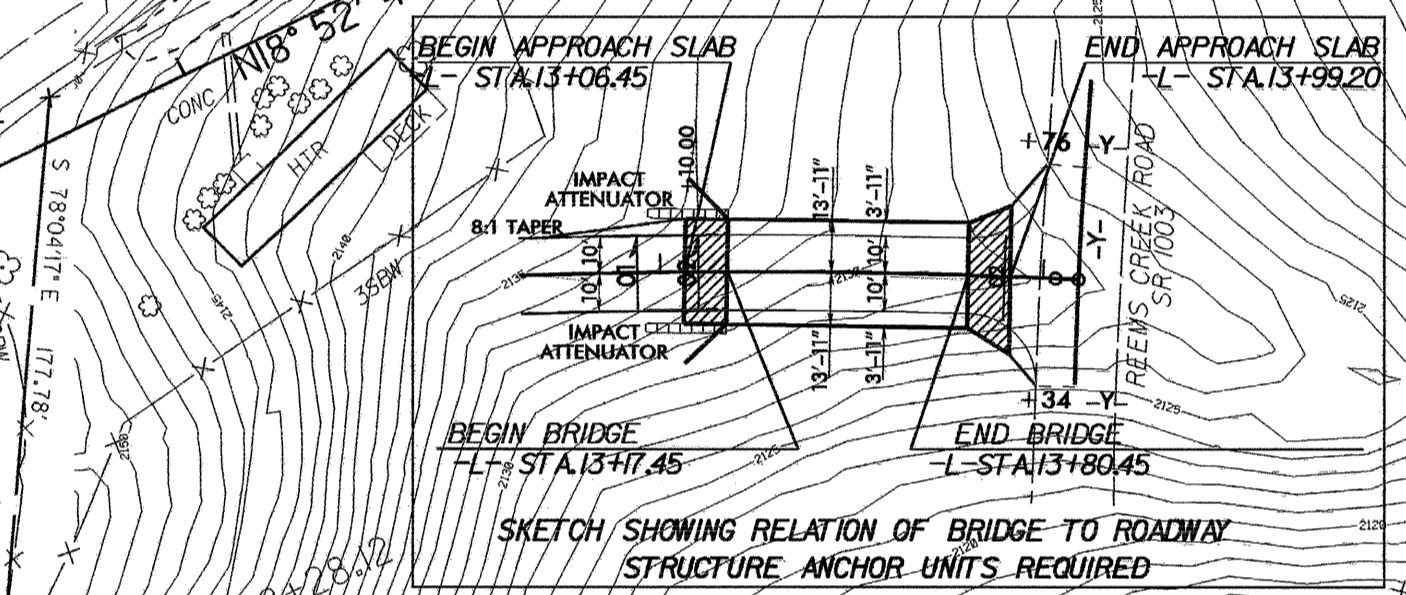
FROM STA. 11+50 TO STA. 12+75 LT  
FROM STA. 11+75 TO STA. 13+00 RT



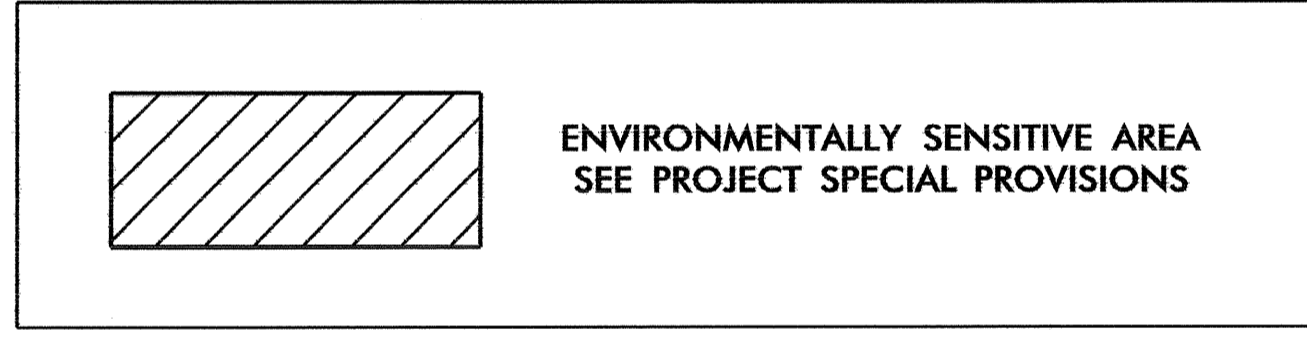
FROM STA. 12+76 TO STA. 13+37 LT  
FROM STA. 13+01 TO STA. 13+31 RT



Type of Liner = 15 TONS CL I Rip-Rap  
Filter: Fabric = 22sy  
FROM STA. 13+20 TO STA. 13+50 LT  
FROM STA. 13+20 TO STA. 13+40 RT

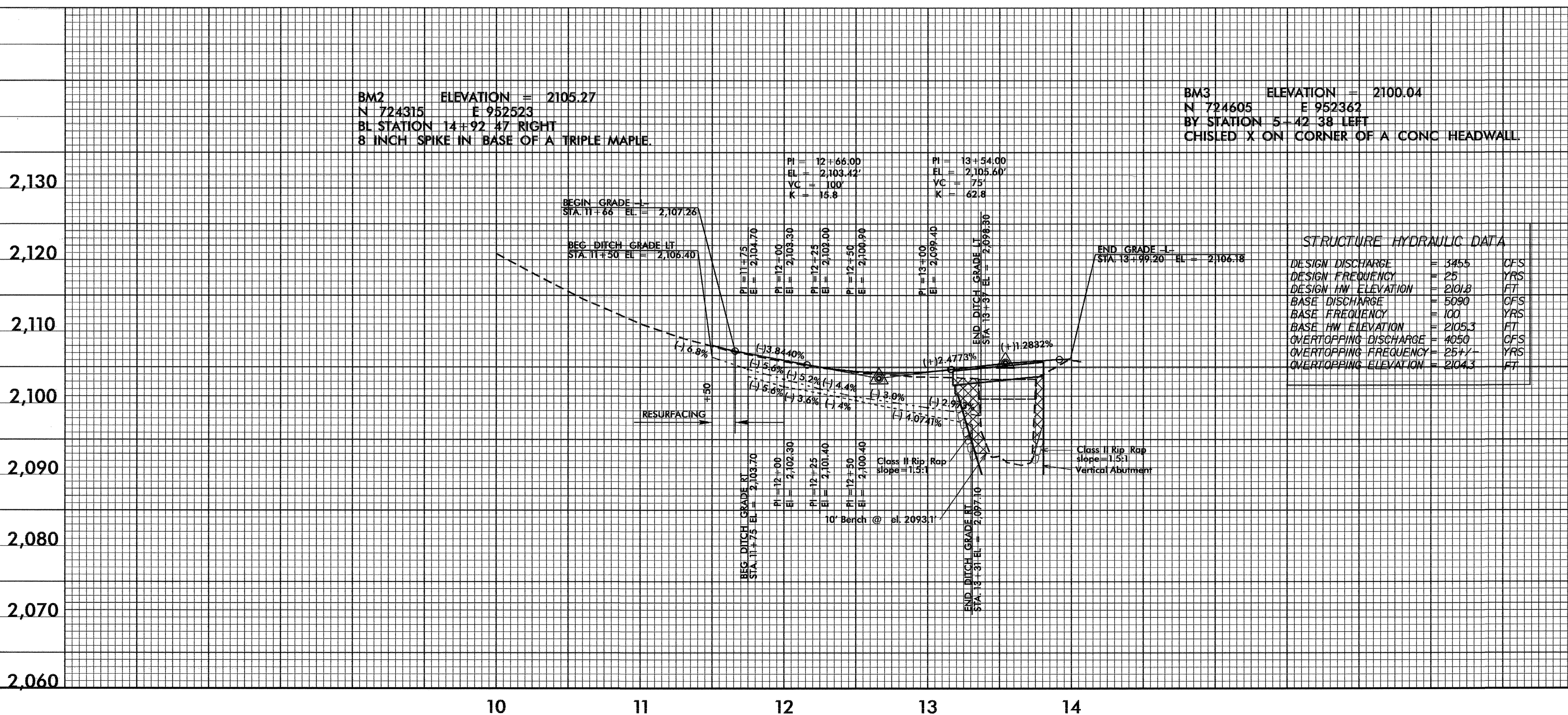


57 x 14 x 3  
1.5 inch Skimmer  
with 0.75 inch  
Orifice Diameter  
6 ft weir  
ID 4.2



BM2 ELEVATION = 2105.27  
N 724315 E 952523  
BL STATION 14+92.47 RIGHT  
8 INCH SPIKE IN BASE OF A TRIPLE MAPLE.

BM3 ELEVATION = 2100.04  
N 724605 E 952362  
BY STATION 5+42.38 LEFT  
CHISEL X ON CORNER OF A CONC HEADWALL

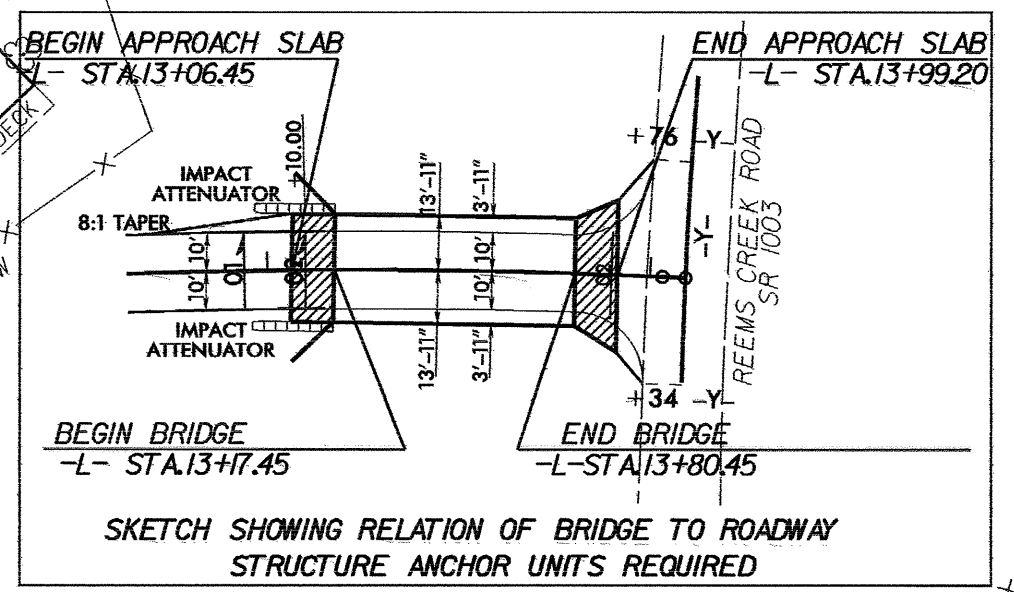
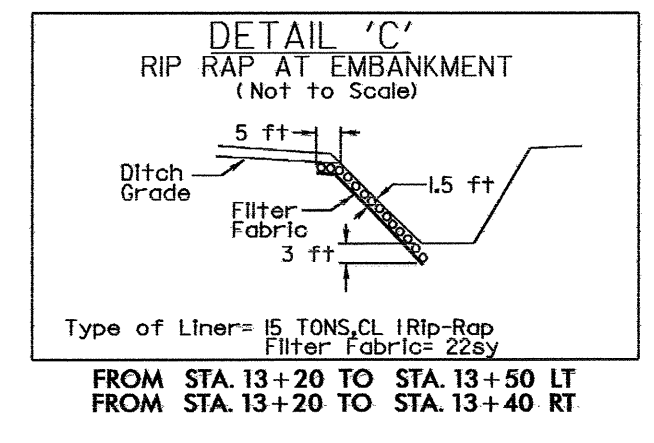
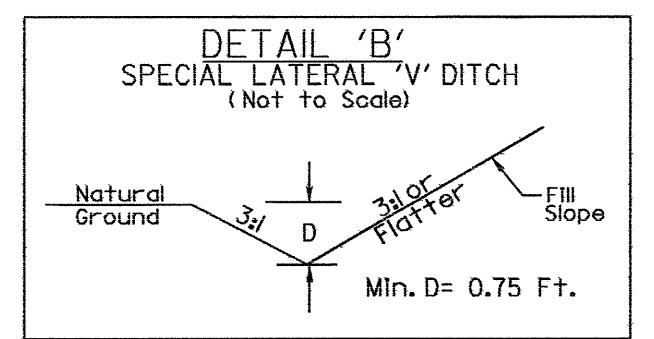
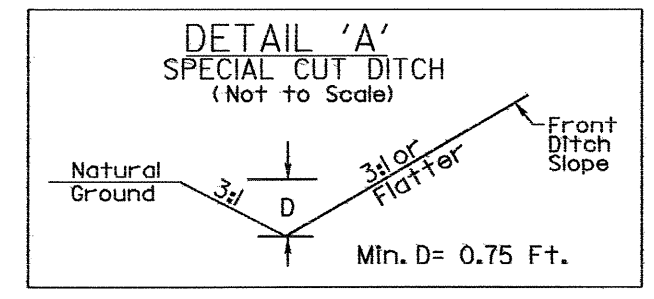
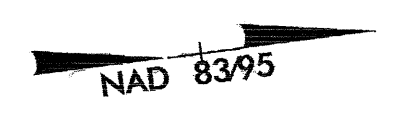
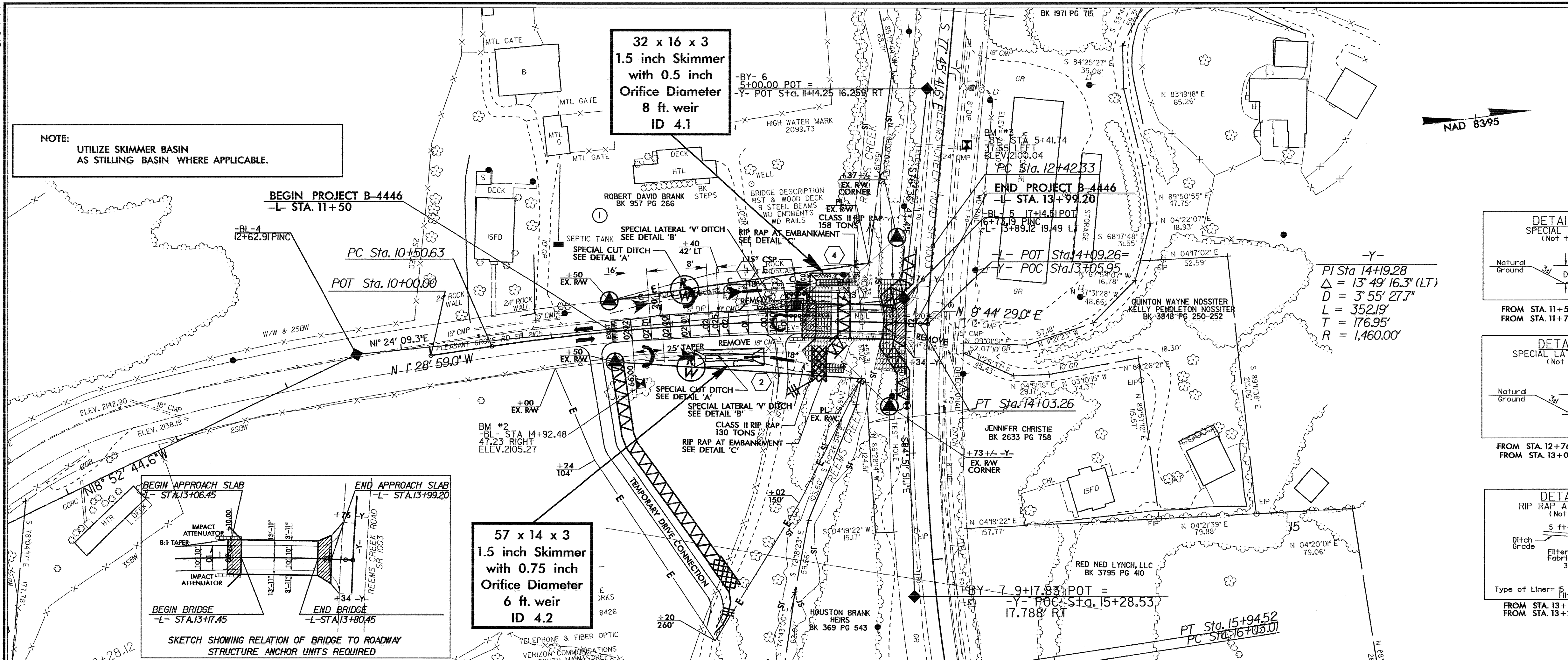


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PLANNING AT BENTON

8/17/99  
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PROJECT REFERENCE NO.	SHEET NO.
B-4446	EC-5/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:  
UTILIZE SKIMMER BASIN AS STILLING BASIN WHERE APPLICABLE.



BM2 ELEVATION = 2105.27  
N 724315 E 952523  
BL STATION 14+92.47 RIGHT  
8 INCH SPIKE IN BASE OF A TRIPLE MAPLE.

BM3 ELEVATION = 2100.04  
N 724605 E 952362  
BY STATION 5+42.38 LEFT  
CHISEL X ON CORNER OF A CONC HEADWALL

