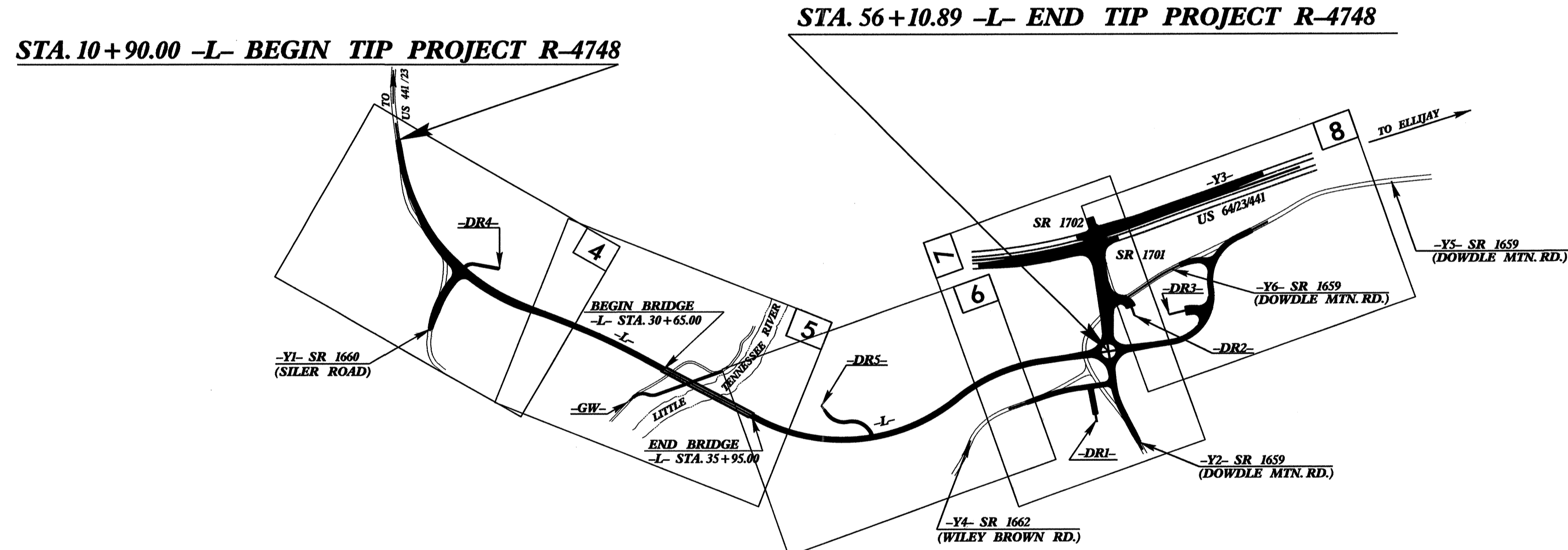


TIP PROJECT: R-4748

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

LOCATION: FRANKLIN - NEW ROUTE FROM SR 1660 (SILER ROAD) TO SR 1662 (WILEY BROWN ROAD) SOUTH OF US 441
 TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURE, AND SIGNALS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4748	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

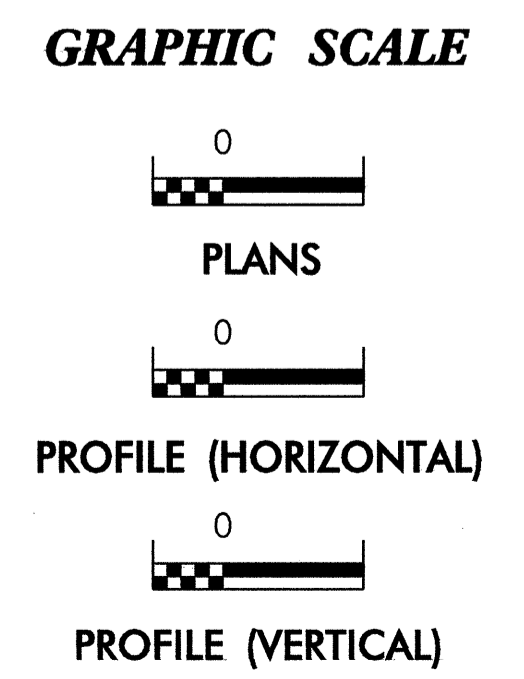
EROSION AND SEDIMENT CONTROL MEASURES

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

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.



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

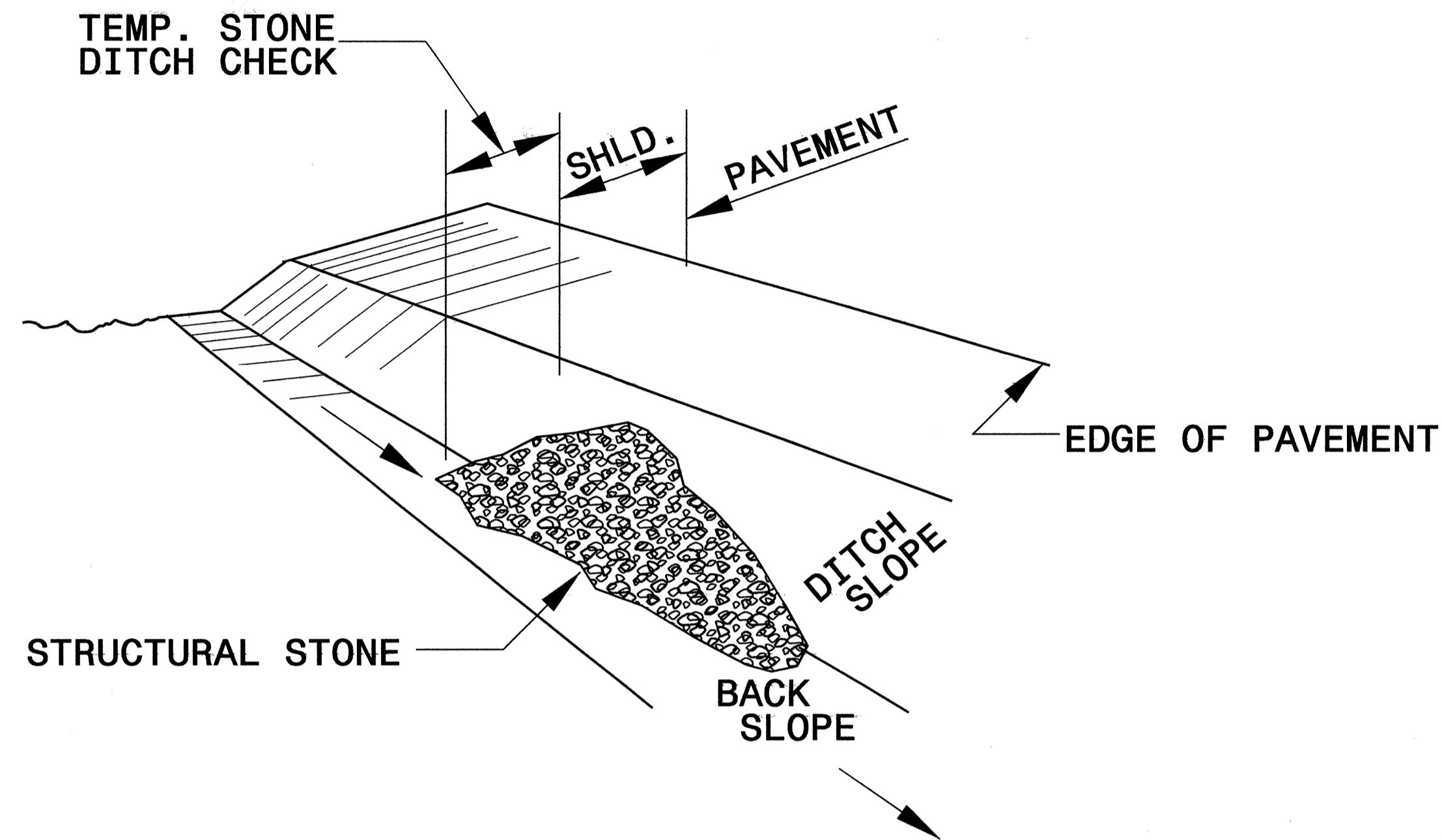
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1630.06 Special Stilling Basin
1606.01 Special Sediment Control Fence	1632.01 Rock Inlet Sediment Trap Type A
1607.01 Gravel Construction Entrance	1632.02 Rock Inlet Sediment Trap Type B
1622.01 Temporary Berms and Slope Drains	1632.03 Rock Inlet Sediment Trap Type C
1630.03 Temporary Silt Ditch	1633.01 Temporary Rock Silt Check Type A
1630.05 Temporary Diversion	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

PL-100-200-0850
 08/18/06
 Jennifer Parham

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

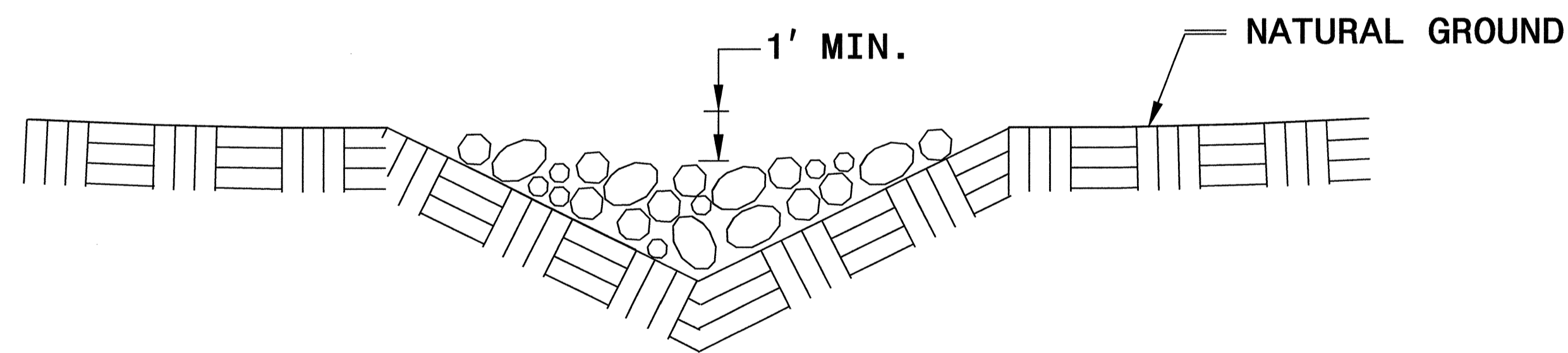


ISOMETRIC VIEW

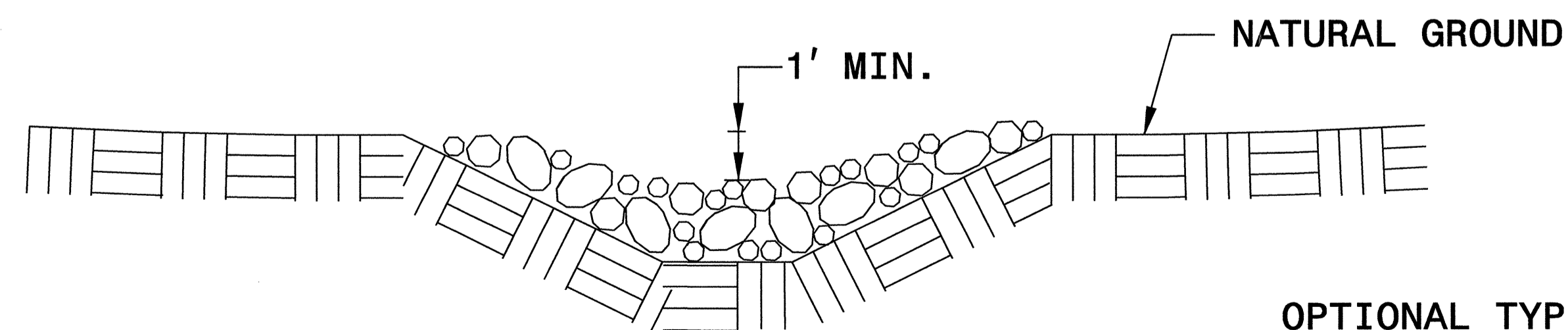
NOTES:

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

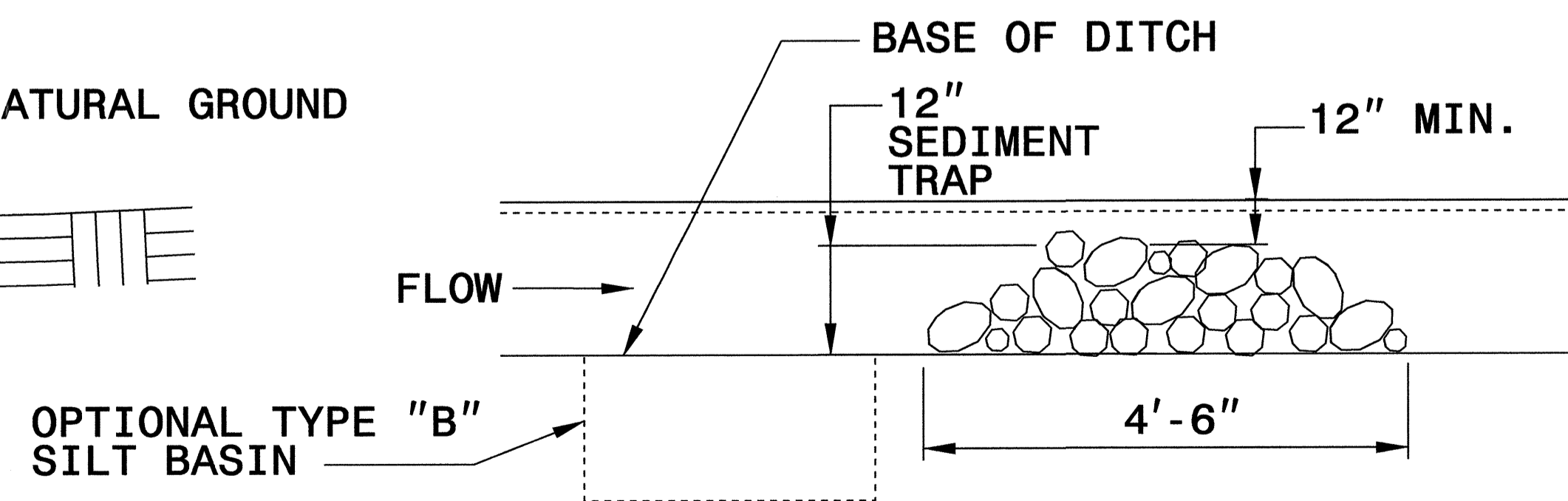
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION
VEE DITCH**



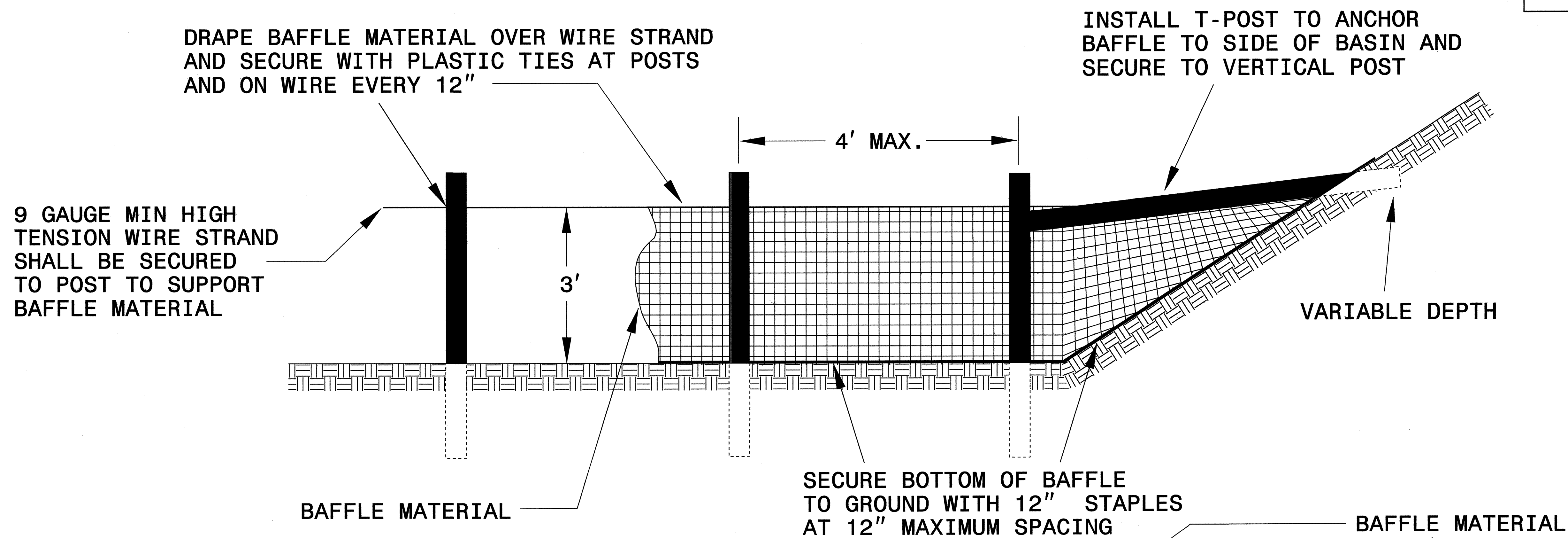
**CROSS SECTION
TRAPEZOIDAL DITCH**



ELEVATION VIEW

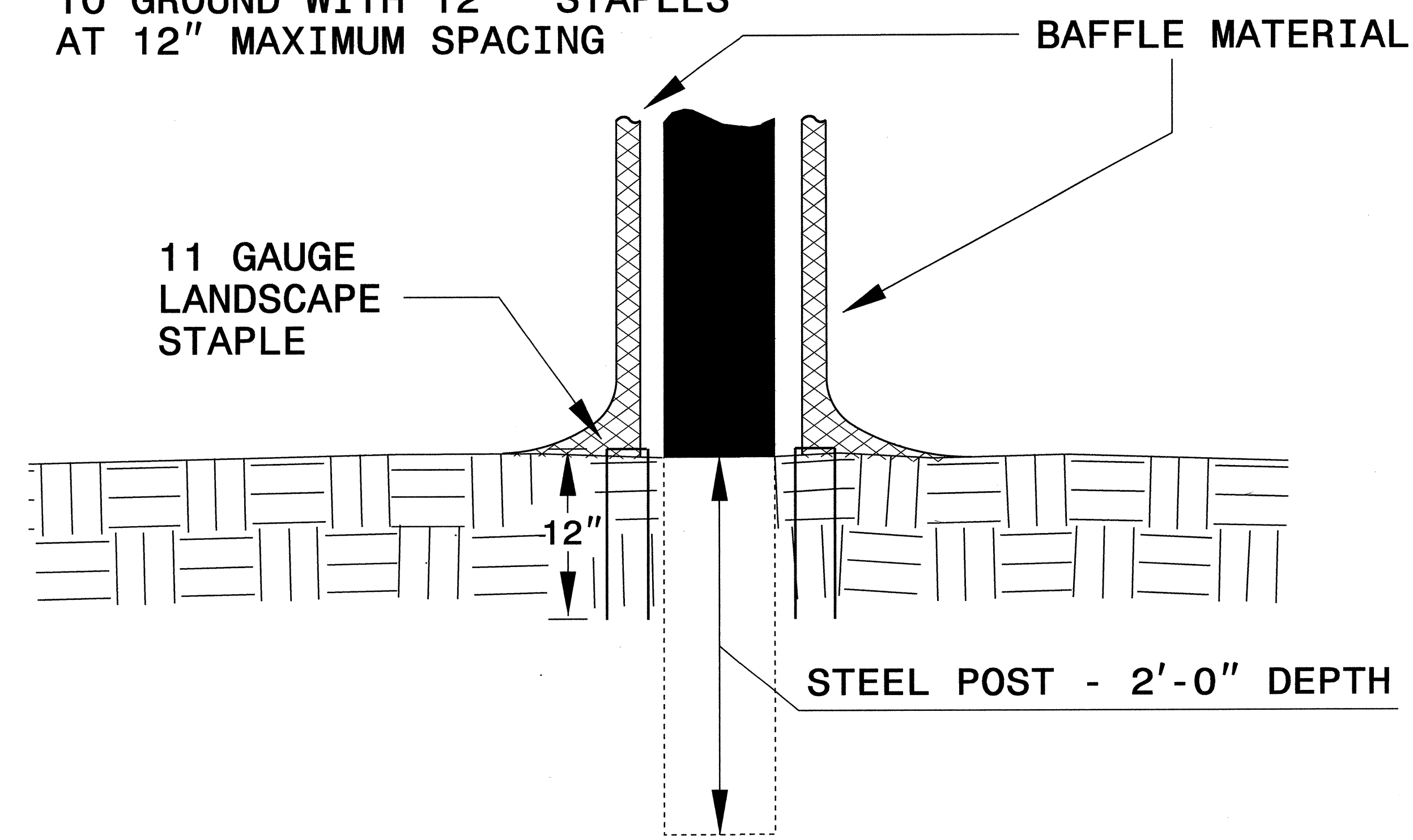
PROJECT REFERENCE NO. R-4748	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



NOTES:

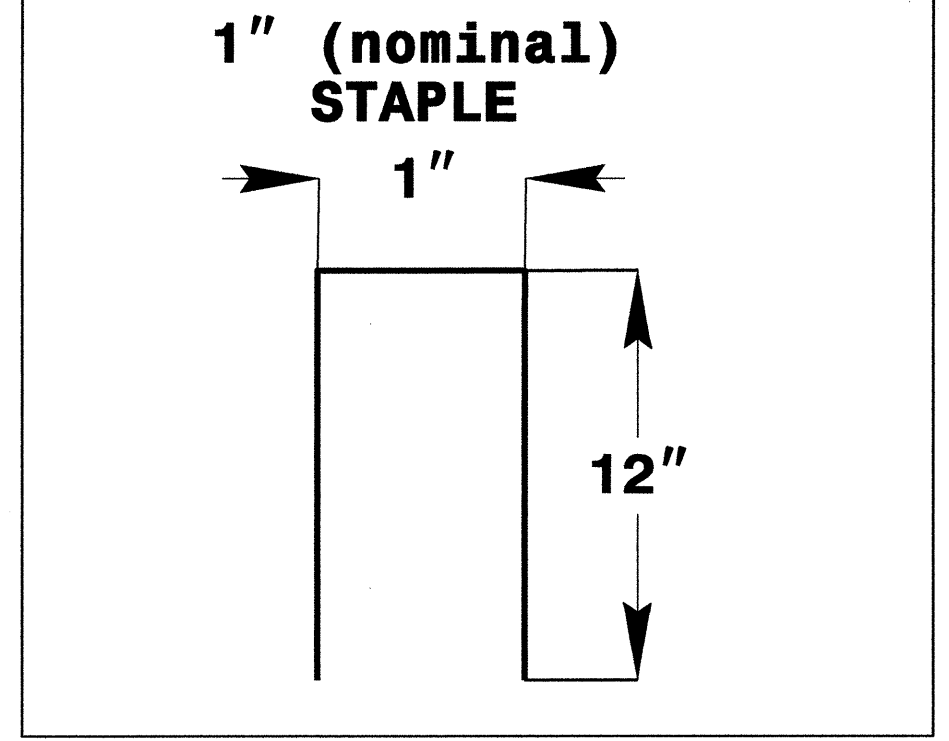
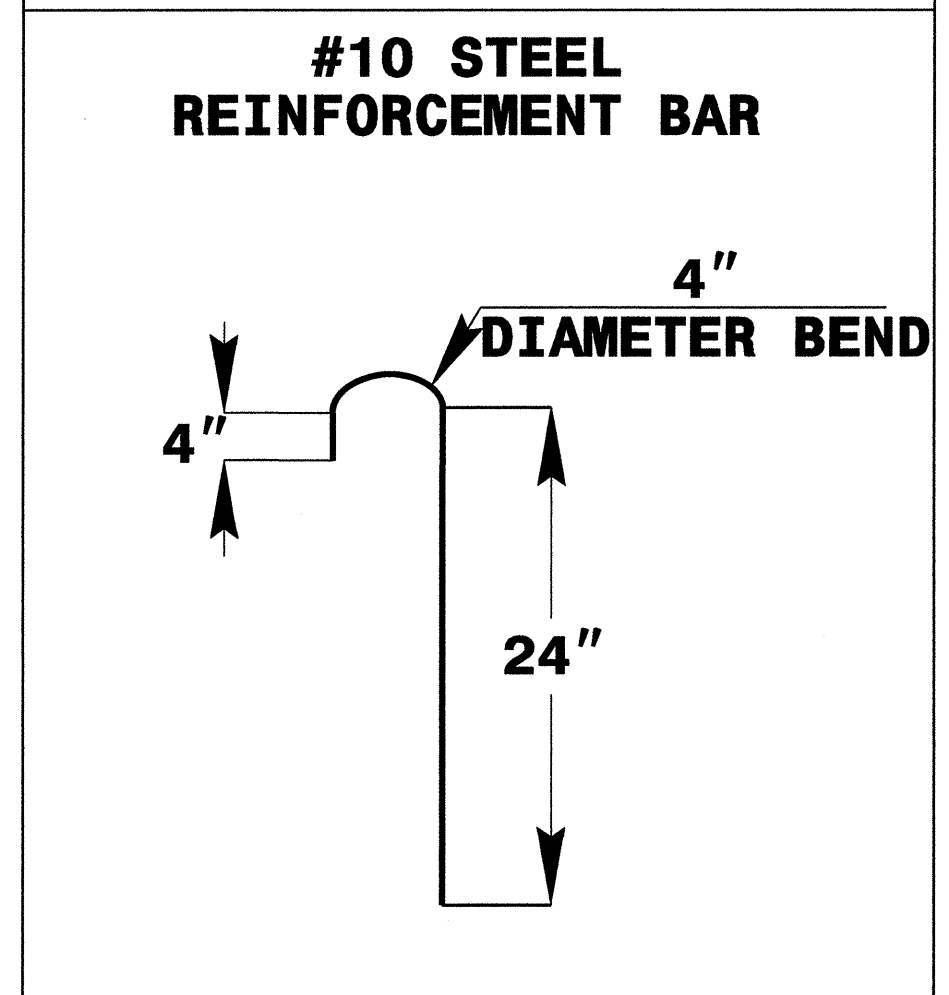
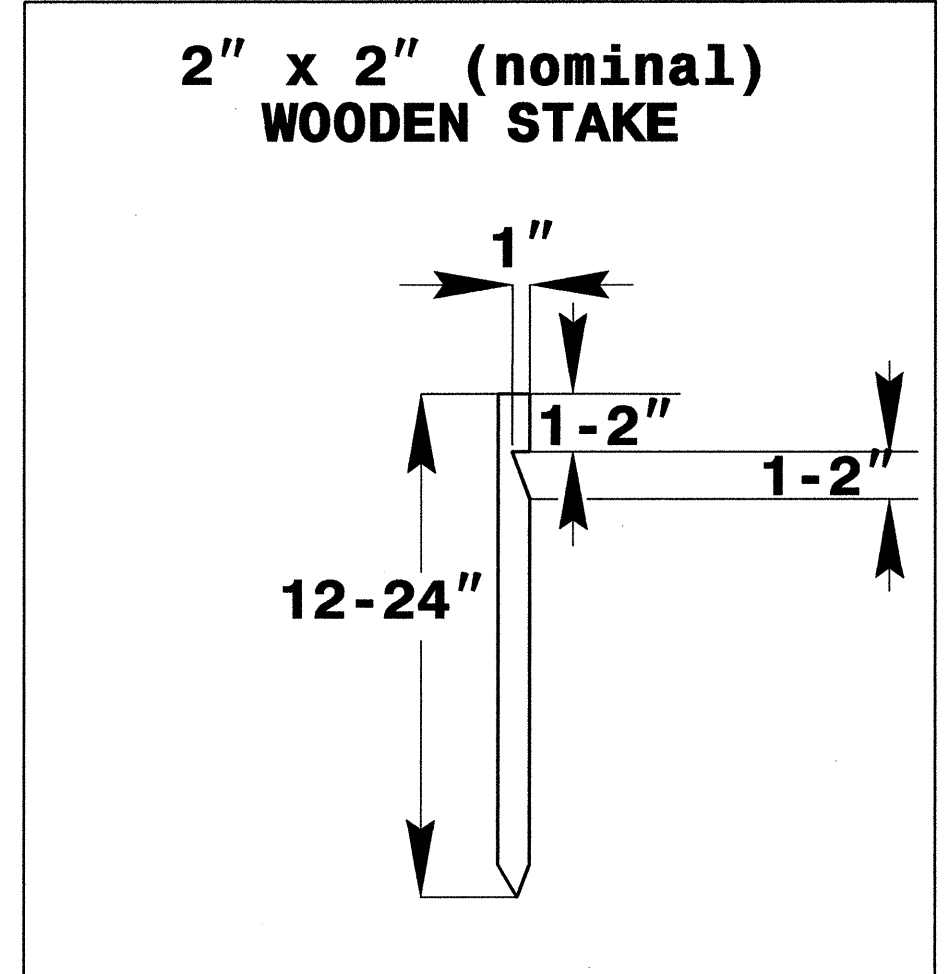
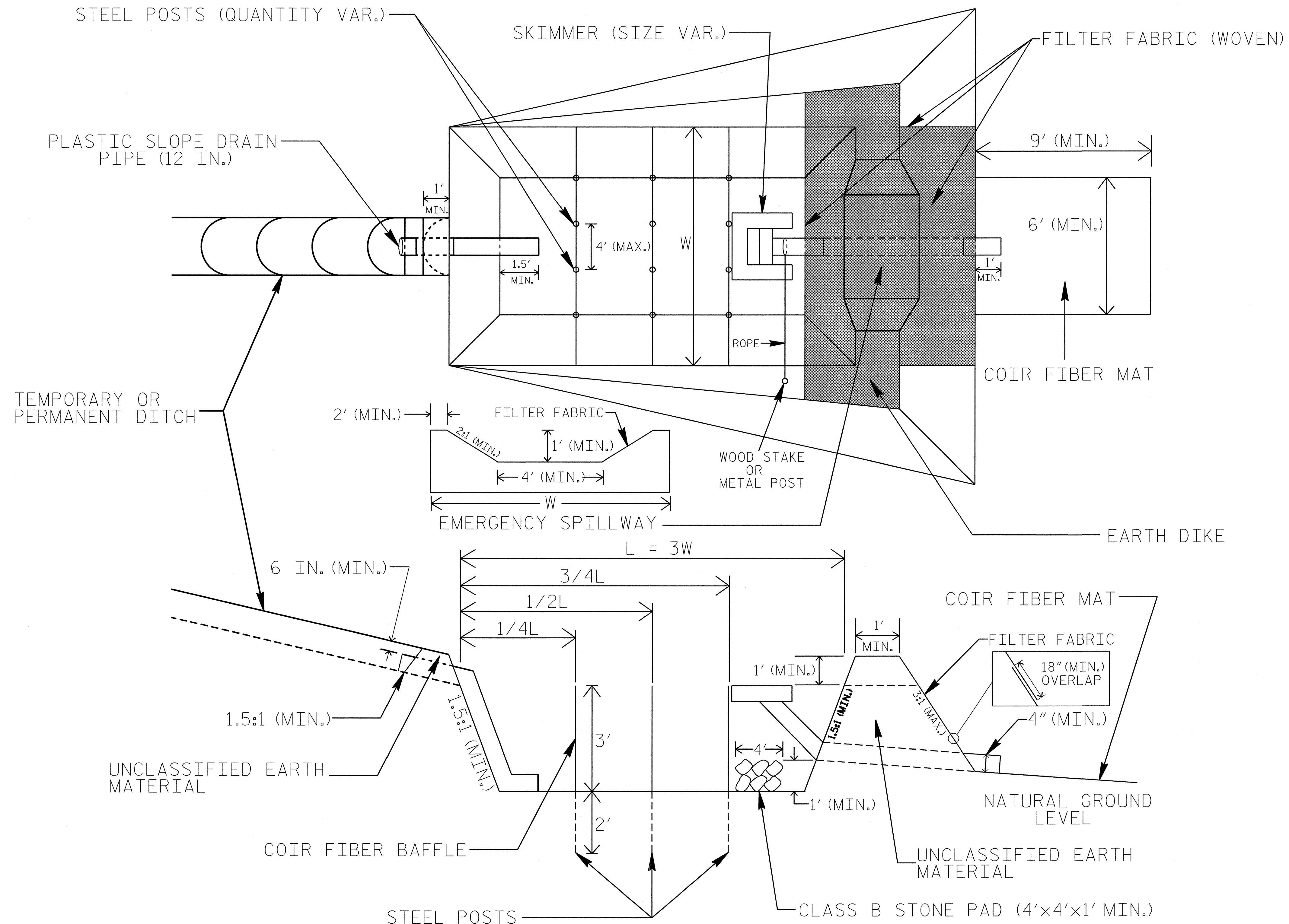
1. INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH.
2. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.
3. TOP HEIGHT 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. R-4748	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

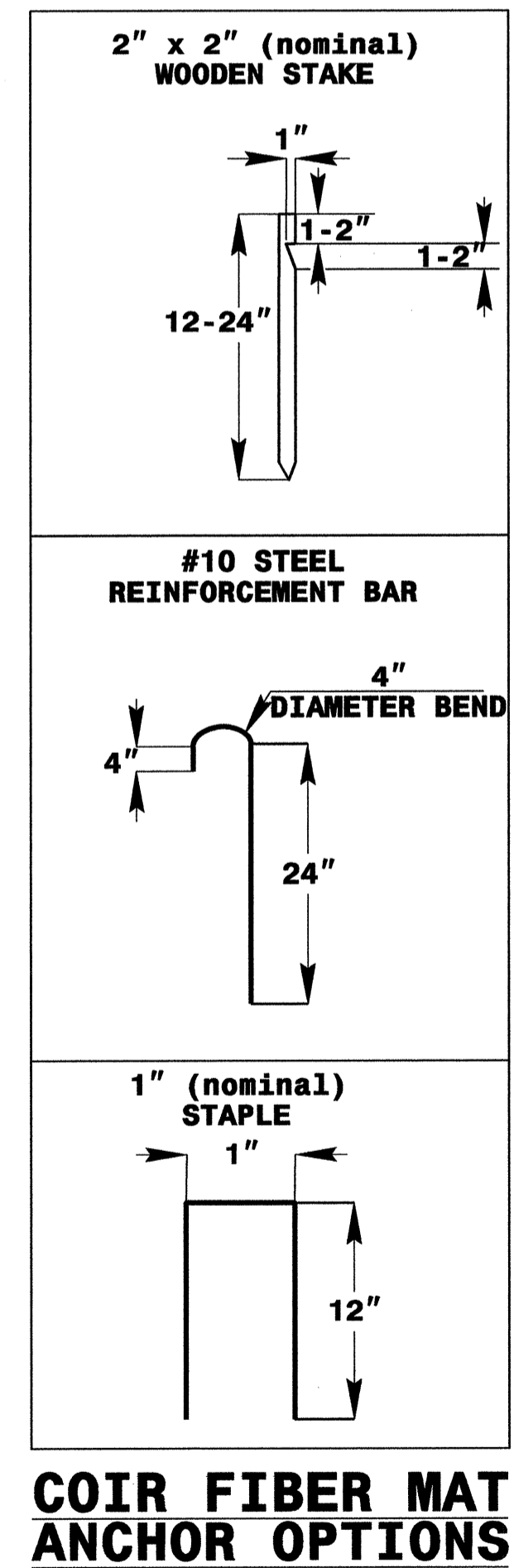
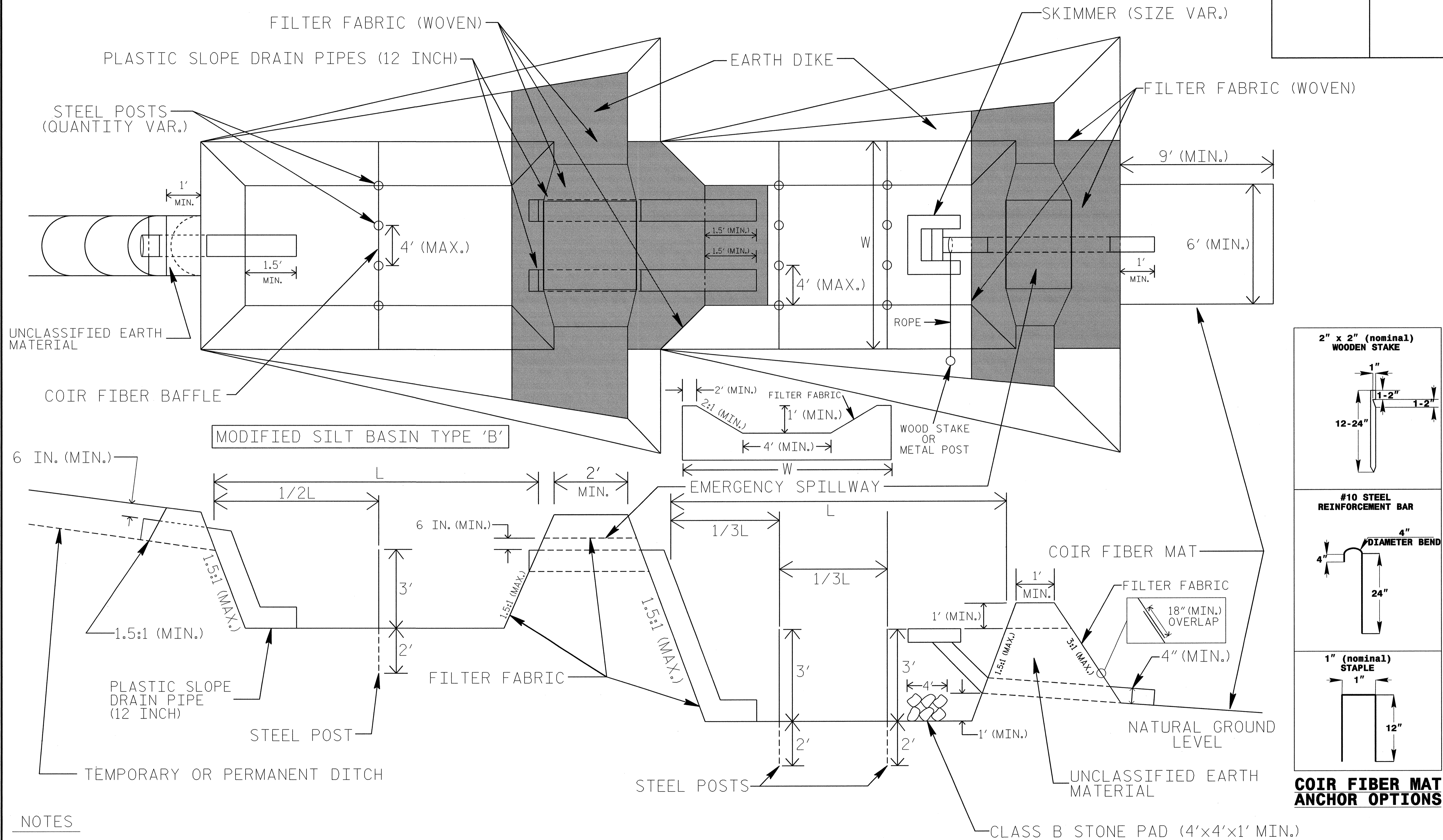
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., 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.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTER FABRIC AS DIRECTED.
6. FILTER FABRIC (WOVEN) FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18" AS SHOWN.

NOT TO SCALE

TIERED SKIMMER BASIN DETAIL

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



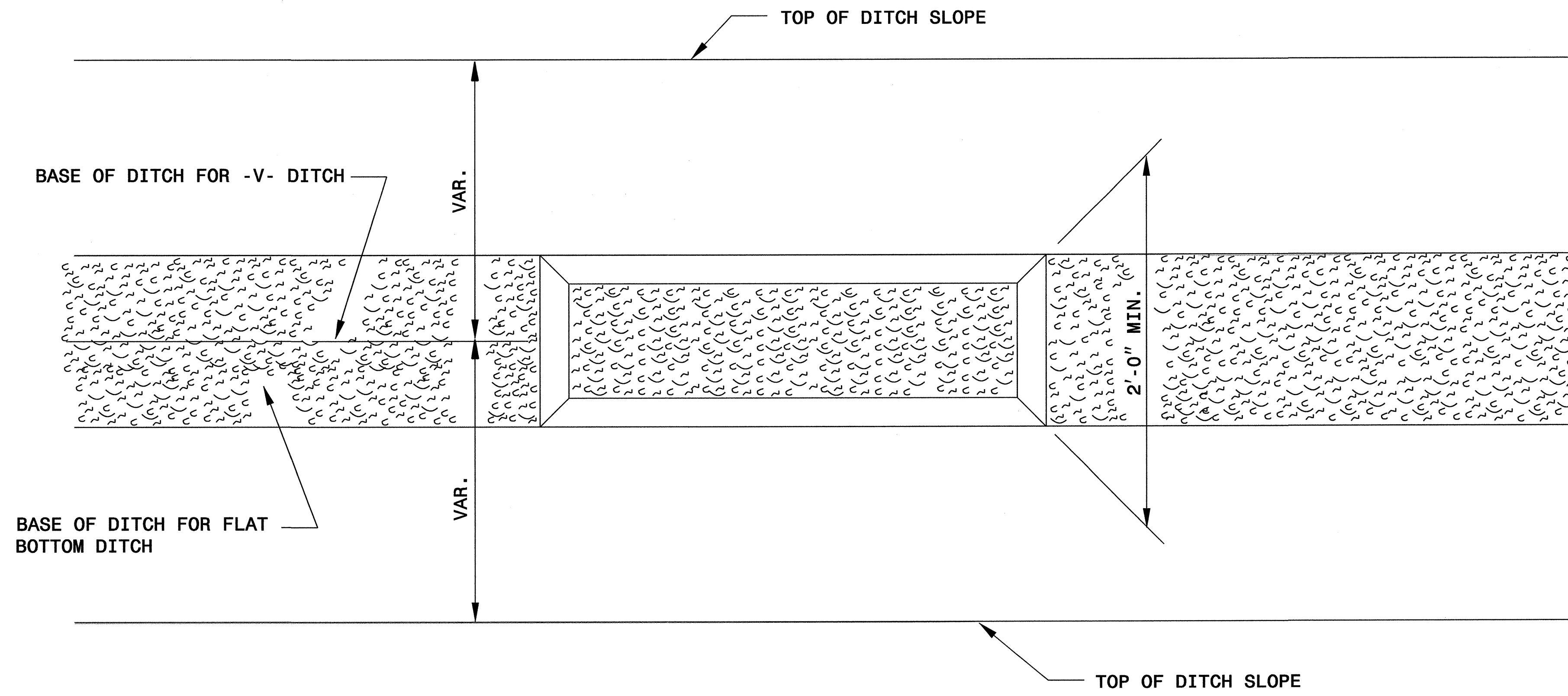
NOTES

- SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
- LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
- ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
- FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
- DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
- FILTER FABRIC (WOVEN) FOR EMERGENCY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18" (MIN.) AS SHOWN.

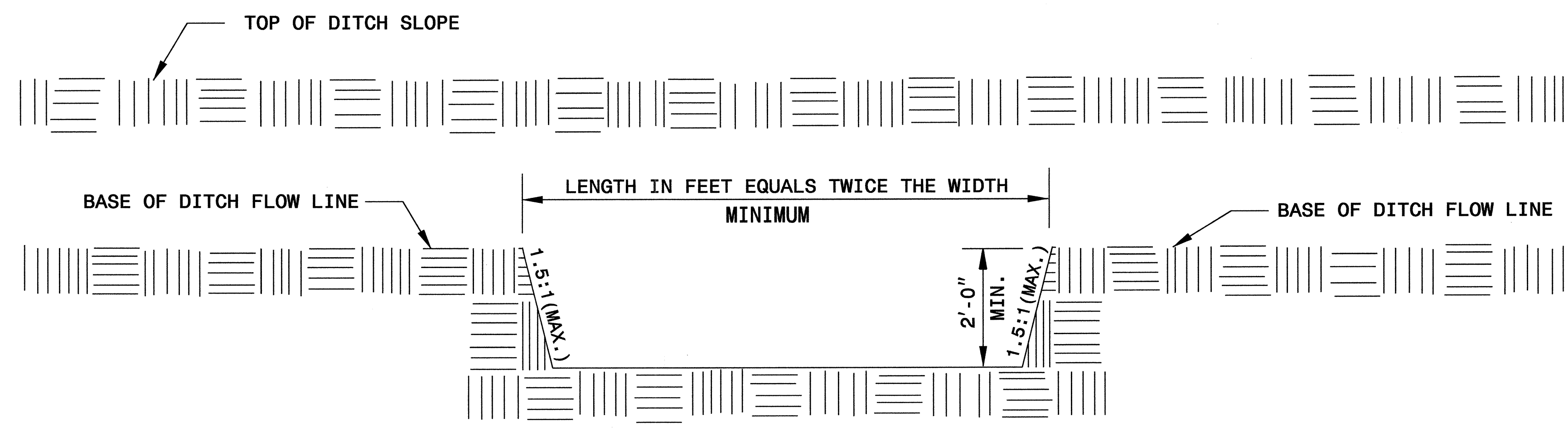
NOT TO SCALE

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



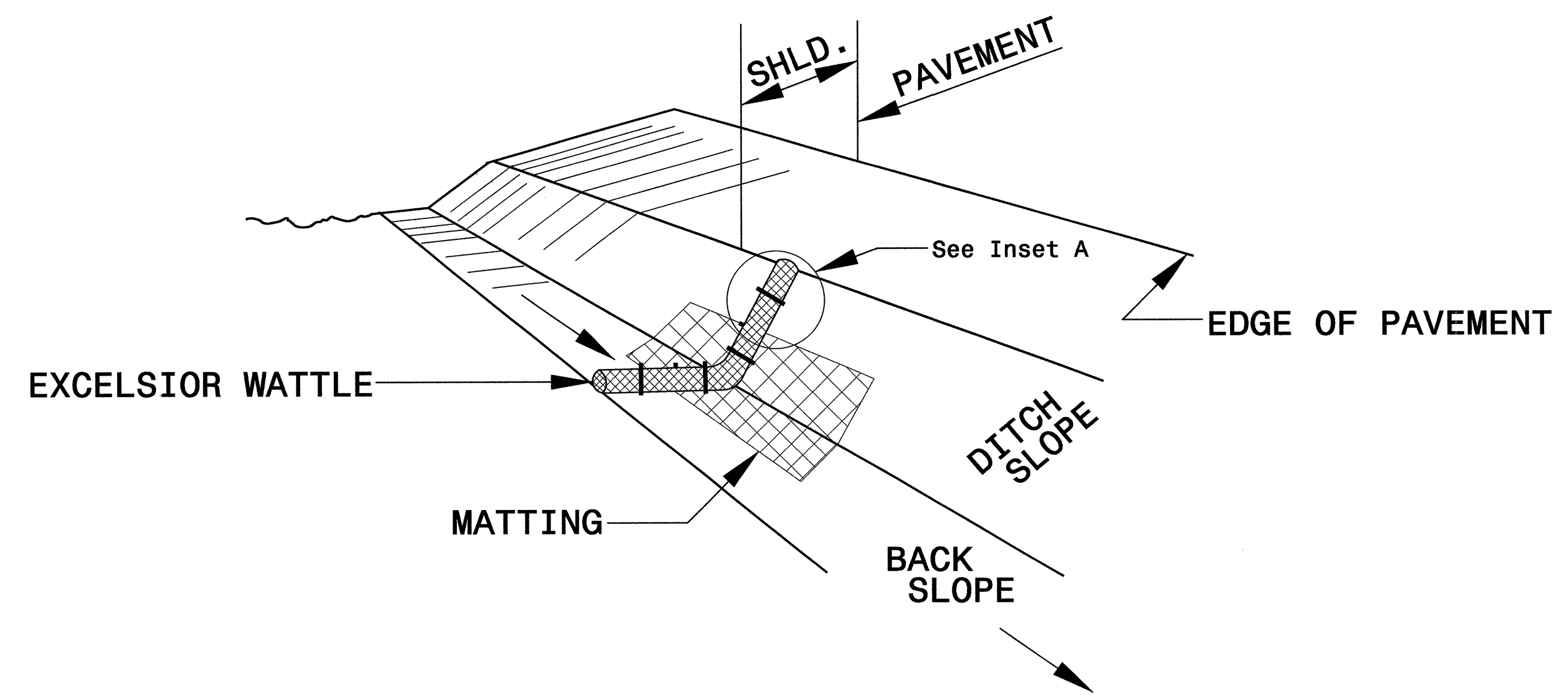
PLAN



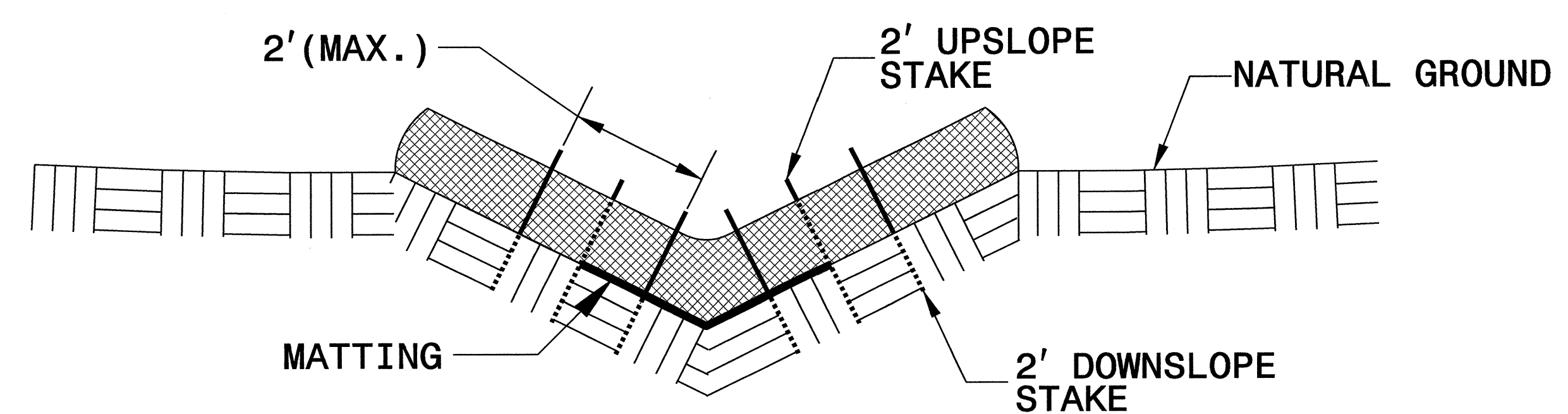
ELEVATION

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

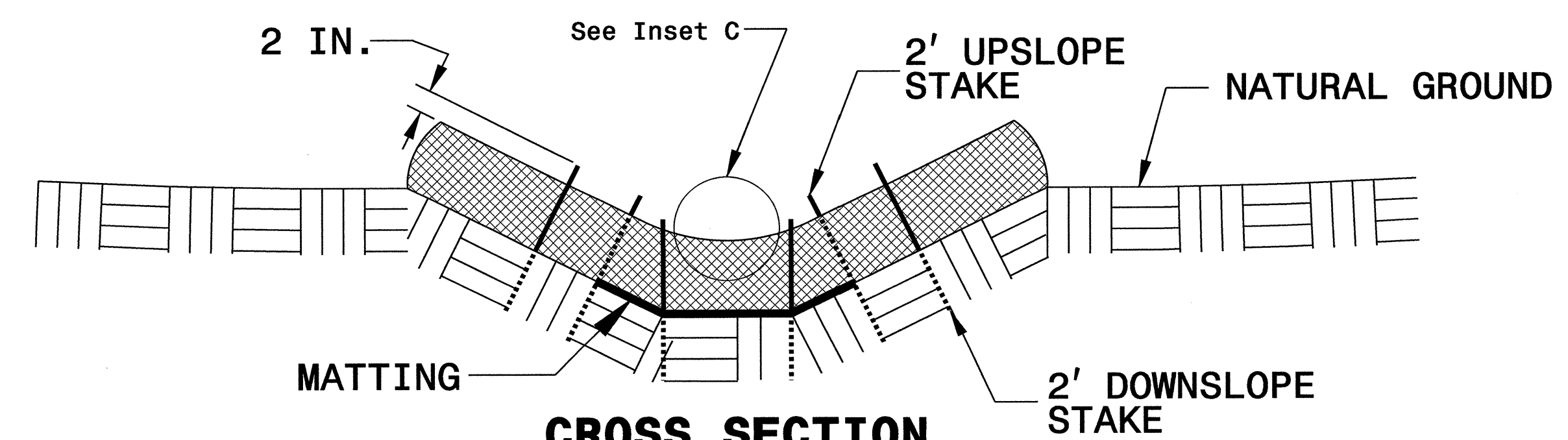
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



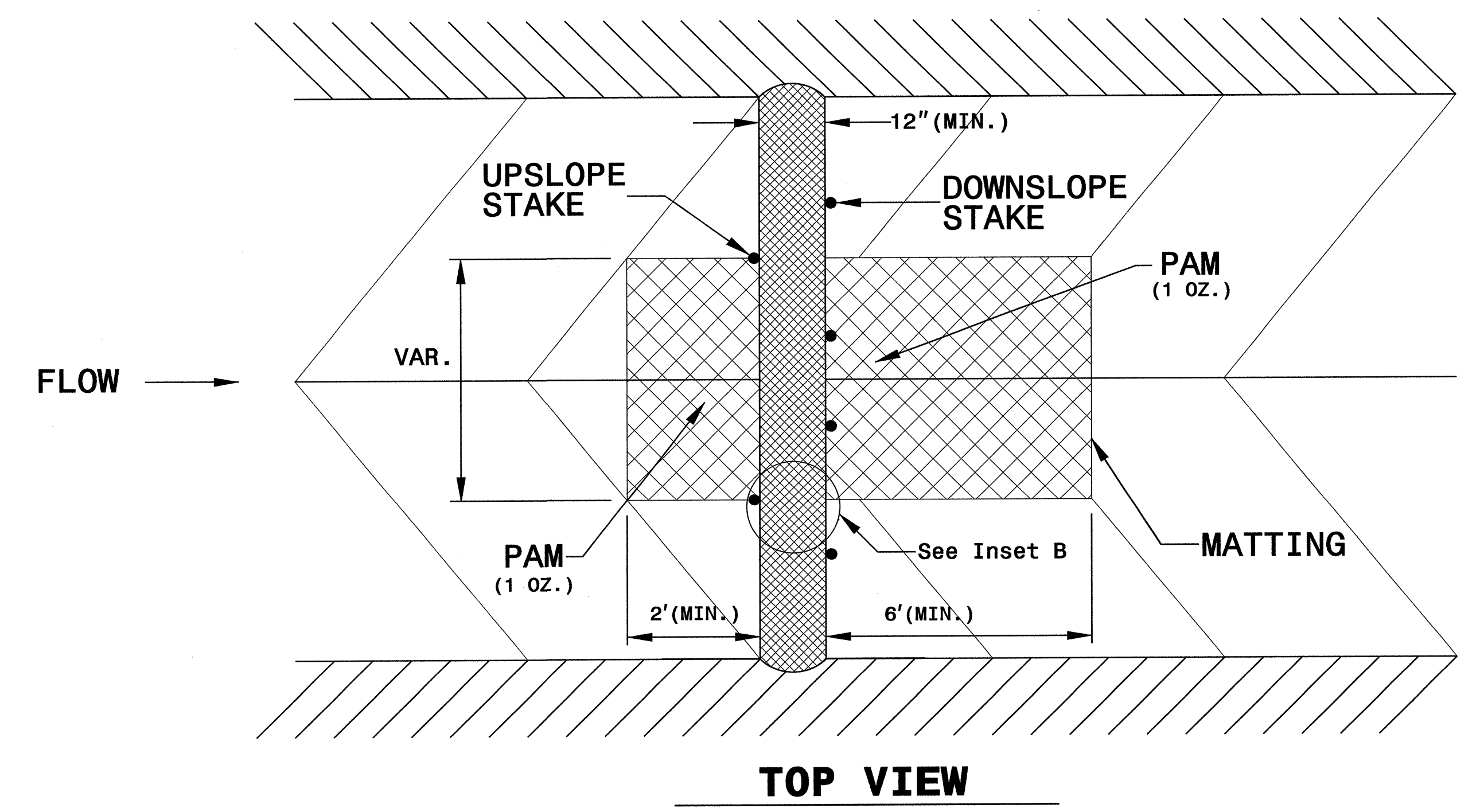
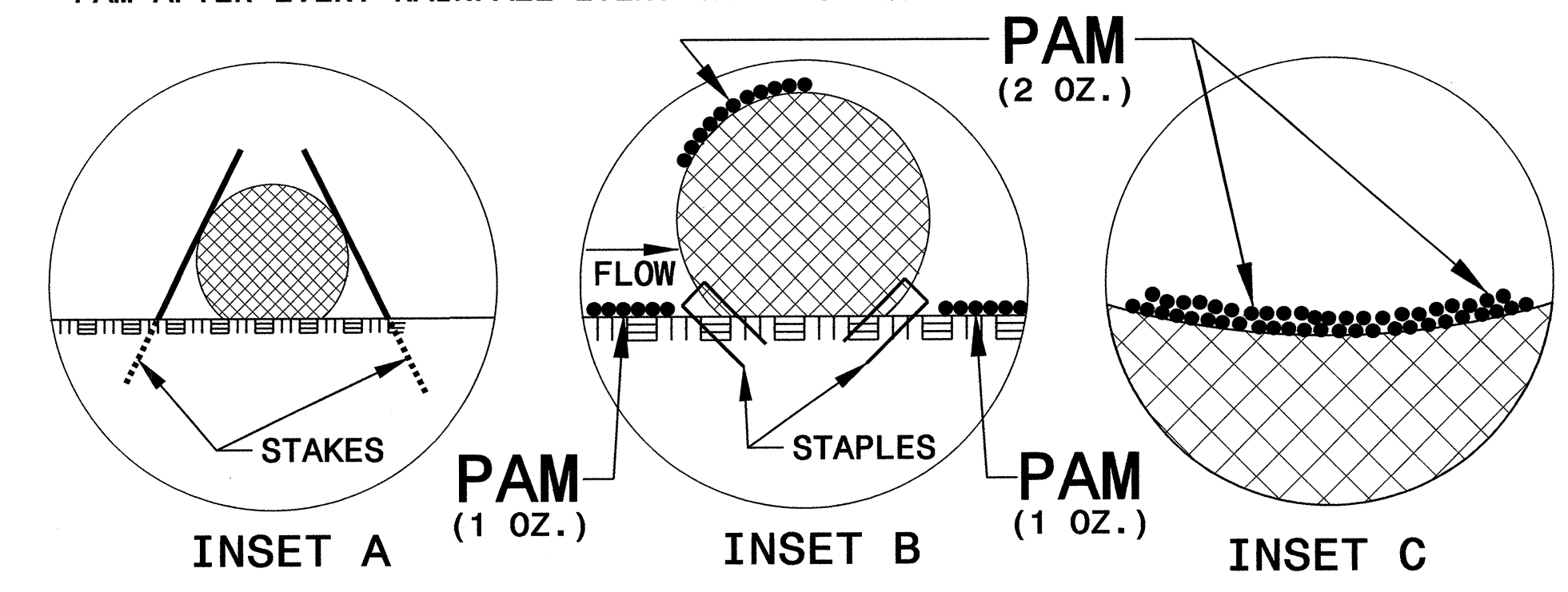
CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

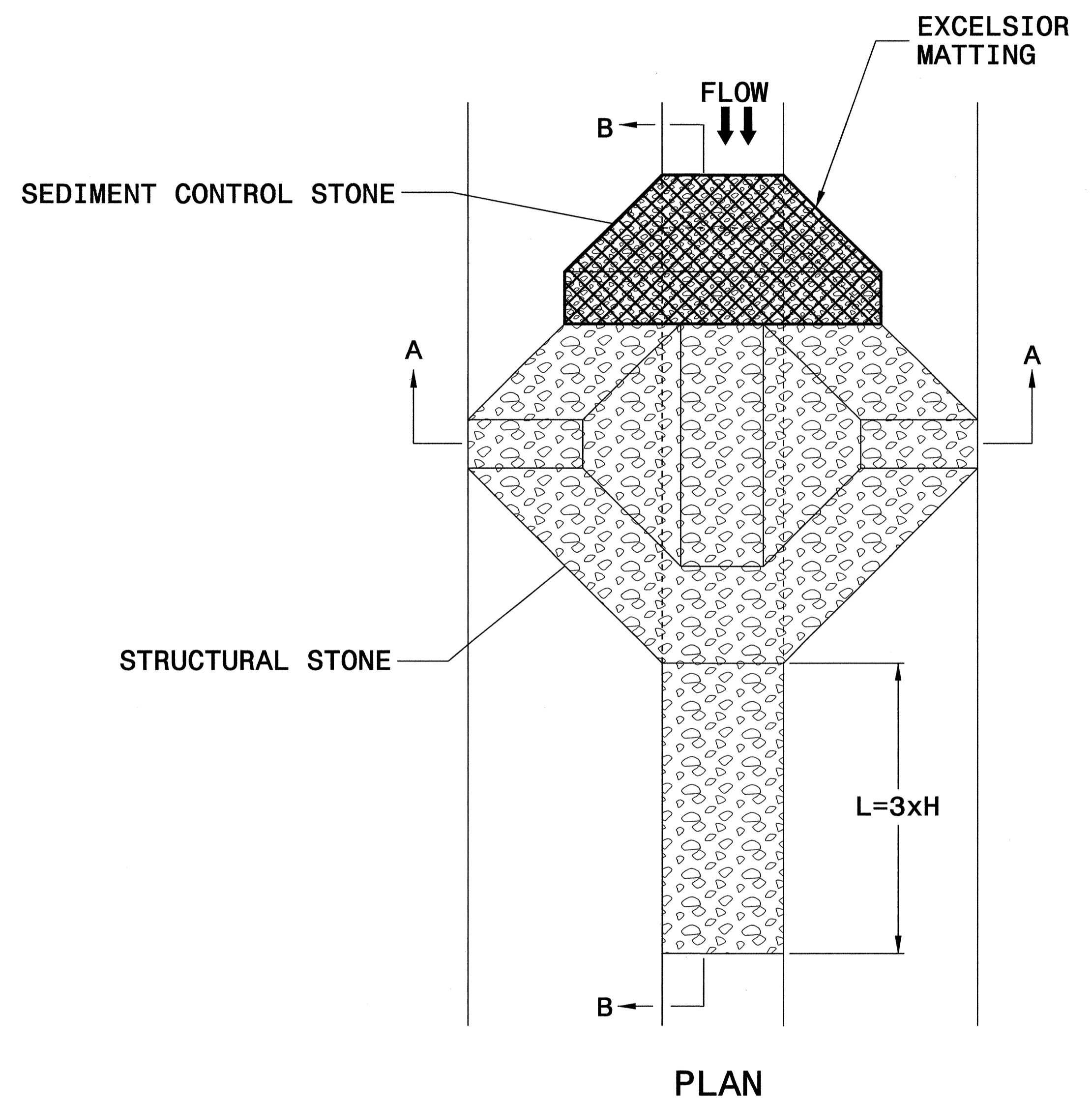
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES 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.



TOP VIEW

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-2F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

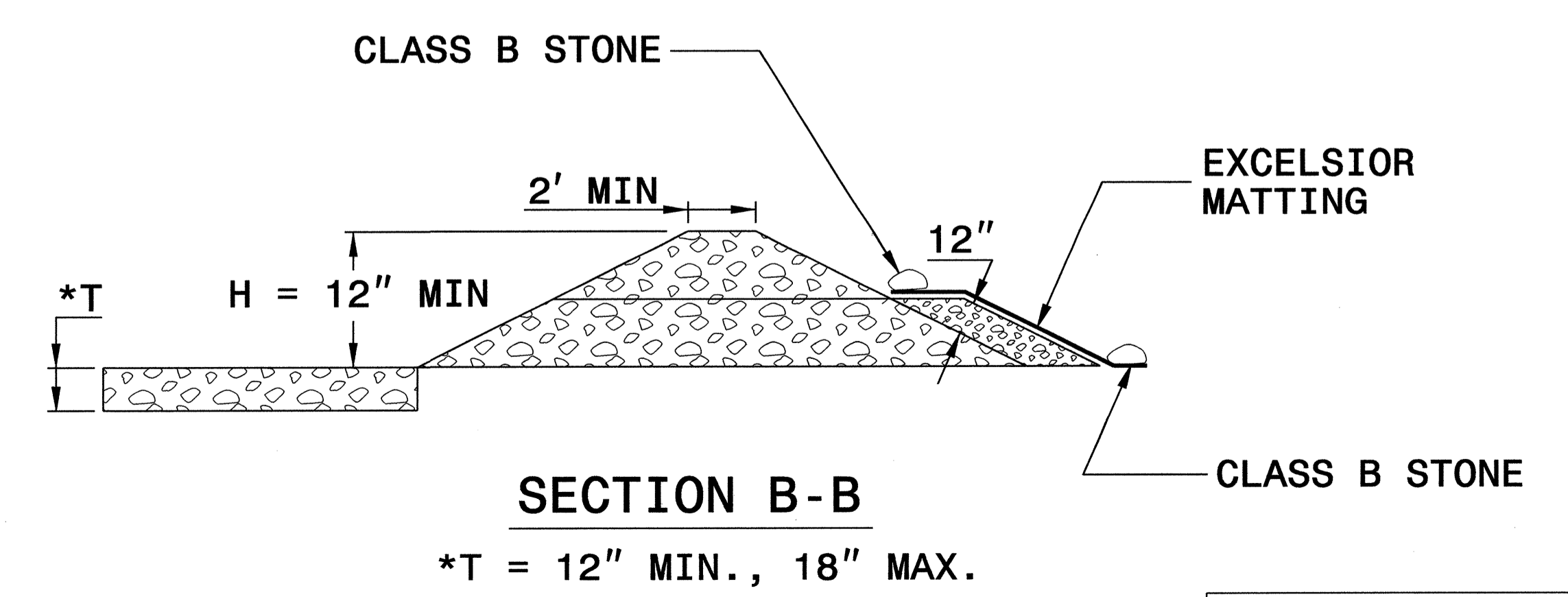
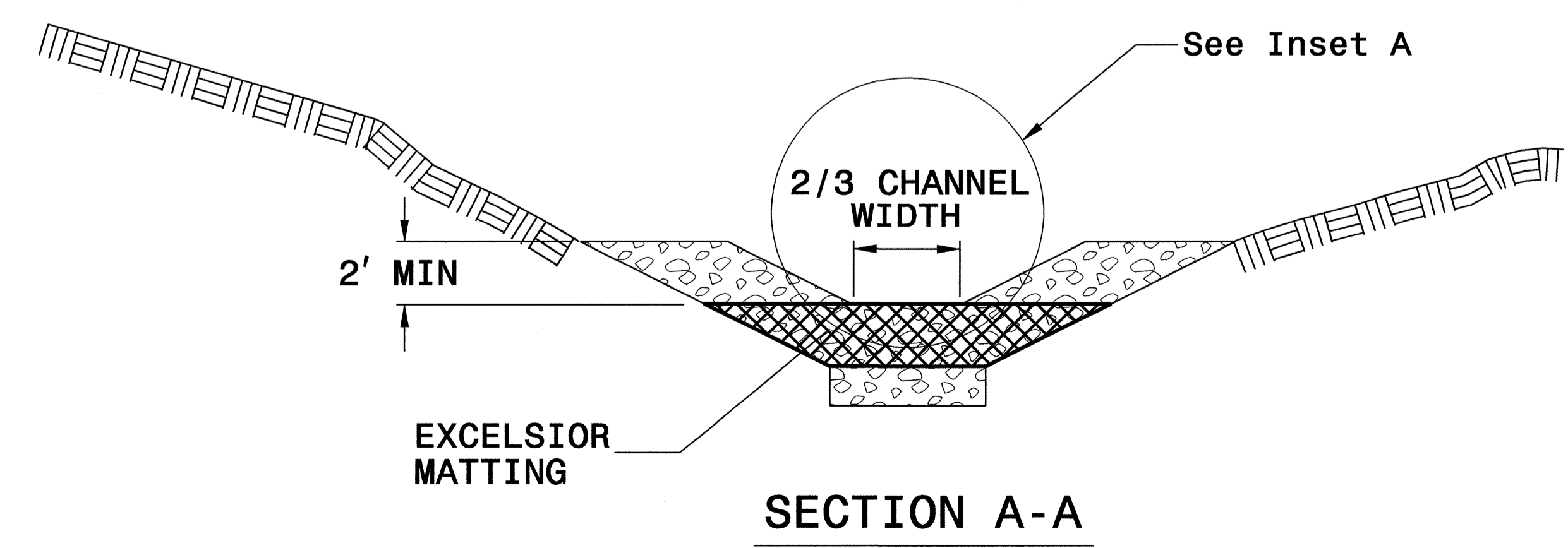
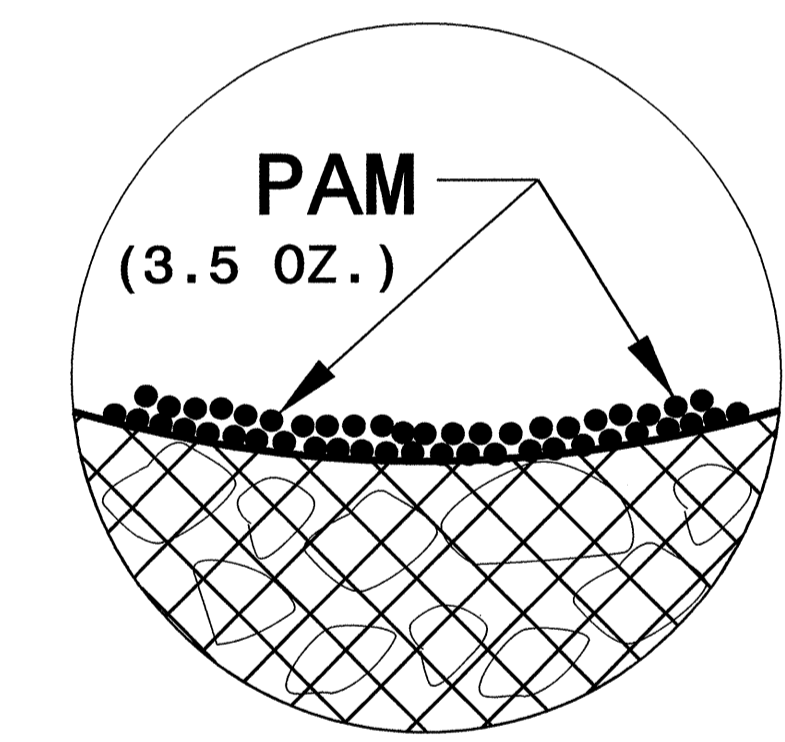


NOTES

USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

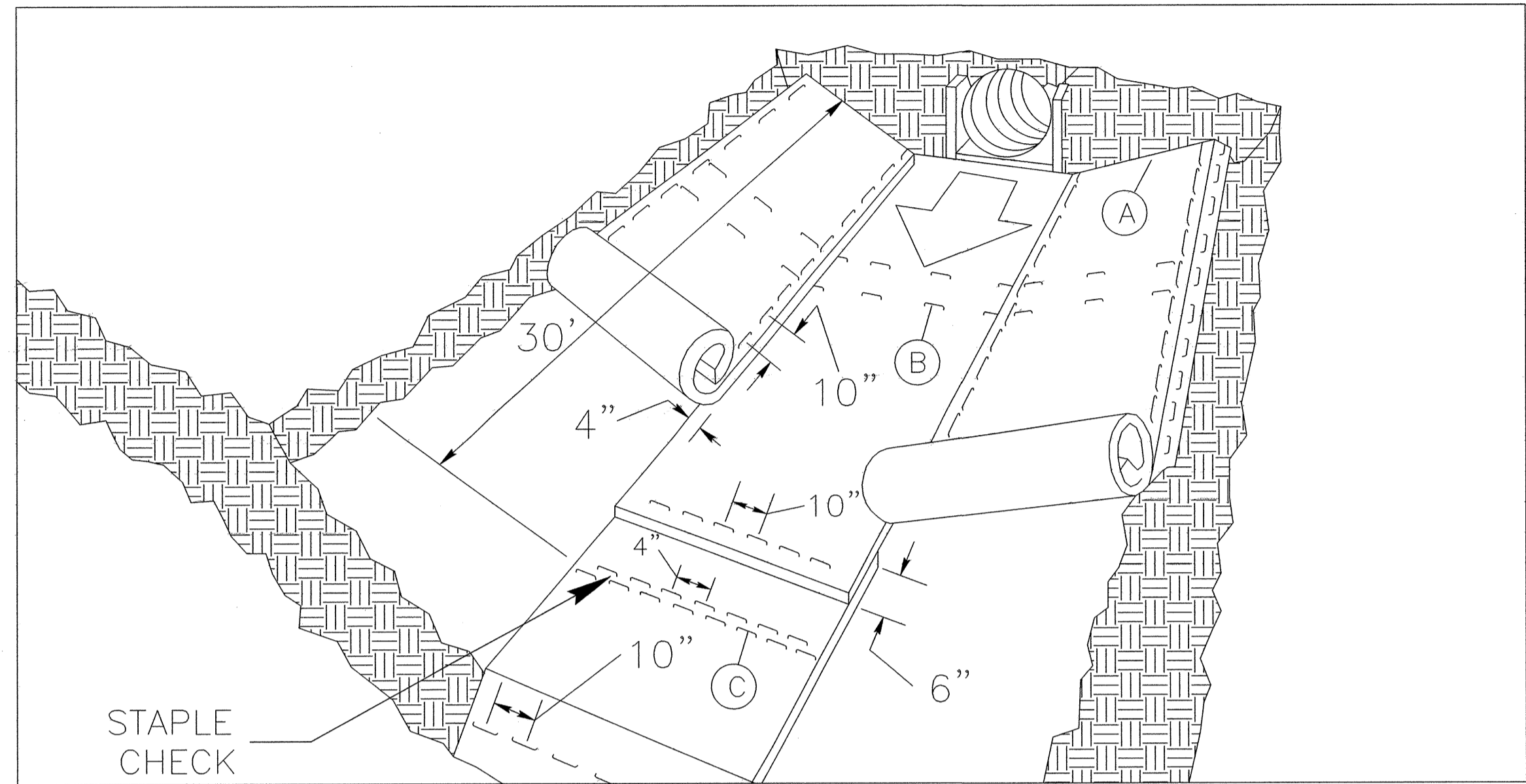
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

PROJECT REFERENCE NO. <i>R-4748</i>	SHEET NO. <i>EC-2G</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

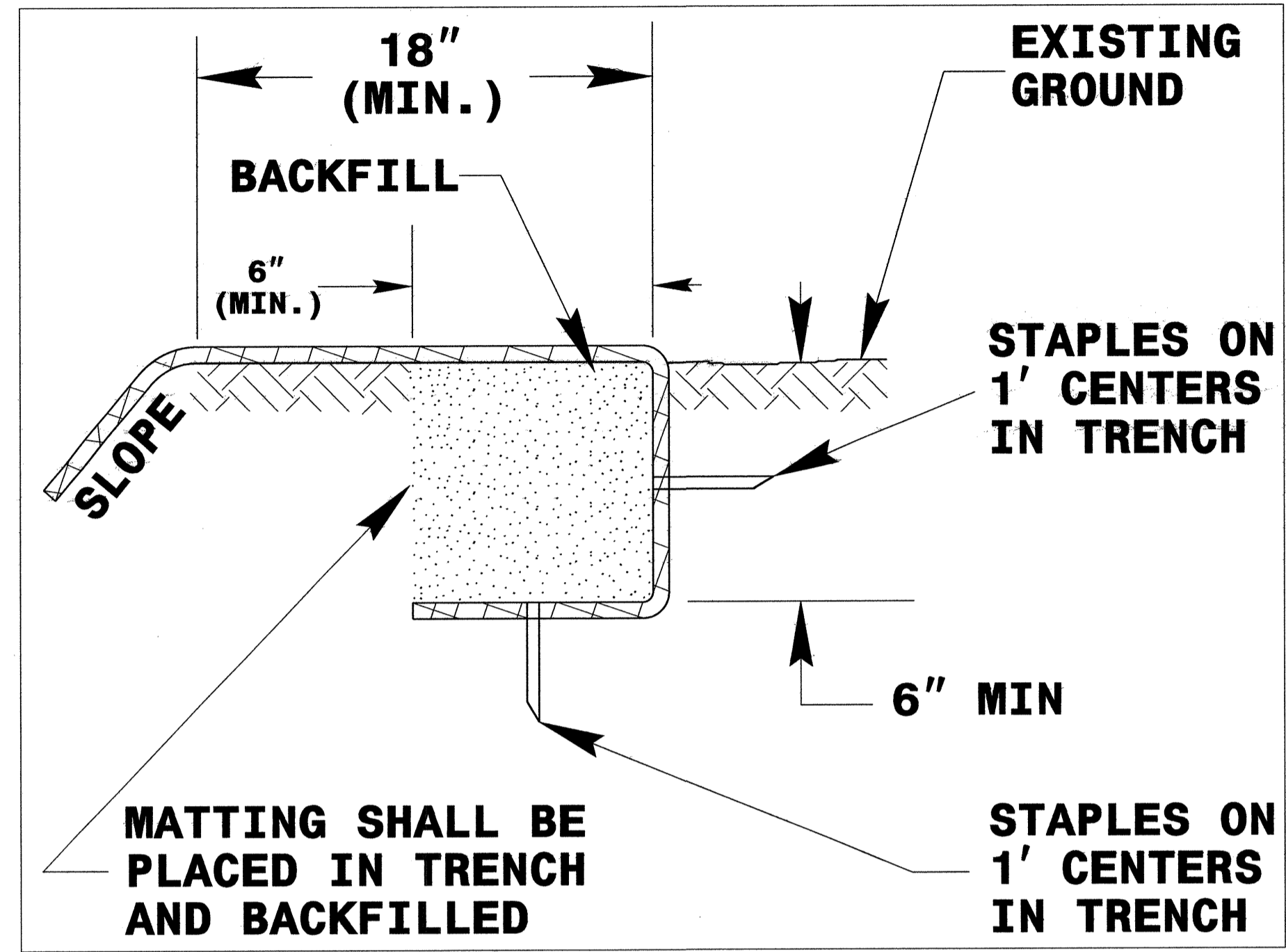
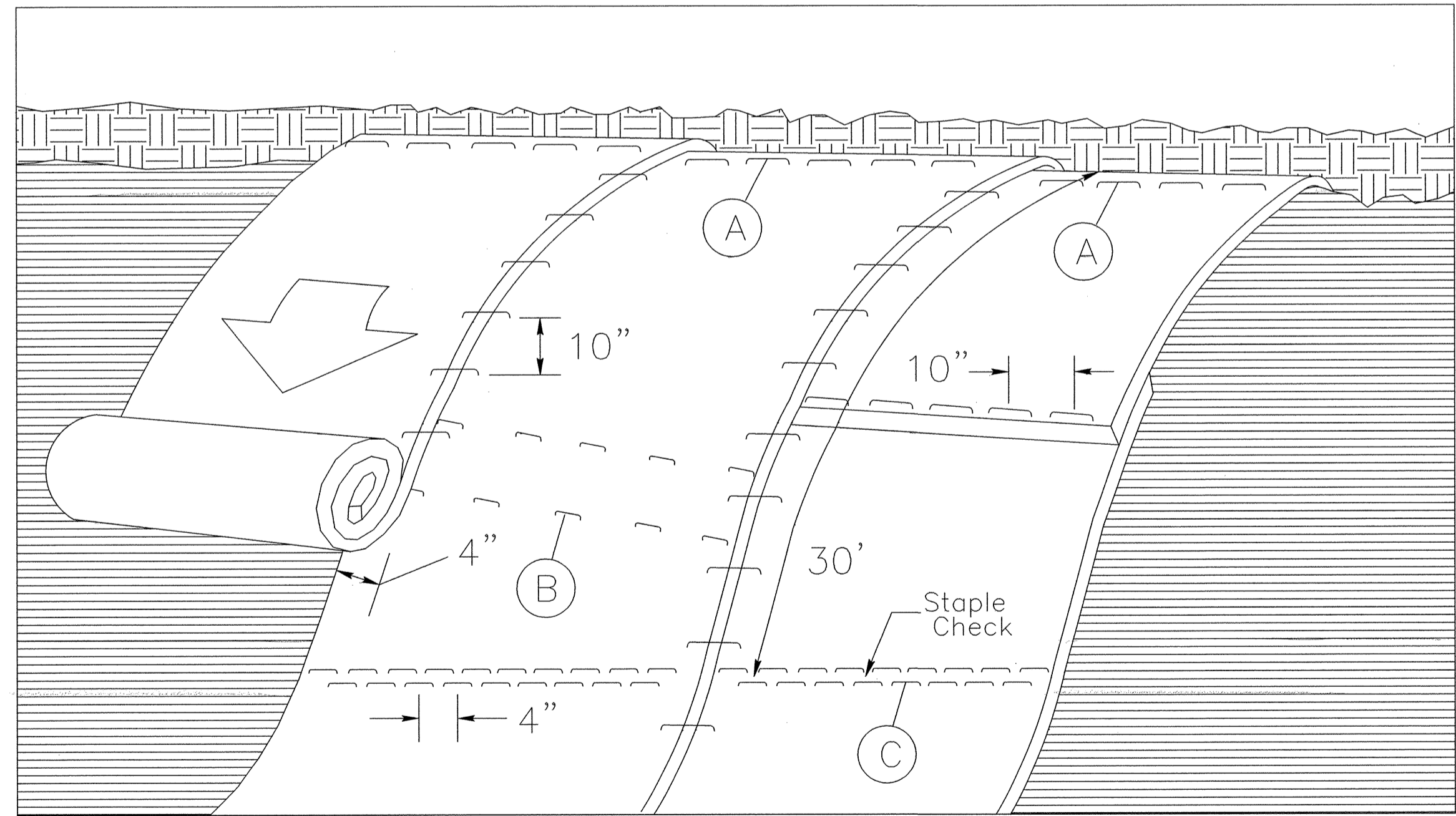


DIAGRAM (A)



MATTING ON SLOPES

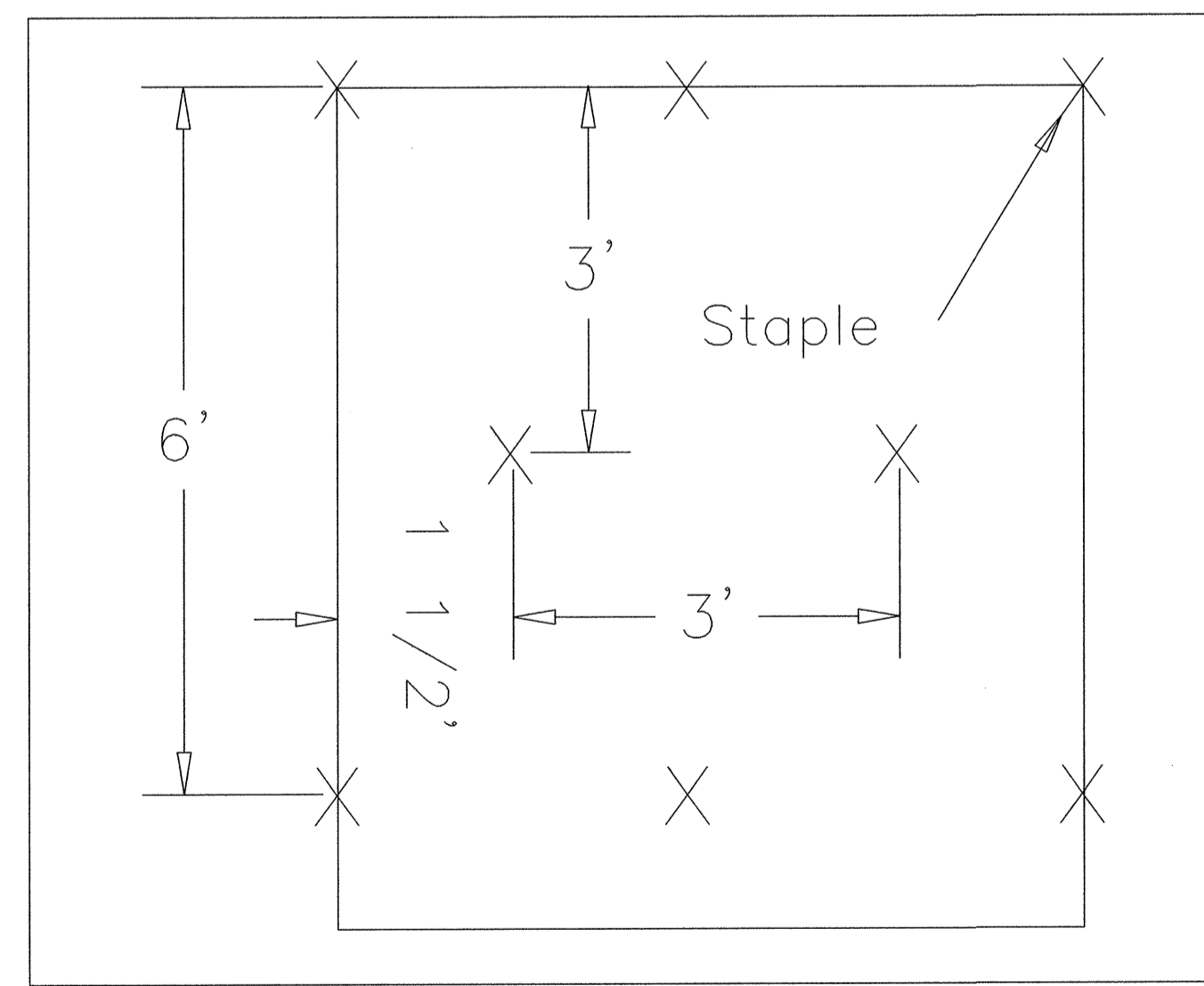


DIAGRAM (B)

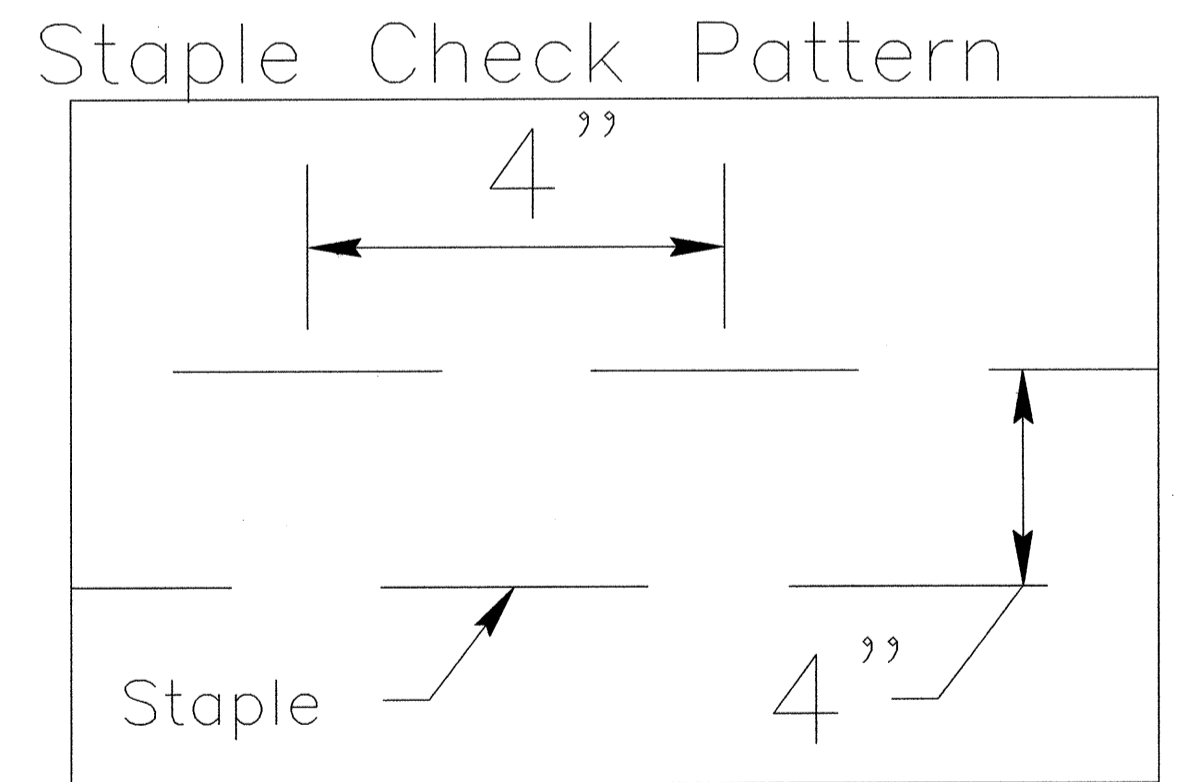


DIAGRAM (C)

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

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STA. 10+90.00 -L- BEGIN TIP PROJECT R-4748



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.

**25 x 12 x 3
ID 4.2 F**

**34 x 20 x 3
12 ft. weir
ID 4.2 CG**

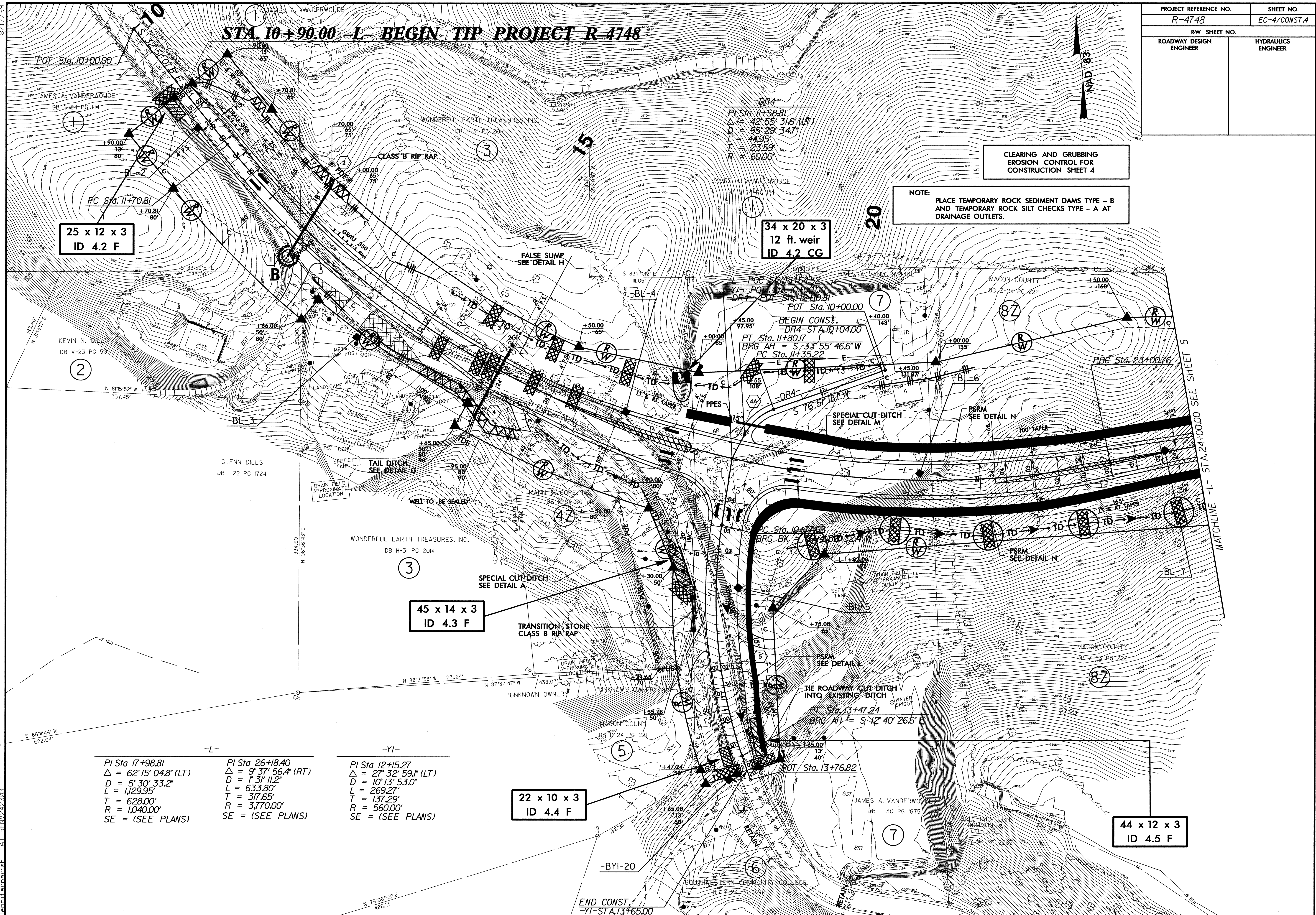
**45 x 14 x 3
ID 4.3 F**

**22 x 10 x 3
ID 4.4 F**

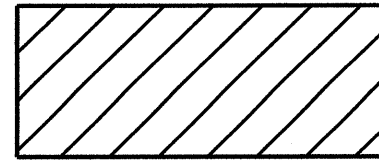
**44 x 12 x 3
ID 4.5 F**

-L-		-YI-	
PI Sta. 17+98.81	PI Sta. 26+18.40	PI Sta. 12+15.27	
$\Delta = 62' 15" 04.8"$ (LT)	$\Delta = 9' 37" 56.4"$ (RT)	$\Delta = 27' 32" 59.1"$ (LT)	
D = 5' 30" 33.2"	L = 633.80'	D = 10' 13" 53.0"	
L = 1429.95'	L = 633.80'	T = 269.27'	
T = 628.00'	R = 317.65'	L = 137.29'	
R = 1,040.00'	R = 3,770.00'	R = 560.00'	
SE = (SEE PLANS)	SE = (SEE PLANS)	SE = (SEE PLANS)	

8/17/99
 R:\JULY_2010_15\001\Design\4748_EC_rsh_04.dgn
 R:\JULY_2010_15\001\Design\4748_EC_rsh_04.dgn
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PROJECT REFERENCE NO. R-4748	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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

35 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
7 ft. weir
ID 5.5 CG

38 x 36 x 3
1.5 inch Skimmer
with 1.250 inch
Orifice Diameter
25 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 5.2F

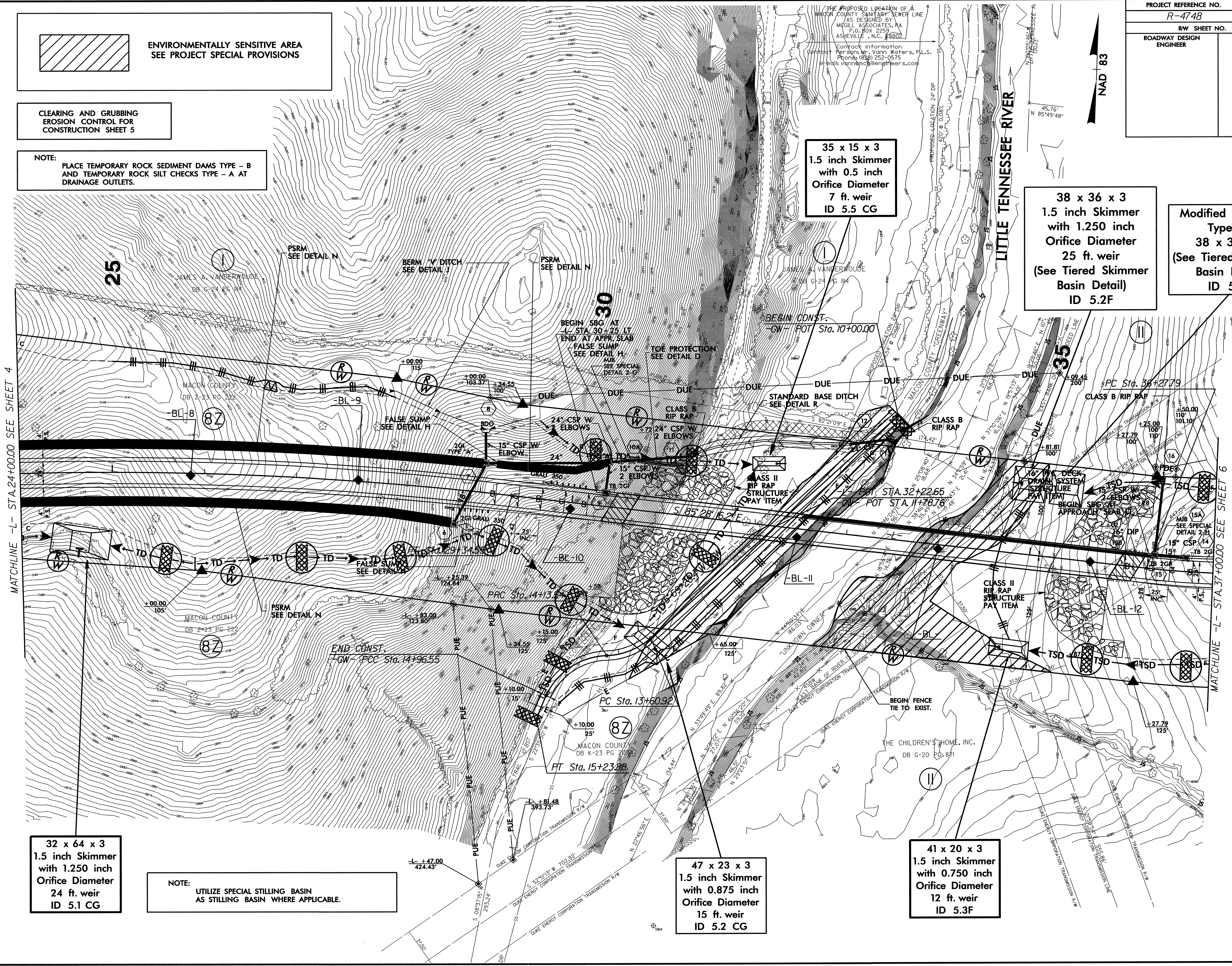
Modified Silt Basin
Type 'B'
38 x 36 x 3
(See Tiered Skimmer
Basin Detail)
ID 5.2F

32 x 64 x 3
1.5 inch Skimmer
with 1.250 inch
Orifice Diameter
24 ft. weir
ID 5.1 CG

NOTE:
UTILIZE SPECIAL STILLING BASIN
AS STILLING BASIN WHERE APPLICABLE.

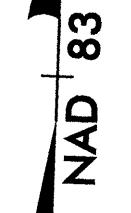
47 x 23 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
15 ft. weir
ID 5.2 CG

41 x 20 x 3
1.5 inch Skimmer
with 0.750 inch
Orifice Diameter
12 ft. weir
ID 5.3F



MATCHLINE -L- STA. 24+00.00 SEE SHEET 4

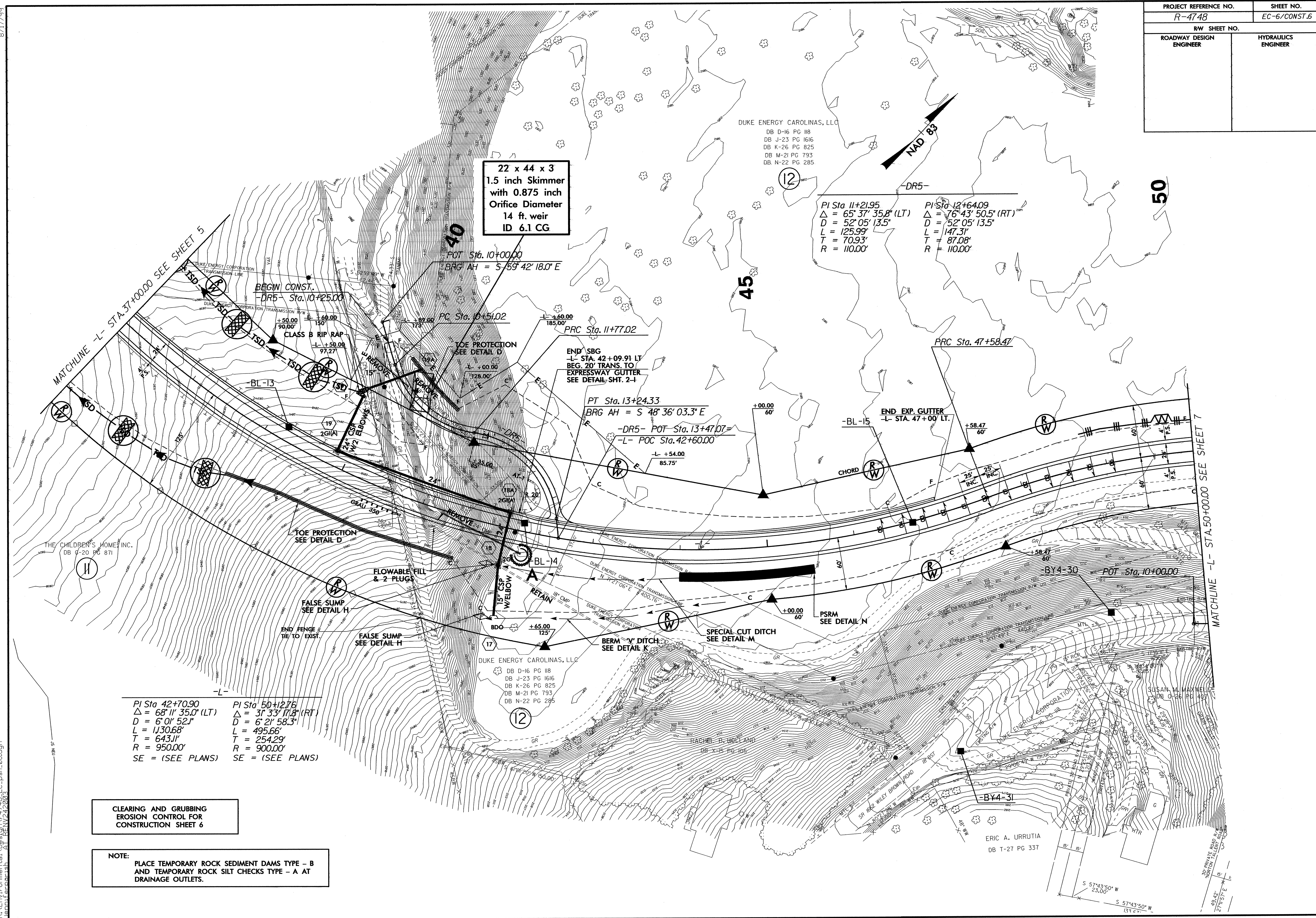
MATCHLINE -L- STA. 37+00.00 SEE SHEET 6



THE PROPOSED LOCATION OF A
MACON COUNTY SANITARY SEWER LINE
AS DESIGNED BY
MEGILL ASSOCIATES, P.A.
P.O. BOX 2259
ASHEVILLE, N.C. 28802
Contact Information
Persons: Mr. Vann Waters, P.L.S.
Phone: (828) 252-0575
E-mail: vann@mcgillengineers.com

PROJECT REFERENCE NO.		SHEET NO.	
R-4748		EC-6/CONST.6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

8/17/99



22 x 44 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
14 ft. weir
ID 6.1 CG

PI Sta. 11+21.95
 $\Delta = 65^{\circ} 37' 35.8''$ (LT)
D = 52' 05" 13.5"
L = 125.99'
T = 70.93'
R = 110.00'

PI Sta. 12+64.09
 $\Delta = 76^{\circ} 43' 50.5''$ (RT)
D = 52' 05" 13.5"
L = 147.31'
T = 87.08'
R = 110.00'

PI Sta. 42+70.90
 $\Delta = 68^{\circ} 11' 35.0''$ (LT)
D = 6' 01" 52.1"
L = 1130.68'
T = 643.11'
R = 950.00'
SE = (SEE PLANS)

PI Sta. 50+12.76
 $\Delta = 31^{\circ} 33' 17.8''$ (RT)
D = 6' 21" 58.3"
L = 495.66'
T = 254.29'
R = 900.00'
SE = (SEE PLANS)

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

02-JUN-2010 14:45
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amitkumar

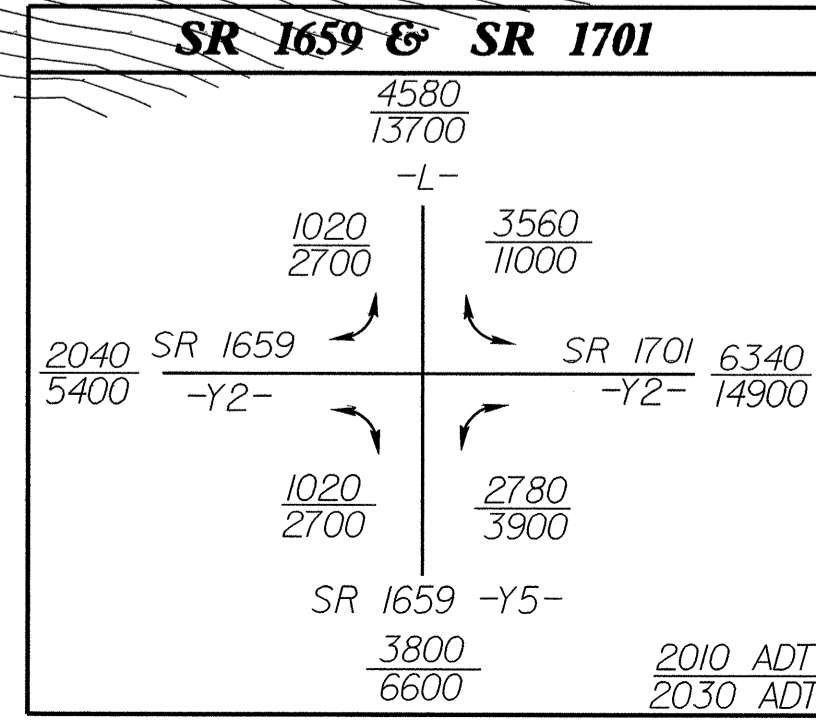
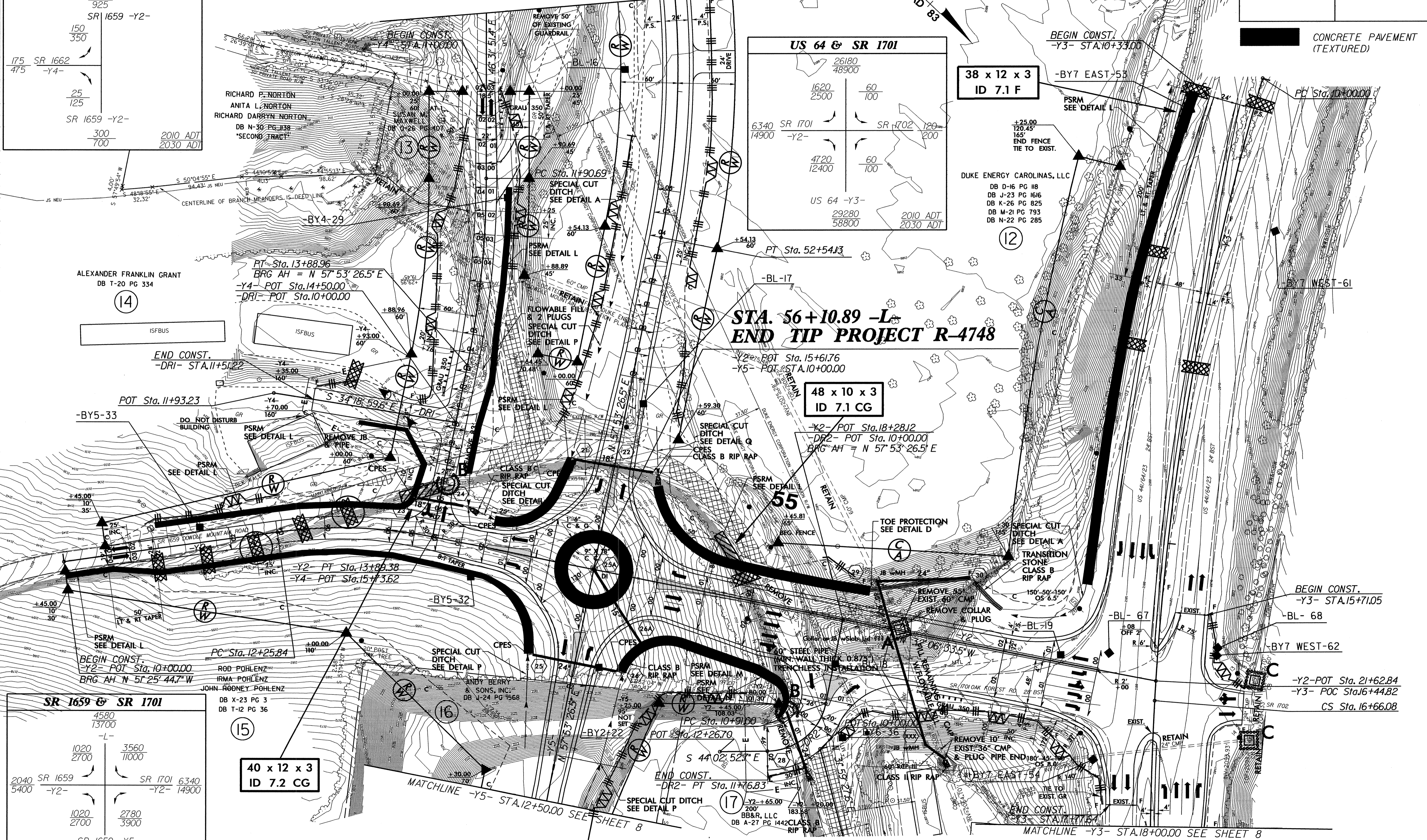
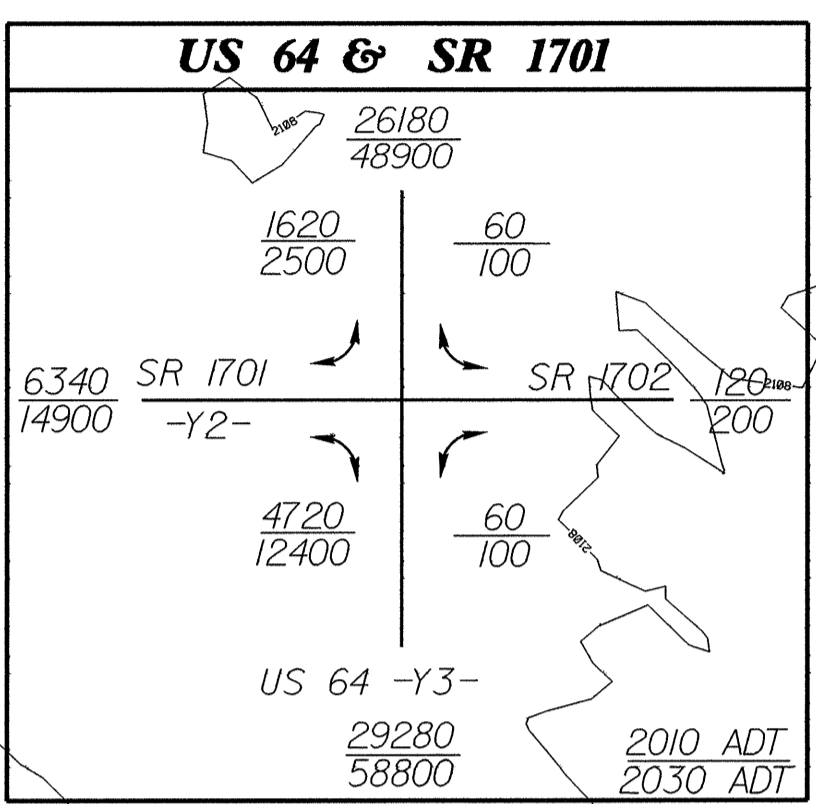
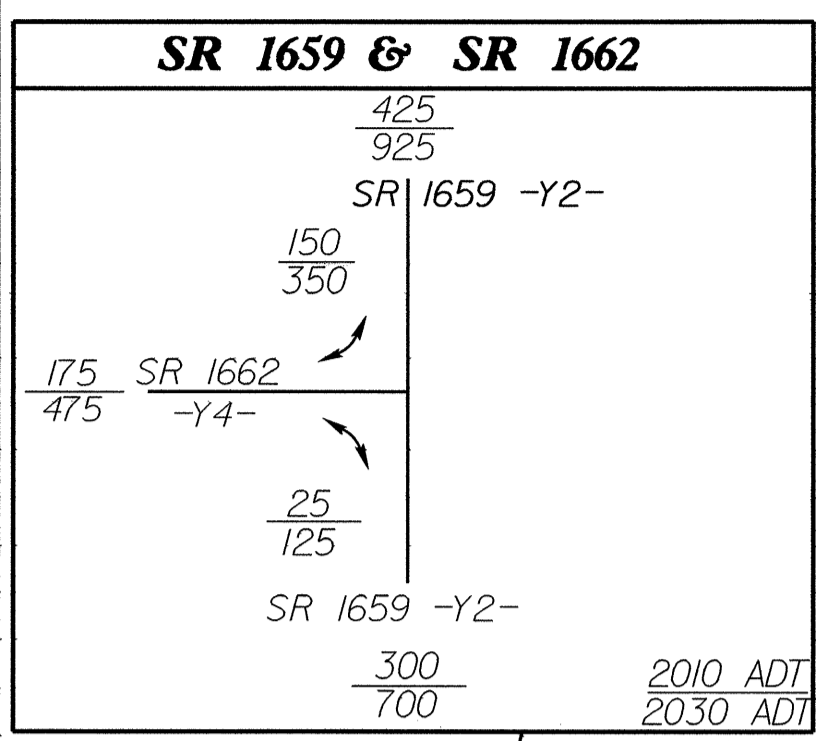
8/17/99

-L- PI Sta 50+12.76 Δ = 31' 33" 17.8" (RT) D = 6' 21" 58.3" L = 495.66' T = 254.29' R = 900.00' SE = (SEE PLANS)	-Y2- PI Sta 13+08.40 Δ = 19' 19" 11.2" (RT) D = 11' 48" 48.8" L = 163.54' T = 82.55' R = 485.00' SE = (SEE PLANS)	-Y3- PI Sta 13+34.55 Δ = 13' 19" 17.8" (LT) D = 2' 00" 00.0" L = 666.08' T = 334.55' R = 2,864.79' SE = EXISTING	-Y4- PI Sta 12+90.5 Δ = 11' 21' 35.1" (RT) D = 5' 43' 46.5" L = 198.27' T = 99.46' R = 1,000.00' SE = (SEE PLANS)	-Y5- PI Sta 15+54.22 Δ = 67' 31' 29.8" (LT) D = 11' 48" 48.8" L = 571.59' T = 324.22' R = 485.00' SE = (SEE PLANS)	-DR2- PI Sta 11+42.07 Δ = 78' 03' 40.8" (RT) D = 90' 56' 44.5" L = 85.83' T = 51.07' R = 63.00'
--	---	--	---	--	--

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-7/CONST.7
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

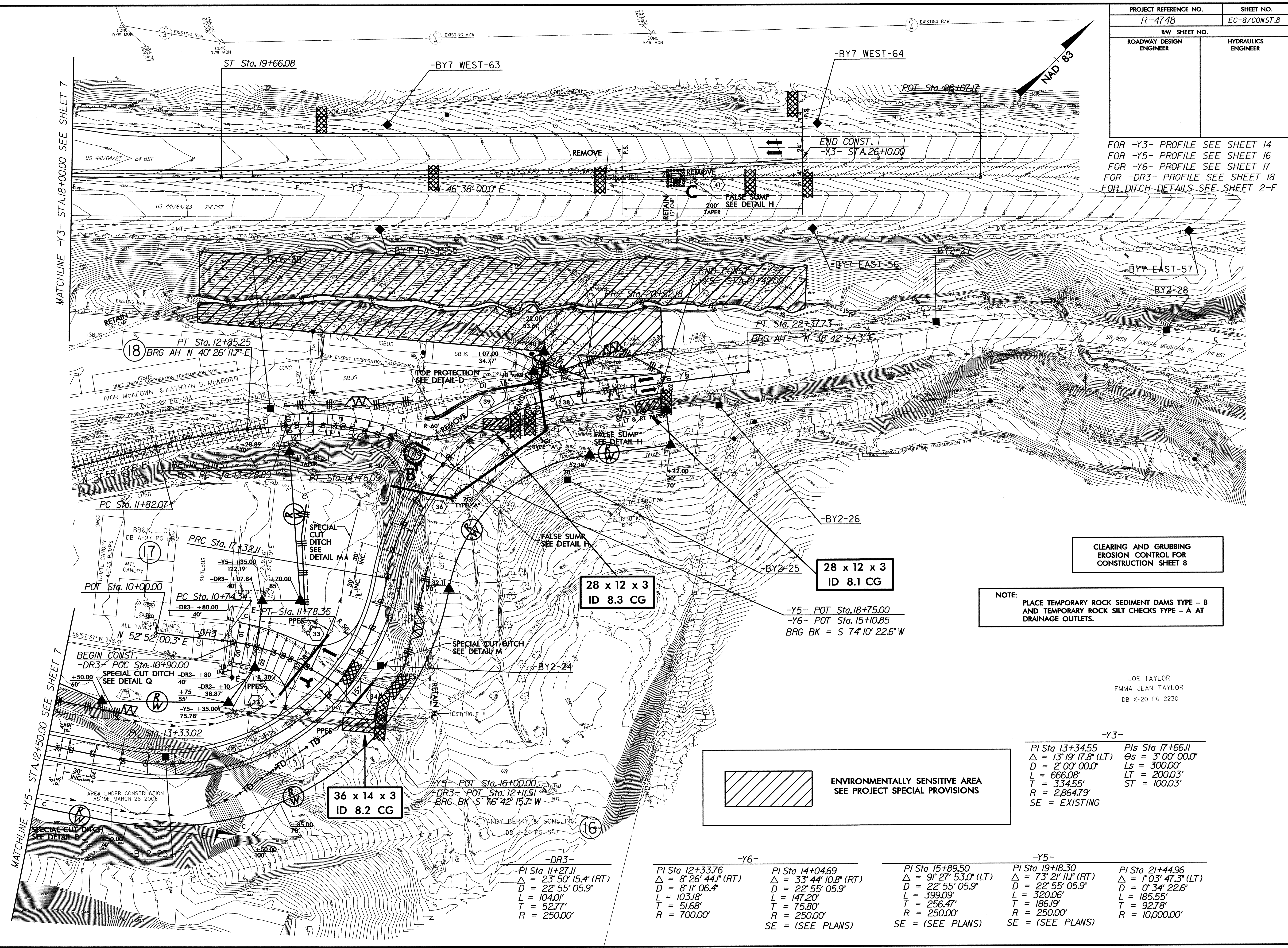


8/17/99
R-4748-EC-7-CONST.7.dgn
11/17/99

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-4748	EC-8/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

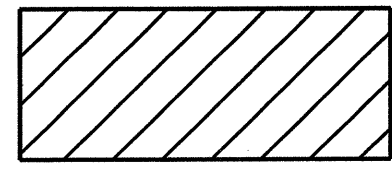
FOR -Y3- PROFILE SEE SHEET 14
 FOR -Y5- PROFILE SEE SHEET 16
 FOR -Y6- PROFILE SEE SHEET 17
 FOR -DR3- PROFILE SEE SHEET 18
 FOR DITCH DETAILS SEE SHEET 2-F



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

CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 8

JOE TAYLOR
 EMMA JEAN TAYLOR
 DB X-20 PG 2230

 ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS

-Y3-

PI Sta 13+34.55 Δ = 13° 19' 17.8" (LT) D = 2° 00' 00.0" L = 666.08' T = 334.55' R = 2,864.79' SE = EXISTING	PIs Sta 17+66.11 Os = 3° 00' 00.0" Ds = 300.00' Ls = 200.03' Ts = 100.03'
---	---

-DR3-

PI Sta 11+27.11 Δ = 23° 50' 15.4" (RT) D = 22° 55' 05.9" L = 104.01' T = 52.77' R = 250.00'
--

-Y6-

PI Sta 12+33.76 Δ = 8° 26' 44.1" (RT) D = 8° 11' 06.4" L = 103.18' T = 51.68' R = 700.00'
--

-Y5-

PI Sta 14+04.69 Δ = 33° 44' 10.8" (RT) D = 22° 55' 05.9" L = 147.20' T = 75.80' R = 250.00' SE = (SEE PLANS)
--

-Y5-

PI Sta 15+89.50 Δ = 9° 27' 53.0" (LT) D = 22° 55' 05.9" L = 399.09' T = 256.47' R = 250.00' SE = (SEE PLANS)
--

-Y5-

PI Sta 19+18.30 Δ = 73° 21' 11.1" (RT) D = 22° 55' 05.9" L = 320.06' T = 186.19' R = 250.00' SE = (SEE PLANS)

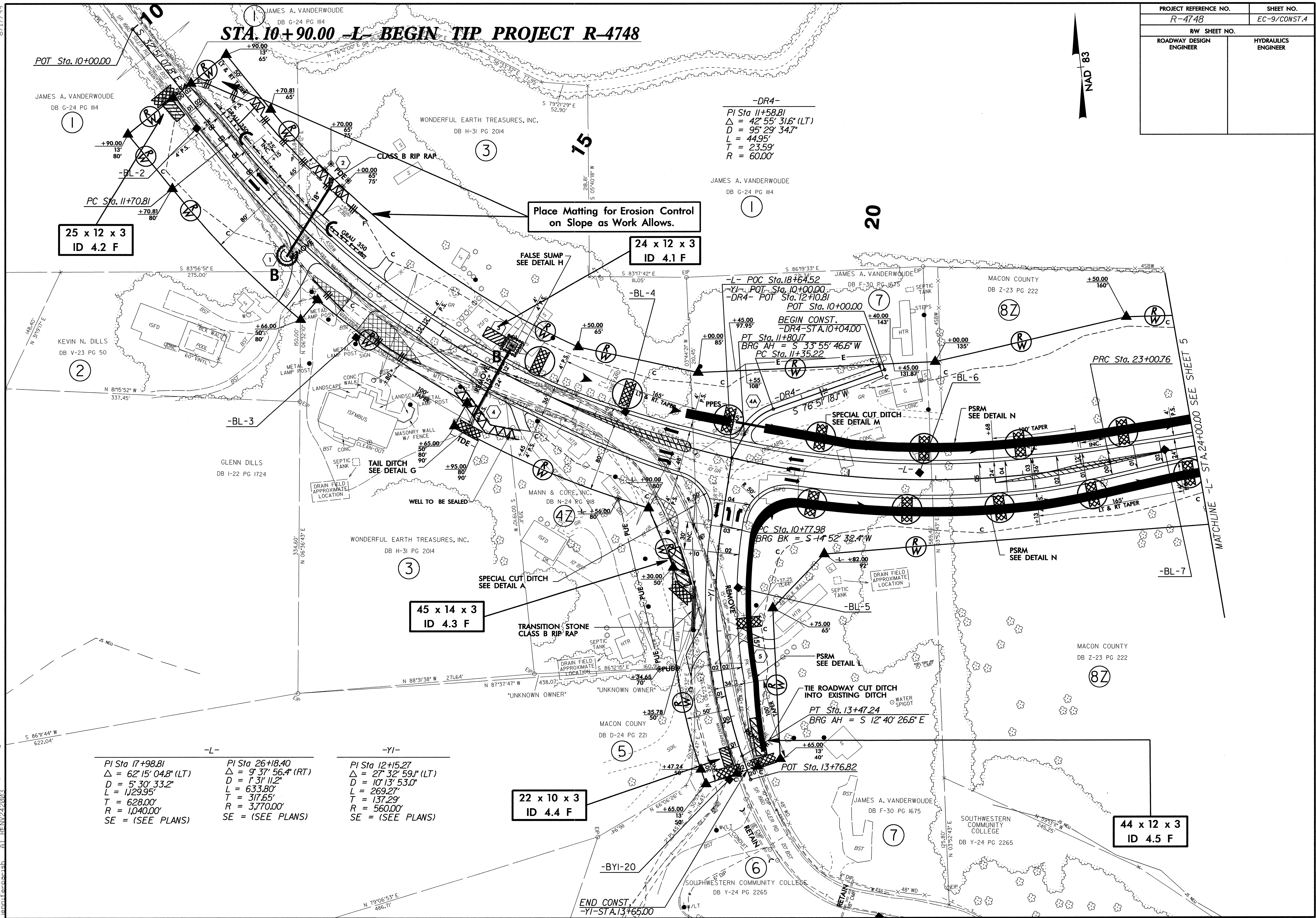
-Y5-

PI Sta 21+44.96 Δ = 1° 03' 47.3" (LT) D = 0° 34' 22.6" L = 185.55' T = 92.78' R = 10,000.00'

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PROJECT REFERENCE NO. R-4748	SHEET NO. EC-9/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STA. 10+90.00 -L- BEGIN TIP PROJECT R-4748



25 x 12 x 3
ID 4.2 F

24 x 12 x 3
ID 4.1 F

45 x 14 x 3
ID 4.3 F

22 x 10 x 3
ID 4.4 F

44 x 12 x 3
ID 4.5 F

Place Matting for Erosion Control
on Slope as Work Allows.

-L-
PI Sta 17+98.81
 $\Delta = 62' 15' 04.8''$ (LT)
D = 5' 30' 33.2"
L = 1129.95'
T = 628.00'
R = 1,040.00'
SE = (SEE PLANS)

-YI-
PI Sta 26+18.40
 $\Delta = 9' 37' 56.4''$ (RT)
D = 1' 31' 11.2"
L = 633.80'
T = 317.65'
R = 3,770.00'
SE = (SEE PLANS)

-YI-
PI Sta 12+15.27
 $\Delta = 27' 32' 59.1''$ (LT)
D = 10' 13' 53.0"
L = 269.27'
T = 137.29'
R = 560.00'
SE = (SEE PLANS)

-DR4-
PI Sta 11+58.81
 $\Delta = 42' 55' 31.6''$ (LT)
D = 95' 29' 34.7"
L = 44.95'
T = 23.59'
R = 60.00'

BEGIN CONST.
-DR4- STA. 10+04.00
PT Sta. 11+80.17
BRG AH = S 33° 55' 46.6" W
PC Sta. 11+35.22

PC Sta. 10+77.98
BRG BK = S 14° 52' 32.4" W

PT Sta. 13+47.24
BRG AH = S 12° 40' 26.6" E

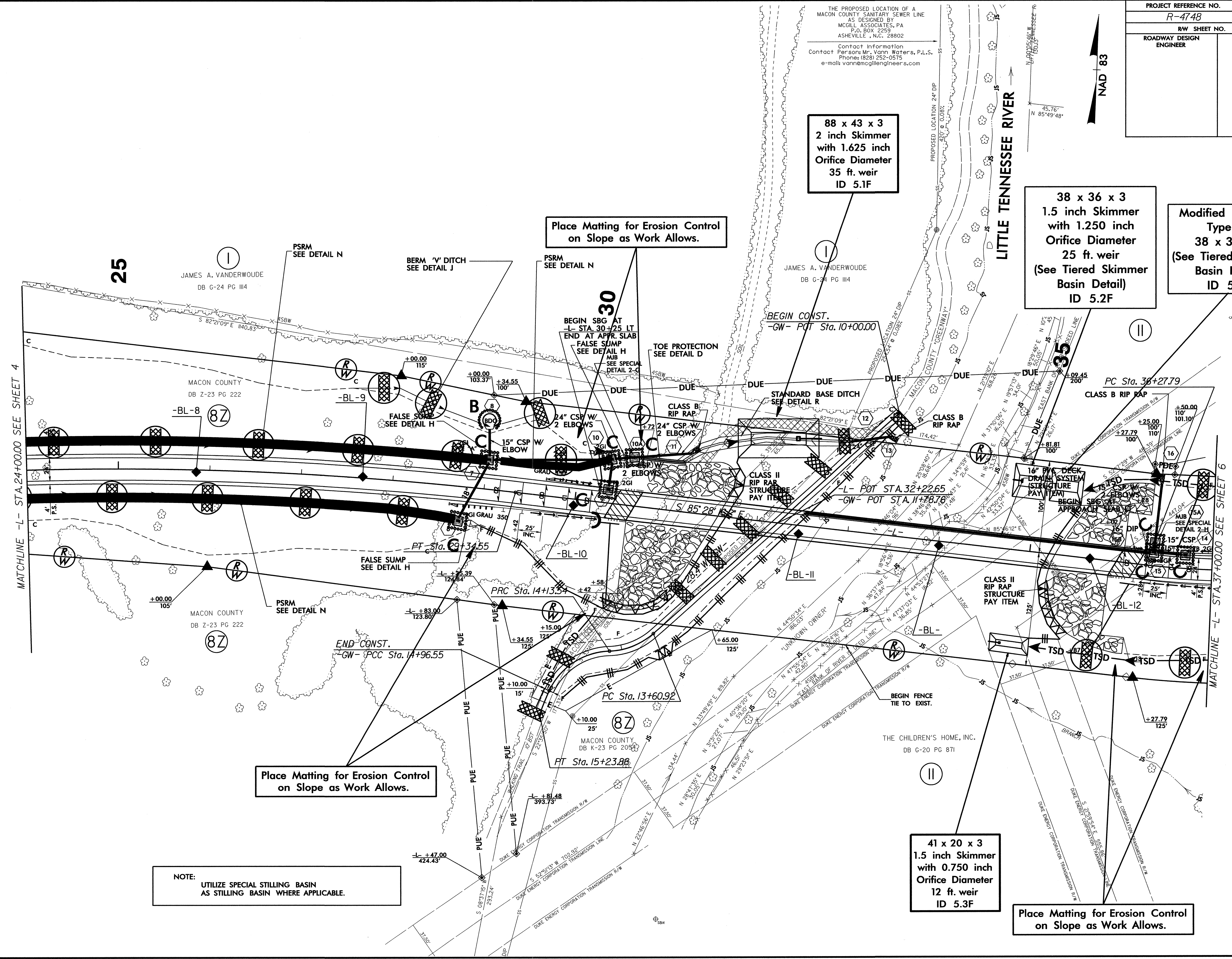
END CONST.
-YI- STA. 13+65.00

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ec9const.dwg

PROJECT REFERENCE NO.	SHEET NO.
R-4748	EC-10/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

THE PROPOSED LOCATION OF A
MACON COUNTY SANITARY SEWER LINE
AS DESIGNED BY
MCGILL ASSOCIATES, PA
P.O. BOX 2259
ASHEVILLE, N.C. 28802

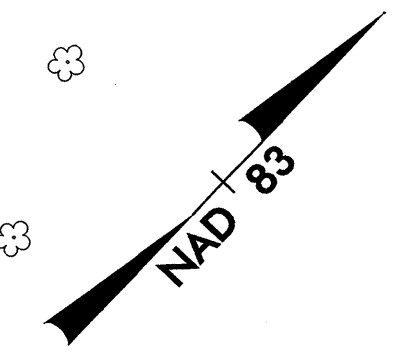
Contact Information
Contact Person: Vann Waters, P.L.S.
Phone: (828) 252-0575
e-mail: vannm@mcgillengineers.com



NOTE:
UTILIZE SPECIAL STILLING BASIN
AS STILLING BASIN WHERE APPLICABLE.

PROJECT REFERENCE NO. R-4748	SHEET NO. EC-11/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

50



DUKE ENERGY CAROLINAS, LLC
 DB D-16 PG 118
 DB J-23 PG 1616
 DB K-26 PG 825
 DB M-21 PG 793
 DB N-22 PG 285

-DR5-
 PI Sta 11+21.95
 $\Delta = 65^{\circ} 37' 35.8''$ (LT)
 $D = 52^{\circ} 05' 13.5''$
 $L = 125.99'$
 $T = 70.93'$
 $R = 110.00'$

PI Sta 12+64.09
 $\Delta = 76^{\circ} 43' 50.5''$ (RT)
 $D = 52^{\circ} 05' 13.5''$
 $L = 147.31'$
 $T = 87.08'$
 $R = 110.00'$

Place Matting for Erosion Control on Slope as Work Allows.

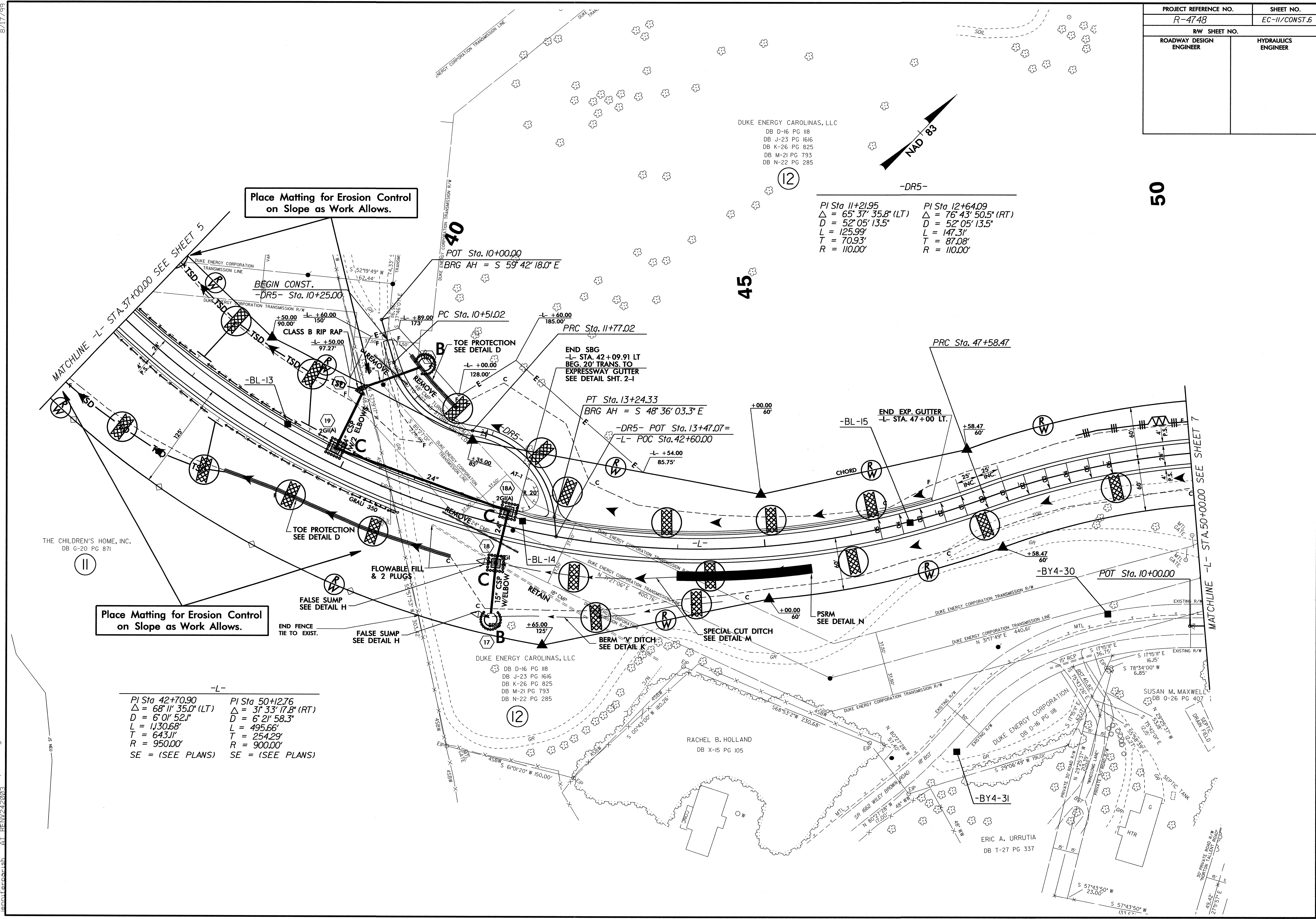
Place Matting for Erosion Control on Slope as Work Allows.

-L-
 PI Sta 42+70.90
 $\Delta = 68^{\circ} 11' 35.0''$ (LT)
 $D = 6^{\circ} 01' 52.1''$
 $L = 1130.68'$
 $T = 643.11'$
 $R = 950.00'$
 SE = (SEE PLANS)

PI Sta 50+12.76
 $\Delta = 31^{\circ} 33' 17.8''$ (RT)
 $D = 6^{\circ} 21' 58.3''$
 $L = 495.66'$
 $T = 254.29'$
 $R = 900.00'$
 SE = (SEE PLANS)

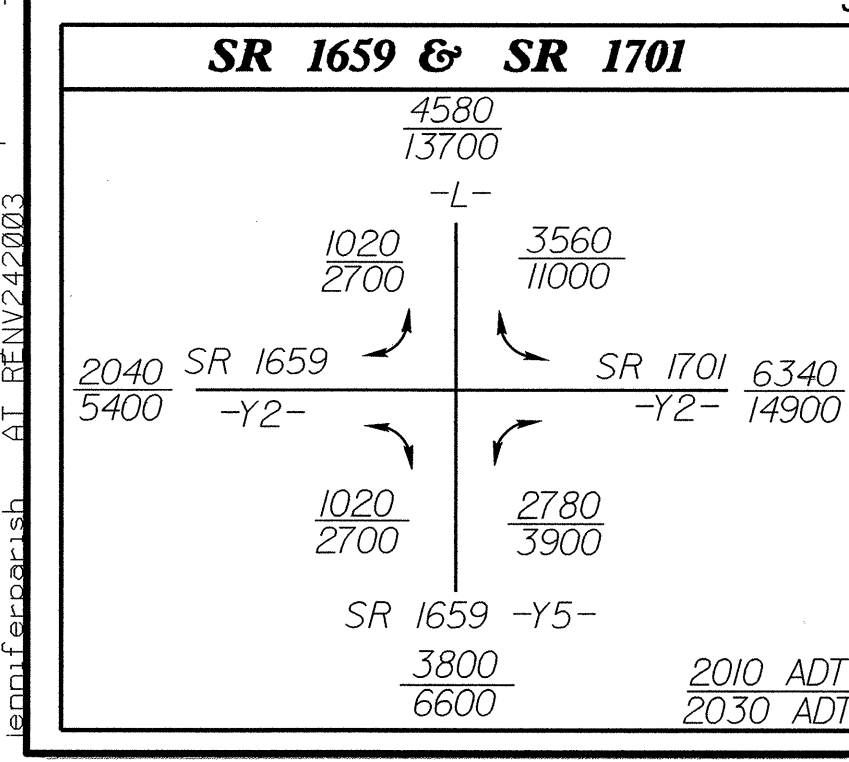
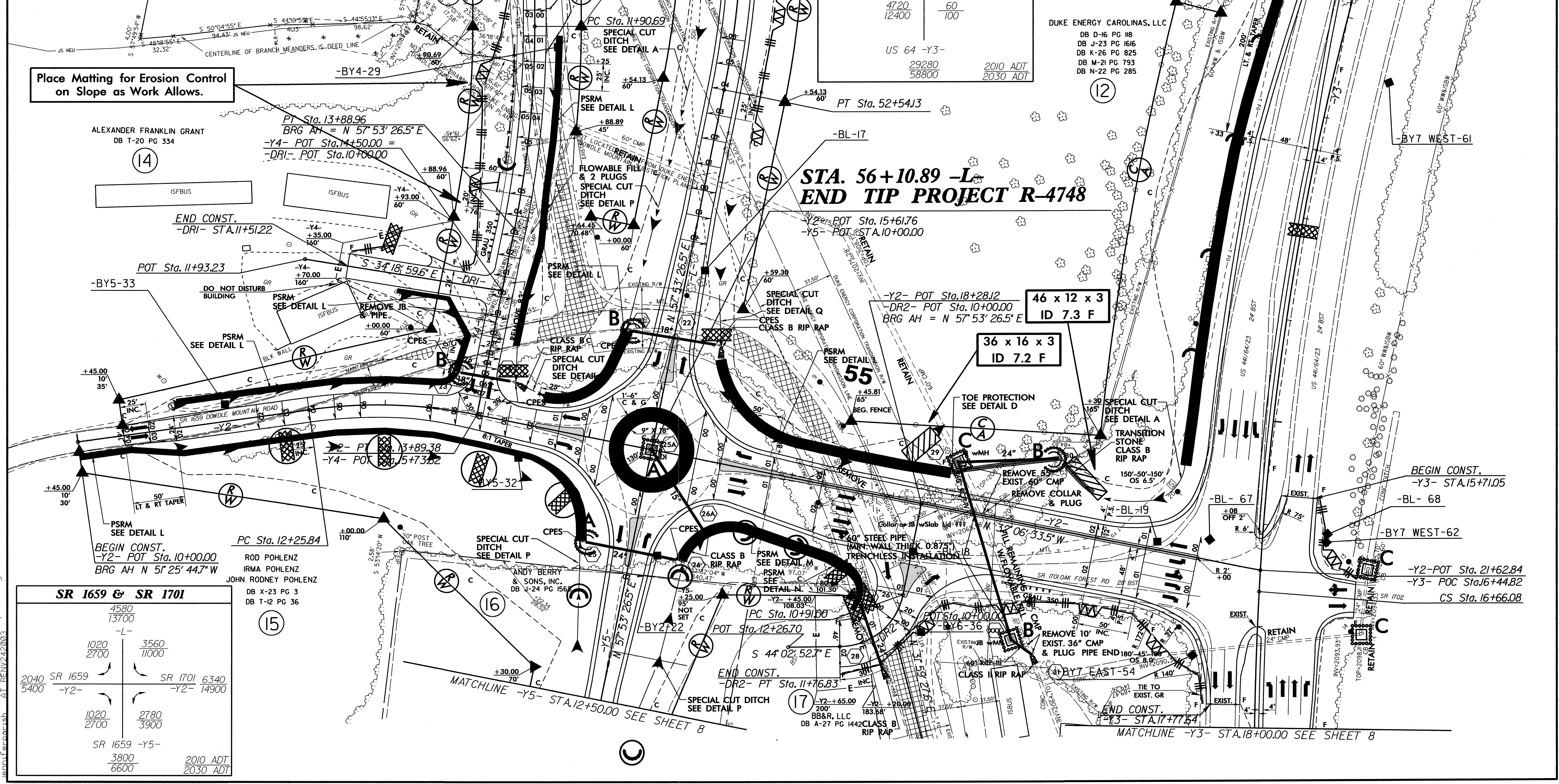
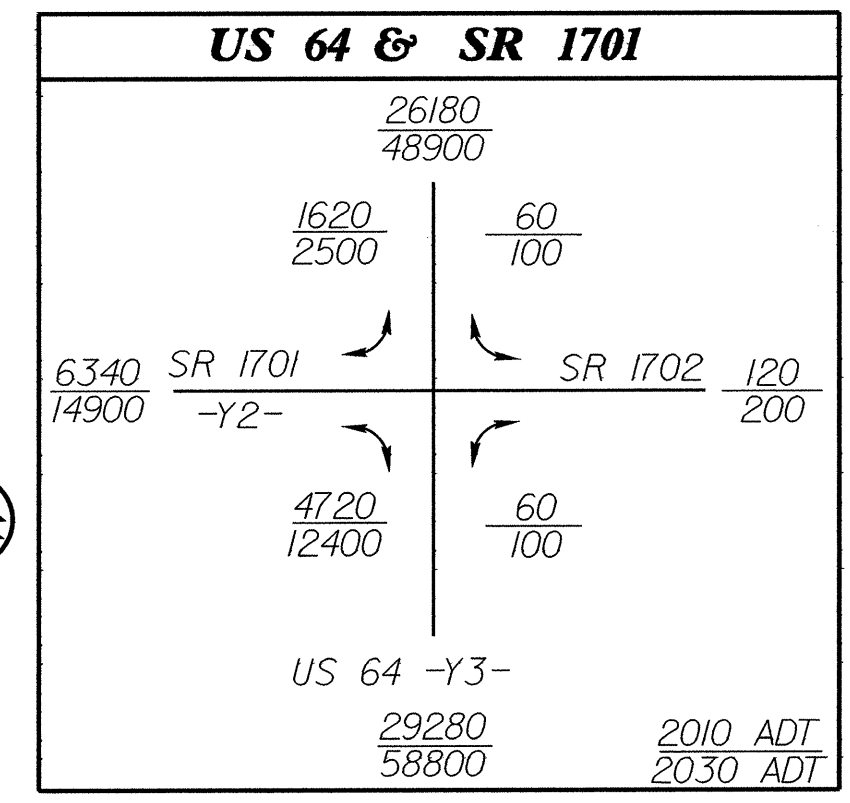
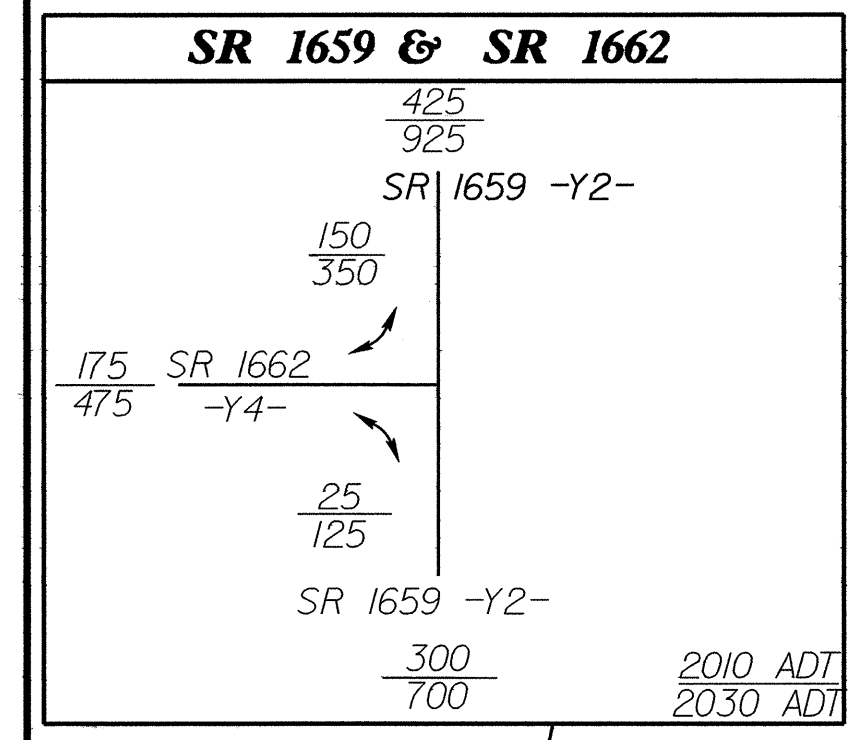
8/17/99

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PROJECT REFERENCE NO.		SHEET NO.	
R-4748		EC-12/CONST.7	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			

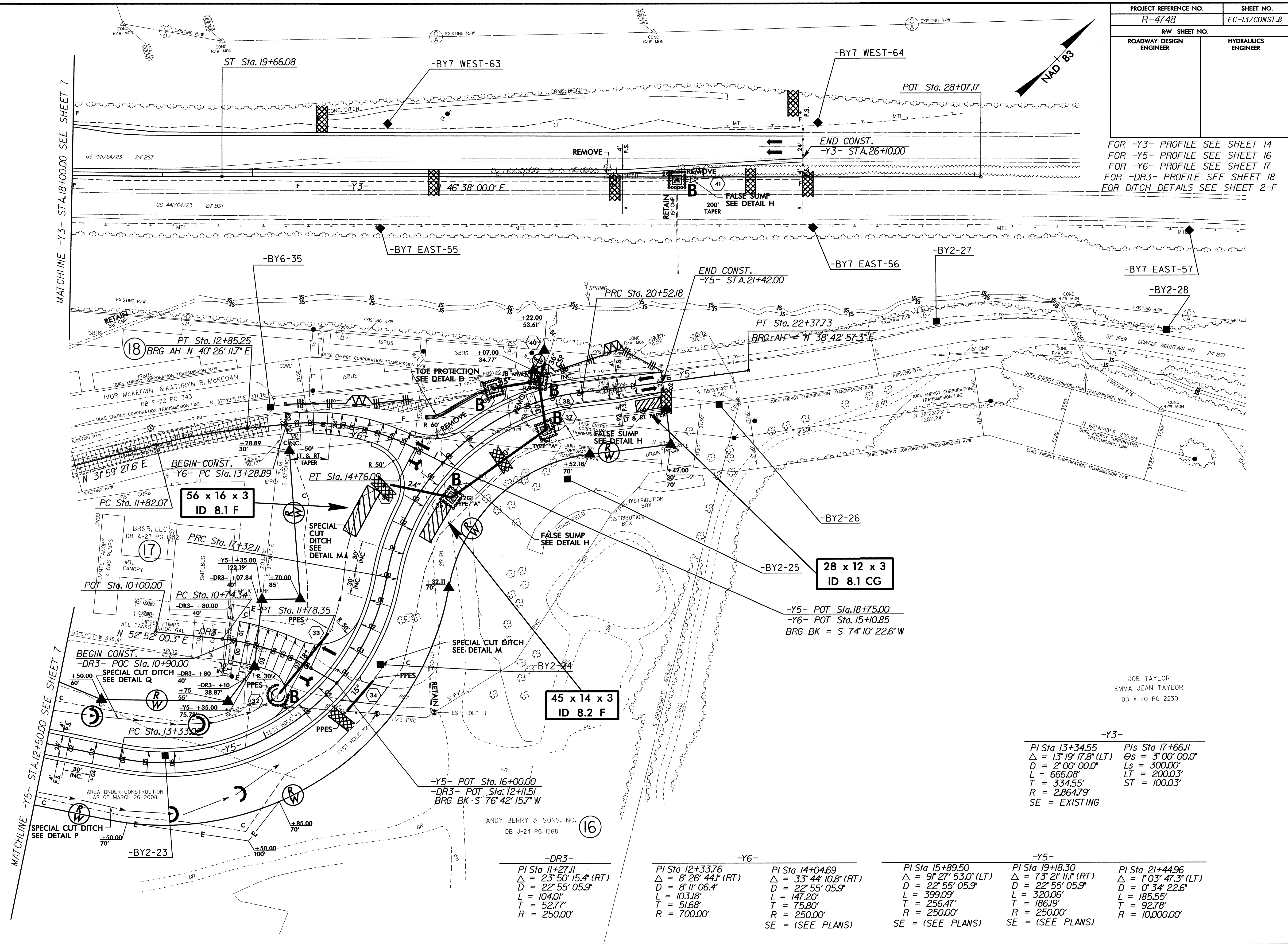
-L-	-Y2-	-Y3-	-Y4-	-Y5-	-DR2-
PI Sta 50+12.76 Δ = 31° 33' 17.8" (RT) D = 6' 21' 58.3" L = 495.66' T = 254.29' R = 900.00' SE = (SEE PLANS)	PI Sta 13+08.40 Δ = 19° 19' 11.2" (RT) D = 11' 48' 48.8" L = 163.54' T = 82.55' R = 485.00' SE = (SEE PLANS)	PI Sta 13+34.55 Δ = 13° 19' 17.8" (LT) D = 2' 00' 00.0" L = 666.08' T = 334.55' R = 2,864.79' SE = EXISTING	PI Sta 12+90.15 Δ = 11° 21' 35.1" (RT) D = 5' 43' 46.5" L = 198.27' T = 99.46' R = 1,000.00' SE = (SEE PLANS)	PI Sta 15+54.22 Δ = 67° 31' 29.8" (LT) D = 11' 48' 48.8" L = 571.59' T = 324.22' R = 485.00' SE = (SEE PLANS)	PI Sta 11+42.07 Δ = 78° 03' 40.8" (RT) D = 90' 56' 44.5" L = 85.83' T = 51.07' R = 63.00' SE = (SEE PLANS)



8/17/2009
SR 1659 & SR 1701
2010 ADT 2030 ADT
2010 ADT 2030 ADT

PROJECT REFERENCE NO.	SHEET NO.
R-4748	EC-13/CONST.8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR -Y3- PROFILE SEE SHEET 14
 FOR -Y5- PROFILE SEE SHEET 16
 FOR -Y6- PROFILE SEE SHEET 17
 FOR -DR3- PROFILE SEE SHEET 18
 FOR DITCH DETAILS SEE SHEET 2-F



MATCHLINE -Y3- STA.18+00.00 SEE SHEET 7

MATCHLINE -Y5- STA.12+50.00 SEE SHEET 7

JOE TAYLOR
 EMMA JEAN TAYLOR
 DB X-20 PG 2230

-Y3-

PI Sta 13+34.55	PIs Sta 17+66.11
$\Delta = 13' 19' 17.8''$ (LT)	$\Theta_s = 3' 00' 00.0''$
$D = 2' 00' 00.0''$	$L_s = 300.00'$
$L = 666.08'$	$LT = 200.03'$
$T = 334.55'$	$ST = 100.03'$
$R = 2,864.79'$	
SE = EXISTING	

ANDY BERRY & SONS, INC.
 DB J-24 PG 1568

-DR3-

PI Sta 11+27.11
$\Delta = 23' 50' 15.4''$ (RT)
$D = 22' 55' 05.9''$
$L = 104.01'$
$T = 52.77'$
$R = 250.00'$

-Y6-

PI Sta 12+33.76
$\Delta = 8' 26' 44.1''$ (RT)
$D = 8' 11' 06.4''$
$L = 103.18'$
$T = 51.68'$
$R = 700.00'$

-Y5-

PI Sta 14+04.69
$\Delta = 33' 44' 10.8''$ (RT)
$D = 22' 55' 05.9''$
$L = 147.20'$
$T = 75.80'$
$R = 250.00'$
SE = (SEE PLANS)

-Y5-

PI Sta 15+89.50
$\Delta = 9' 27' 53.0''$ (LT)
$D = 22' 55' 05.9''$
$L = 399.09'$
$T = 256.47'$
$R = 250.00'$
SE = (SEE PLANS)

-Y5-

PI Sta 19+18.30
$\Delta = 73' 21' 11.1''$ (RT)
$D = 22' 55' 05.9''$
$L = 320.06'$
$T = 186.19'$
$R = 250.00'$
SE = (SEE PLANS)

-Y5-

PI Sta 21+44.96
$\Delta = 1' 03' 47.3''$ (LT)
$D = 0' 34' 22.6''$
$L = 185.55'$
$T = 92.78'$
$R = 10,000.00'$