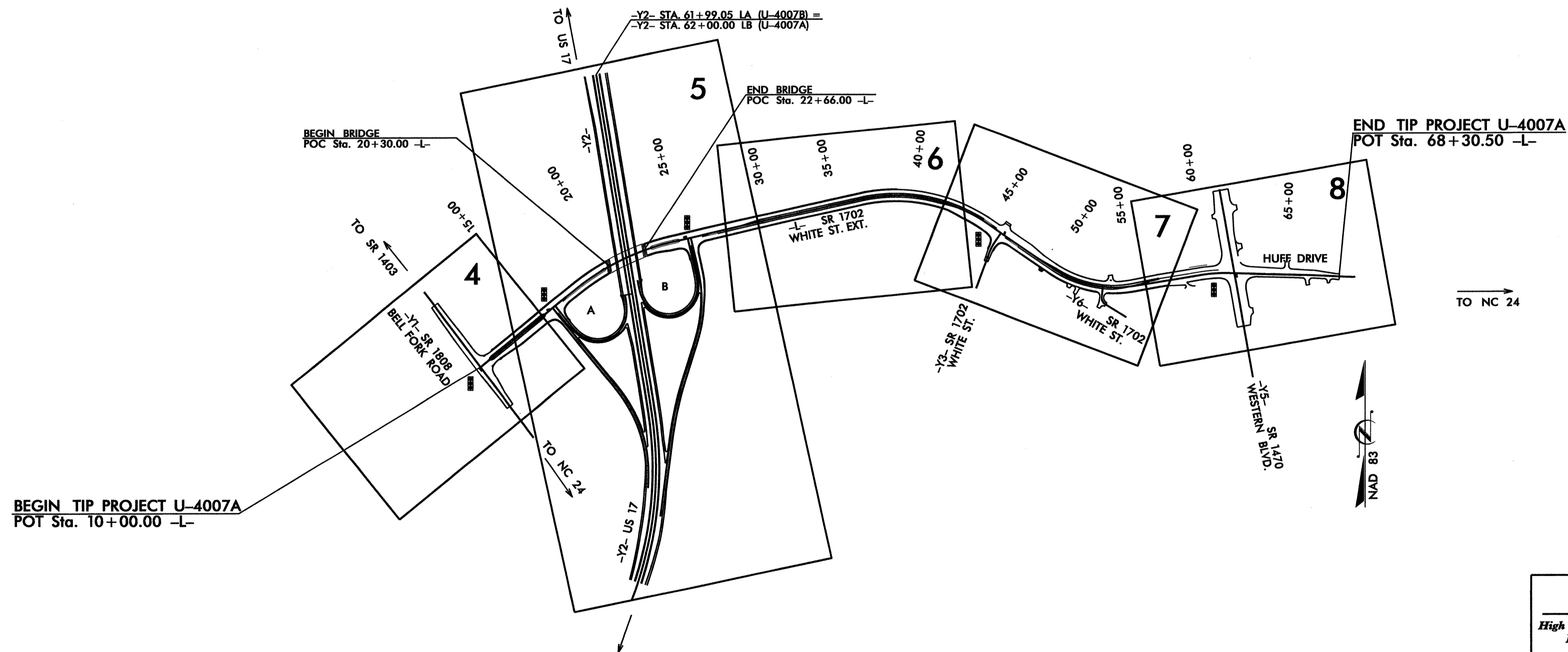


**TIP PROJECT: U-4007A**

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

**LOCATION: SR 1702 (WHITE STREET EXTENSION) FROM SR 1308  
 (BELL FORK ROAD) TO SR 1470 (WESTERN BOULEVARD)  
 TYPE OF WORK: GRADING, DRAINAGE, PAVING,  
 STRUCTURE, CULVERTS, AND SIGNALS**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4007A	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.05	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	—
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	—
	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	▨
	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	▨

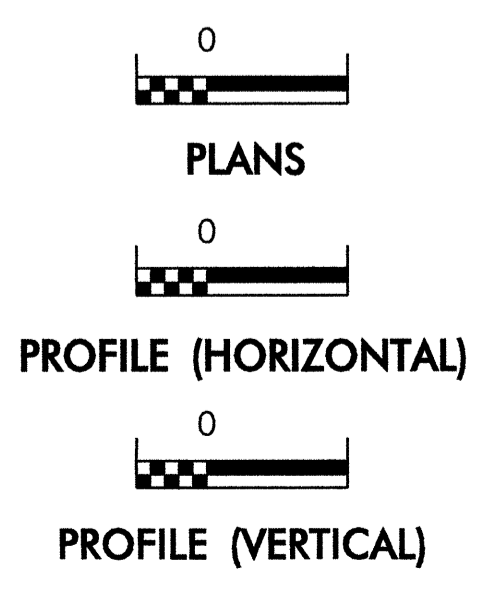
**THIS PROJECT CONTAINS  
 EROSION CONTROL PLANS  
 FOR CLEARING AND  
 GRUBBING PHASE OF  
 CONSTRUCTION.**

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

**HIGH QUALITY WATER(S) EXIST  
 ON THIS PROJECT**  
*High Quality Water Zone(s) Exist*  
 From Sta. 15+00  
 to Sta. 42+50  
*Refer To E. C. Special Provisions  
 for Special Considerations.*

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

**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

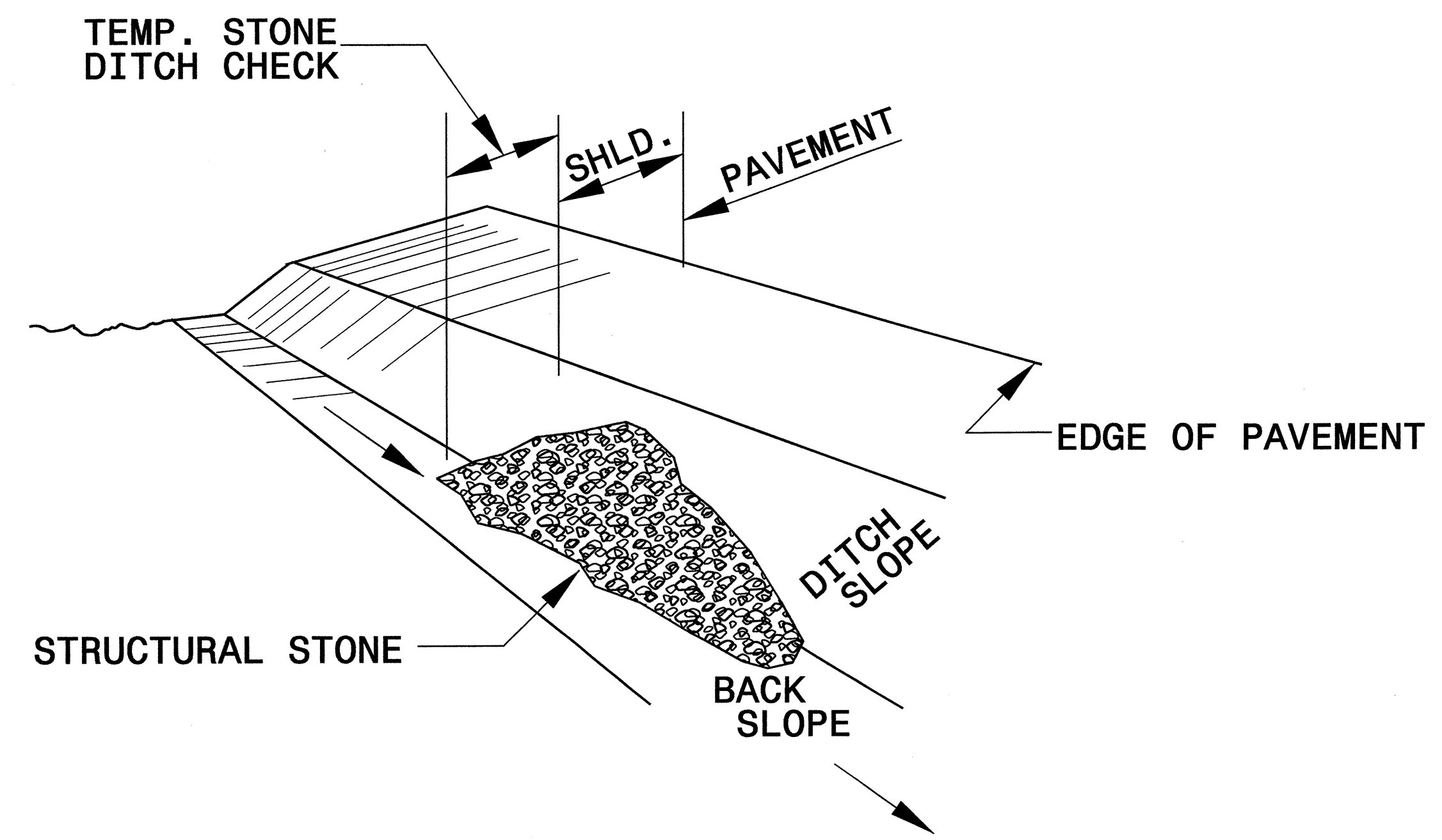
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1630.05 Temporary Diversion
1606.01 Special Sediment Control Fence	1632.02 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
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B

25-MAR-2011 09:20 R:\Environment\Projects\U4007A\_EC.dwg mhd:mhg

PROJECT REFERENCE NO. <i>U-4007A</i>	SHEET NO. <i>EC-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

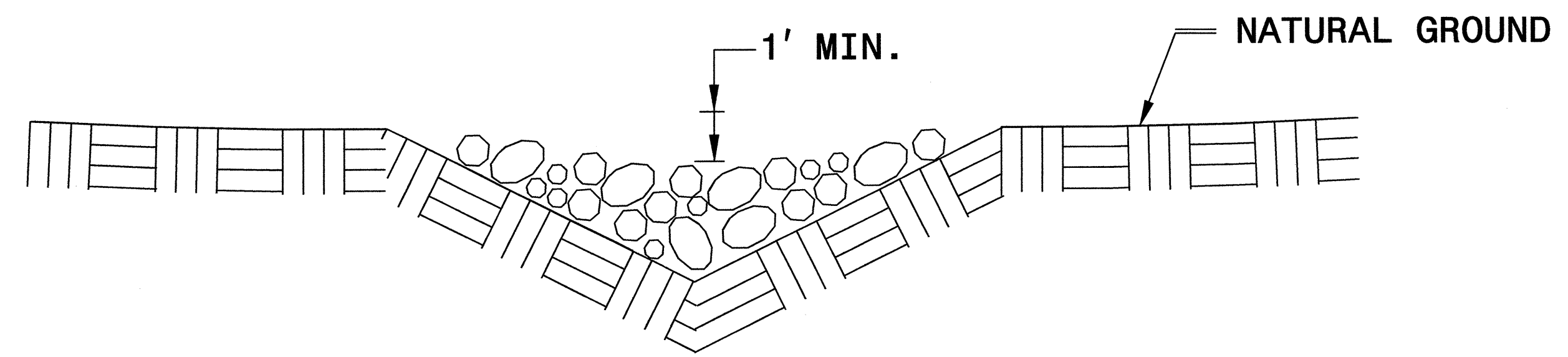


**ISOMETRIC VIEW**

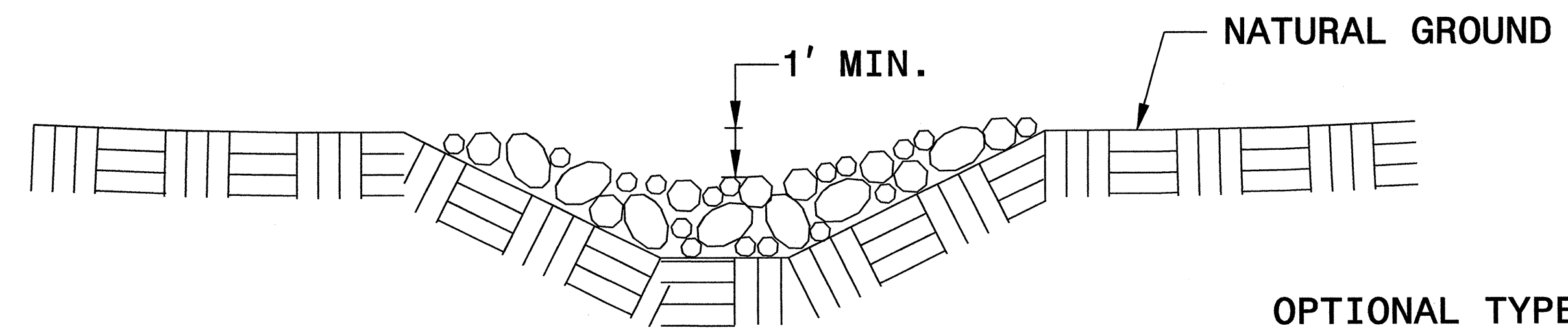
**NOTES:**

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

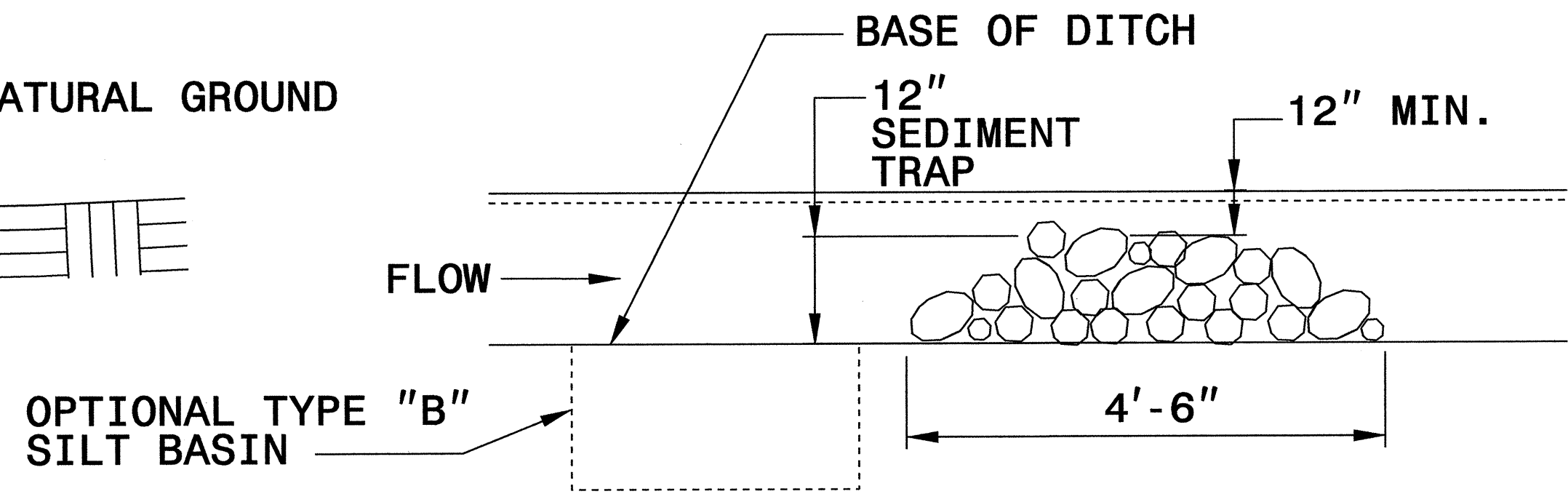
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



**CROSS SECTION VEE DITCH**



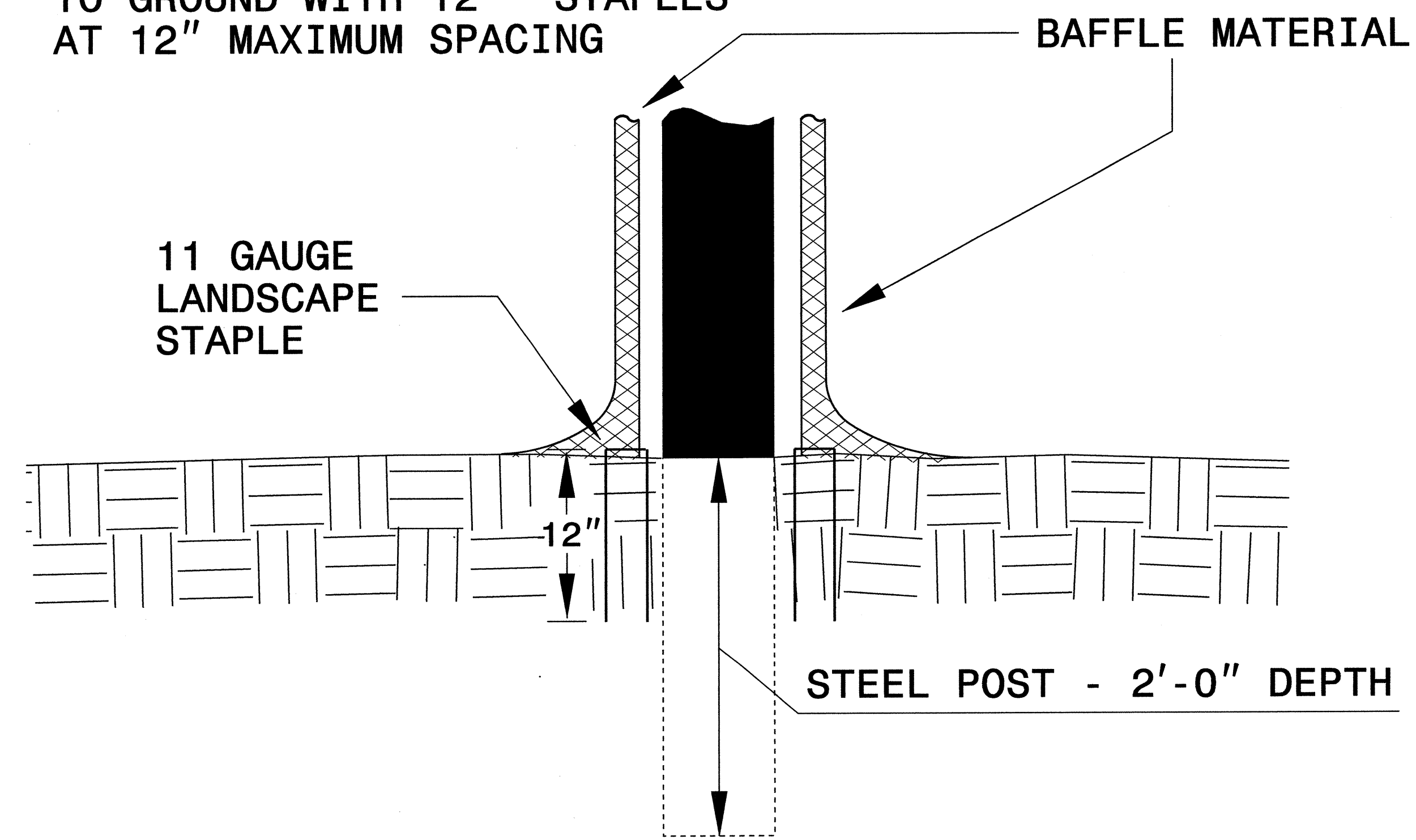
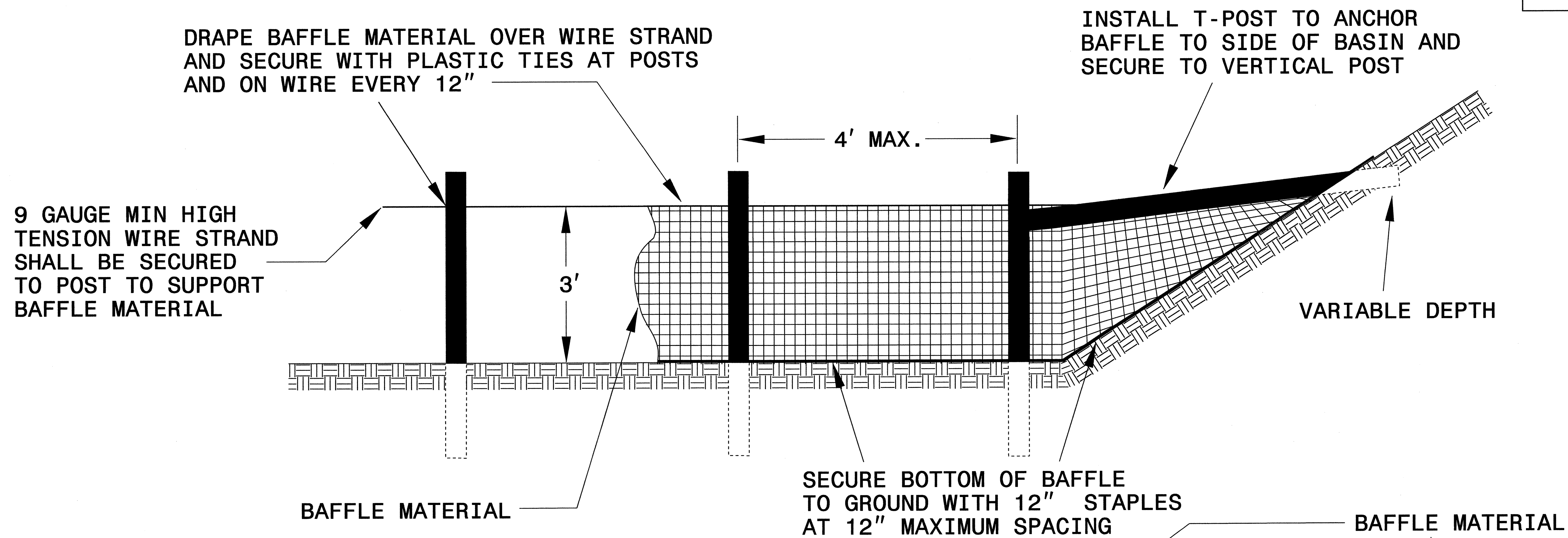
**CROSS SECTION TRAPEZOIDAL DITCH**



**ELEVATION VIEW**

PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER BAFFLE DETAIL



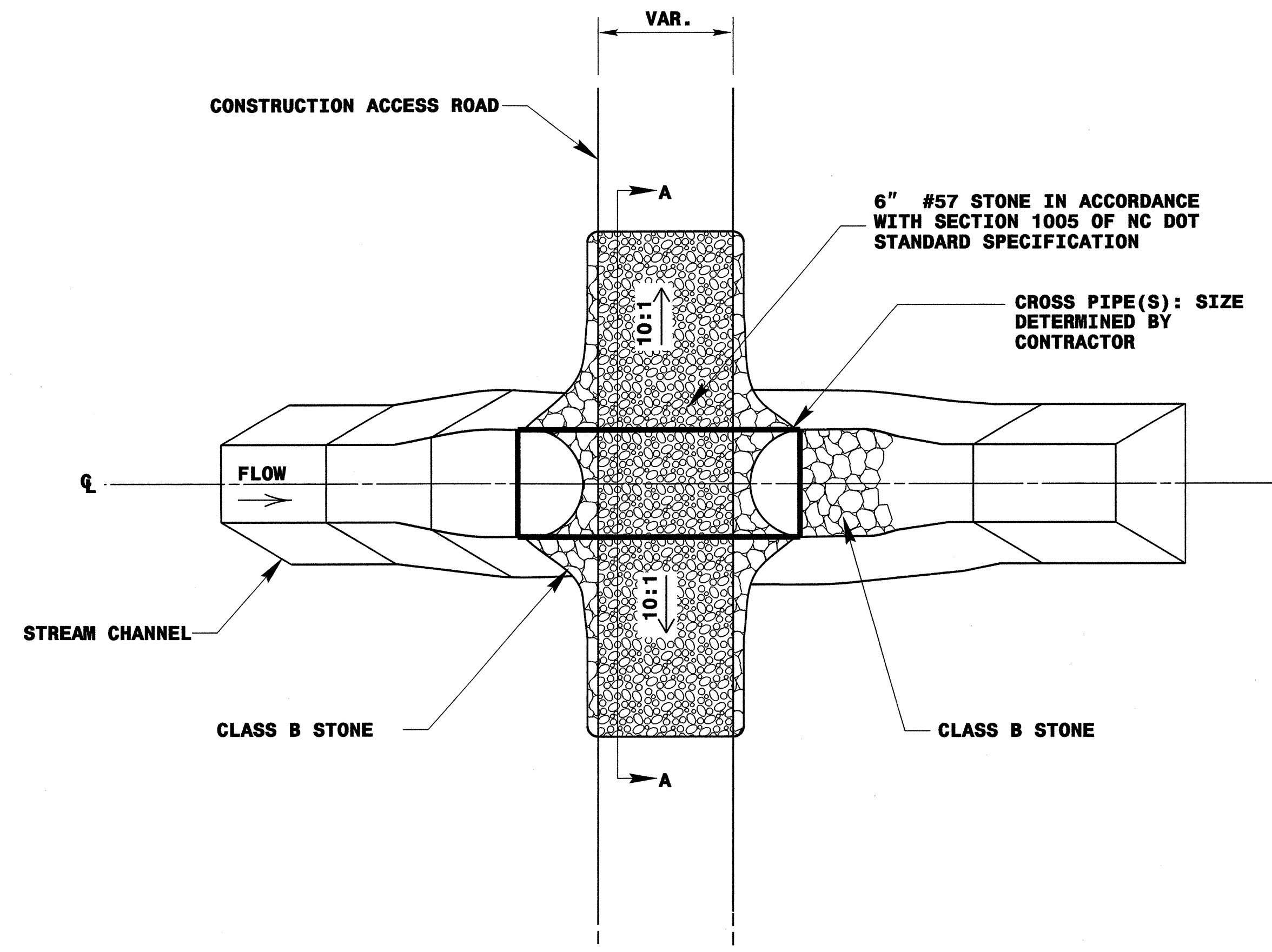
**NOTES:**

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.

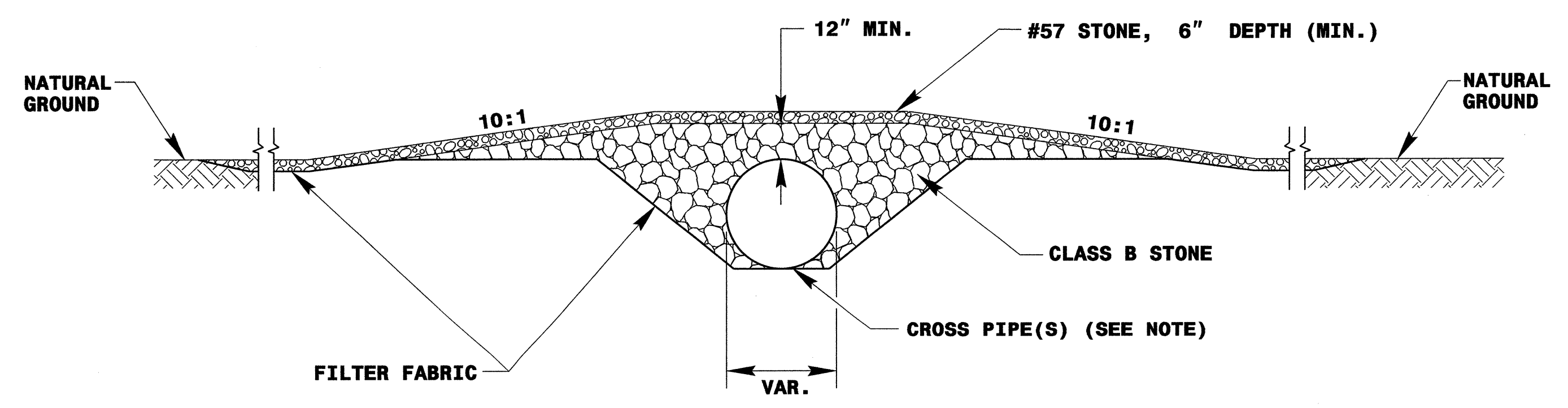
BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

PROJECT REFERENCE NO. <i>U-4007A</i>	SHEET NO. <i>EC-2B</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY STREAM CROSSING



**PLAN VIEW**

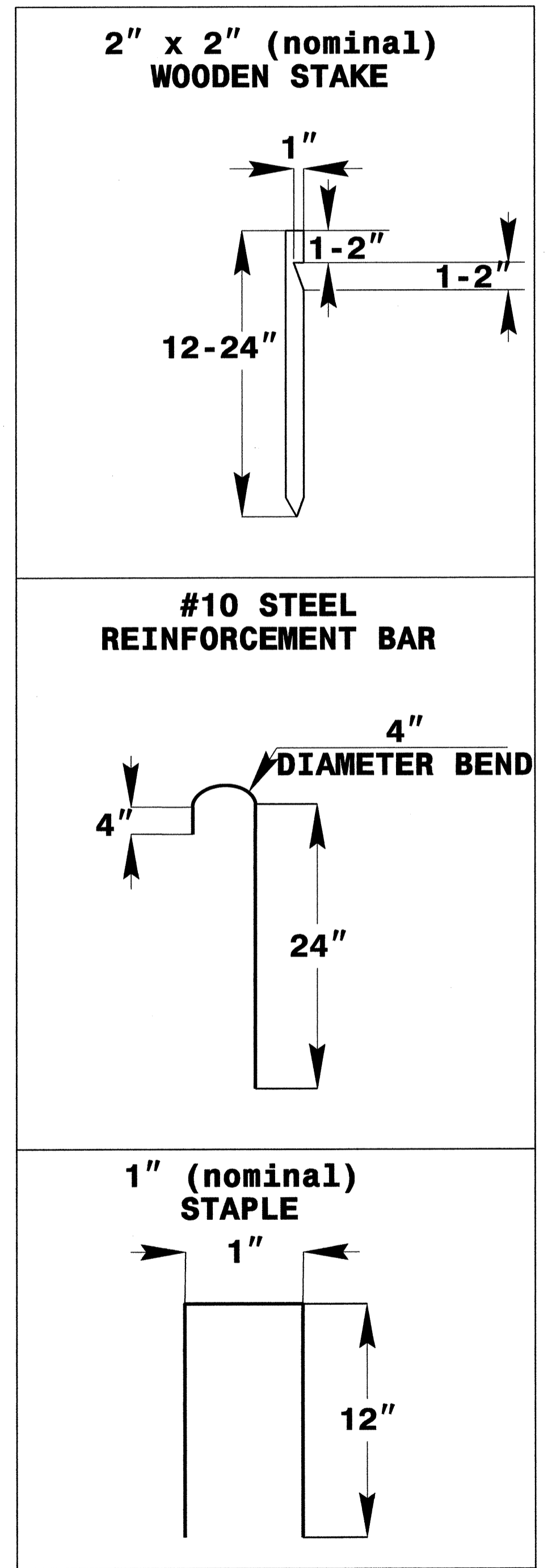
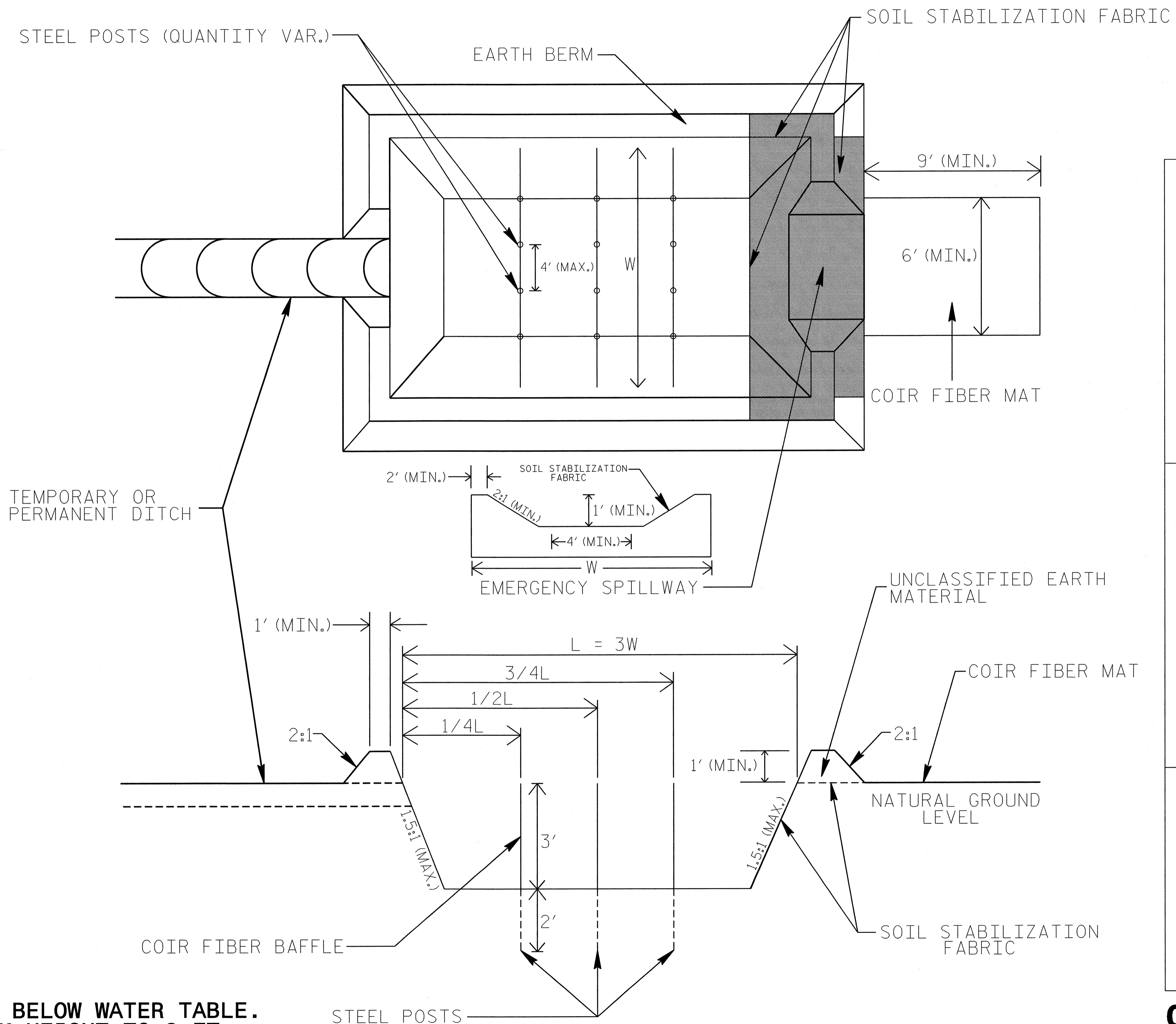


**SECTION A-A**  
NOT TO SCALE

**NOTE: PIPE(S) FOR TEMPORARY STREAM CROSSING SHALL BE DESIGNED TO PASS THE PEAK OR BANKFULL FLOW, WHICHEVER IS LESS, FROM A 2-YEAR PEAK STORM, WITHOUT OVER TOPPING.**

# INFILTRATION BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



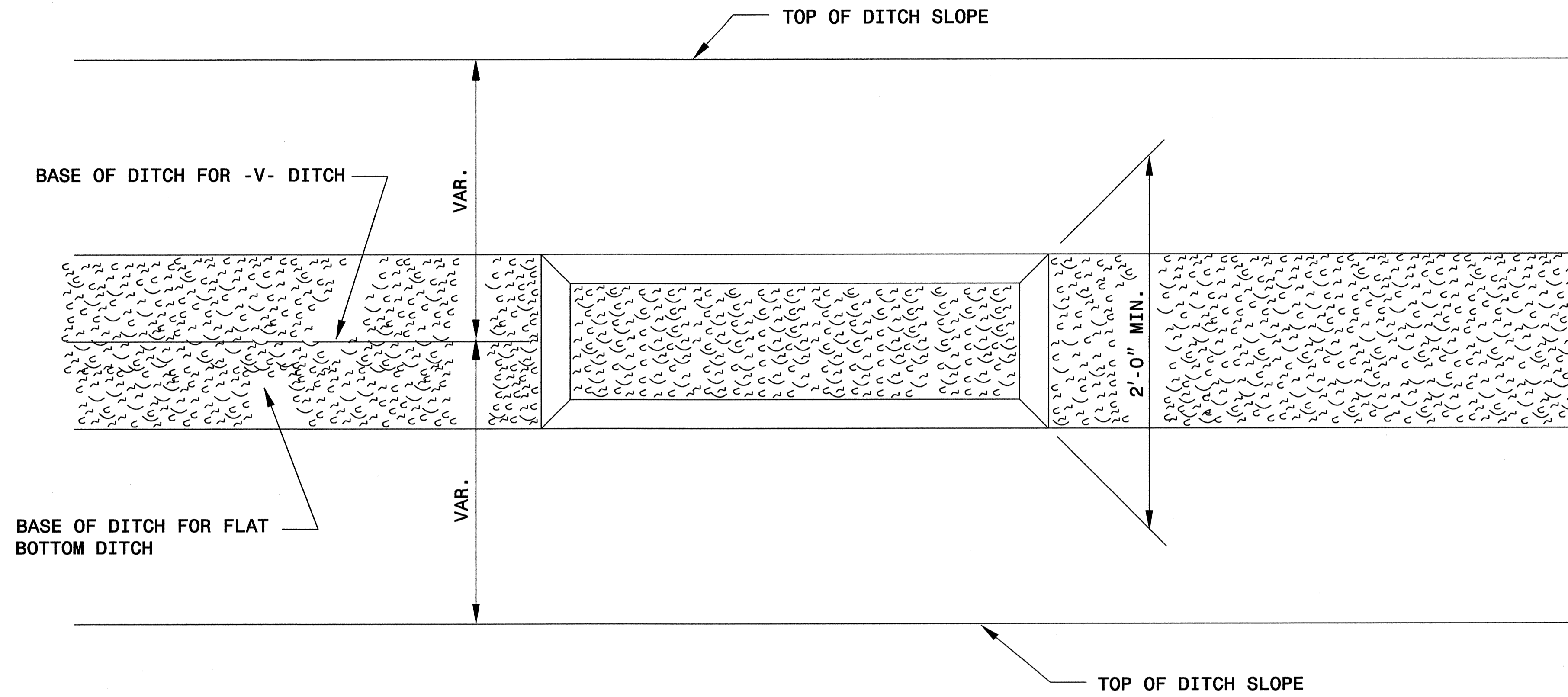
## COIR FIBER MAT ANCHOR OPTIONS

### NOTES

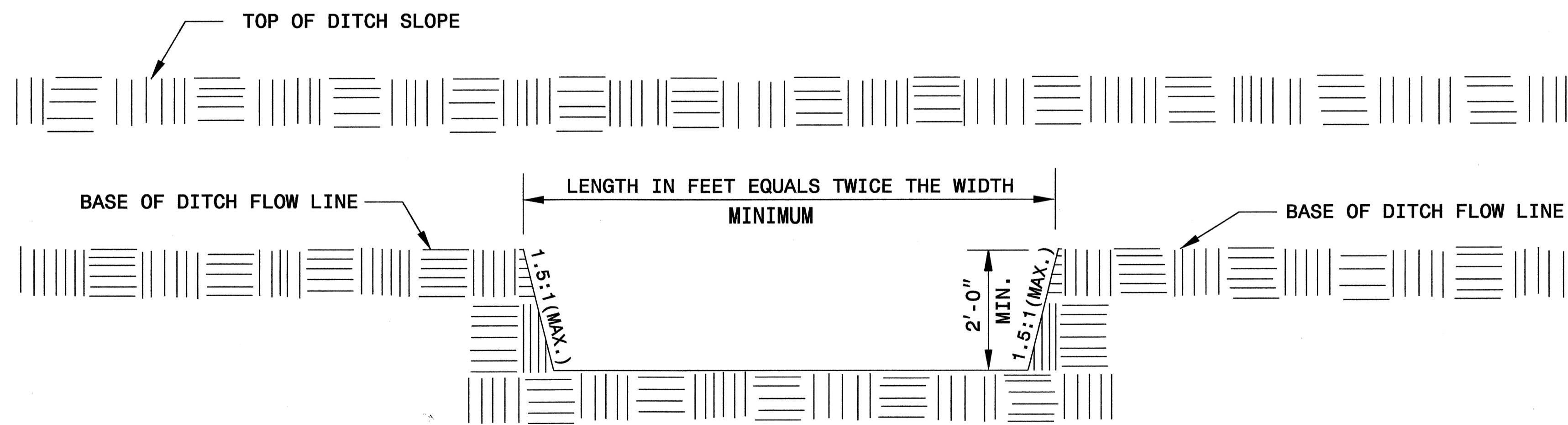
1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.

PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SILT BASIN 'B' DETAIL



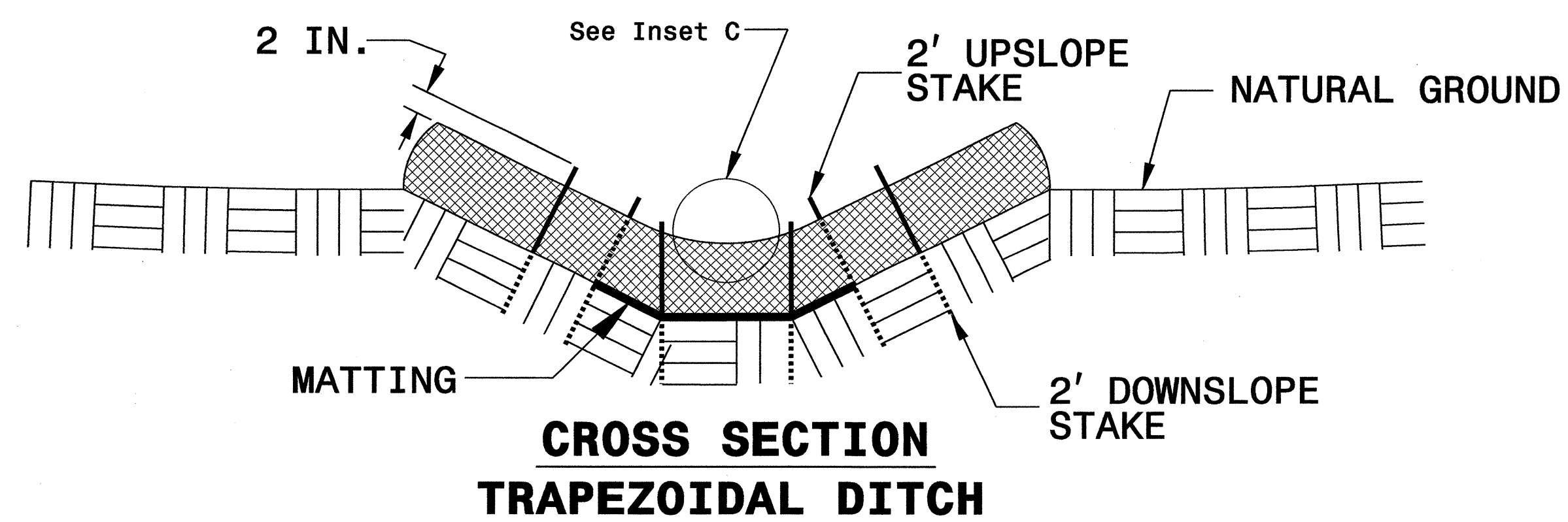
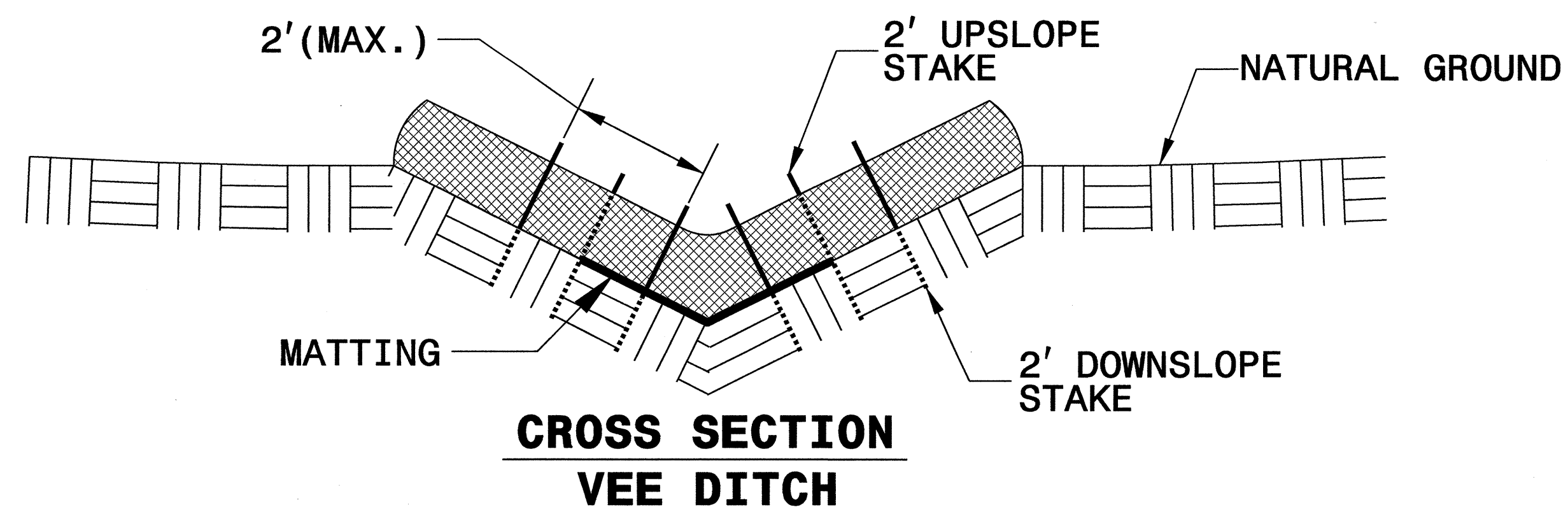
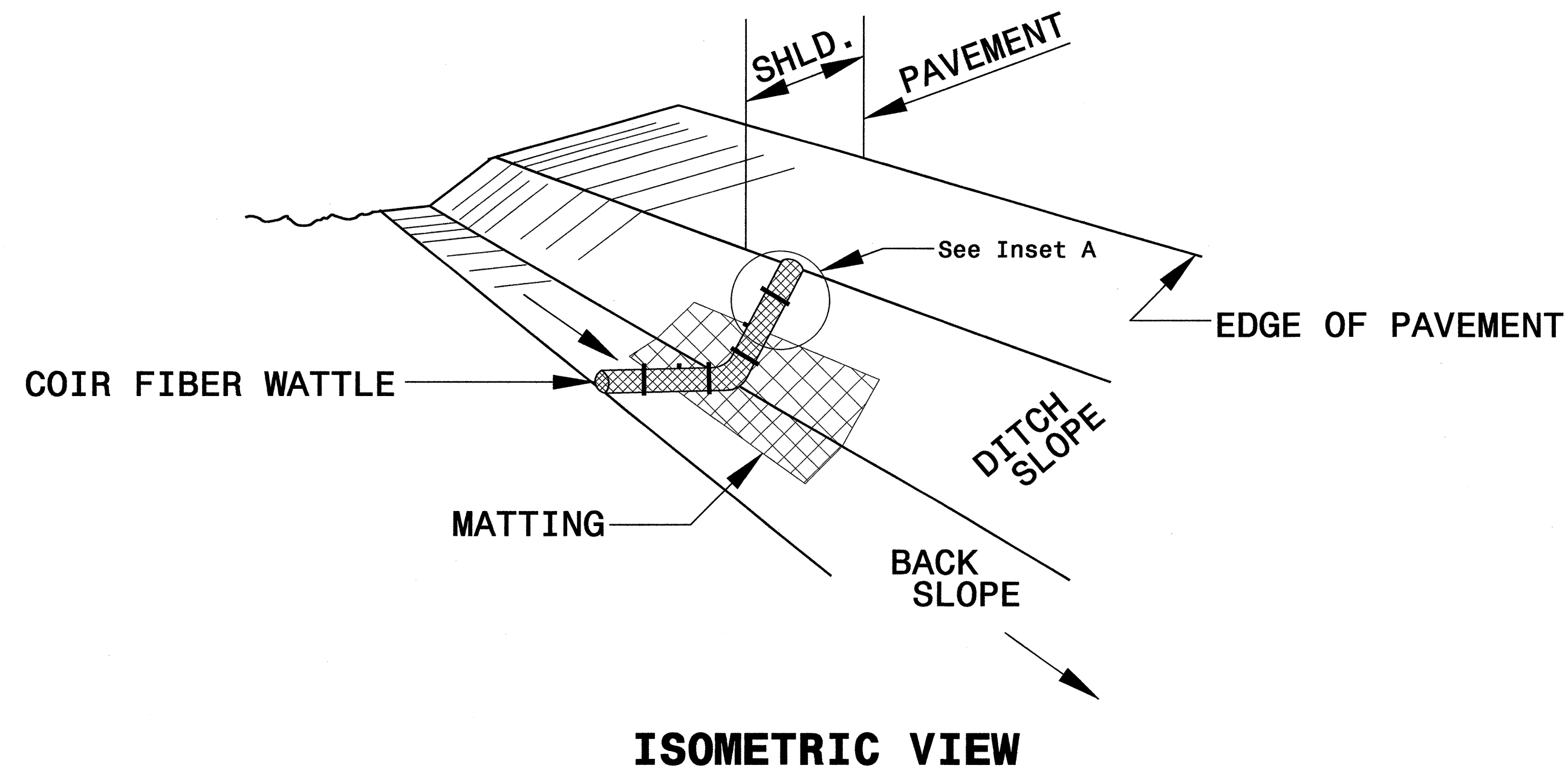
PLAN



ELEVATION

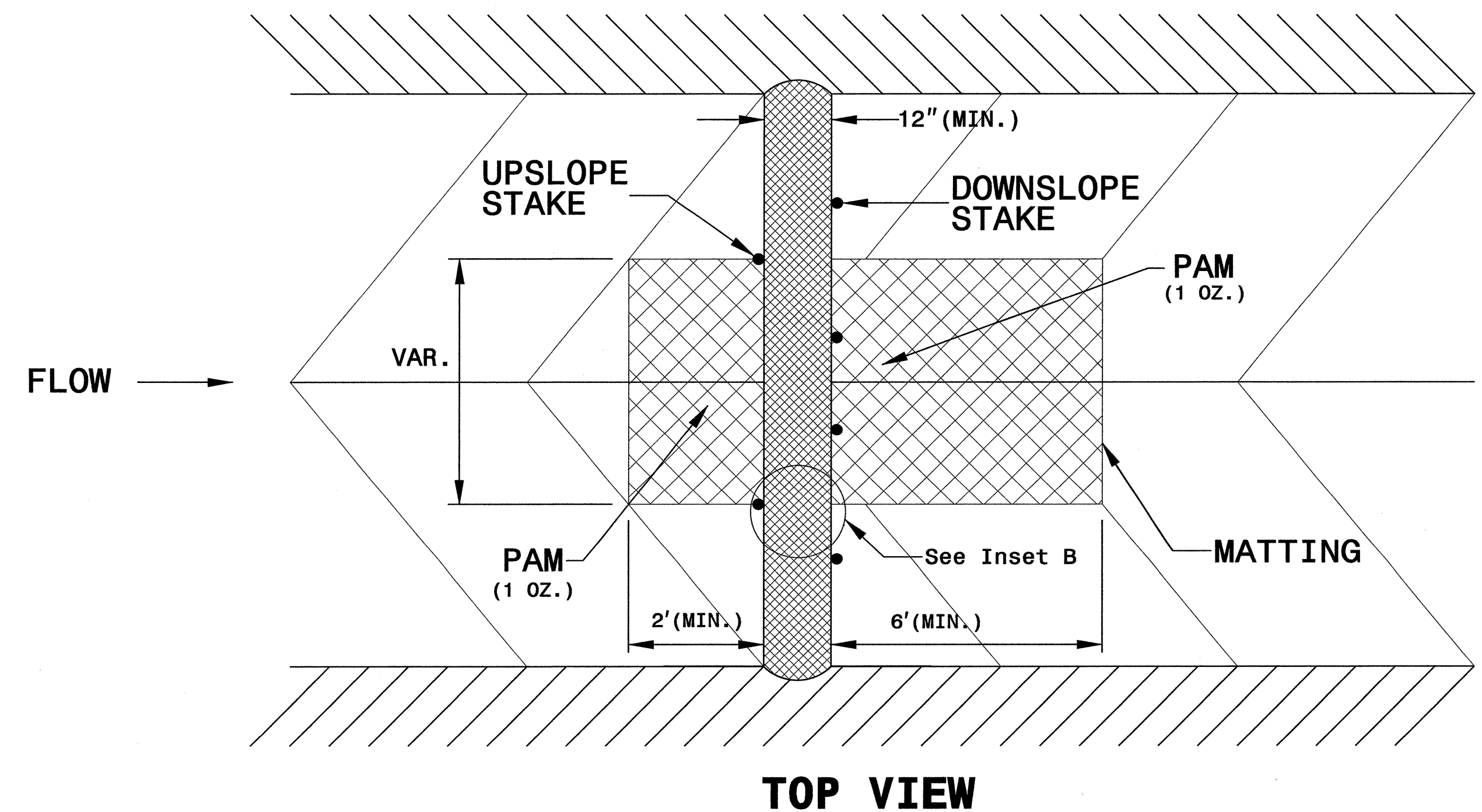
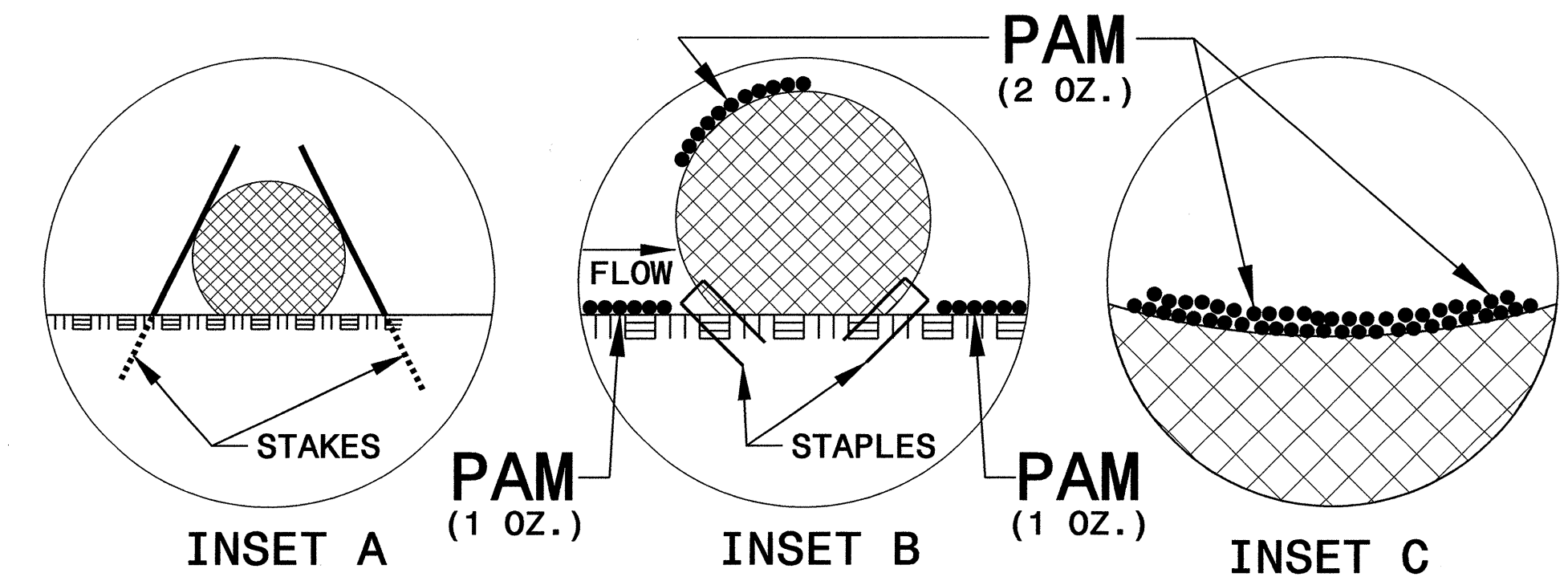
PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-2E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



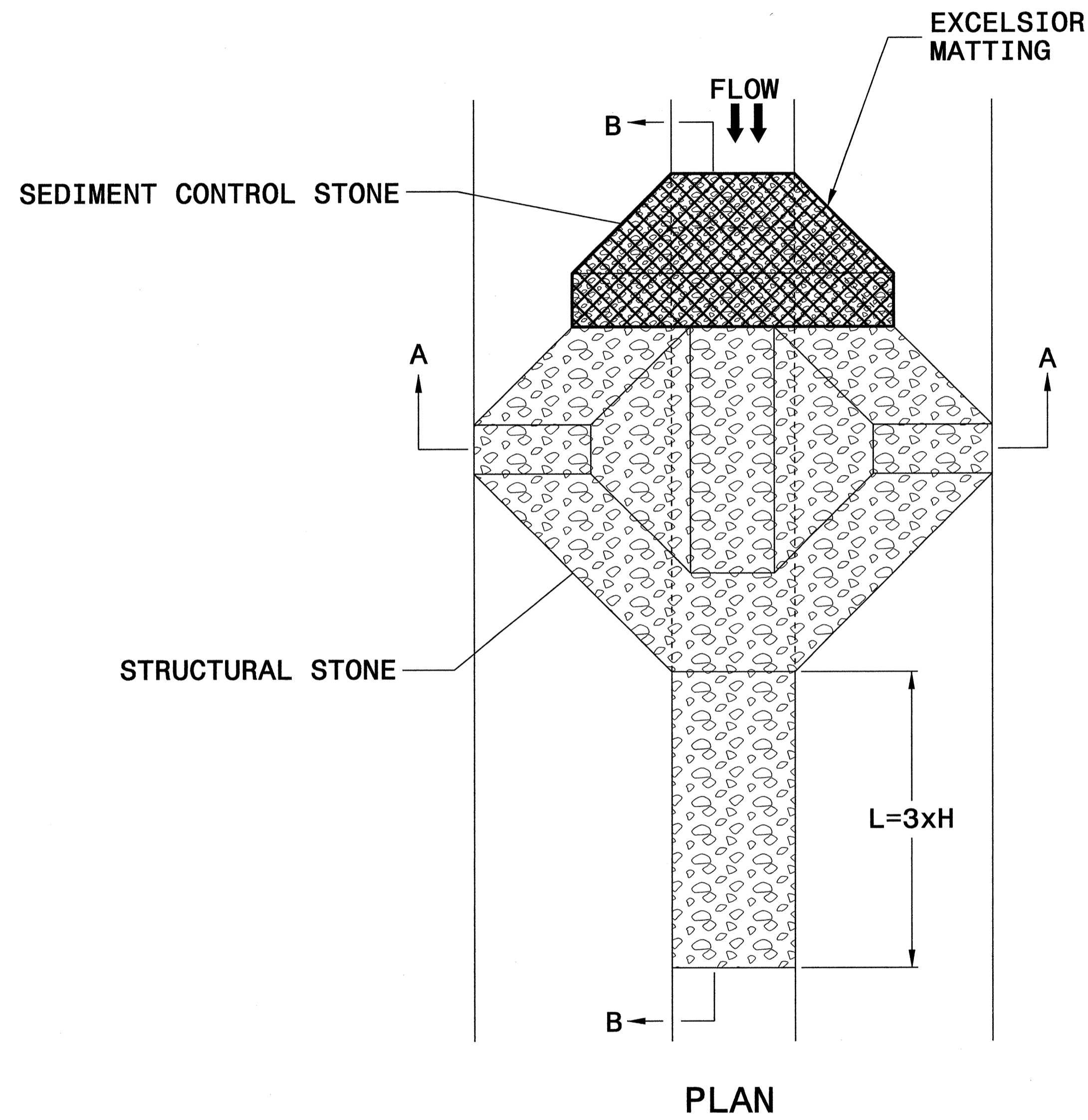
**NOTES:**

- 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 EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-2F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

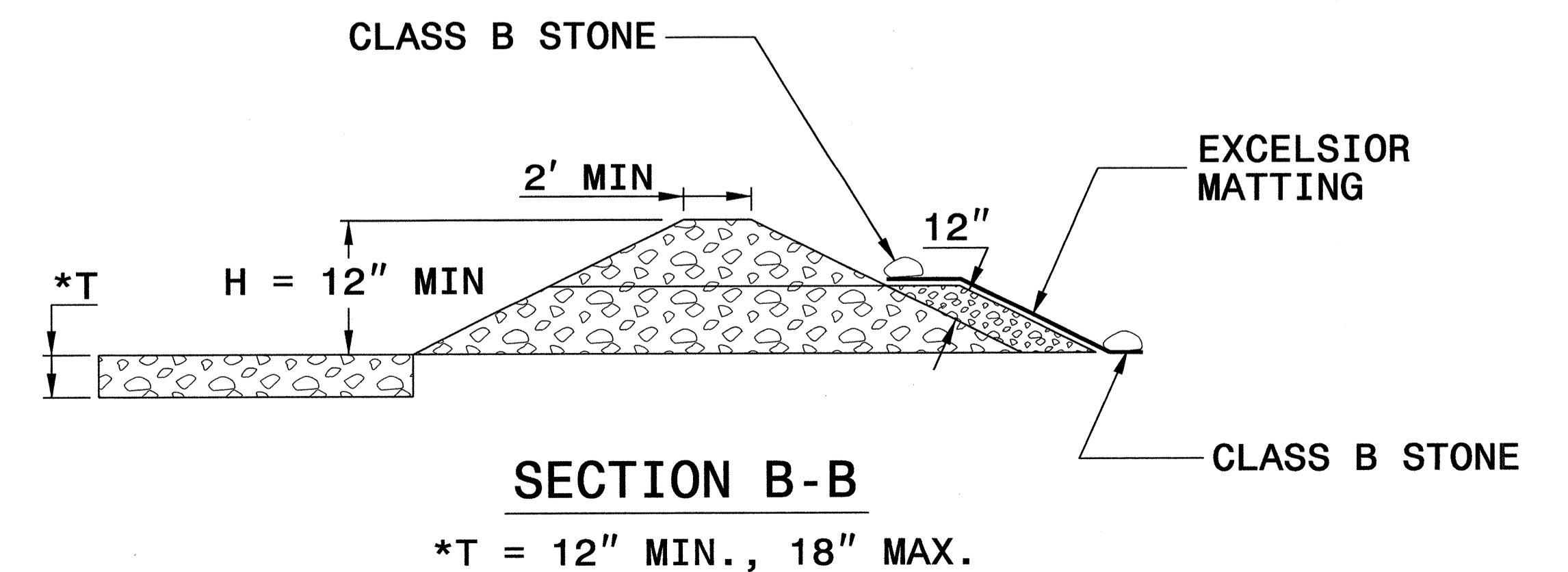
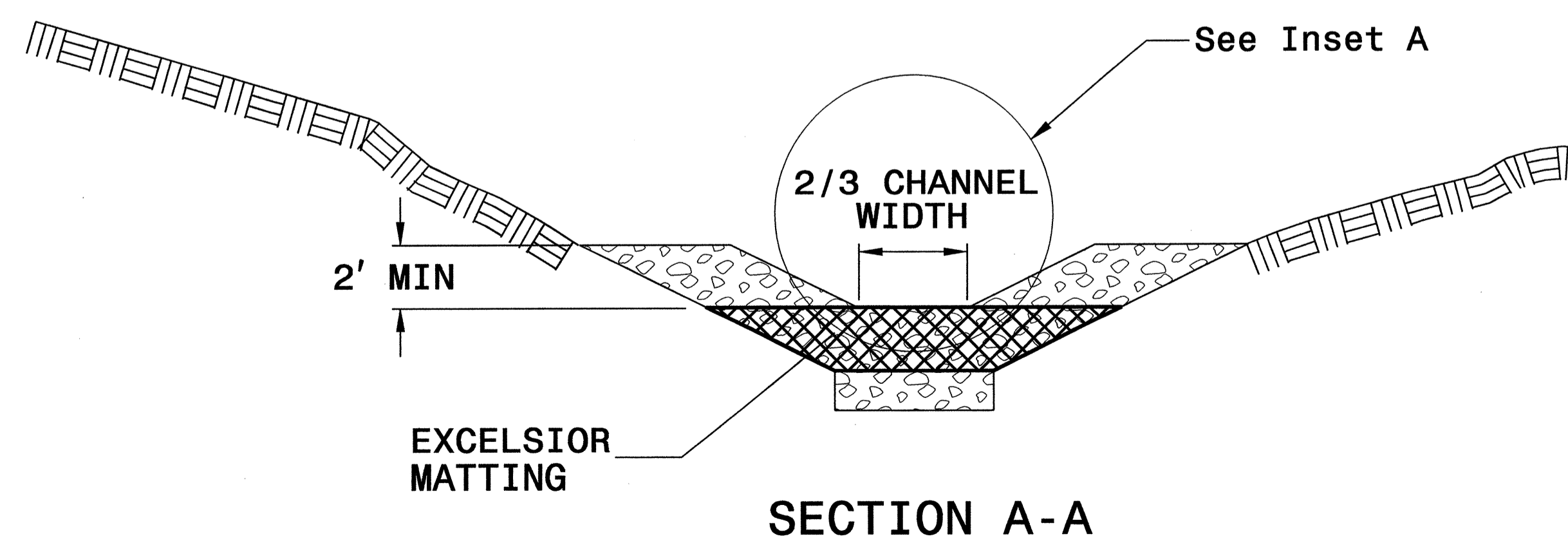
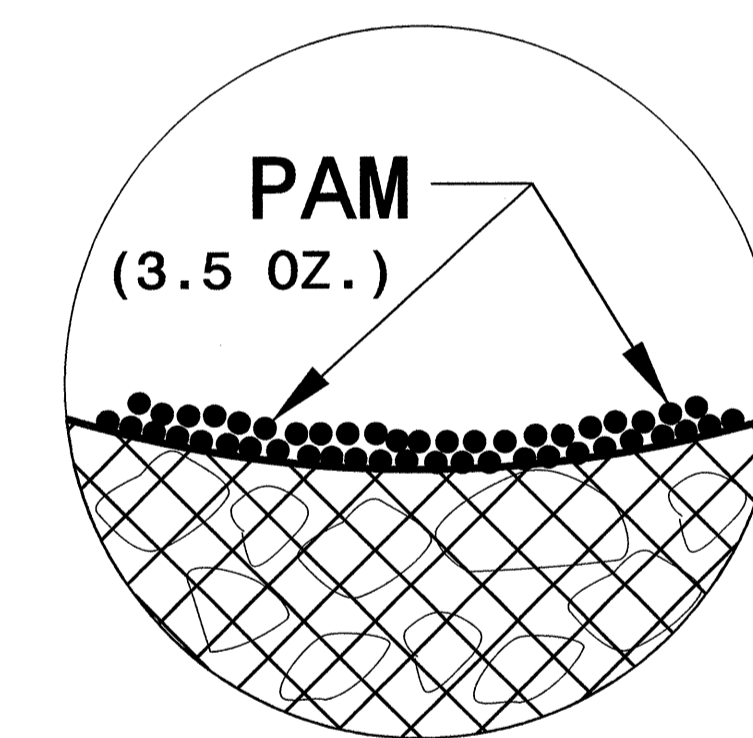


## NOTES

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



# BORROW PIT DEWATERING BASIN DETAIL

PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**GENERAL NOTES:**

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING  $V = 8.0203 * Q * T$ , WHERE V IS VOLUME (FT<sup>3</sup>), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE WITH A MATERIAL THAT MEETS THE SPECIFICATIONS OF THE COIR FIBER MAT SPECIAL PROVISION PROVIDED IN THE CONTRACT.

PROVIDE 5' STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3' OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12" STAPLES.

INSTALL TYPE 2 FILTER FABRIC ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

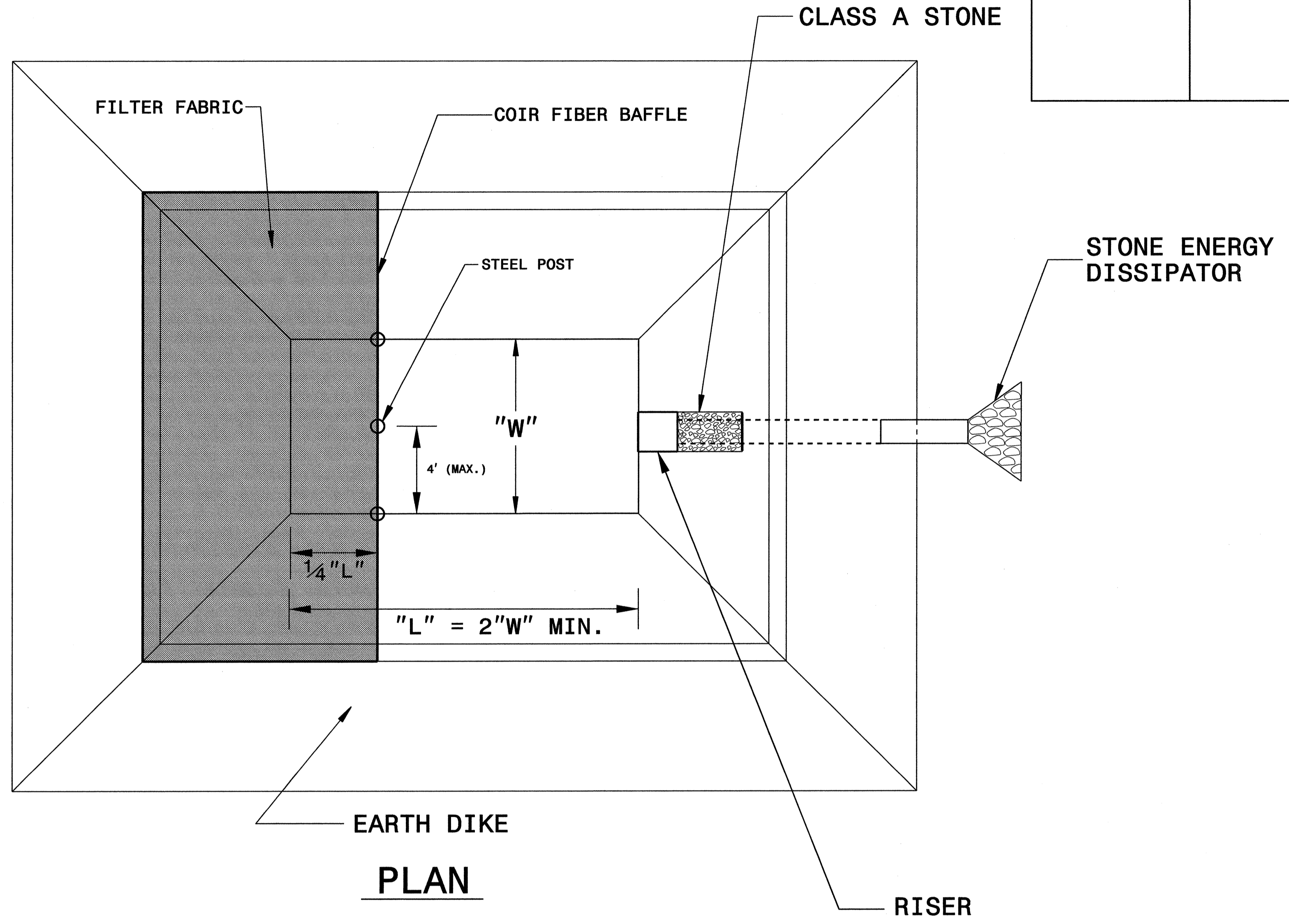
DO NOT EXCEED 3 1/2 FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

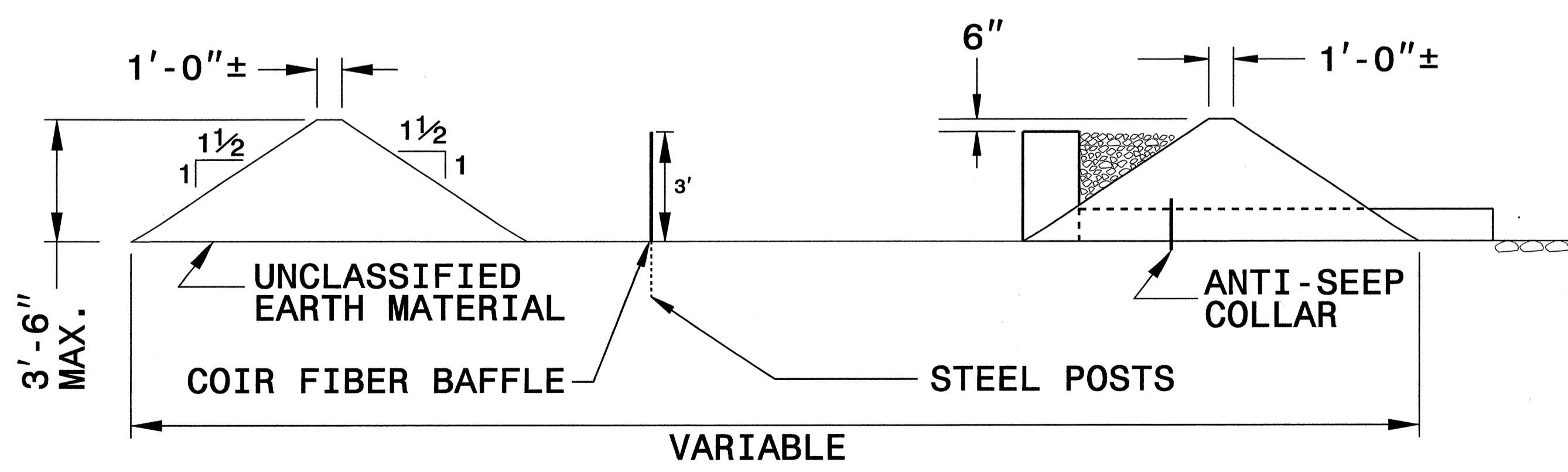
SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



**PLAN**

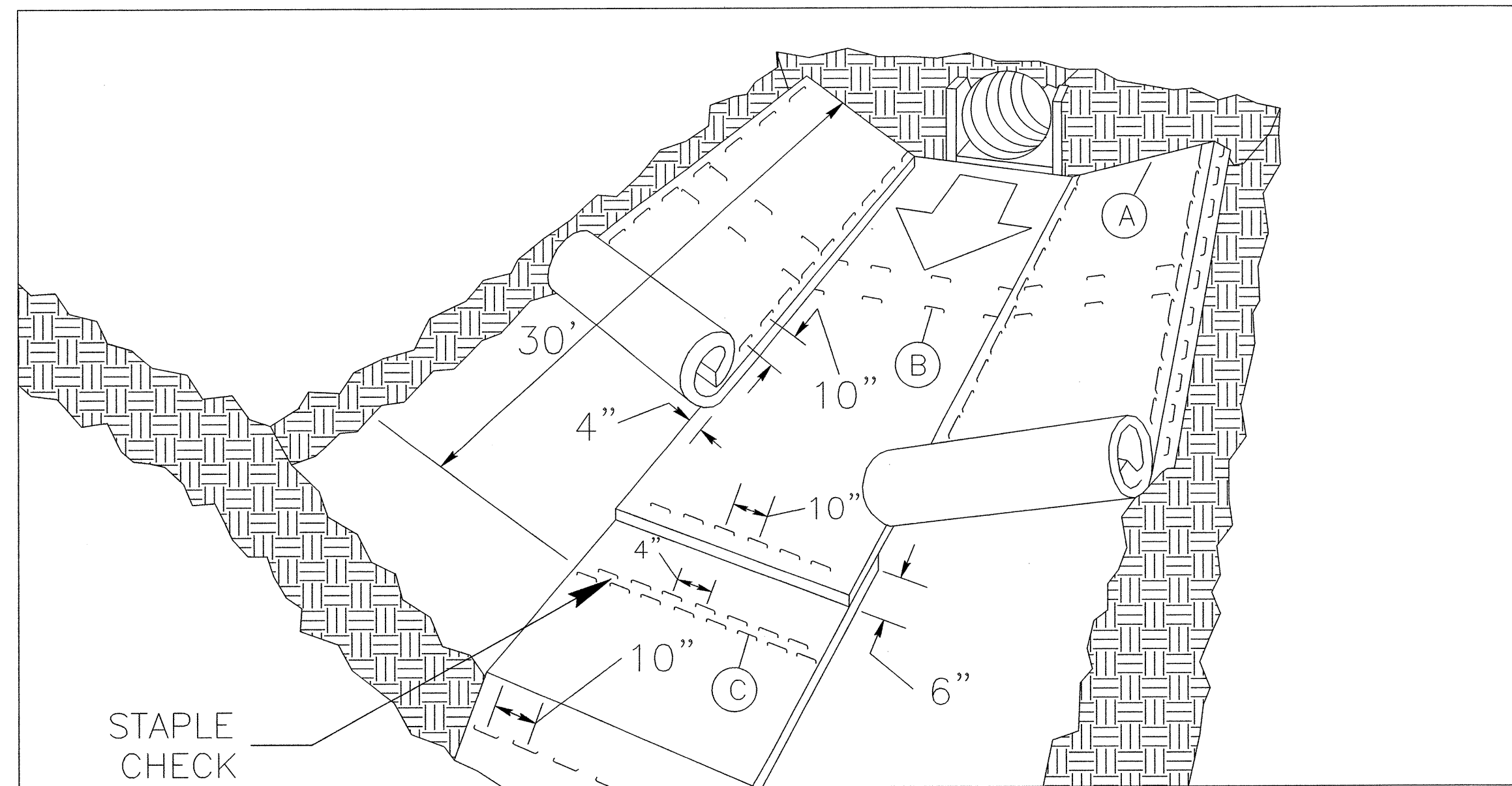


**TYPICAL SECTION VIEW**

NOT TO SCALE

PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-2H
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# MATTING INSTALLATION DETAIL



**MATTING IN DITCHES**

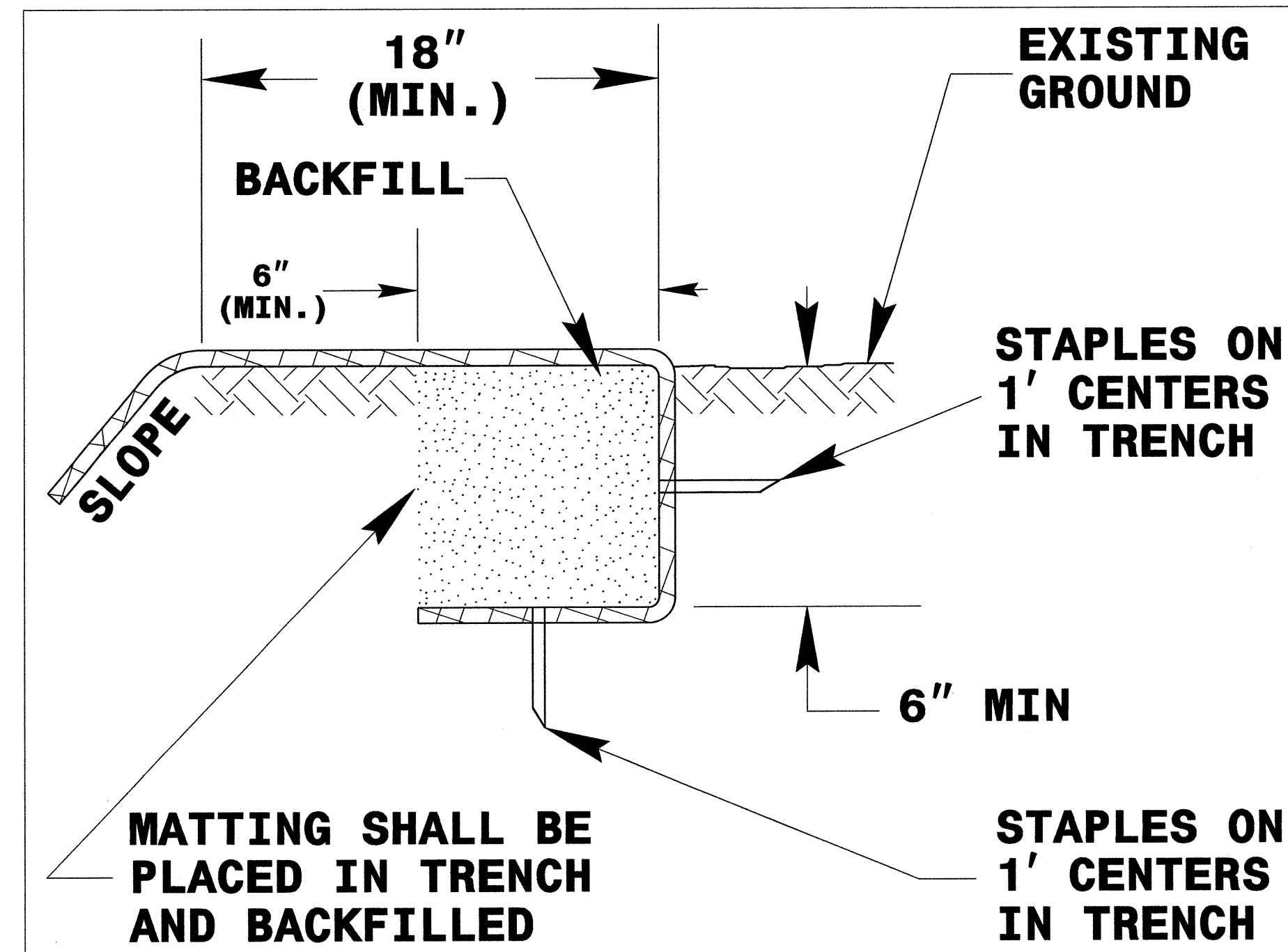
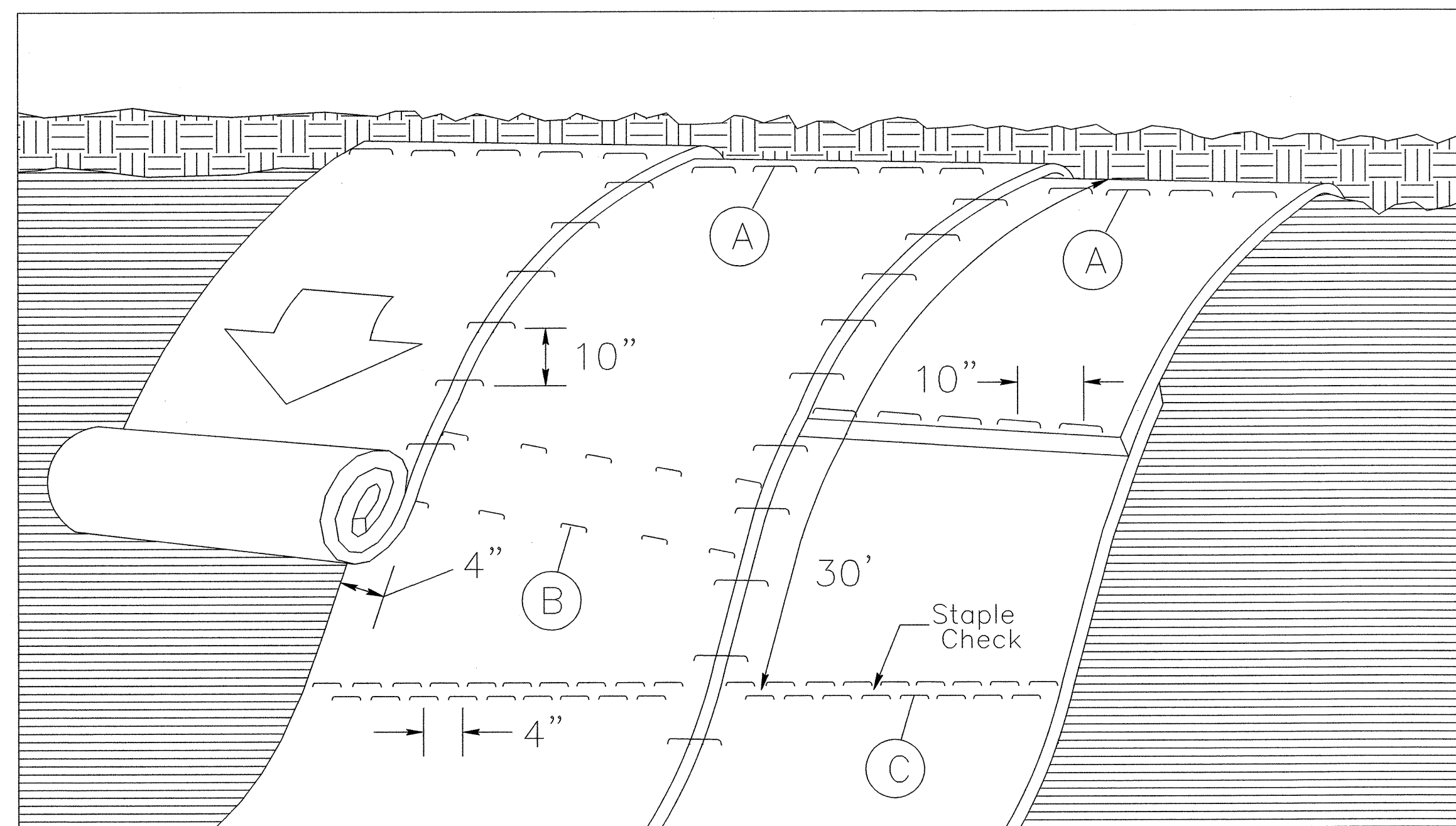


DIAGRAM (A)



**MATTING ON SLOPES**

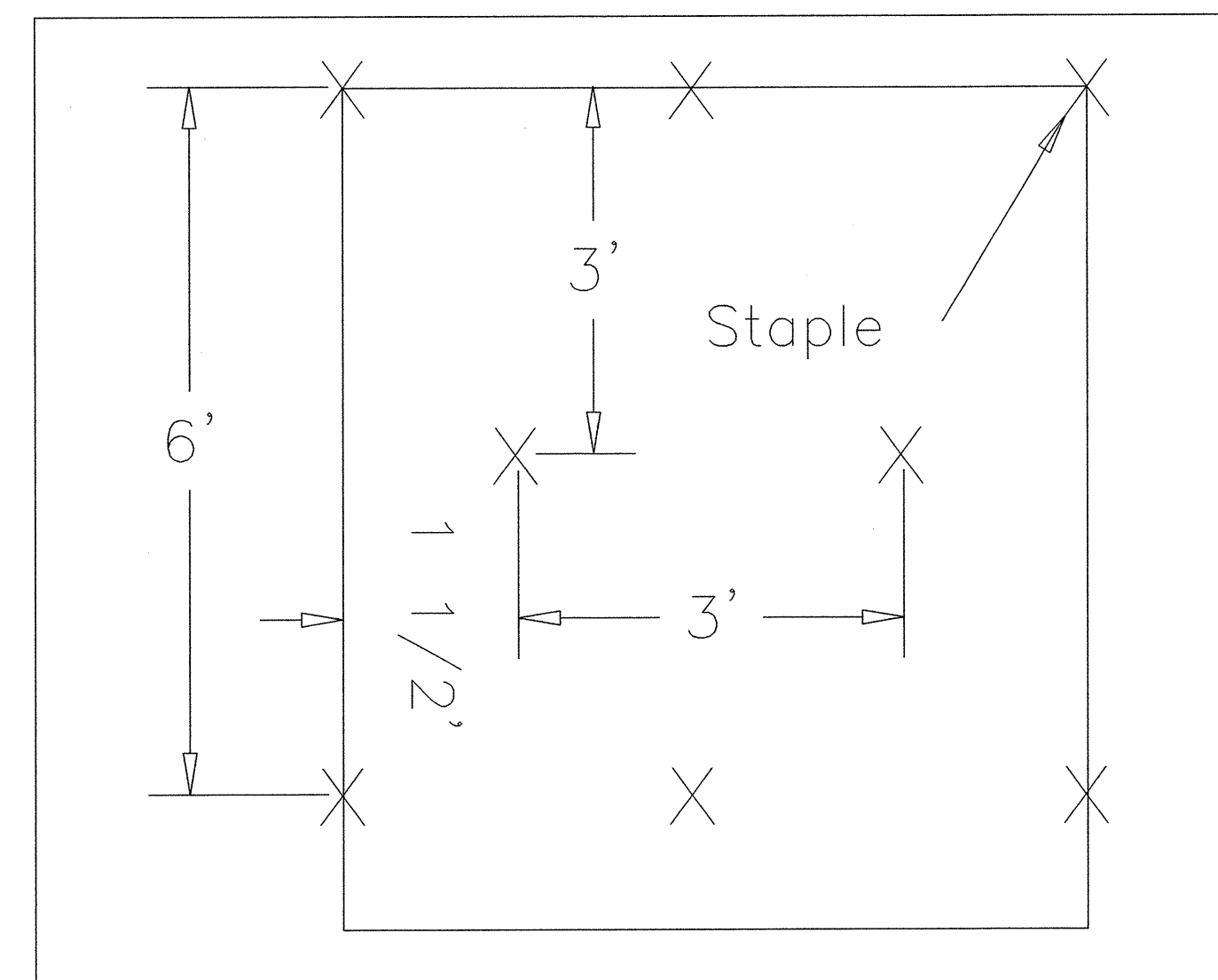


DIAGRAM (B)

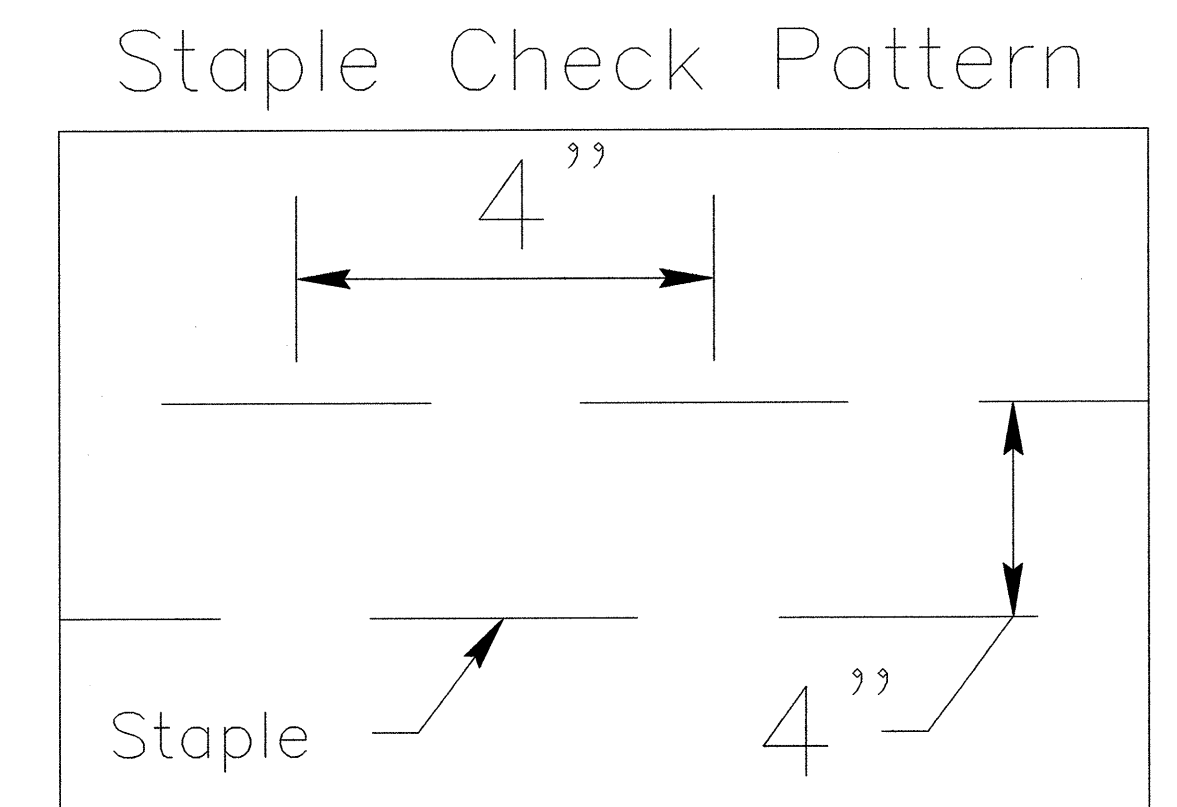


DIAGRAM (C)

**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

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**SOIL STABILIZATION SUMMARY SHEET**

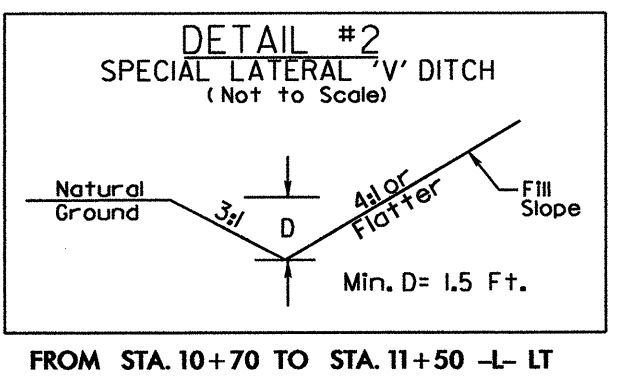
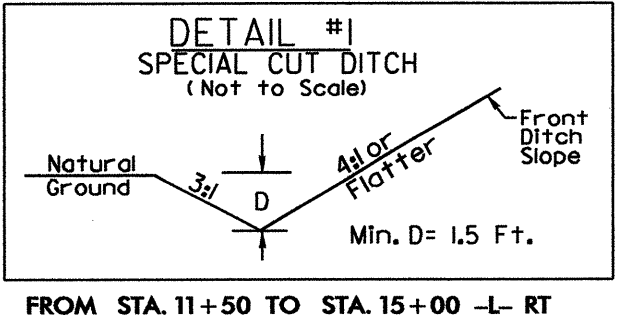
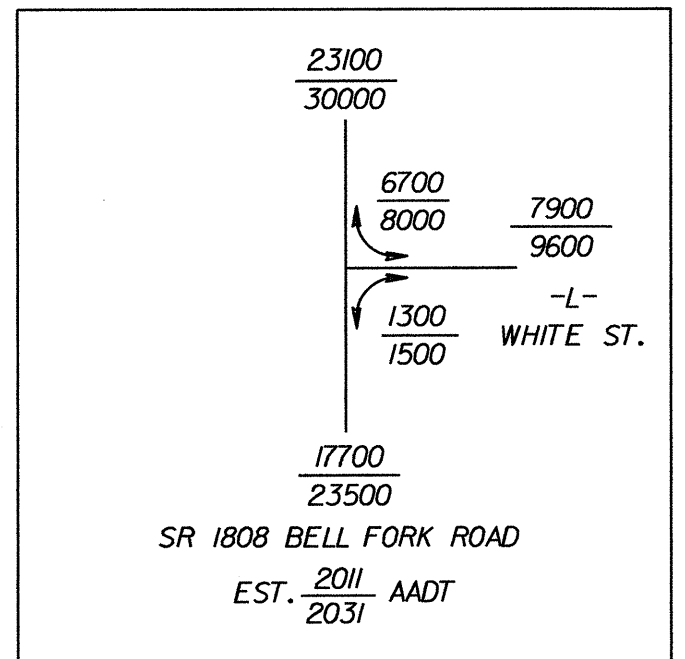
**MATTING FOR EROSION CONTROL**

**PERMANENT SOIL REINFORCEMENT MAT**

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	11+00	12+94	LT	665
5	-Y2-	36+50	39+00	RT	865
5	-Y2-	37+00	39+00	LT	270
5	-LOOPB-	0+00	1+85	RT	350
7	-L-	52+50	53+50	RT	365
			SUBTOTAL		2515
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					4515
			TOTAL		7030
			SAY		7050

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-RAMPB-	13+00	13+50	LT	160
			SUBTOTAL		160
			ADDITIONAL PERM TO BE INSTALLED		0
			TOTAL		160
			SAY		160

PROJECT REFERENCE NO.		SHEET NO.	
U-4007A		EC-4/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



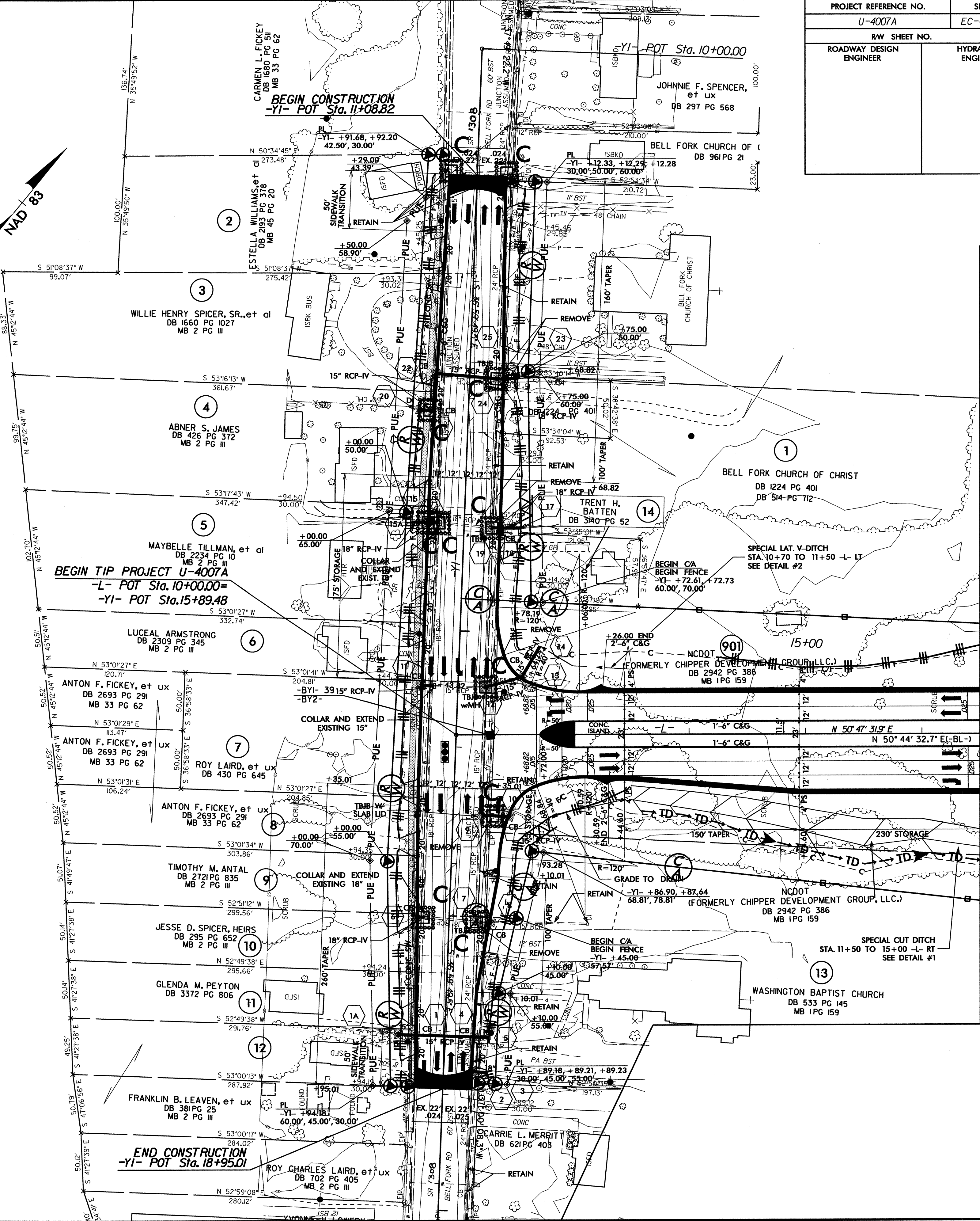
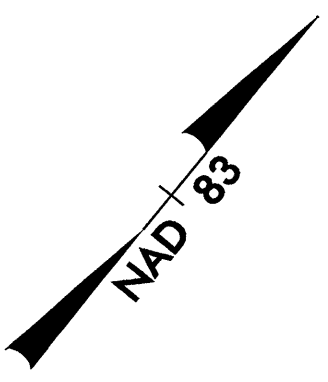
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

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

SEE SHEET 9 FOR -L- PROFILE  
SEE SHEET 11 FOR -YI- PROFILE

- REVISIONS
1. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.
  2. PROPERTY NAME CHANGES TO PARCELS 2, 3, 5, 10, 11, AND 14.
  3. REVISED WOVEN WIRE FENCE TO CHAIN LINK FENCE ALONG PARCELS 1 AND 13.

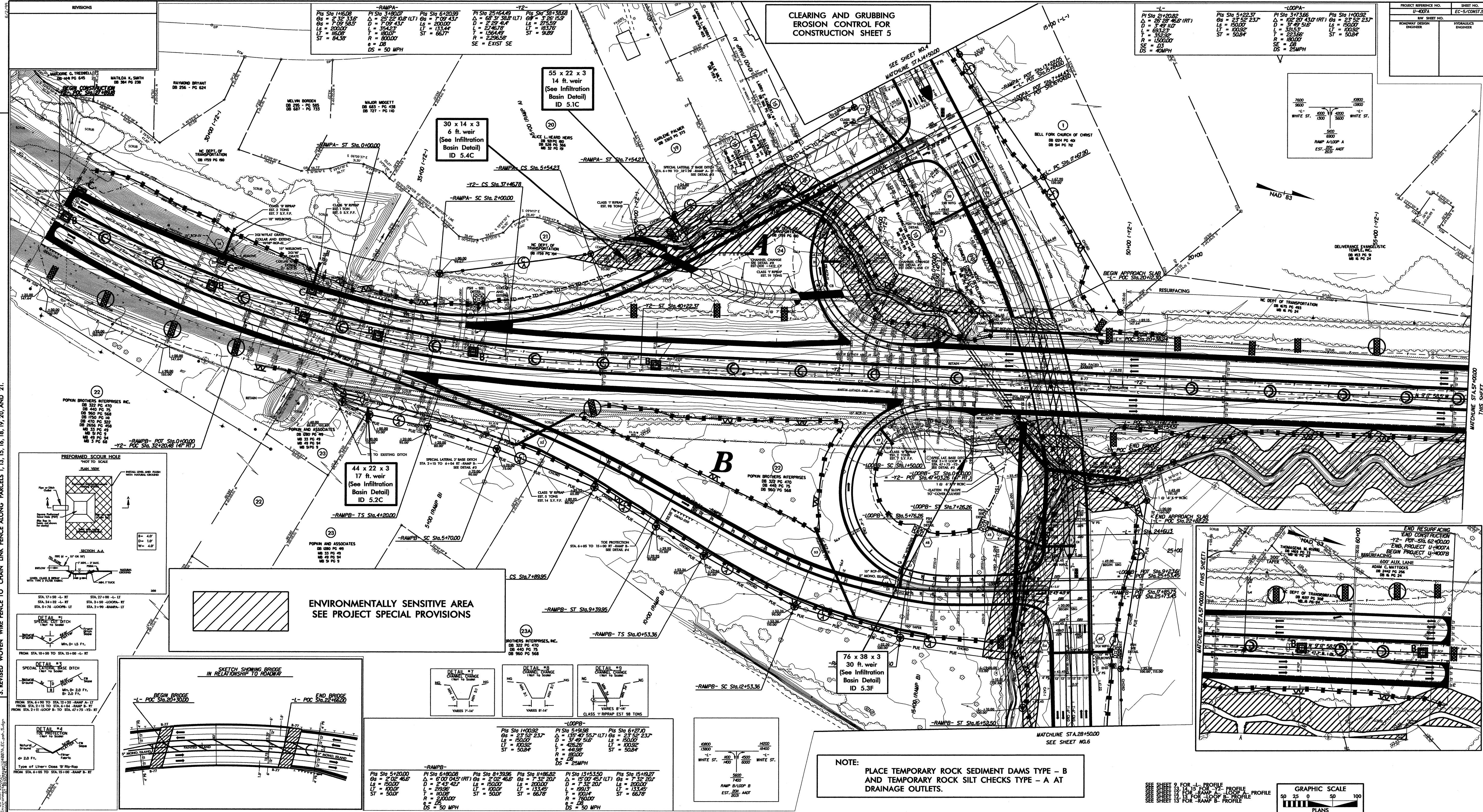
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REVISION AT RENW24768



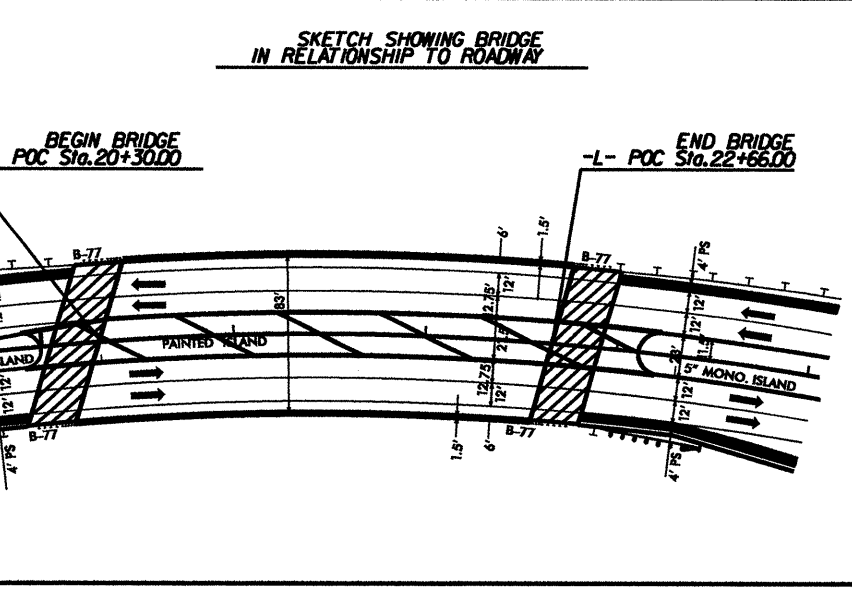
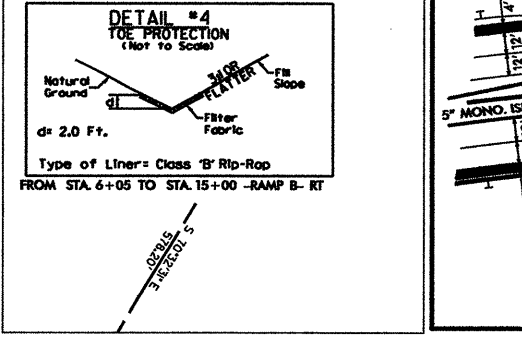
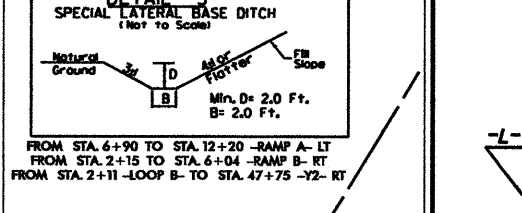
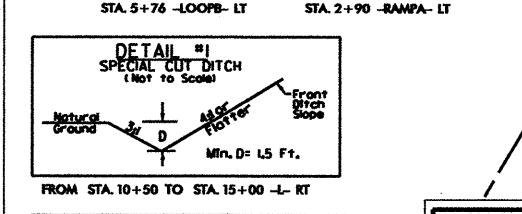
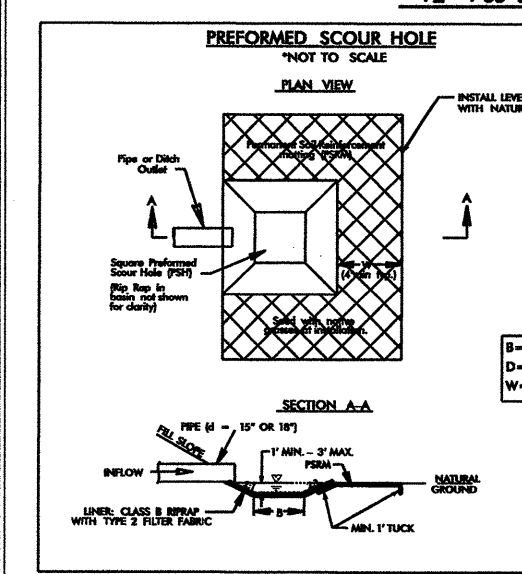
MATCHLINE STA. 14+50.00  
SEE SHEET NO. 5

**CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 5**

PROJECT REFERENCE NO.	SHEET NO.
U-407A	EC-5/CONSTR
ROW SHEET NO.	HYDRAULICS
ENGINEER	ENGINEER



- REVISIONS**
1. REVISED RW MONUMENT FLAG STATION LOCATED AT -L- STA. 27+00.00, 115' RT.
  2. REVISED RW MONUMENT FLAG STATION LOCATED AT -L- STA. 27+15.51, 112.88' RT.
  3. MOVED RW MONUMENT FLAG STATION LOCATED AT -L- STA. 14+65.00, 145' RT.
  4. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.
  5. PROPERTY NAME CHANGES TO PARCELS 20, 22, 23, AND 23A.
  6. REVISED WOVEN WIRE FENCE TO CHAIN LINK FENCE ALONG PARCELS 1, 13, 15, 16, 18, 19, 20, AND 21.



<p><b>-RAMP-</b></p> <p>PI Sta 5+20.00 Δ = 2.02 46.5 D = 100.00 L = 100.00 T = 100.00 R = 200.00 S = 50.00 DS = 50 MPH</p>	<p>PI Sta 6+80.00 Δ = 2.02 46.5 D = 100.00 L = 100.00 T = 100.00 R = 200.00 S = 50.00 DS = 50 MPH</p>	<p>PI Sta 6+39.36 Δ = 2.02 46.5 D = 100.00 L = 100.00 T = 100.00 R = 200.00 S = 50.00 DS = 50 MPH</p>	<p>PI Sta 11+86.82 Δ = 15.00 45.7 D = 100.00 L = 100.00 T = 100.00 R = 200.00 S = 50.00 DS = 50 MPH</p>	<p>PI Sta 13+53.50 Δ = 15.00 45.7 D = 100.00 L = 100.00 T = 100.00 R = 200.00 S = 50.00 DS = 50 MPH</p>	<p>PI Sta 15+19.27 Δ = 15.00 45.7 D = 100.00 L = 100.00 T = 100.00 R = 200.00 S = 50.00 DS = 50 MPH</p>
--	---	---	---	---	---

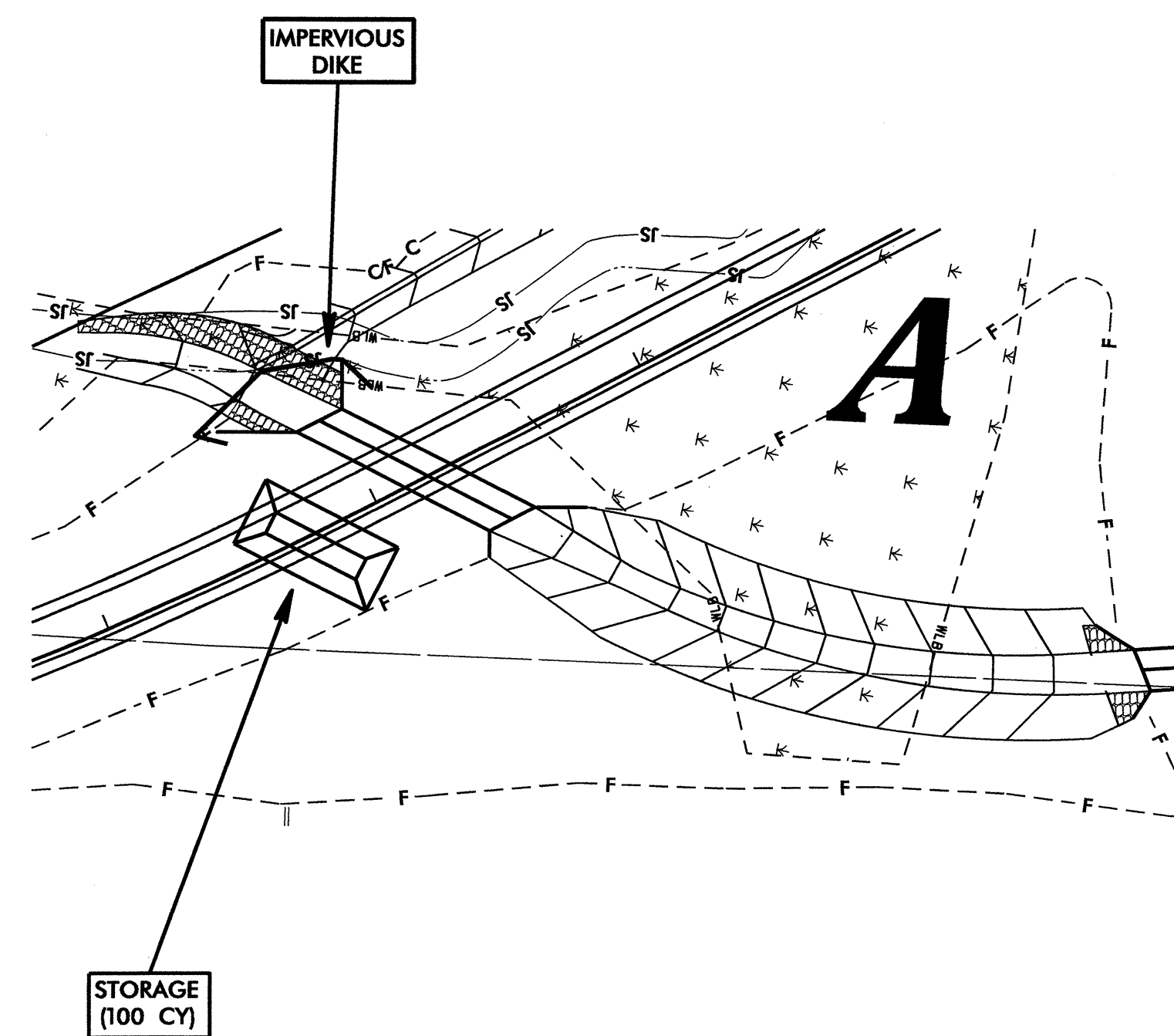
**NOTE:** PLACE TEMPORARY ROCK SEDIMENT DAMS - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.



PROJECT REFERENCE NO. <i>U-4007A</i>	SHEET NO. <i>EC-6/CONST.5</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 7+19 -RAMPA-

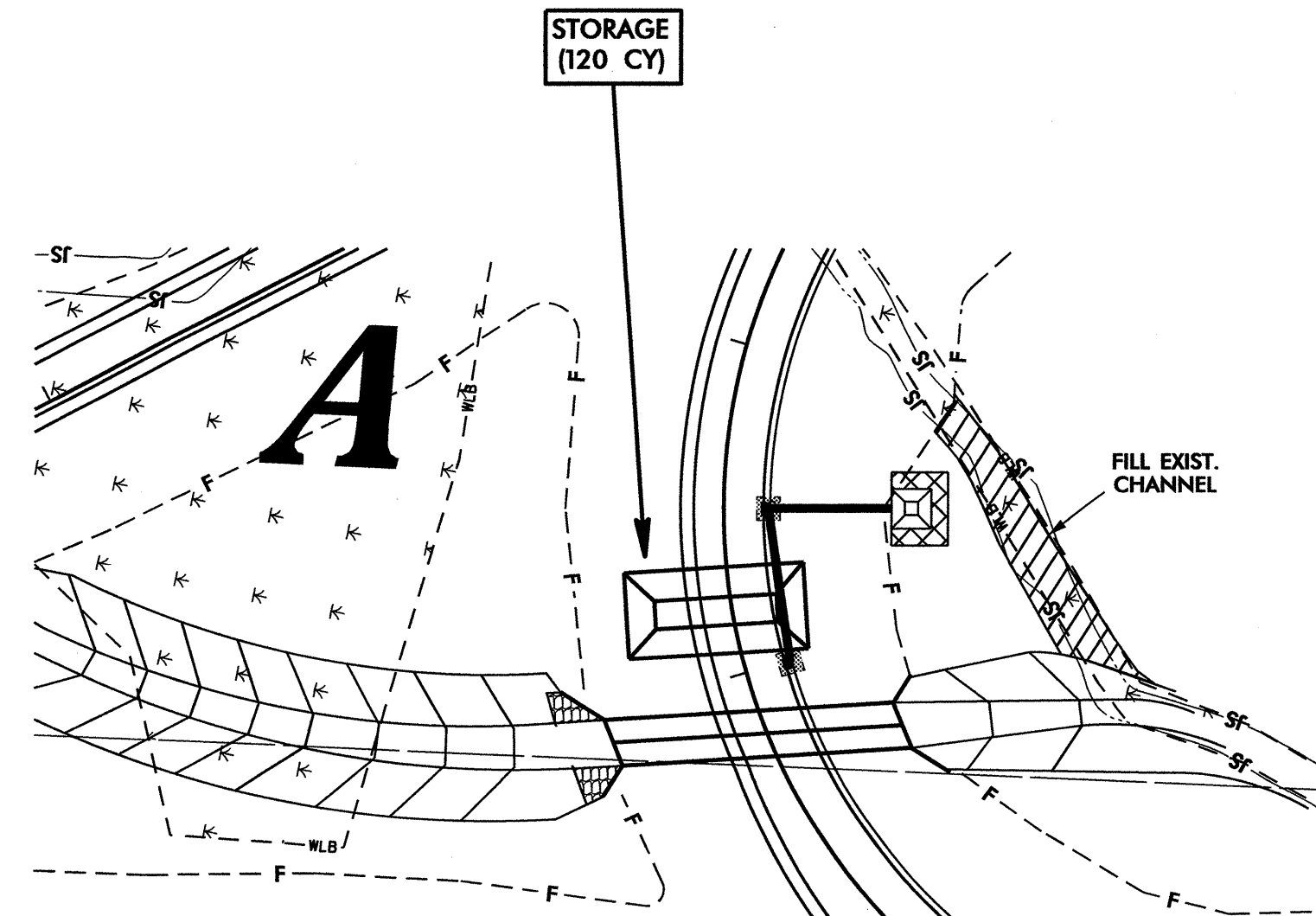
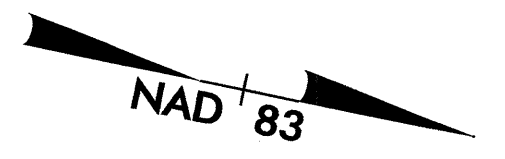
1. CONSTRUCT STILLING BASIN (100CY).
2. CONSTRUCT IMPERVIOUS DIKE.
3. CONSTRUCT PROPOSED CULVERT AND INLET CHANNEL CONNECTING TO PROPOSED CULVERT ON LOOP A.
4. REMOVE IMPERVIOUS DIKE AND CONSTRUCT OUTLET CHANNEL.
5. REMOVE STILLING BASIN.
6. ONCE PROPOSED CULVERT ON LOOP A IS COMPLETED, DIVERT FLOW THROUGH THE PROPOSED CULVERTS.
7. COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
U-4007A	EC-7/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 2+81 -LOOP A-

1. CONSTRUCT STILLING BASIN (120CY).
2. CONSTRUCT PROPOSED CULVERT AND TIE INTO CHANNEL CONNECTING TO PROPOSED CULVERT ON RAMP A.
3. ONCE PROPOSED CULVERT ON RAMP A AND CONNECTING CHANNEL ARE COMPLETE, CONSTRUCT INLET CHANNEL.
4. DIVERT FLOW THROUGH THE PROPOSED CULVERTS.
5. REMOVE STILLING BASIN.
6. COMPLETE ROADWAY.

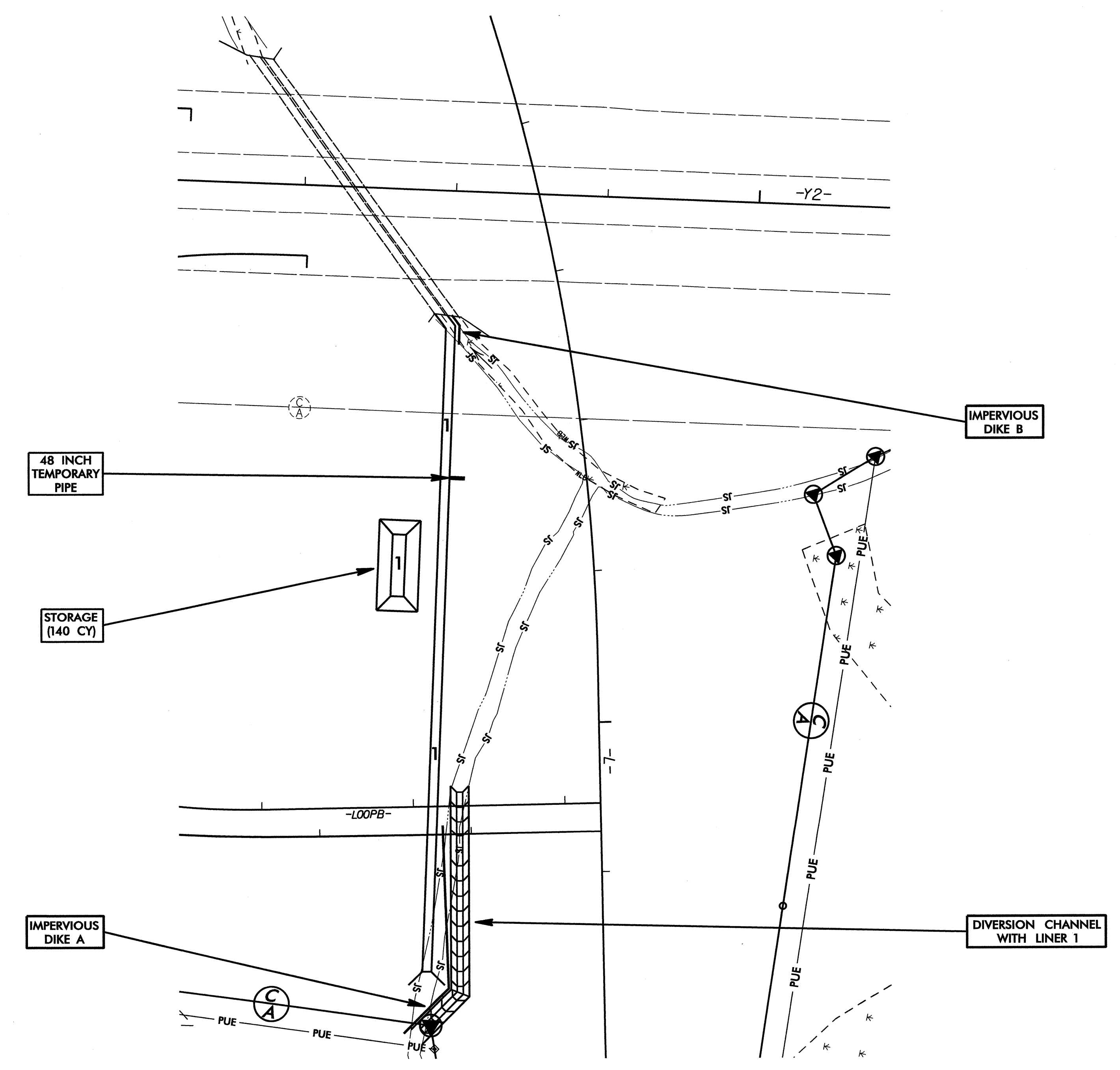
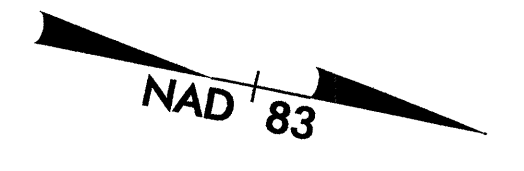


PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-B/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 47 + 32 -Y2- (SHEET 1 OF 2)

## PHASE I

1. CONSTRUCT STILLING BASIN 1 (140 CY).
2. CONSTRUCT IMPERVIOUS DIKES A AND B, AND DIVERSION CHANNEL WITH LINER 1 (2 FT. BASE, 2 FT. DEEP, 2:1 SIDE SLOPES), DIVERTING FLOW.
3. CONSTRUCT BARREL 1 OF PROPOSED CULVERT, WITH TEMPORARY 48 INCH RCP ATTACHED.
4. REMOVE IMPERVIOUS DIKES A AND B, AND DIVERSION CHANNEL WITH LINER 1, ALLOWING FLOW THROUGH BARREL 1 OF PROPOSED CULVERT.
5. CONSTRUCT ANY NECESSARY INLET CHANNEL IMPROVEMENTS FOR BARREL 1.
6. REMOVE STILLING BASIN 1.



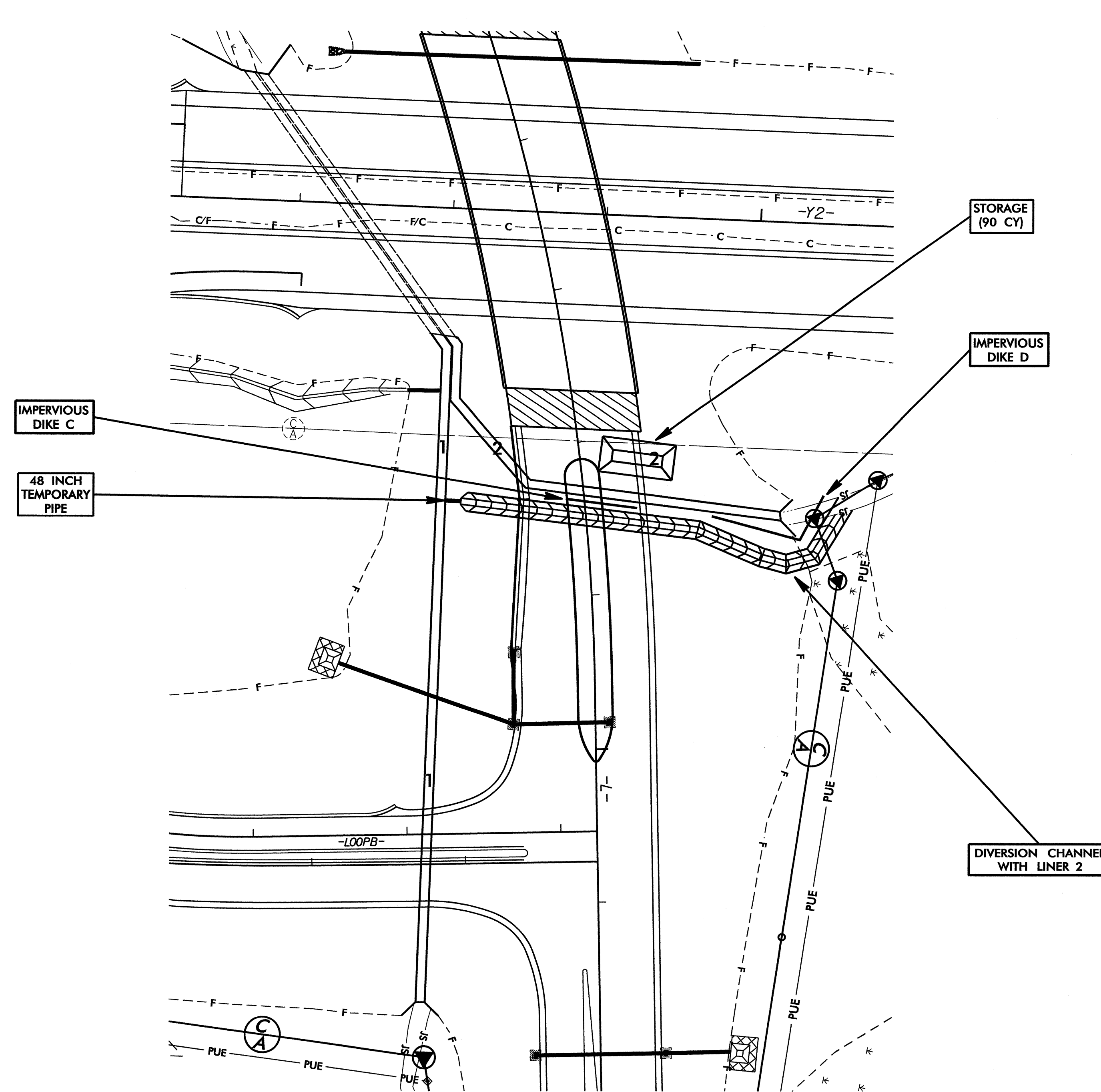


PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-9/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

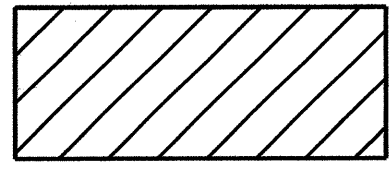
# CULVERT CONSTRUCTION SEQUENCE STA. 47+32 -Y2- (SHEET 2 OF 2)

## PHASE II

7. CONSTRUCT STILLING BASIN 2 (90 CY).
8. CONSTRUCT IMPERVIOUS DIKES C AND D, AND DIVERSION CHANNEL WITH LINER 2 (2 FT. BASE, 2 FT. DEEP, 2:1 SIDE SLOPES), DIVERTING FLOW THROUGH THE TEMPORARY 48 INCH RCP ATTACHED TO BARREL 1.
9. CONSTRUCT BARREL 2 OF PROPOSED CULVERT.
10. REMOVE IMPERVIOUS DIKES C AND D, AND DIVERSION CHANNEL WITH LINER 2, ALLOWING FLOW THROUGH BARREL 2 OF PROPOSED CULVERT.
11. REMOVE TEMPORARY 48 INCH RCP AND PATCH CULVERT WALL OF BARREL 1.
12. CONSTRUCT OUTLET HEADWALL AND WINGWALLS, AND ANY NECESSARY INLET CHANNEL IMPROVEMENTS FOR BARREL 2.
13. REMOVE STILLING BASIN, AND COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
U-4007A	EC-10/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

 ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

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 6

ONSLOW MEMORIAL HOSPITAL FOUNDATION, INC.  
DB 1041 PG 351

-L-  
PI Sta 41+04.58  
 $\Delta = 47^{\circ} 09' 01.3" (RT)$   
 $D = 5' 43' 46.5"$   
 $L = 822.93'$   
 $T = 436.37'$   
 $R = 1,000.00'$   
 $SE = .035$   
 $DS = 40MPH$

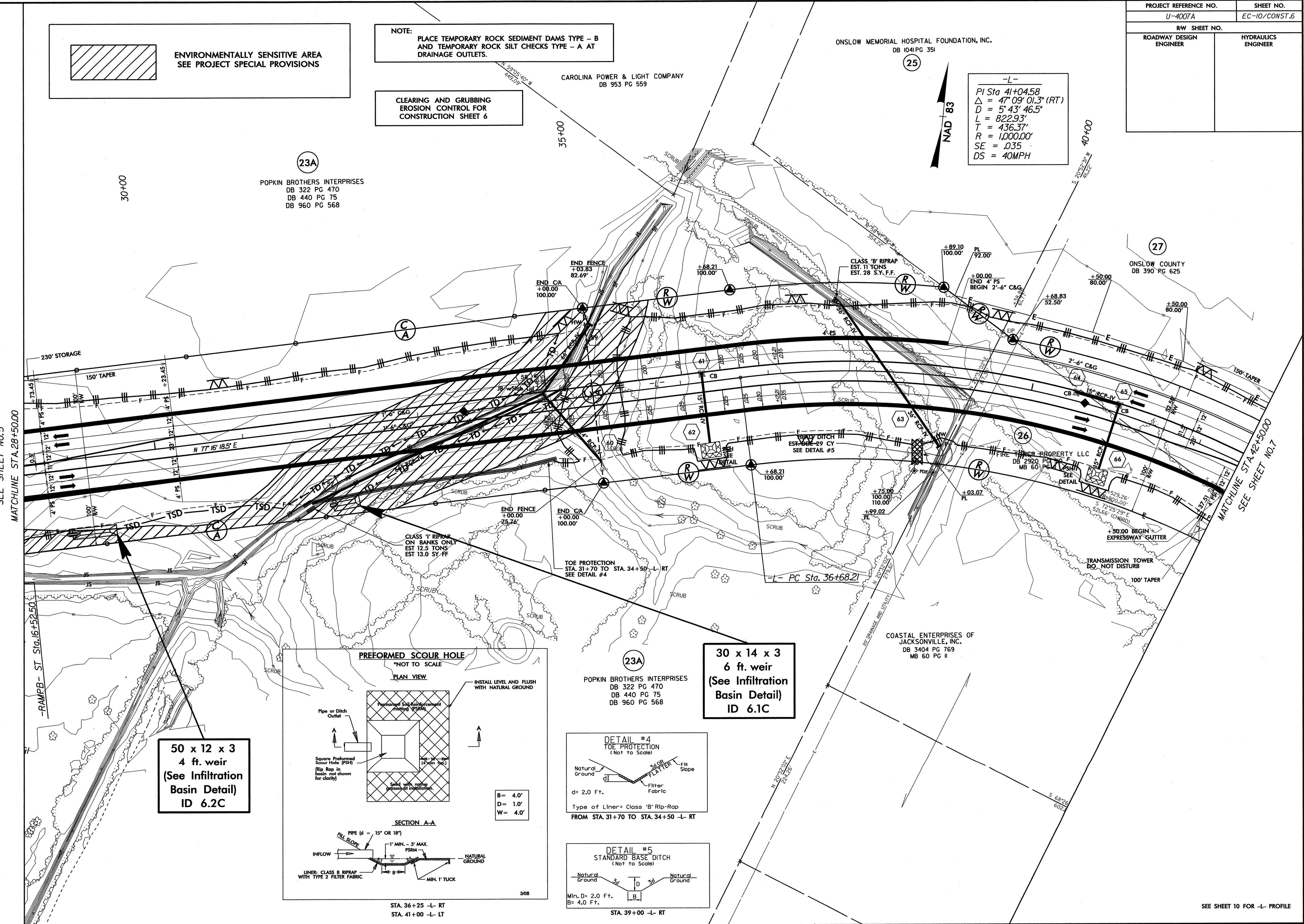
CAROLINA POWER & LIGHT COMPANY  
DB 953 PG 559

23A  
POPKIN BROTHERS INTERPRISES  
DB 322 PG 470  
DB 440 PG 75  
DB 960 PG 568

27  
ONSLOW COUNTY  
DB 390 PG 625

FIRE TRUCK PROPERTY LLC  
DB 2920 PG 30 F.F.  
MB 60 PG 11

COASTAL ENTERPRISES OF JACKSONVILLE, INC.  
DB 3404 PG 769  
MB 60 PG II



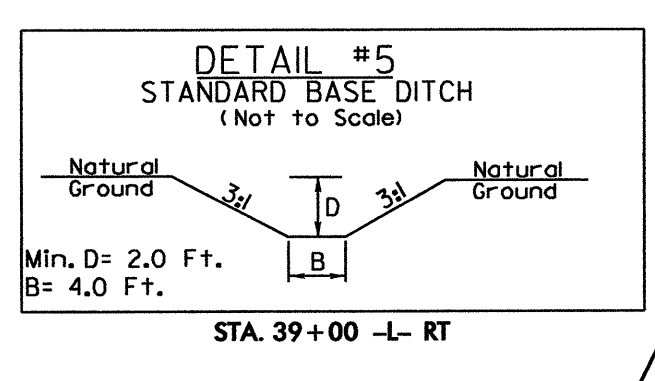
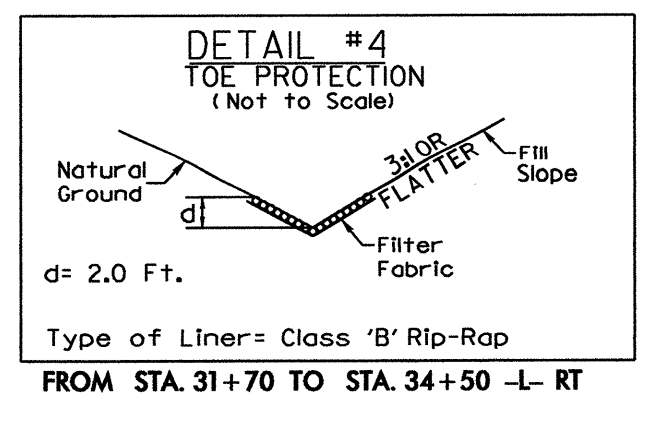
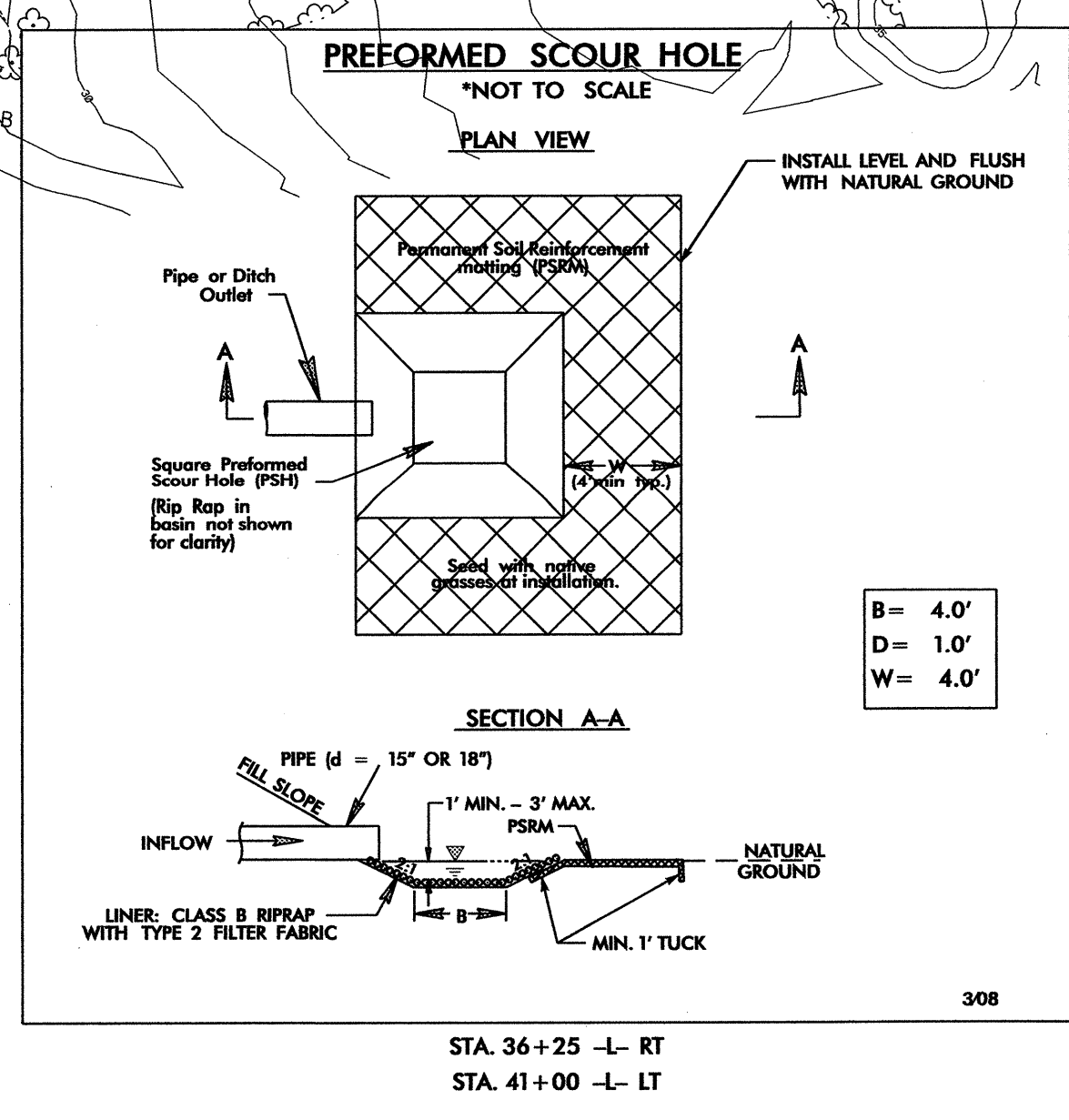
REVISIONS  
1. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.  
2. PROPERTY NAME CHANGES TO PARCELS 26.  
3. REMOVED PDE ON PARCEL OF COASTAL ENTERPRISES OF JACKSONVILLE, INC.  
4. REVISED 4' PS SECTION TO 2'-6" C&G SECTION THRU PARCEL 27 PROPERTY.

SEE SHEET NO.5  
MATCHLINE STA 28+50.00

MATCHLINE STA 42+50.00  
SEE SHEET NO.7

50 x 12 x 3  
4 ft. weir  
(See Infiltration  
Basin Detail)  
ID 6.2C

30 x 14 x 3  
6 ft. weir  
(See Infiltration  
Basin Detail)  
ID 6.1C



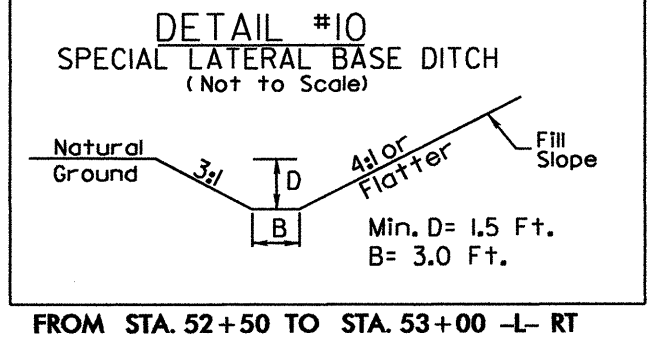
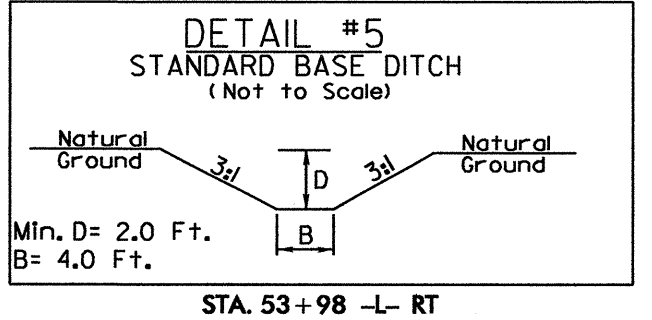
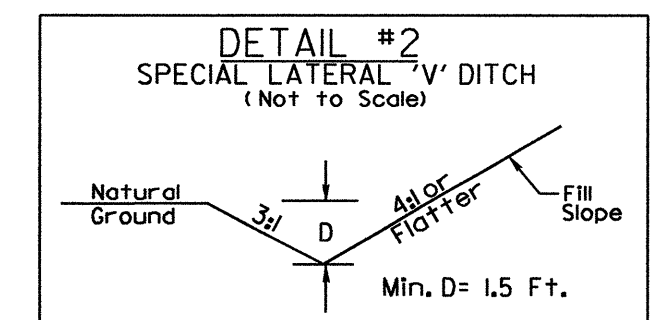
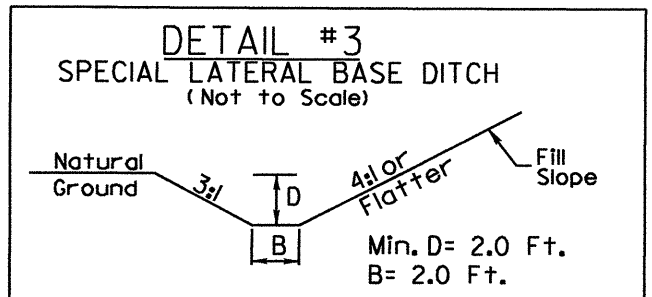
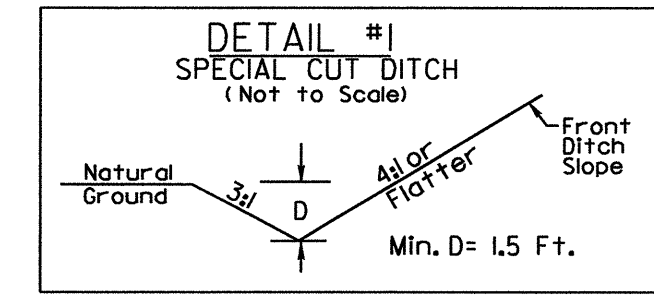
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AT BENJAMIN

SEE SHEET 10 FOR -L- PROFILE

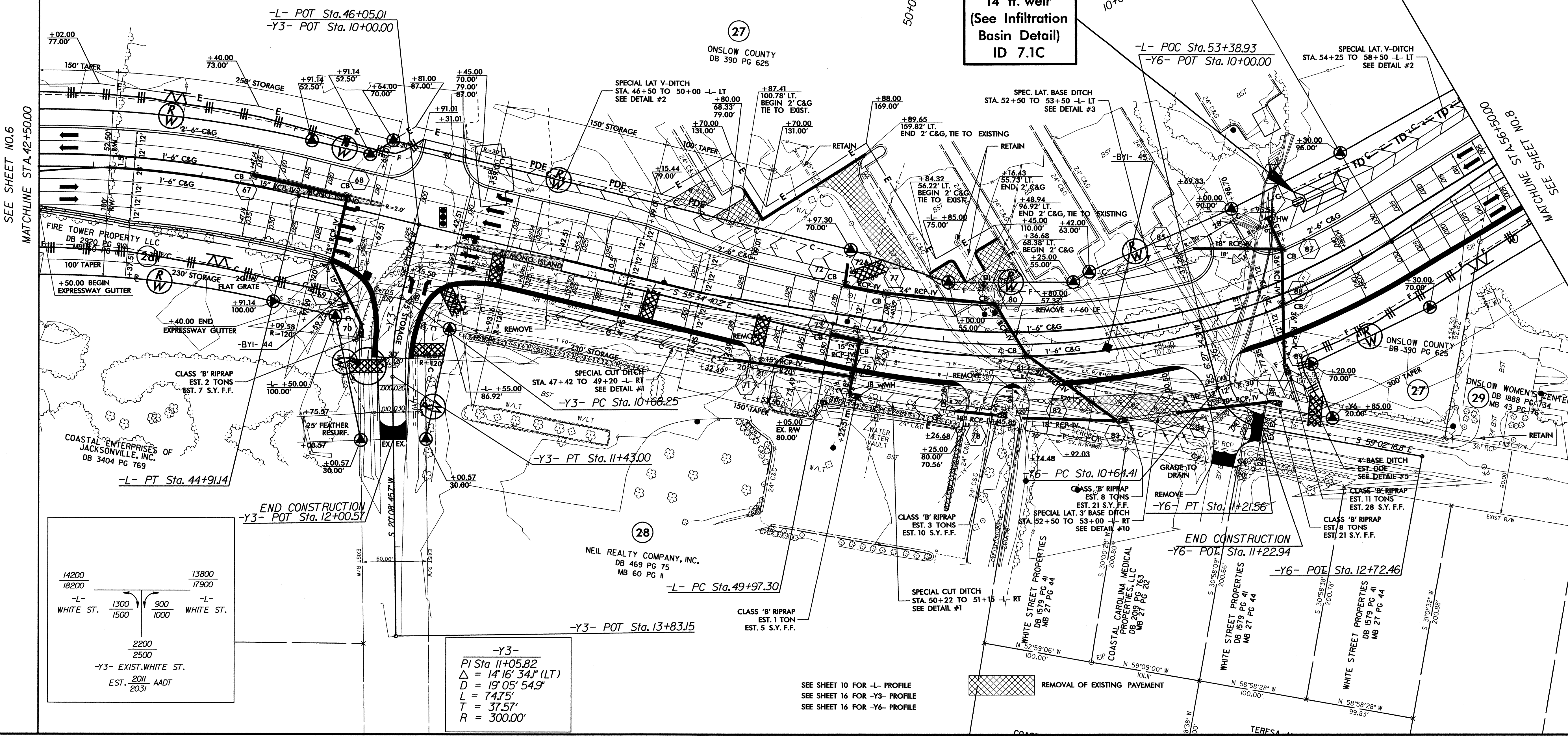
**NOTE:** PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 7

-L-	-Y6-
PI Sta 52+77.32	PI Sta 10+96.57
$\Delta = 43^{\circ} 36' 18.8" (LT)$	$\Delta = 65^{\circ} 29' 51.1" (LT)$
$D = 8^{\circ} 11' 06.4"$	$D = 11^{\circ} 35' 29.6"$
$L = 532.74'$	$L = 57.16'$
$T = 280.02'$	$T = 32.16'$
$R = 700.00'$	$R = 50.00'$
SE .04	
DS = 40MPH	



-L-  
PI Sta 41+04.58  
 $\Delta = 47^{\circ} 09' 01.3" (RT)$   
 $D = 5^{\circ} 43' 46.5"$   
 $L = 822.93'$   
 $T = 436.37'$   
 $R = 1,000.00'$   
SE = .035  
DS = 40MPH



END CONSTRUCTION  
-Y3- POT Sta. 12+00.51

-L- PT Sta. 44+91.14

CLASS 'B' RIPRAP  
EST. 2 TONS  
EST. 7 S.Y.F.F.

CLASS 'B' RIPRAP  
EST. 3 TONS  
EST. 11 TONS  
EST. 28 S.Y.F.F.

CLASS 'B' RIPRAP  
EST. 8 TONS  
EST. 21 S.Y.F.F.

CLASS 'B' RIPRAP  
EST. 8 TONS  
EST. 21 S.Y.F.F.

CLASS 'B' RIPRAP  
EST. 1 TON  
EST. 5 S.Y.F.F.

CLASS 'B' RIPRAP  
EST. 1 TON  
EST. 5 S.Y.F.F.

CLASS 'B' RIPRAP  
EST. 1 TON  
EST. 5 S.Y.F.F.

-Y3-  
PI Sta 11+05.82  
 $\Delta = 14^{\circ} 16' 34.1" (LT)$   
 $D = 19^{\circ} 05' 54.9"$   
 $L = 74.75'$   
 $T = 37.57'$   
 $R = 300.00'$

SEE SHEET 10 FOR -L- PROFILE  
SEE SHEET 16 FOR -Y3- PROFILE  
SEE SHEET 16 FOR -Y6- PROFILE

- REVISIONS
1. REVISED CONSTRUCTION EASEMENT FLAG LOCATED AT -L- STA. 50+05.00 RT.
  2. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.
  3. PROPERTY NAME CHANGES TO PARCEL 26.
  4. REMOVED PARCEL 28A AND CLAIM.
  5. REVISED 4' PS SECTION TO 2'-6" C&G SECTION THRU PARCEL 27 PROPERTY.

25-MAR-2011 13:12 R:\Environmental\Design\U4007A\_EC.psh - 7.dgn  
R:\Environmental\Design\U4007A\_EC.psh - 7.dgn  
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6/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	EC-12/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 8

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

27 ONSLOW COUNTY  
DB 390 PG 625

-L-  
PI Sta 52+77.32  
Δ = 43° 36' 18.8" (LT)  
D = 8' 11" 06.4"  
L = 532.74'  
T = 280.02'  
R = 700.00'  
SE .04  
DS = 40MPH

MID ATLANTIC BBO, LLC  
DB 1749 PG 1  
MB 23 PG 27

SPECIAL LAT. V-DITCH  
STA. 54+25 TO 58+50 -L- LT  
SEE DETAIL #2

BEGIN CONSTRUCTION  
-Y5- POT Sta. 10+07.32

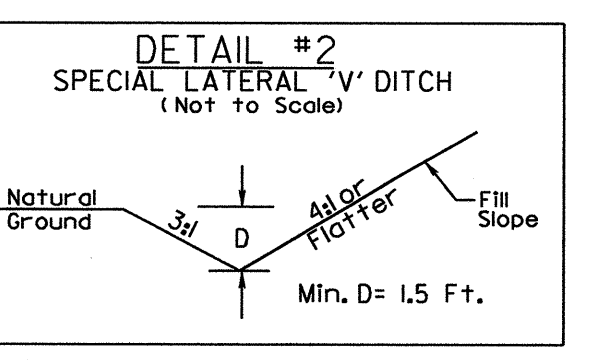
108 WESTERN BLVD. LLC  
DB 2798 PG 820  
DB 1972 PG 499

DWNR, LLC  
DB 1674 PG 700

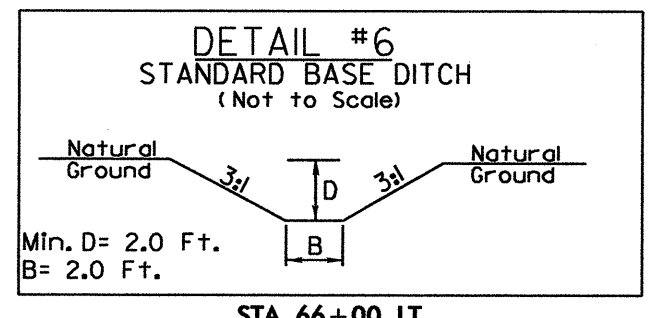
DWNR, LLC  
DB 1674 PG 700

-L- POT Sta. 61+71.81  
-Y5- POT Sta. 15+36.95

CLASS 'B' RIPRAP  
EST. 2 TONS  
EST. 7 S.Y. F.F.



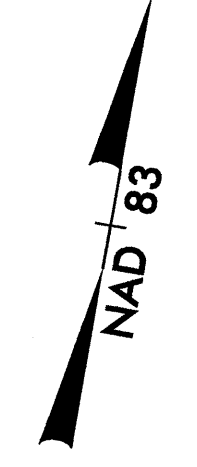
FROM STA. 54+25 TO STA. 58+50 -L- LT



STA. 66+00 LT

JACKSONVILLE DOCTORS PARK, INC  
DB 411 PG 311

-L-  
PI Sta 69+13.39  
Δ = 5° 13' 56.5" (LT)  
D = 12° 47' 50.0"  
L = 40.89'  
T = 20.46'  
R = 447.72'



END CONSTRUCTION  
END TIP PROJECT U-4007A  
-L- POT Sta. 68+30.50

-L- PT Sta. 69+33.82

-L- PC Sta. 68+92.93

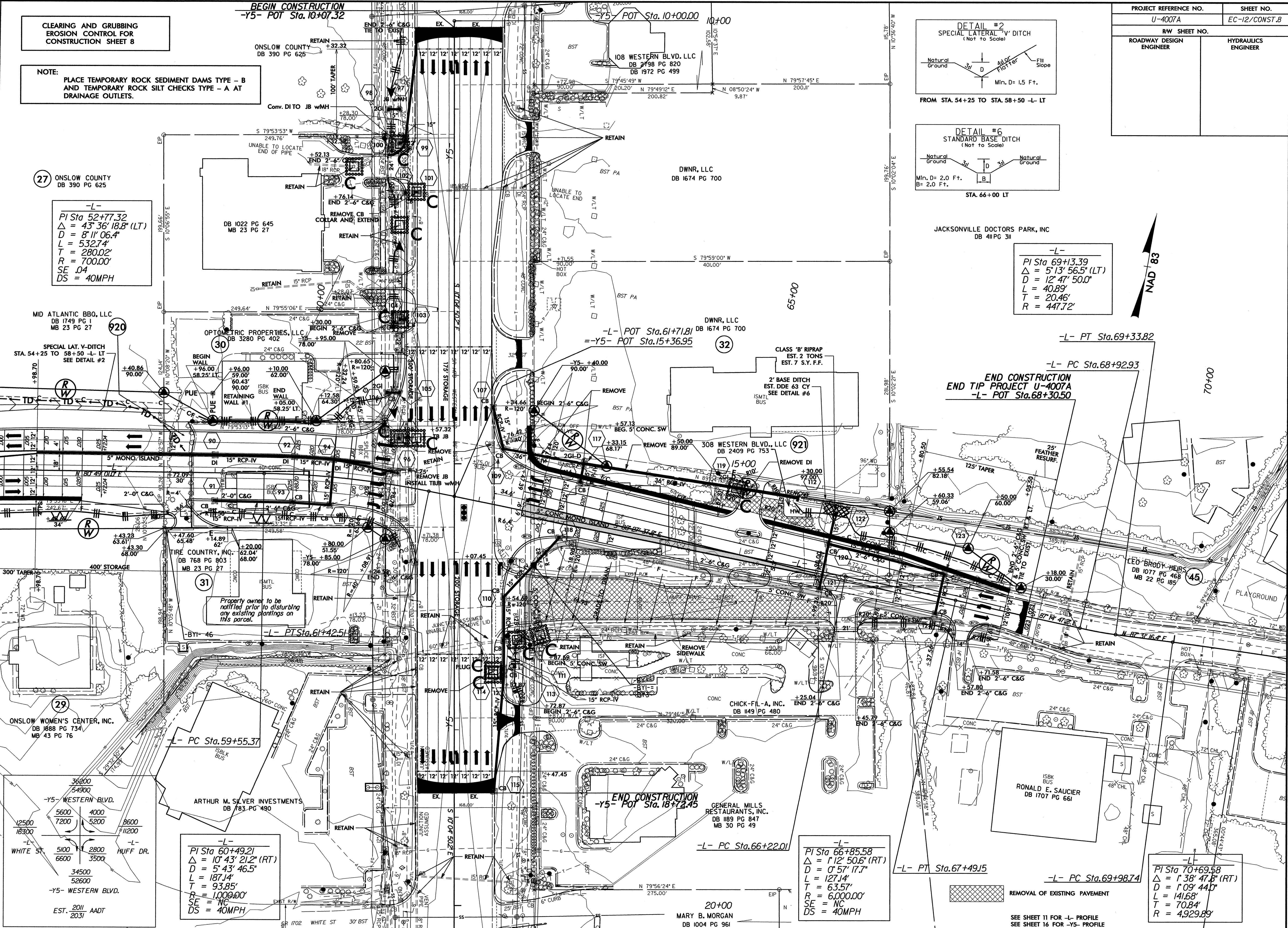
REVISIONS

1. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.
2. PROPERTY NAME CHANGE TO PARCEL 45.
3. ADD NOTE ON PARCEL 31.

SEE SHEET NO.7  
MATCHLINE STA. 56+50.00

SEE SHEET NO.7  
MATCHLINE STA. 56+50.00

25-MAR-2011 13:18  
R:\Environment\g1\Design\U4007A-EC\_psh\_8.dgn  
11:53:58 AM  
11/27/2010



ONSLAW WOMEN'S CENTER, INC.  
DB 1688 PG 734  
MB 43 PG 76

-L-  
PI Sta 60+49.21  
Δ = 10° 43' 21.2" (RT)  
D = 5° 43' 46.5"  
L = 187.14'  
T = 93.85'  
R = 1,000.00'  
SE = NC  
DS = 40MPH

-L-  
PI Sta 66+85.58  
Δ = 1° 12' 50.6" (RT)  
D = 0° 57' 17.7"  
L = 127.14'  
T = 63.57'  
R = 6,000.00'  
SE = NC  
DS = 40MPH

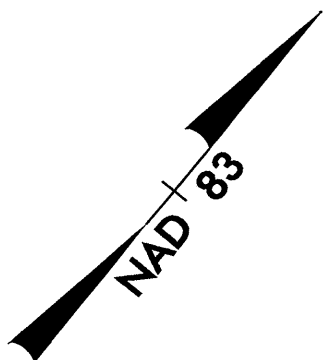
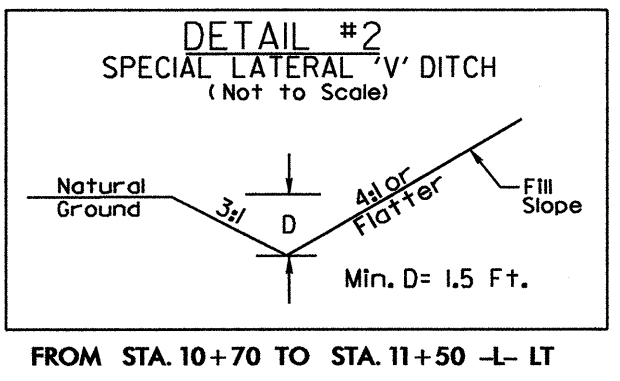
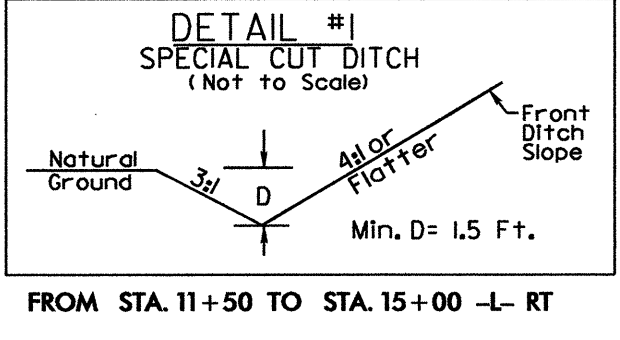
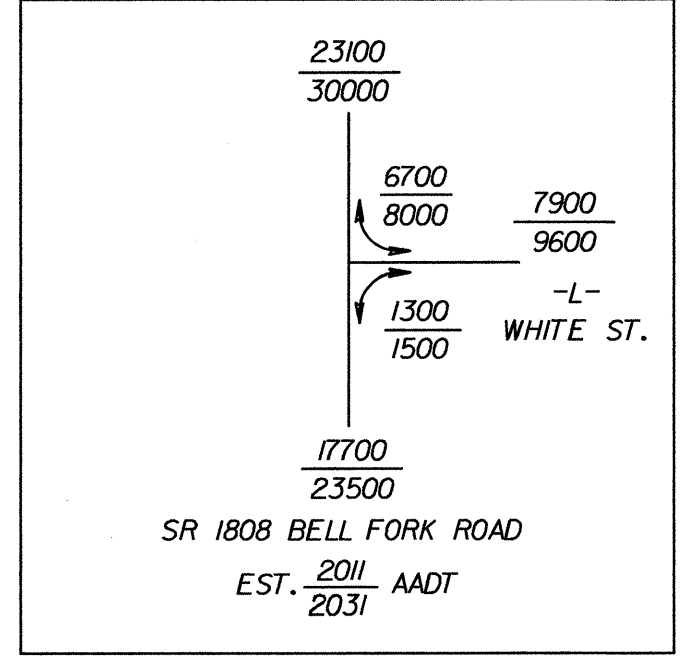
-L-  
PI Sta 70+69.58  
Δ = 1° 38' 47.8" (RT)  
D = 1° 09' 44.0"  
L = 141.68'  
T = 70.84'  
R = 4,929.89'

REMOVAL OF EXISTING PAVEMENT

SEE SHEET 11 FOR -L- PROFILE  
SEE SHEET 16 FOR -Y5- PROFILE

20+00  
MARY B. MORGAN  
DB 1004 PG 961

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	EC-13/CONST.4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



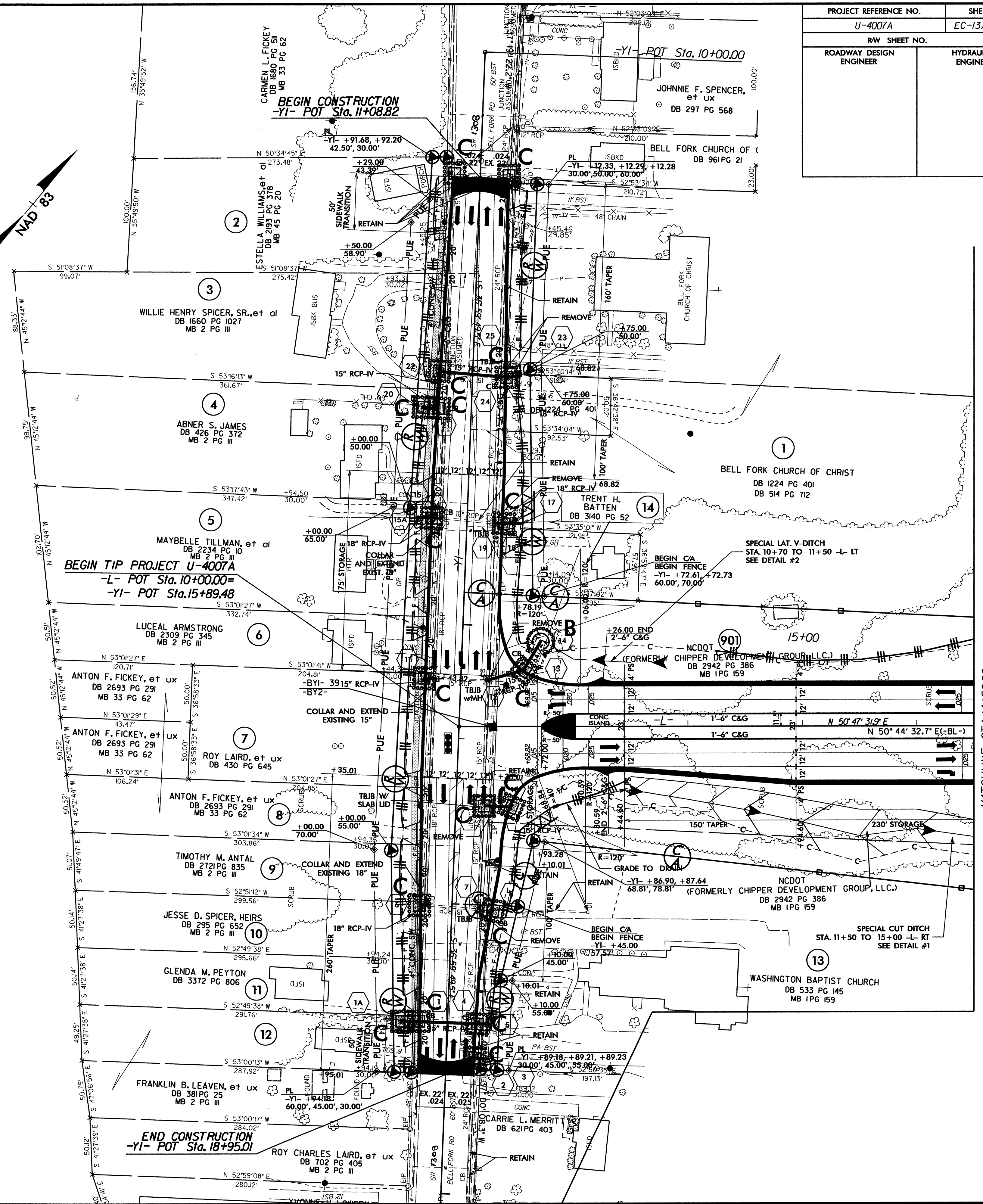
REVISIONS

1. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.

2. PROPERTY NAME CHANGES TO PARCELS 2, 3, 5, 10, 11, AND 14.

3. REVISED WOVEN WIRE FENCE TO CHAIN LINK FENCE ALONG PARCELS 1 AND 13.

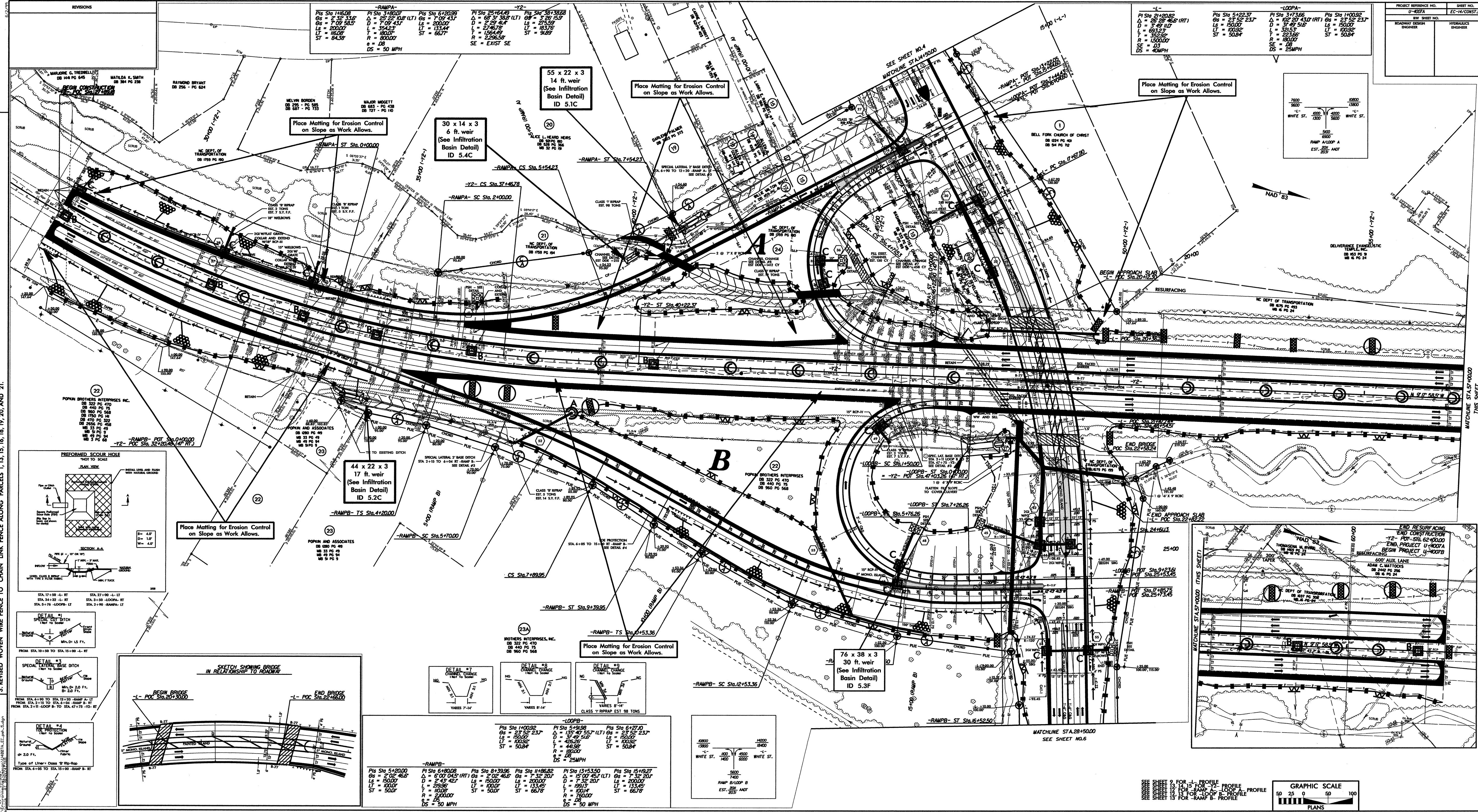
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AL PENN 2/7/10



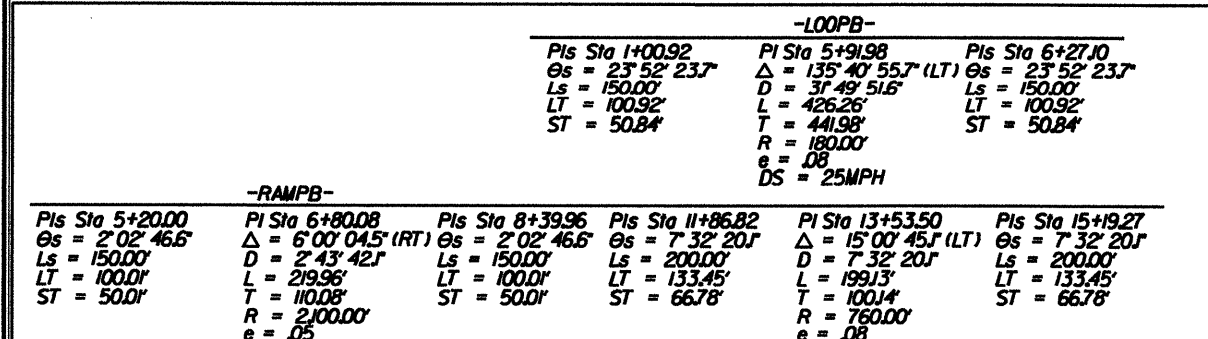
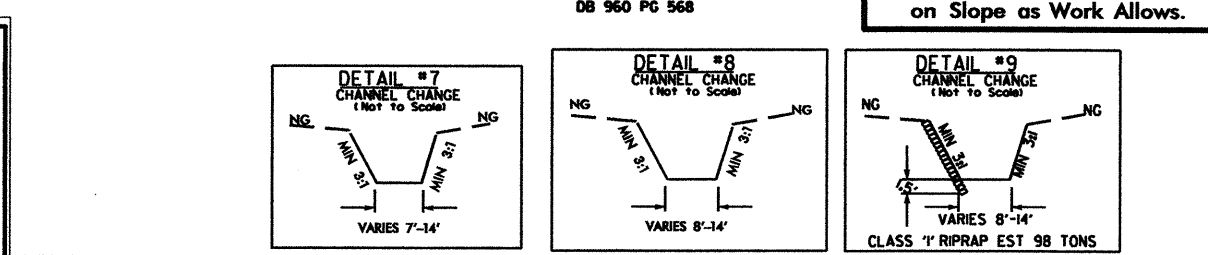
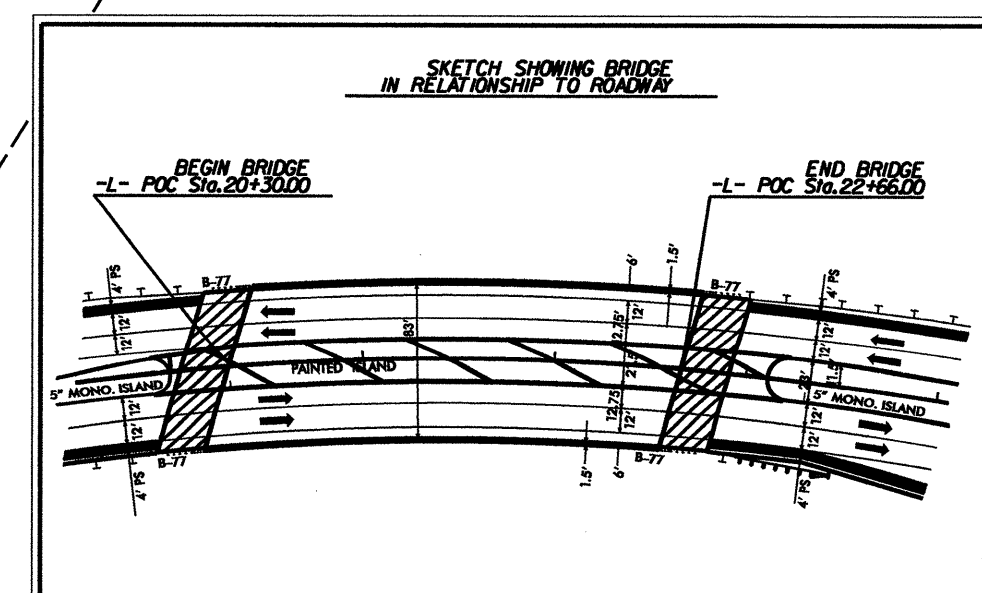
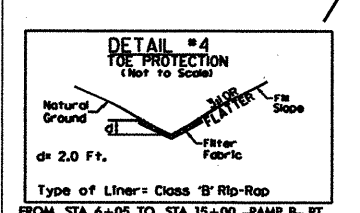
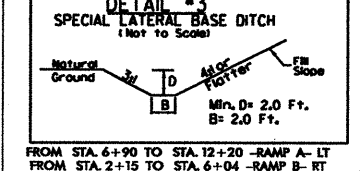
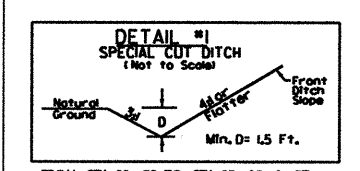
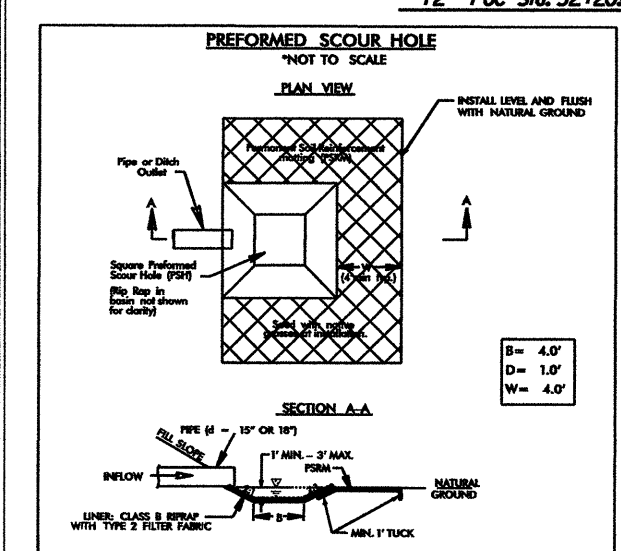
SEE SHEET 9 FOR -L- PROFILE  
SEE SHEET 11 FOR -YI- PROFILE

MATCHLINE STA. 14+50.00  
SEE SHEET NO. 5

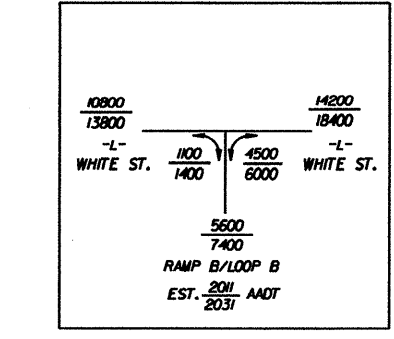
PROJECT REFERENCE NO.	SHEET NO.
U-407A	EC-14/CONST 3
ROWWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



- REVISIONS
1. REVISED RW MONUMENT FLAG STATION LOCATED AT -L- STA. 27+00.00, 115' RT.
  2. REVISED RW MONUMENT FLAG STATION LOCATED AT -L- STA. 27+15.51, 112.88' RT.
  3. REVISED RW MONUMENT FLAG STATION LOCATED AT -L- STA. 14+45.00, 145' RT.
  4. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.
  5. PROPERTY NAME CHANGES TO PARCELS 20, 22, 23, AND 23A.
  6. REVISED WOVEN WIRE FENCE TO CHAIN LINK FENCE ALONG PARCELS 1, 13, 15, 16, 18, 19, 20, AND 21.



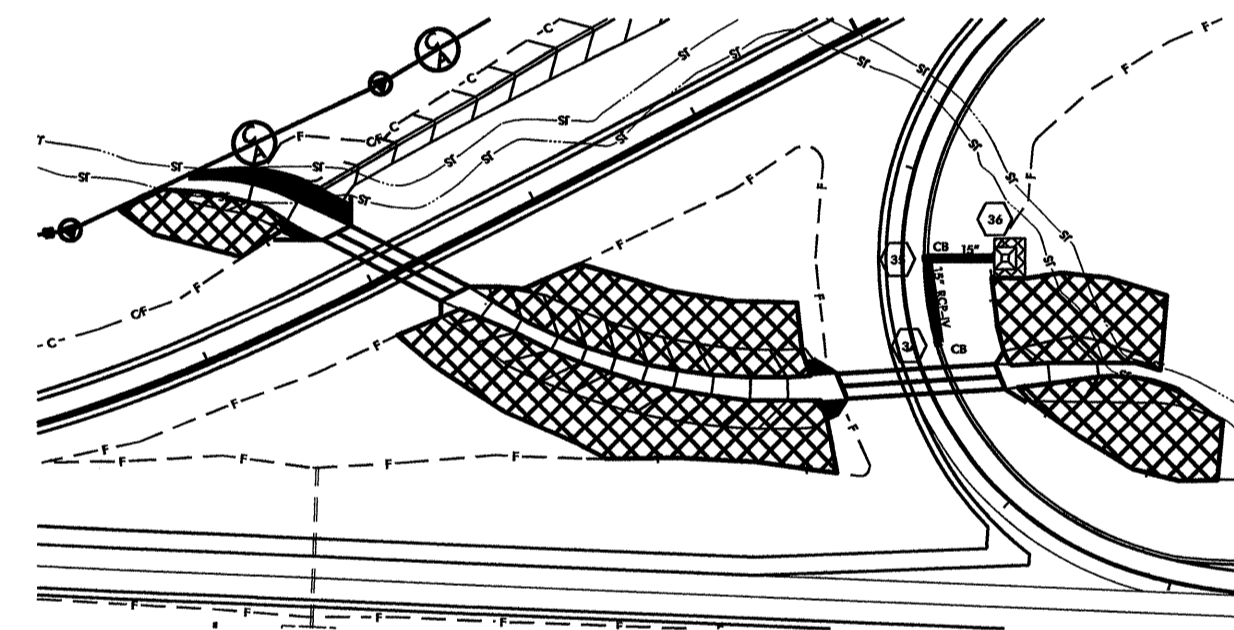
-RAMPB-		-RAMPB-		-RAMPB-		-RAMPB-		-RAMPB-	
Pi Sta 5+2000	Pi Sta 6+8008	Pi Sta 8+3936	Pi Sta 11+8682	Pi Sta 15+5350	Pi Sta 15+9270	Pi Sta 15+9270	Pi Sta 15+9270	Pi Sta 15+9270	Pi Sta 15+9270
Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"	Δ = 2°02'46.5"
D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'	D = 500.00'
L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'	L = 1000.00'
T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'	T = 1000.00'
ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'	ST = 500.00'
DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH	DS = 30 MPH



SEE SHEET 9 FOR -L- PROFILE  
 SEE SHEET 10 FOR -L- PROFILE  
 SEE SHEET 11 FOR -L- PROFILE  
 SEE SHEET 12 FOR -L- PROFILE  
 SEE SHEET 13 FOR -L- PROFILE

# 0.6 ACRE STREAMBANK REFORESTATION

PROJECT REFERENCE NO. <i>U-4007A</i>	SHEET NO. <i>EC-15/CONST.5</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

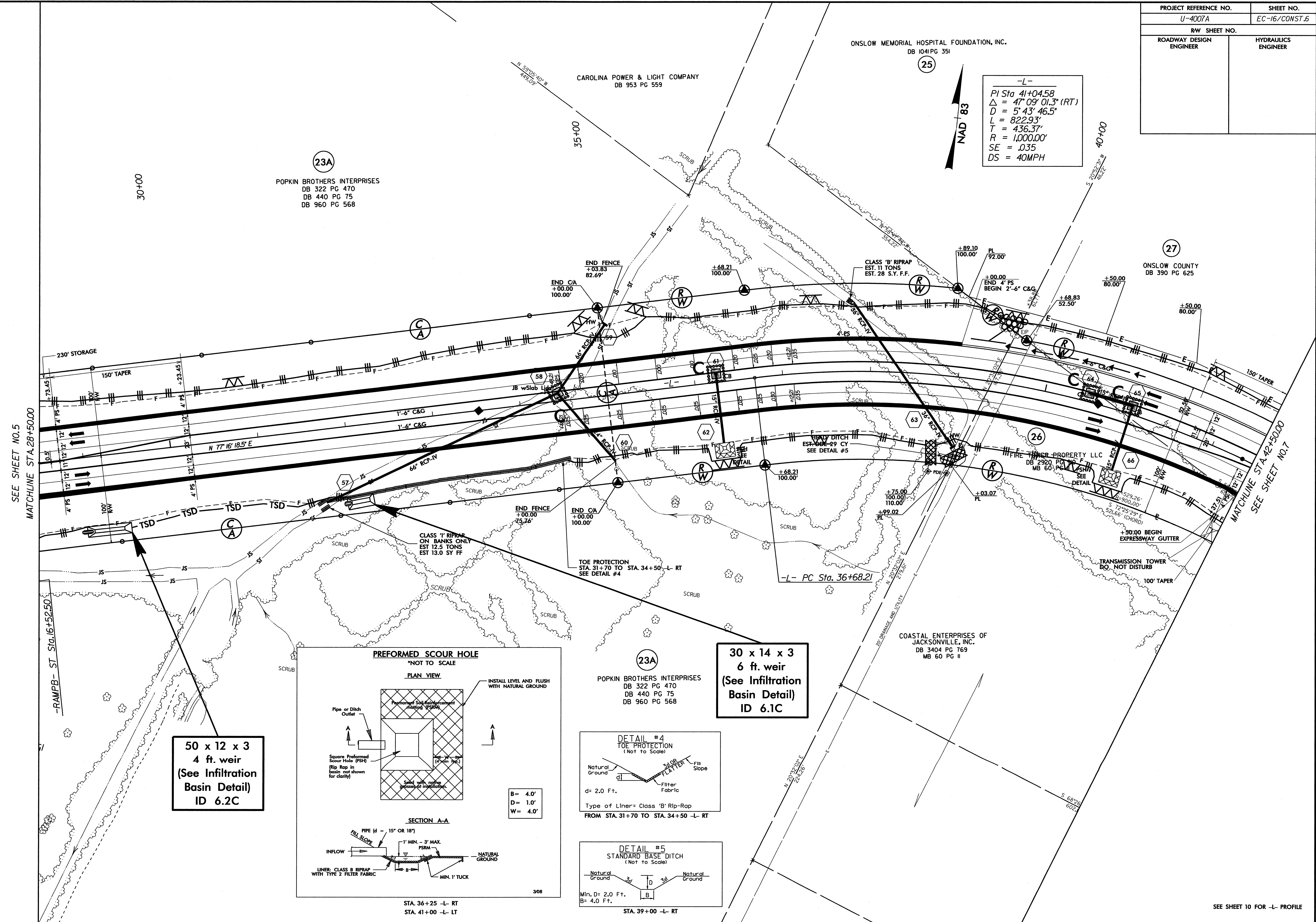


SEE RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	EC-16/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

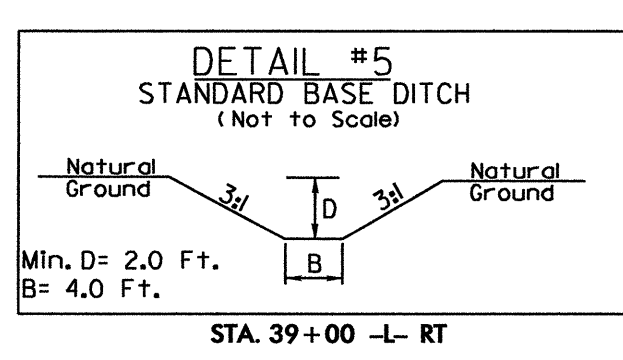
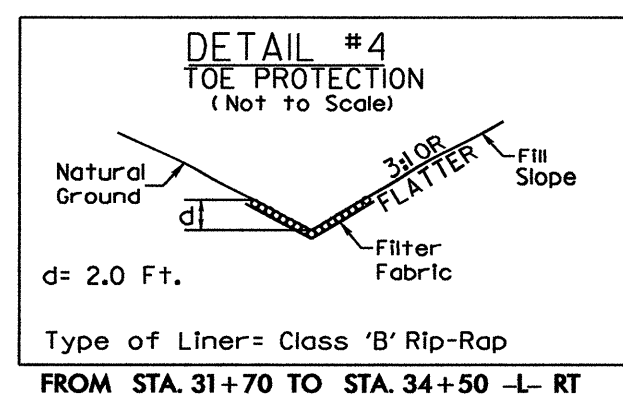
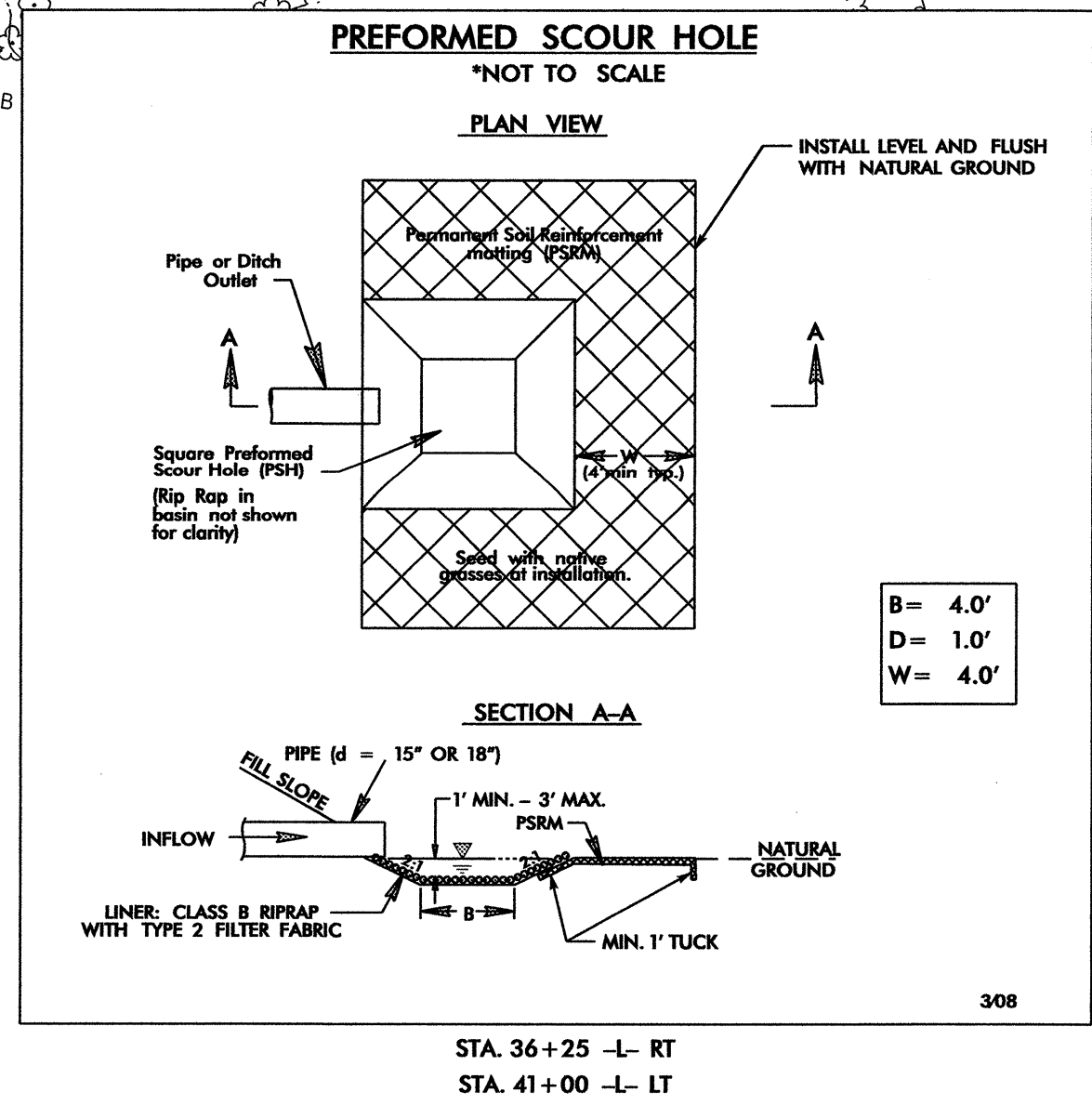
-L-  
 PI Sta 41+04.58  
 $\Delta = 47^{\circ} 09' 01.3" (RT)$   
 $D = 5' 43' 46.5"$   
 $L = 822.93'$   
 $T = 436.37'$   
 $R = 1,000.00'$   
 $SE = .035$   
 $DS = 40MPH$

REVISIONS  
 1. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.  
 2. PROPERTY NAME CHANGES TO PARCELS 26.  
 3. REMOVED PDE ON PARCEL OF COASTAL ENTERPRISES OF JACKSONVILLE, INC.  
 4. REVISED 4' PS SECTION TO 2'-6" C&G SECTION THRU PARCEL 27 PROPERTY.



**50 x 12 x 3  
 4 ft weir  
 (See Infiltration  
 Basin Detail)  
 ID 6.2C**

**30 x 14 x 3  
 6 ft weir  
 (See Infiltration  
 Basin Detail)  
 ID 6.1C**

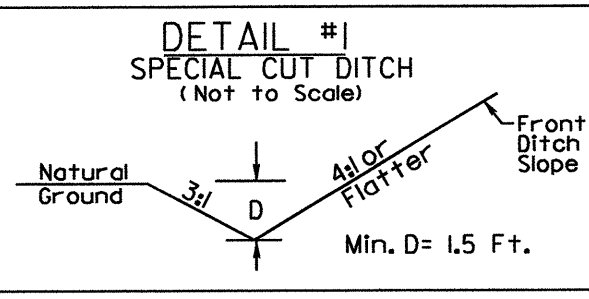


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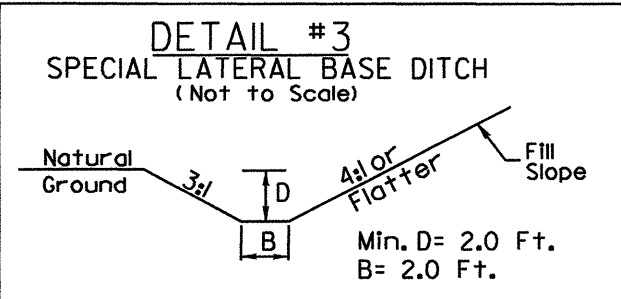
SEE SHEET 10 FOR -L- PROFILE



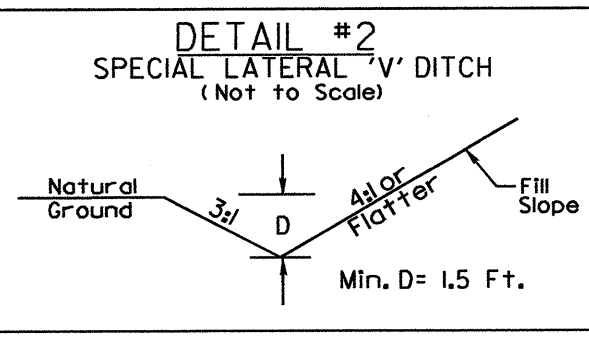
PROJECT REFERENCE NO.	SHEET NO.
U-4007A	EC-17/CONST.7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



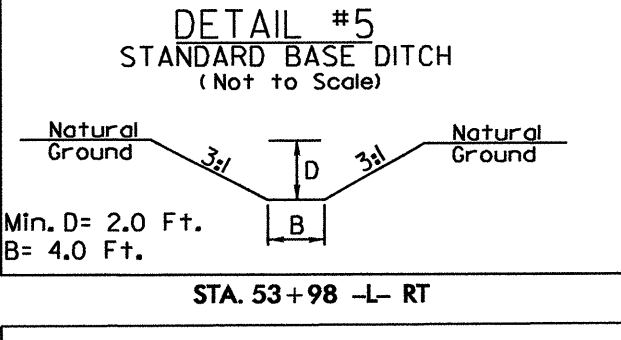
FROM STA. 47+42 TO STA. 49+20 -L- RT  
FROM STA. 50+22 TO STA. 51+15 -L- RT



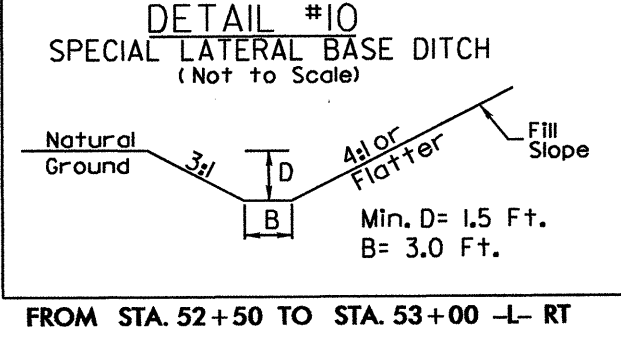
FROM STA. 52+50 TO STA. 53+50



FROM STA. 46+50 TO STA. 50+00 -L- LT  
FROM STA. 54+25 TO STA. 58+50 -L- LT



STA. 53+98 -L- RT

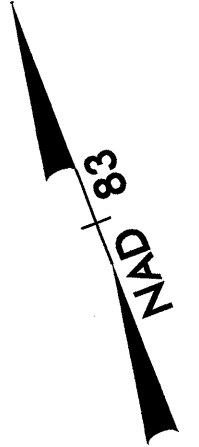


FROM STA. 52+50 TO STA. 53+00 -L- RT

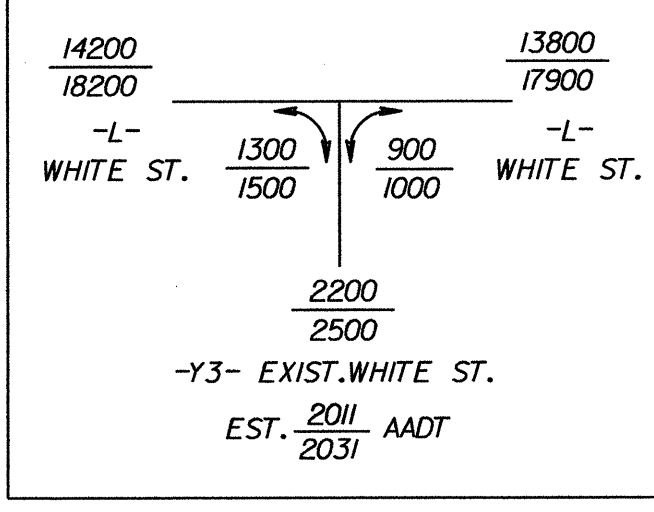
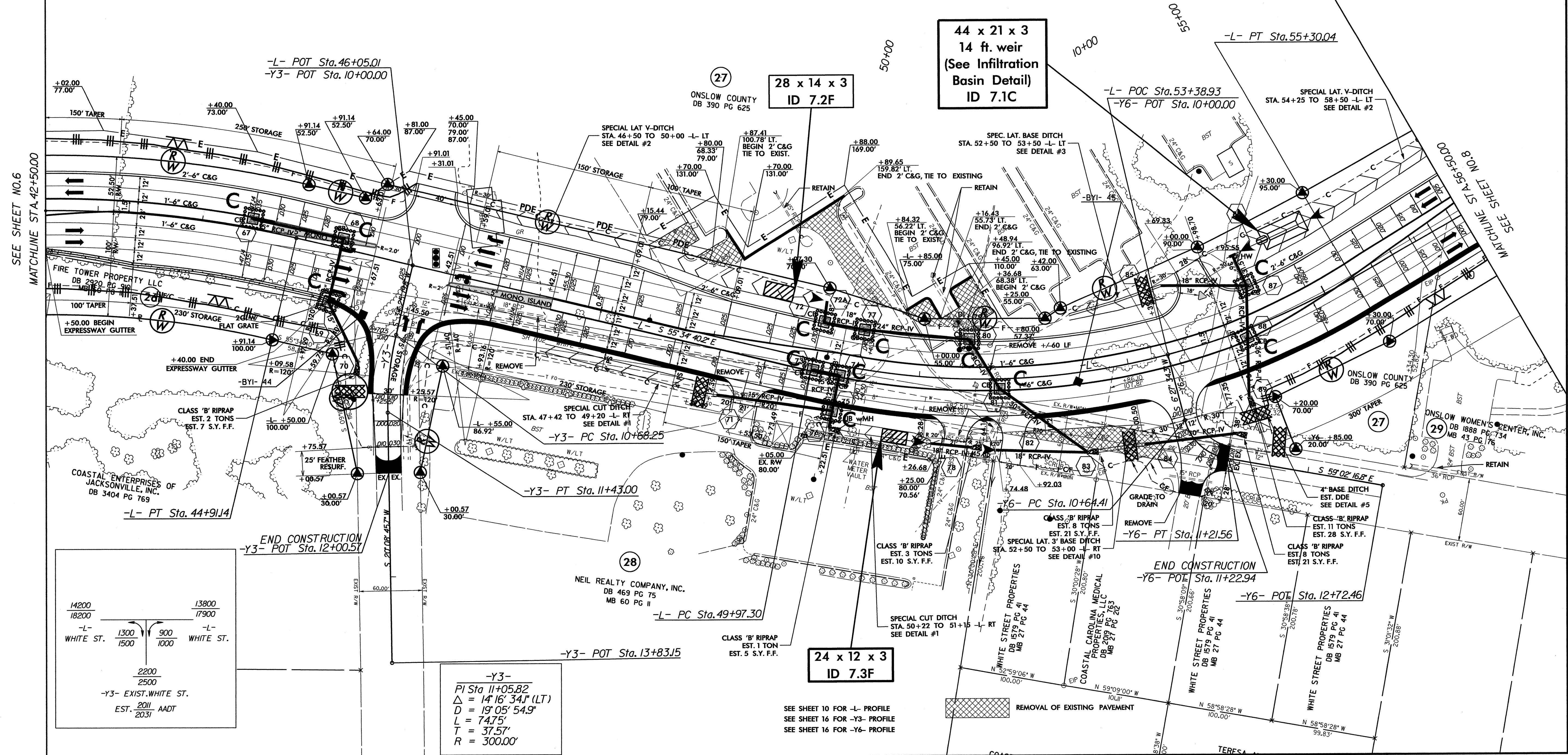
-L-  
PI Sta 41+04.58  
Δ = 47° 09' 01.3" (RT)  
D = 5' 43" 46.5"  
L = 822.93'  
T = 436.37'  
R = 1,000.00'  
SE = .035  
DS = 40MPH

-L-  
PI Sta 52+77.32  
Δ = 43° 36' 18.8" (LT)  
D = 8' 11" 06.4"  
L = 532.74'  
T = 280.02'  
R = 700.00'  
SE .04  
DS = 40MPH

-Y6-  
PI Sta 10+96.57  
Δ = 65° 29' 51.1" (LT)  
D = 11' 35" 29.6"  
L = 57.16'  
T = 32.16'  
R = 50.00'



- REVISIONS
1. REVISED CONSTRUCTION EASEMENT FLAG LOCATED AT -L- STA. 50+05.00 RT.
  2. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.
  3. PROPERTY NAME CHANGES TO PARCEL 26.
  4. REMOVED PARCEL 28A AND CLAIM.
  5. REVISED 4' FS SECTION TO 2'-6" C&G SECTION THRU PARCEL 27 PROPERTY.

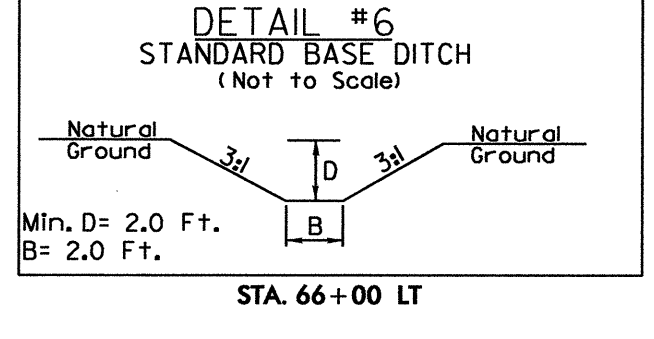
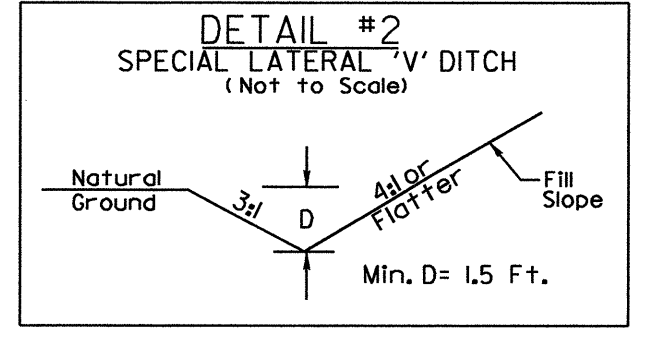


-Y3-  
PI Sta 11+05.82  
Δ = 14° 16' 34.1" (LT)  
D = 19' 05" 54.9"  
L = 747.5'  
T = 37.57'  
R = 300.00'

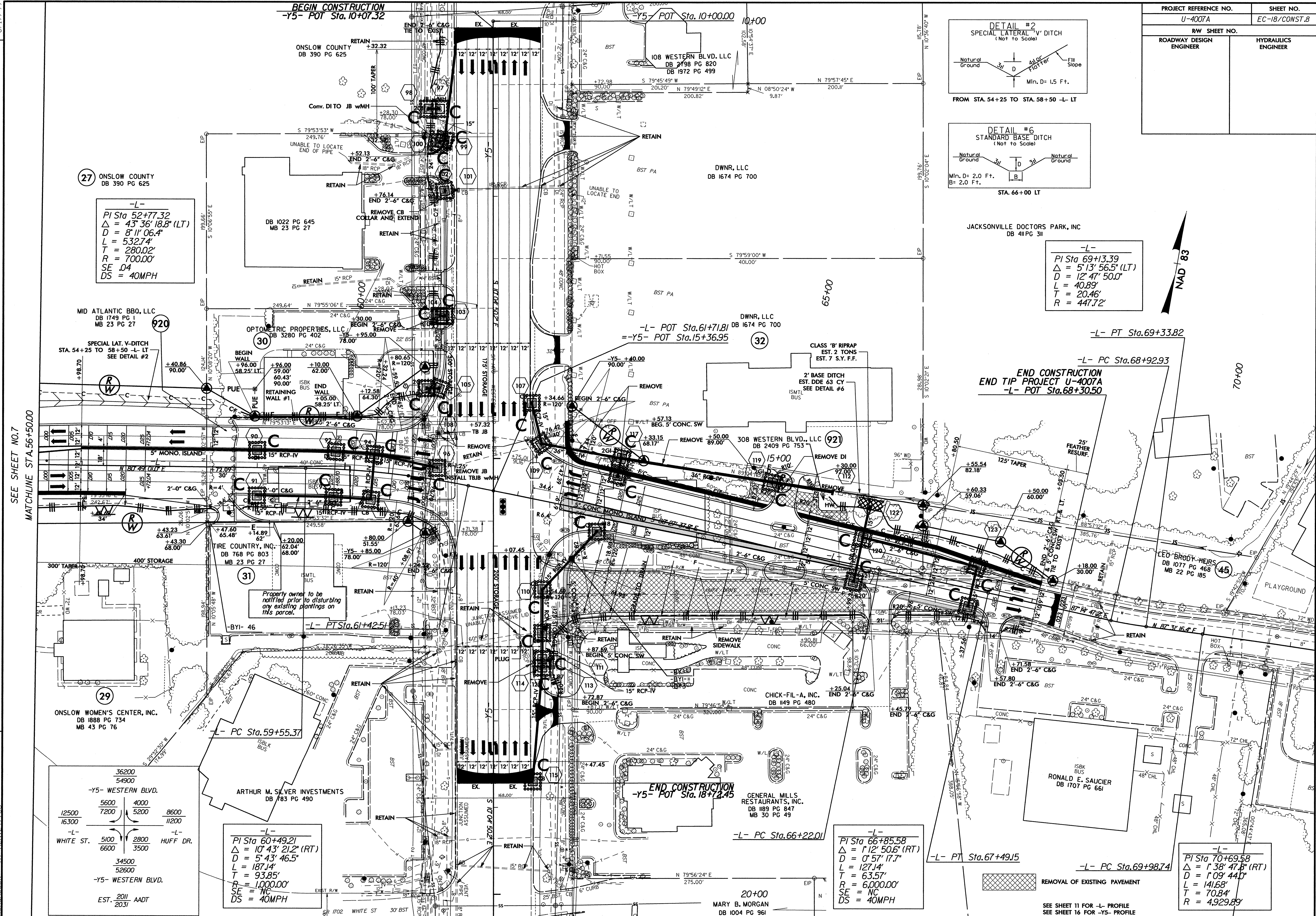
SEE SHEET 10 FOR -L- PROFILE  
SEE SHEET 16 FOR -Y3- PROFILE  
SEE SHEET 16 FOR -Y6- PROFILE

8/17/09  
 25-MAR-2011 13:13  
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PROJECT REFERENCE NO. U-4007A	SHEET NO. EC-18/CONST.8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-  
 PI Sta 69+13.39  
 $\Delta = 5'13''56.5''$  (LT)  
 $D = 12'47''50.0''$   
 $L = 40.89'$   
 $T = 20.46'$   
 $R = 447.72'$



27 ONSLW COUNTY  
 DB 390 PG 625

-L-  
 PI Sta 52+77.32  
 $\Delta = 43'36''18.8''$  (LT)  
 $D = 8'11''06.4''$   
 $L = 532.74'$   
 $T = 280.02'$   
 $SE = .04$   
 $DS = 40MPH$

MID ATLANTIC BBO, LLC  
 DB 1749 PG 1  
 MB 23 PG 27

920

SPECIAL LAT. V-DITCH  
 STA. 54+25 TO 58+50 -L- LT  
 SEE DETAIL #2

30 OPTOMETRIC PROPERTIES, LLC  
 DB 3280 PG 402

BEGIN WALL  
 +96.00  
 58.25' LT

END WALL  
 +90.00  
 58.25' LT

31 WIRE COUNTRY, INC.  
 DB 768 PG 803  
 MB 23 PG 27

Property owner to be notified prior to disturbing any existing plantings on this parcel.

29 ONSLW WOMEN'S CENTER, INC.  
 DB 1888 PG 734  
 MB 43 PG 76

32 DWNR, LLC  
 DB 1674 PG 700

-L- POT Sta. 61+71.81  
 -Y5- POT Sta. 15+36.95

33 CHICK-FIL-A, INC.  
 DB 1149 PG 480

BEGIN 2'-6" C&G  
 +77.87

END 2'-6" C&G  
 +25.04

34 GENERAL MILLS RESTAURANTS, INC.  
 DB 1189 PG 847  
 MB 30 PG 49

END CONSTRUCTION  
 -Y5- POT Sta. 18+72.45

35 MARY B. MORGAN  
 DB 1004 PG 961

20+00

36 RONALD E. SAUCIER  
 DB 1707 PG 661

-L- PC Sta. 66+22.01

37 MARY B. MORGAN  
 DB 1004 PG 961

20+00

-L-  
 PI Sta 60+49.21  
 $\Delta = 10'43''21.2''$  (RT)  
 $D = 5'43''46.5''$   
 $L = 187.14'$   
 $T = 93.85'$   
 $R = 1,000.00'$   
 $SE = NC$   
 $DS = 40MPH$

-L-  
 PI Sta 66+85.58  
 $\Delta = 1'12''50.6''$  (RT)  
 $D = 0'57''17.7''$   
 $L = 127.14'$   
 $T = 63.57'$   
 $R = 6,000.00'$   
 $SE = NC$   
 $DS = 40MPH$

-L-  
 PI Sta 70+69.58  
 $\Delta = 1'38''47.8''$  (RT)  
 $D = 1'09''44.0''$   
 $L = 141.68'$   
 $T = 70.84'$   
 $R = 4,929.89'$

REVISIONS

1. RECEIVED UPDATED PROPERTY LINE FILE FROM LOCATION AND REVISED PROPERTY DATA JULY 2010.

2. PROPERTY NAME CHANGE TO PARCEL 45.

3. ADD NOTE ON PARCEL 31.

SEE SHEET NO.7  
 MATCHLINE STA.56+50.00

REMOVAL OF EXISTING PAVEMENT

SEE SHEET 11 FOR -L- PROFILE  
 SEE SHEET 16 FOR -Y5- PROFILE

8/17/99

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