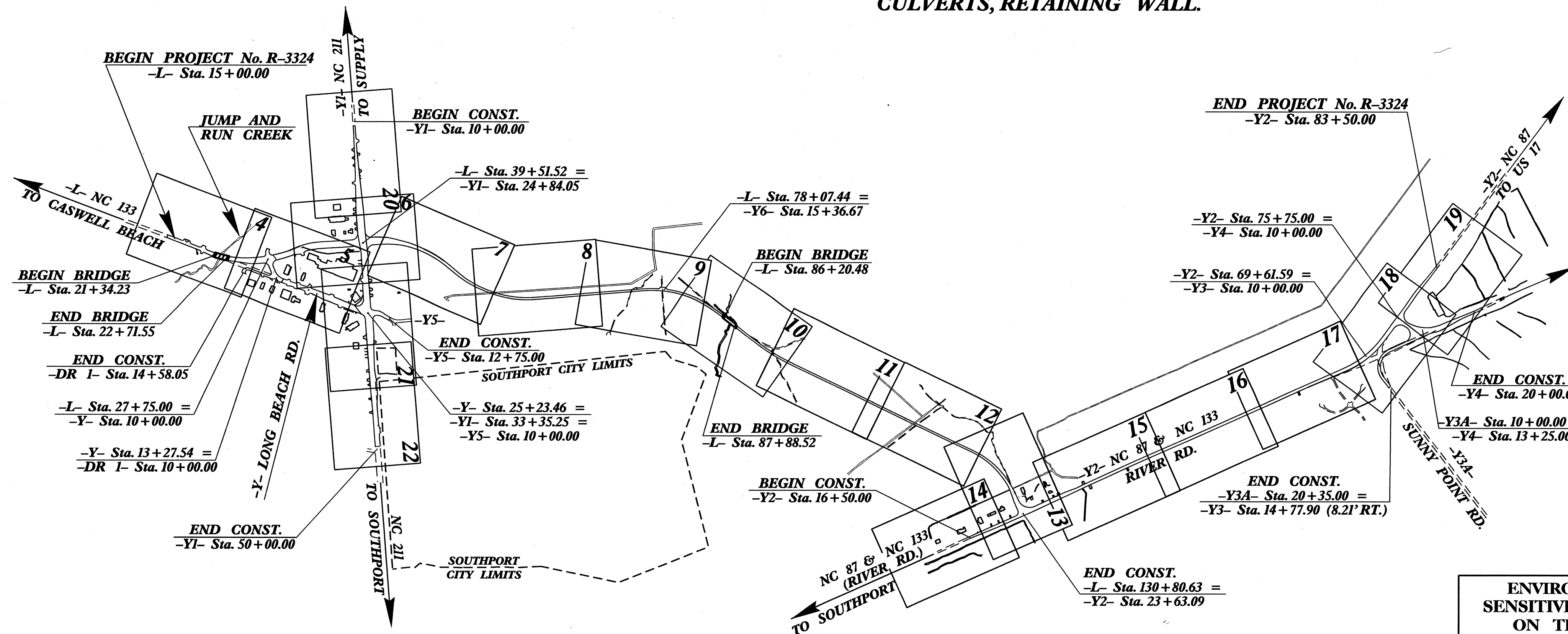


**TIP PROJECT: R-3324**

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

LOCATION: NEW ROUTE FROM NC 133 (LONG BEACH RD.) TO NC 133.  
TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, STRUCTURES,  
CULVERTS, RETAINING WALL.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3324	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

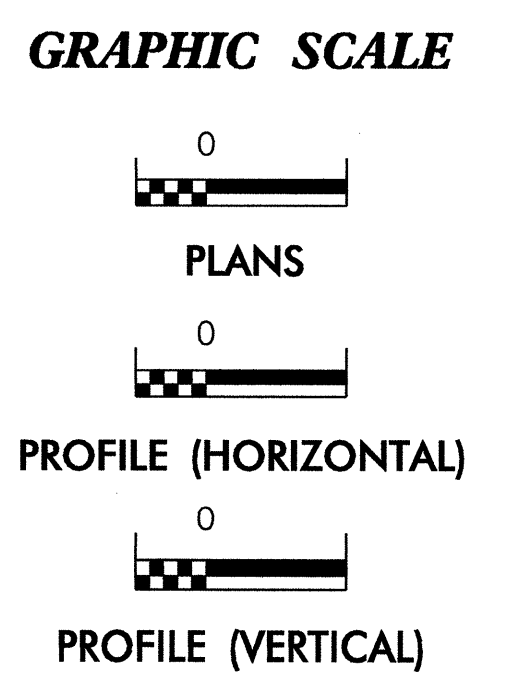
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	---X---
1622.01	Temporary Berms and Slope Drains	---X---
1630.02	Silt Basin Type B	---X---
1633.01	Temporary Rock Silt Check Type-A	---X---
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	---X---
1633.02	Temporary Rock Silt Check Type-B	---X---
	Wattle/Coir Fiber Wattle	---X---
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	---X---
1634.01	Temporary Rock Sediment Dam Type-A	---X---
1634.02	Temporary Rock Sediment Dam Type-B	---X---
1635.01	Rock Pipe Inlet Sediment Trap Type-A	---X---
1635.02	Rock Pipe Inlet Sediment Trap Type-B	---X---
1630.04	Stilling Basin	---X---
1630.06	Special Stilling Basin	---X---
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.05	Type C	C
	Skimmer Basin	---X---
	Tiered Skimmer Basin	---X---
	Infiltration Basin	---X---

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.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT  
High Quality Water Zone(s) Exist From Sta. L- 85+00 to Sta. L- 130+00 Refer To E. C. Special Provisions for Special Considerations.



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611  
**2012 STANDARD SPECIFICATIONS**

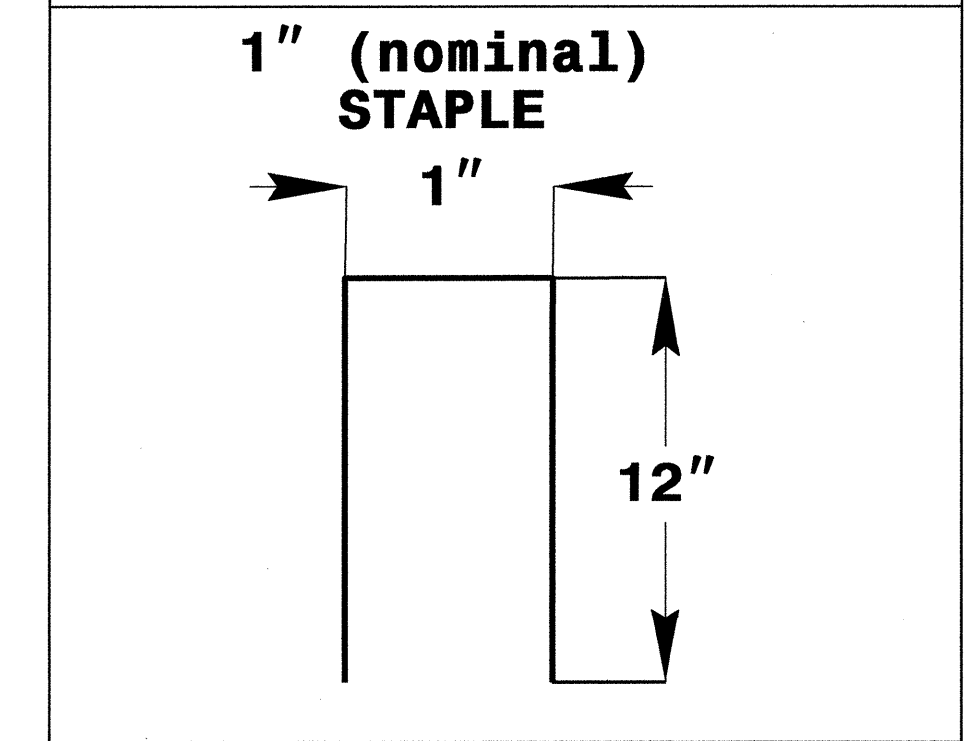
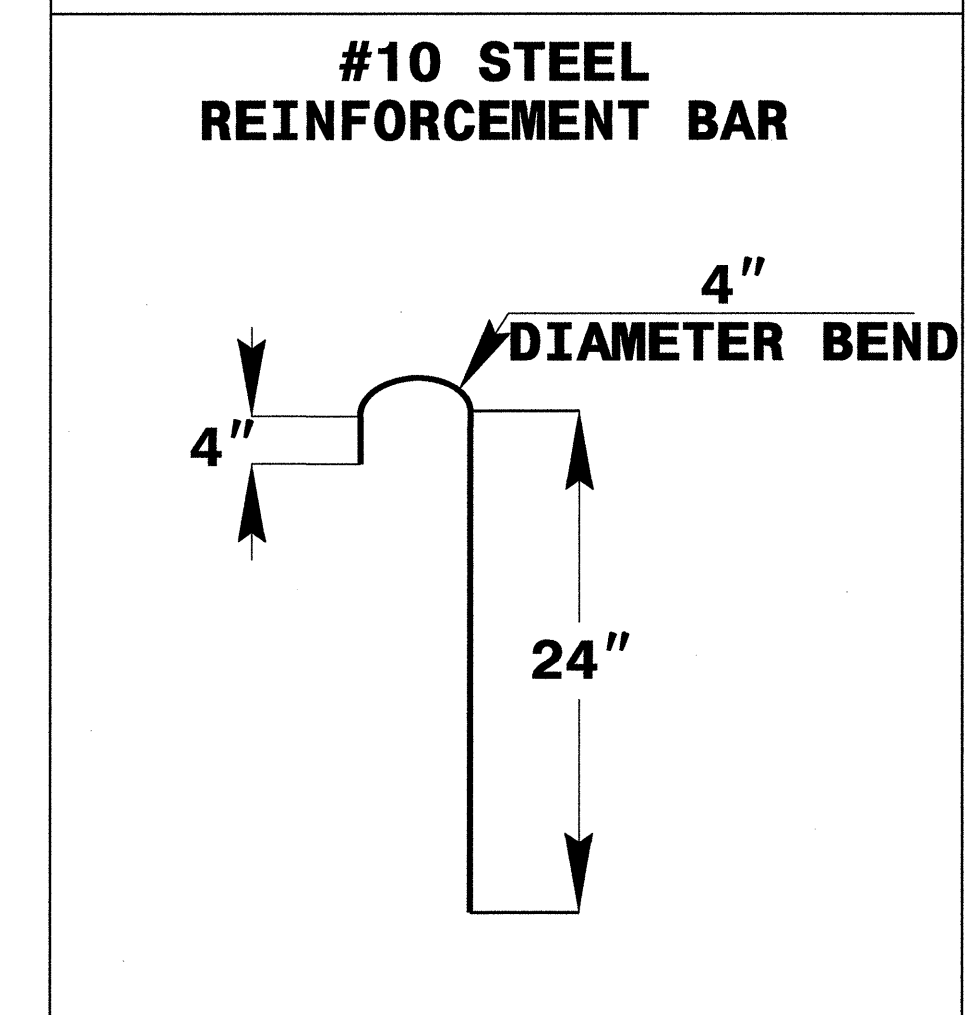
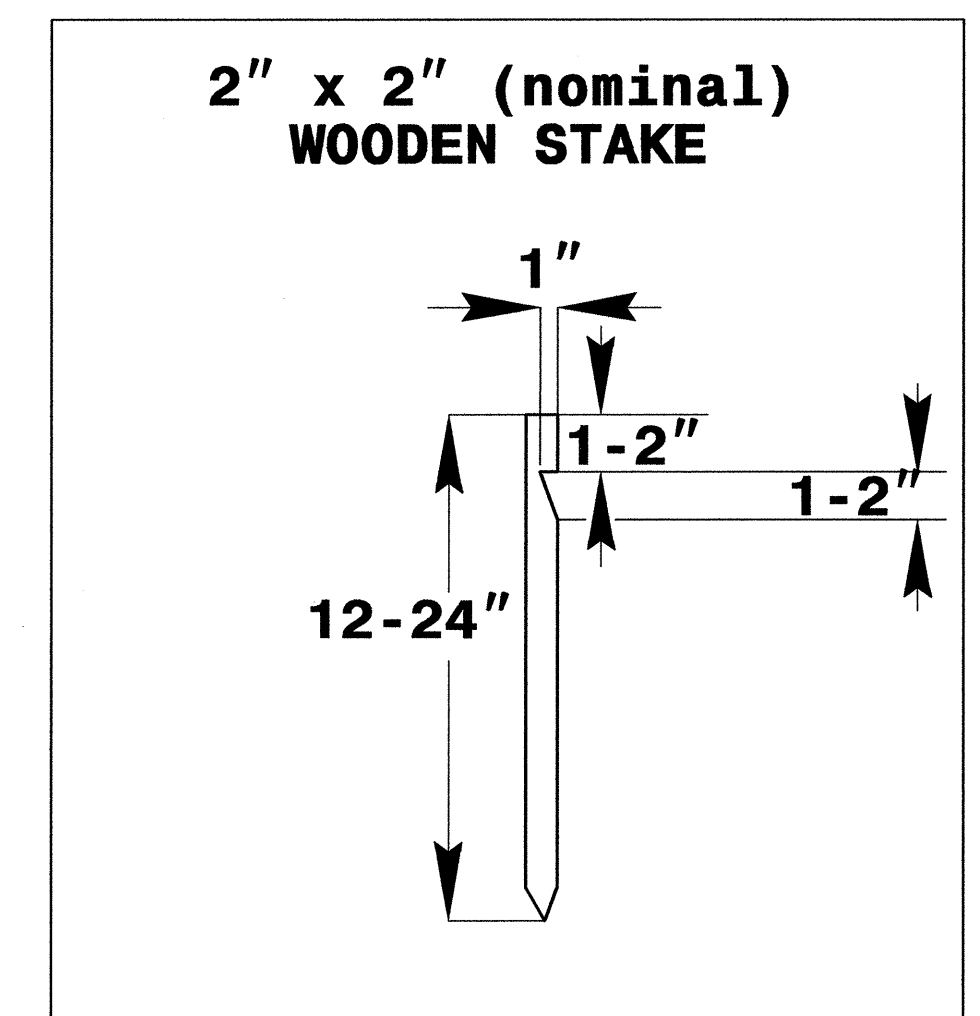
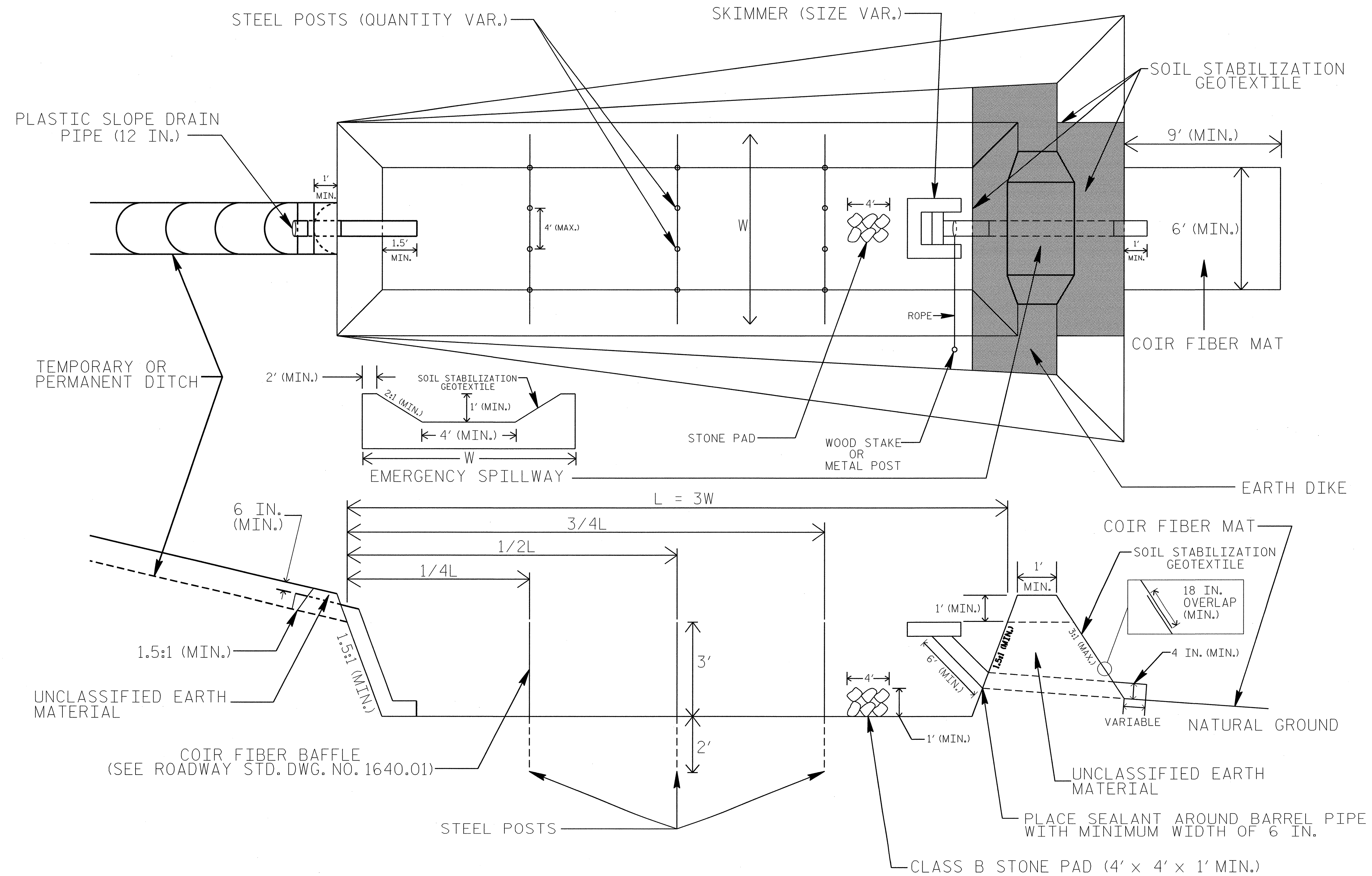
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
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	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
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
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SKIMMER BASIN WITH BAFFLES DETAIL



## COIR FIBER MAT ANCHOR OPTIONS

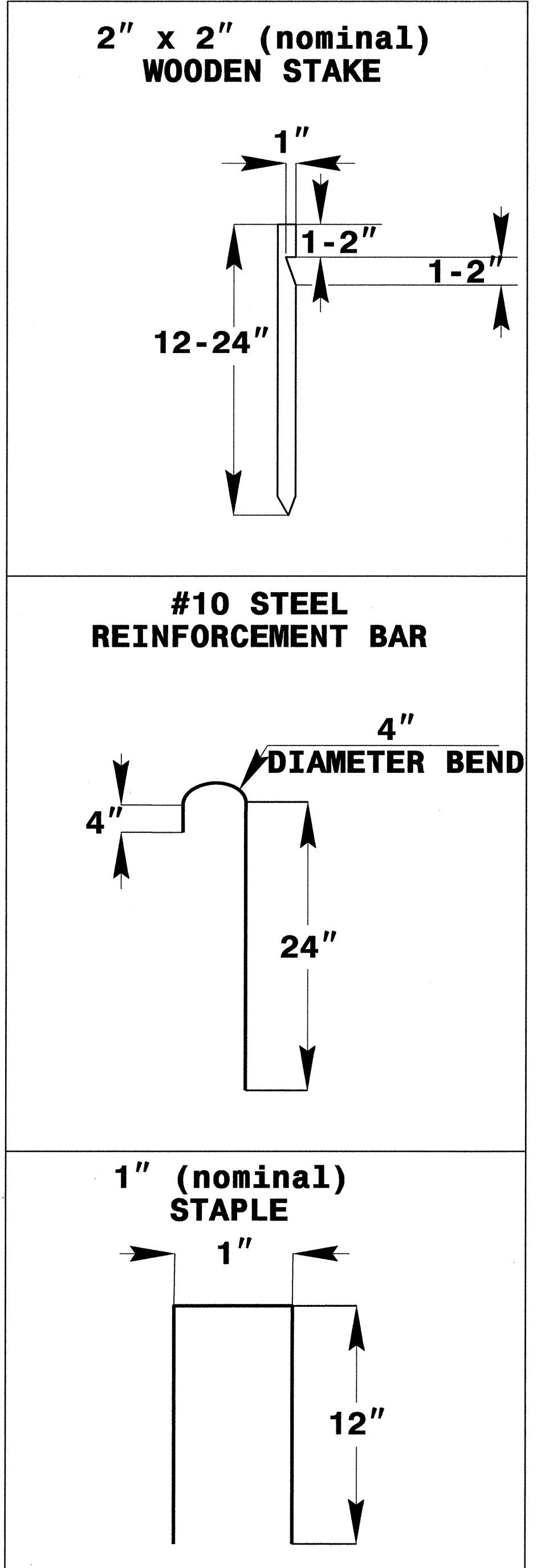
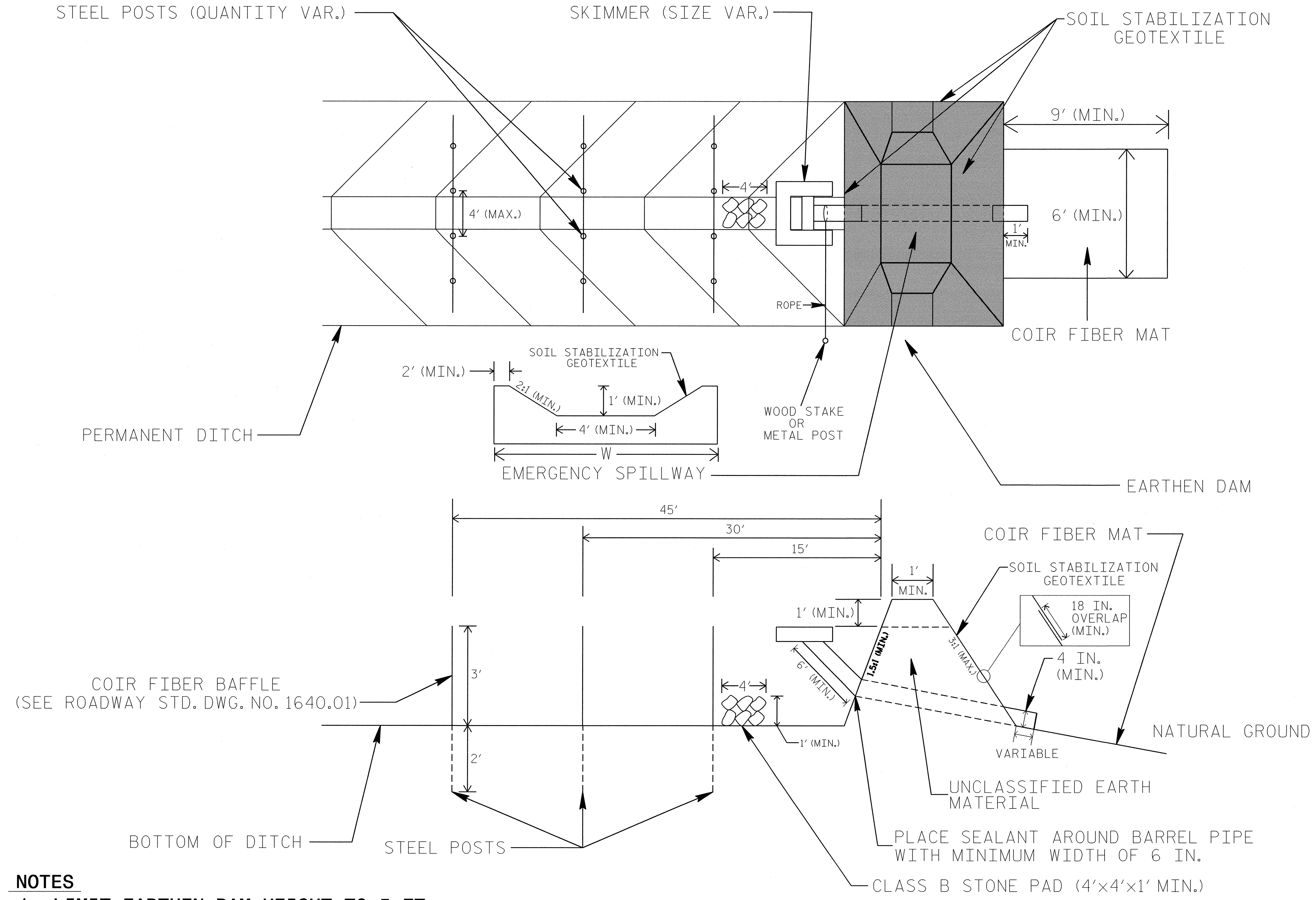
### NOTES

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 WEIR 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 FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# EARTHEN DAM WITH SKIMMER



## COIR FIBER MAT ANCHOR OPTIONS

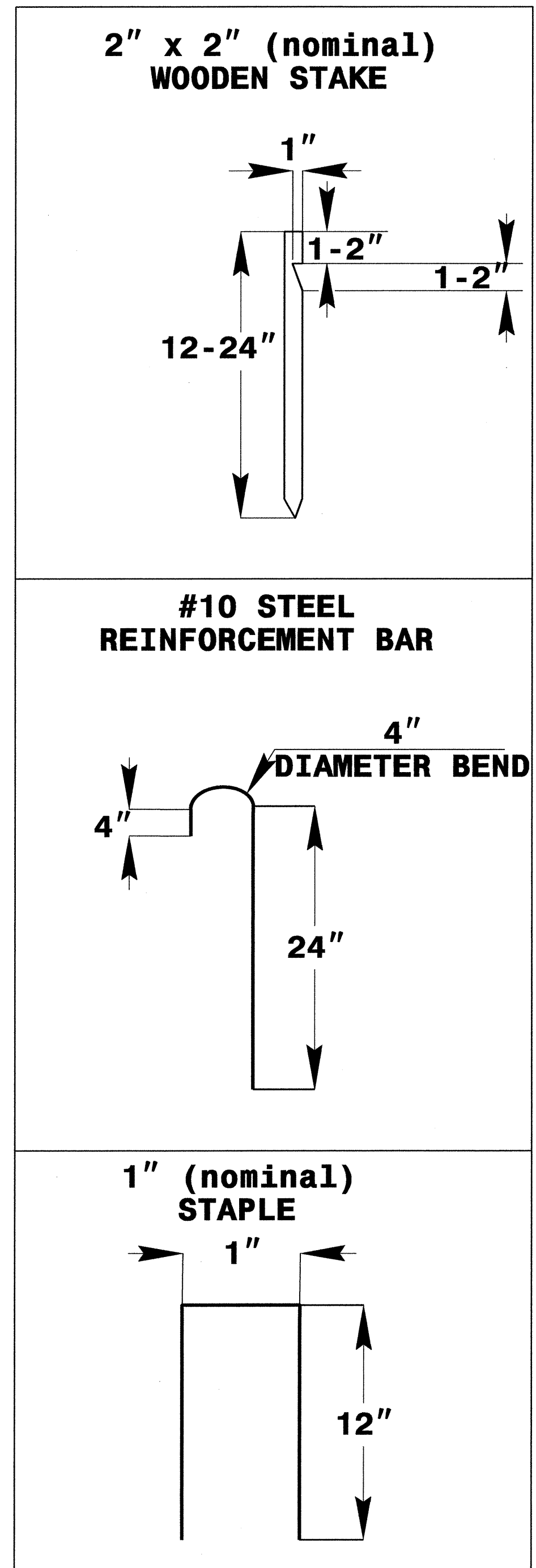
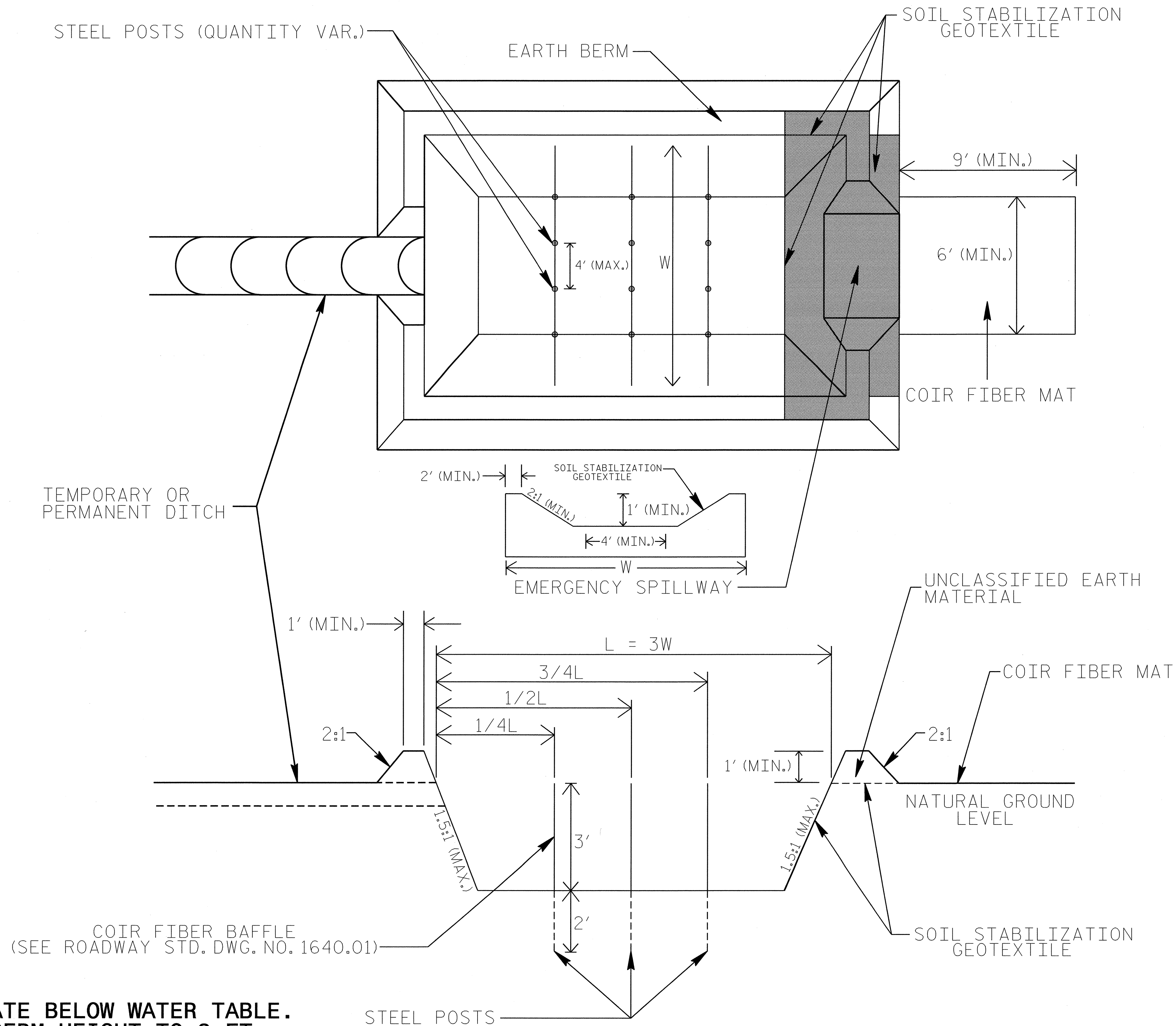
### NOTES

1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
2. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING  $Q/0.8$ , WHERE Q IS FLOW RATE (CFS) INTO BASIN.
3. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

# INFILTRATION BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## COIR FIBER MAT ANCHOR OPTIONS

### NOTES

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

NOT TO SCALE

# BORROW PIT DEWATERING BASIN DETAIL

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-2C
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 IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1060-14.

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 GEOTEXTILE 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.

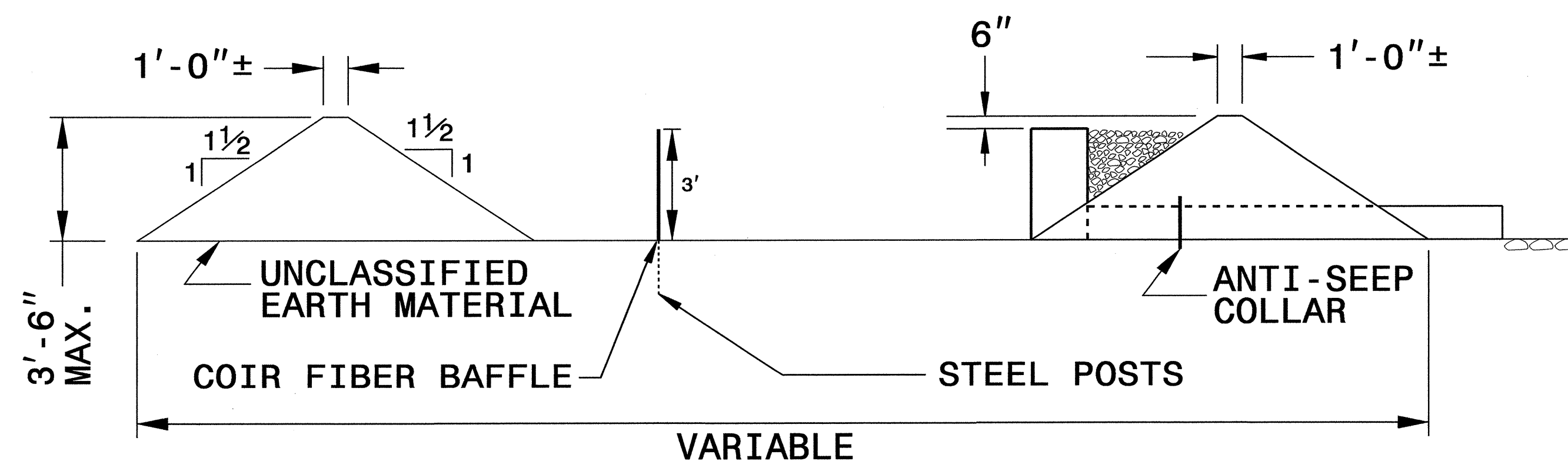
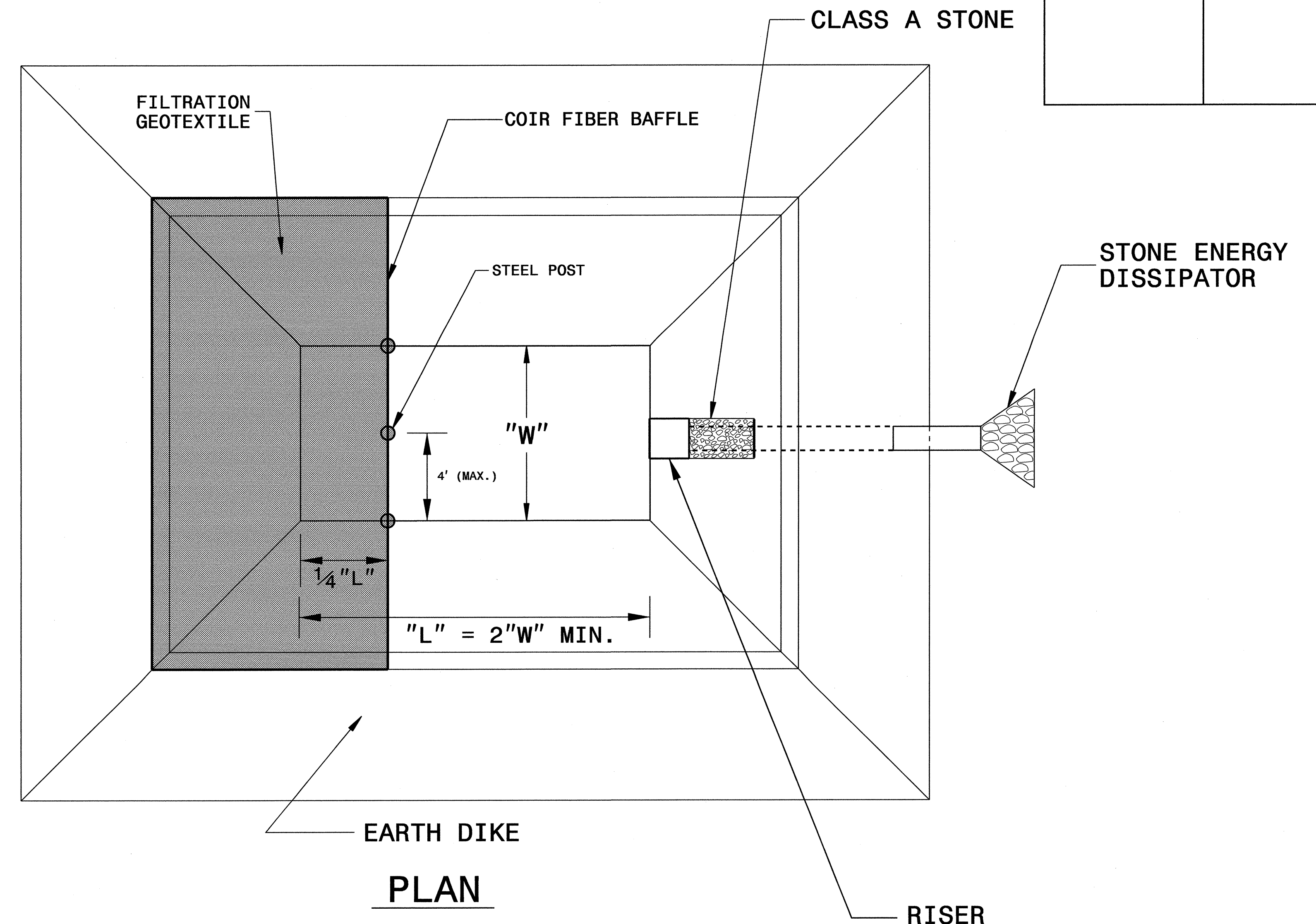
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

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.



TYPICAL SECTION VIEW

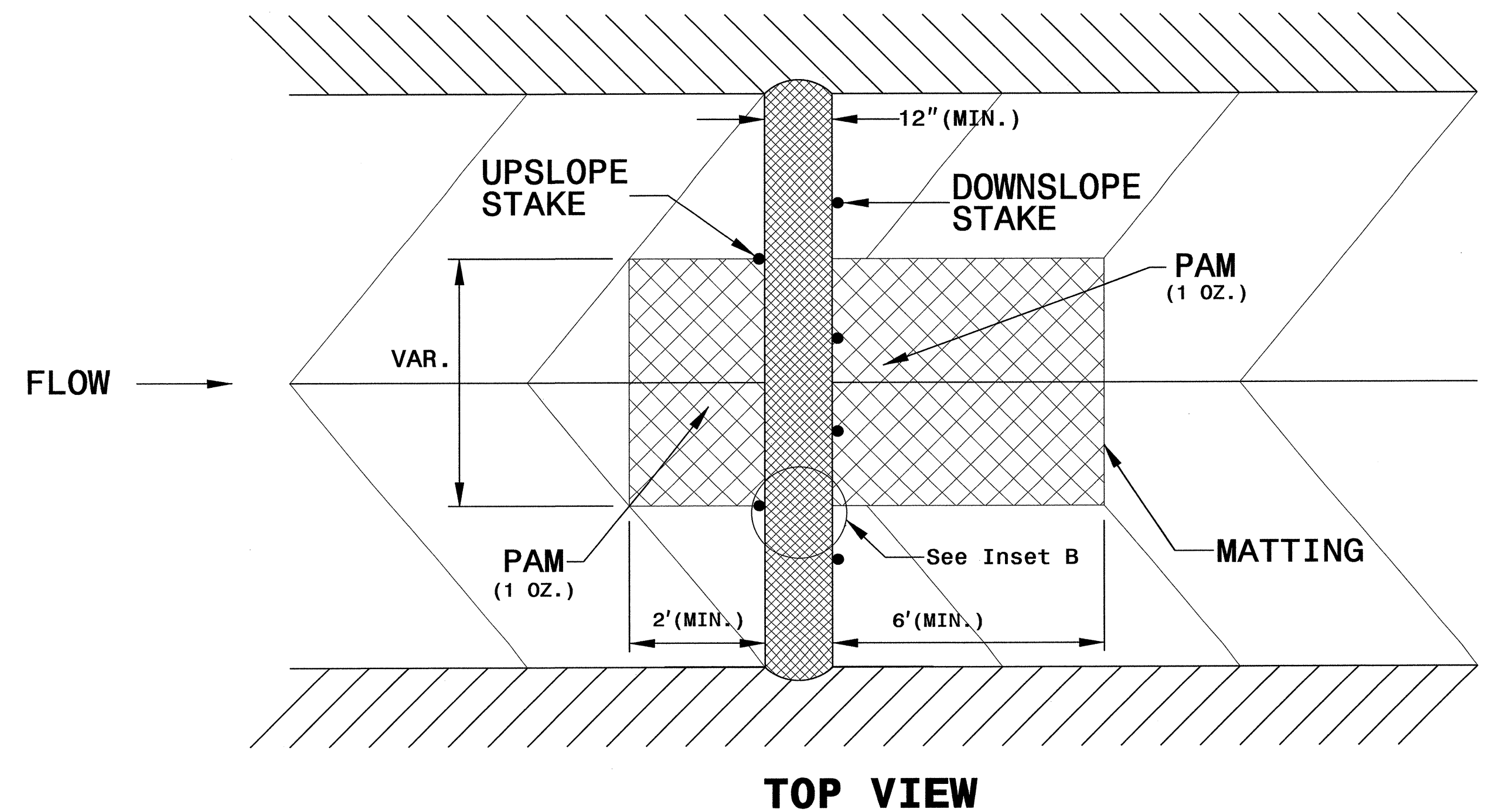
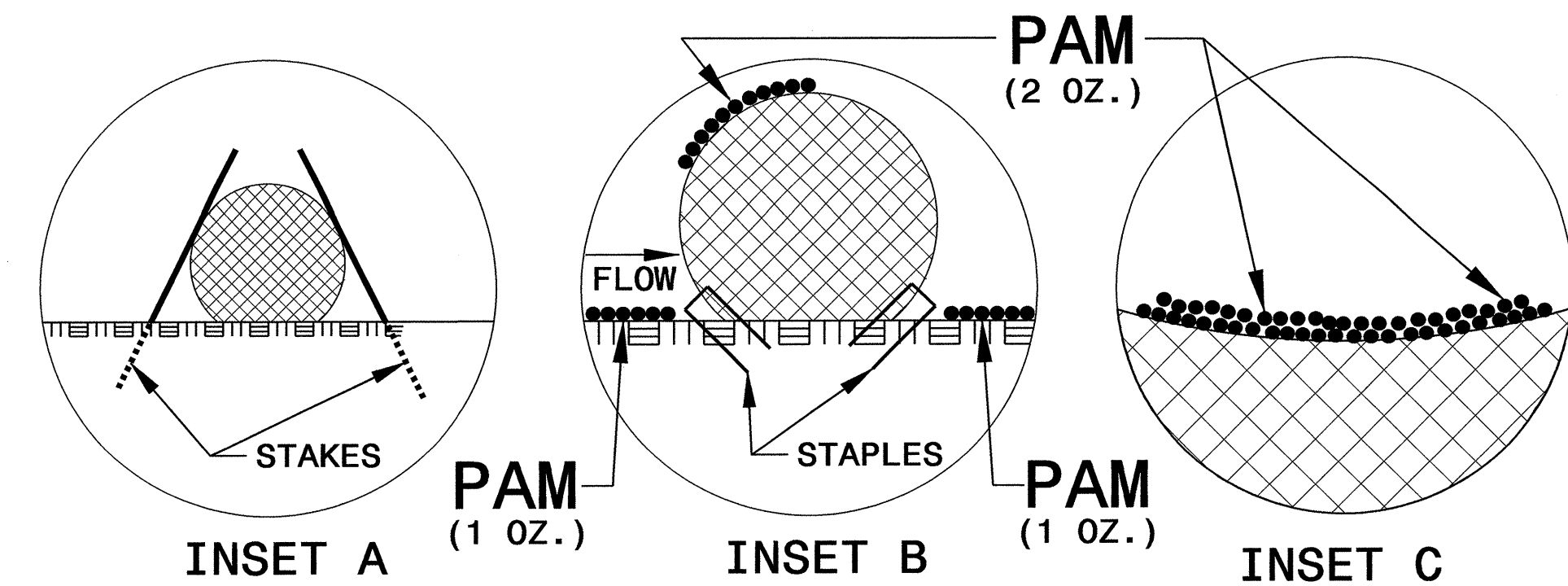
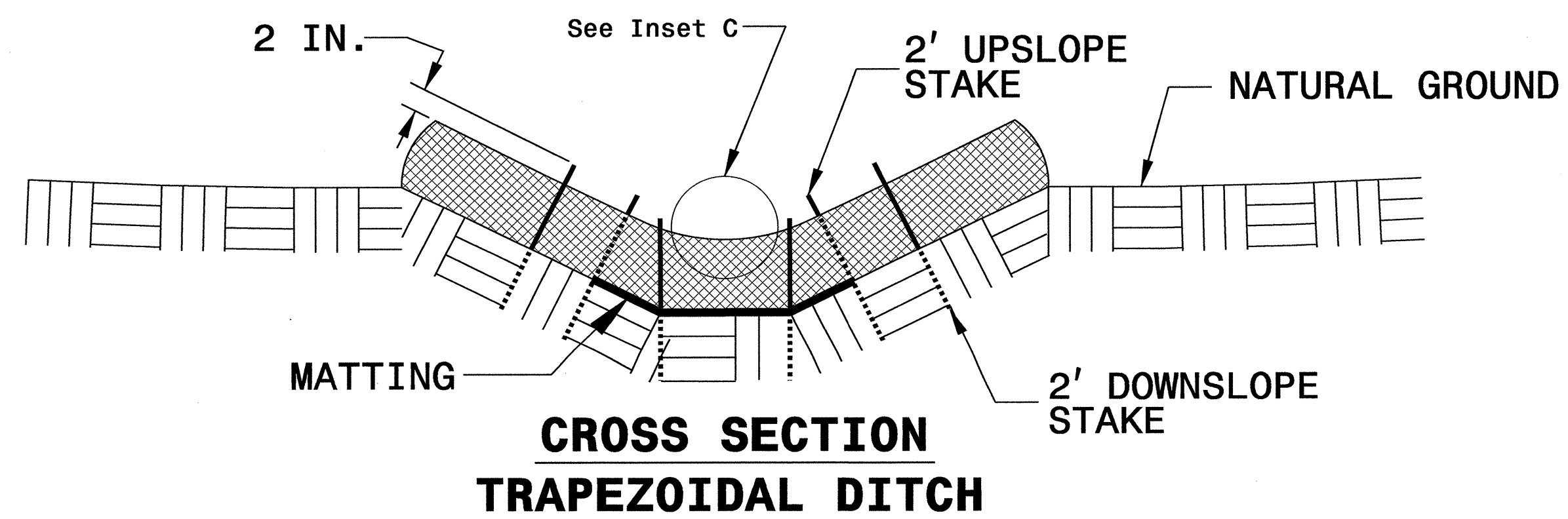
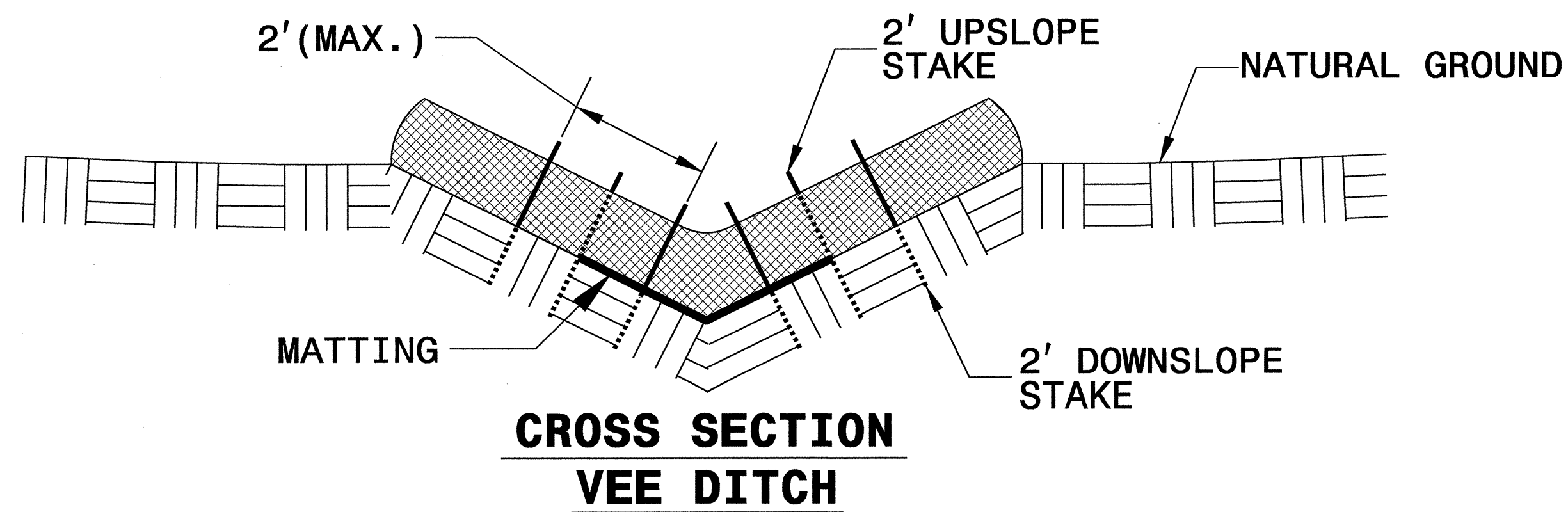
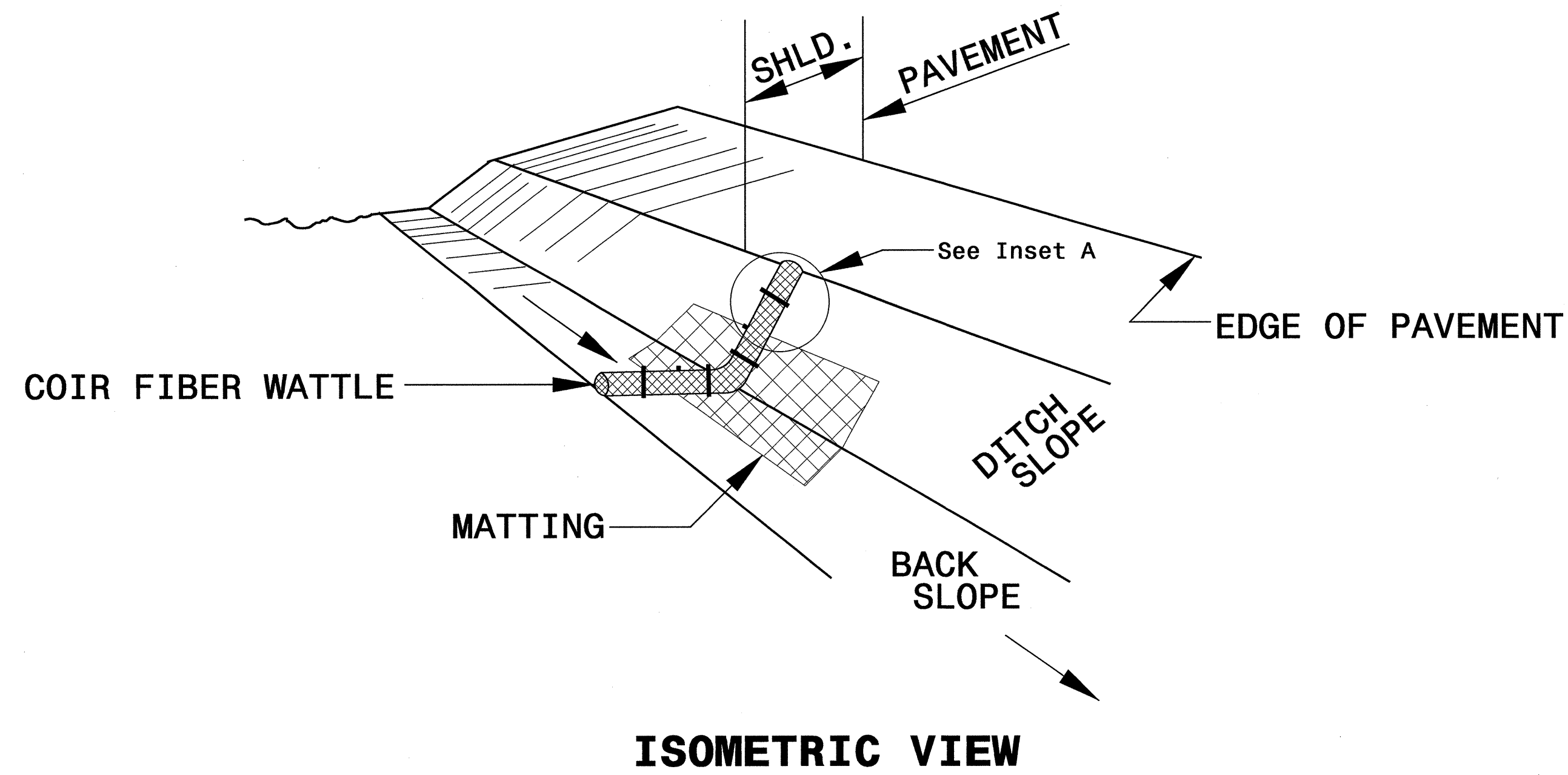
NOT TO SCALE

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-2D	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

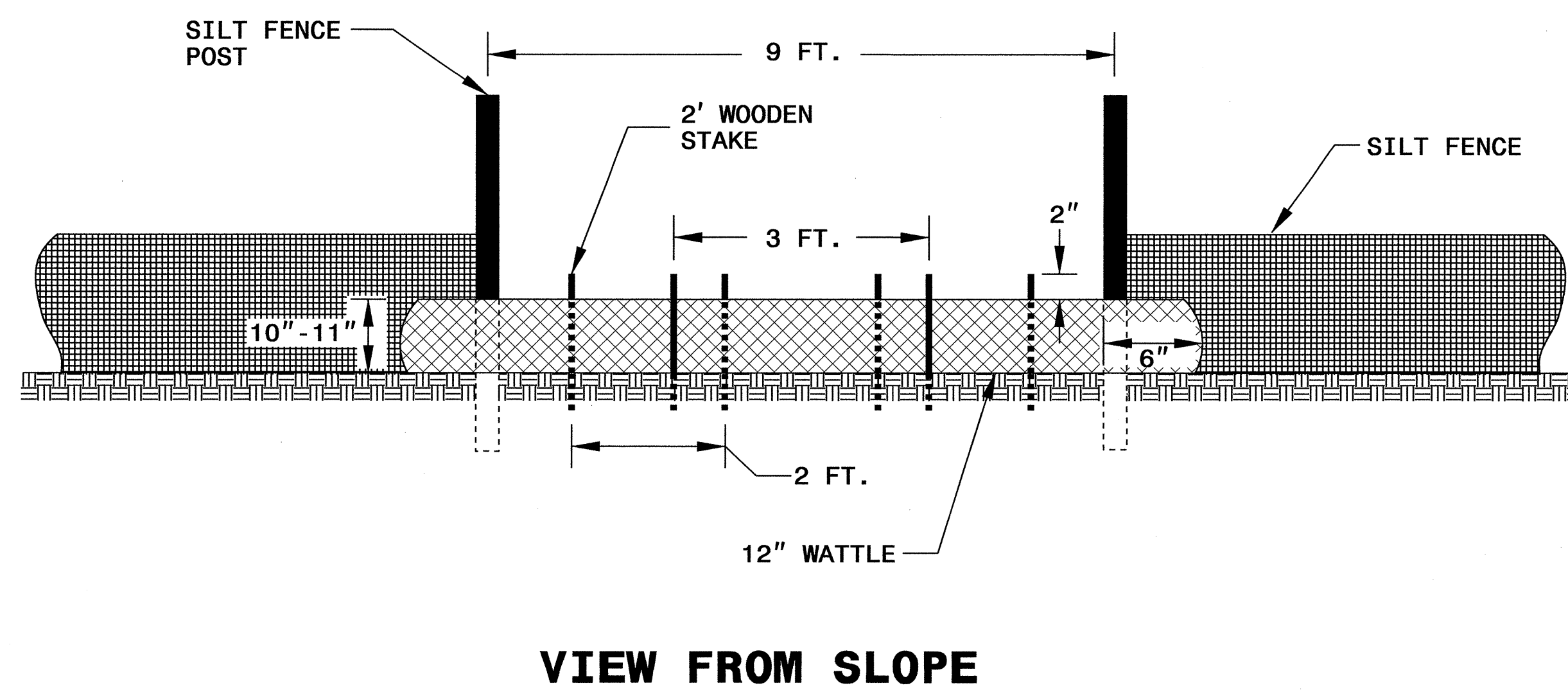
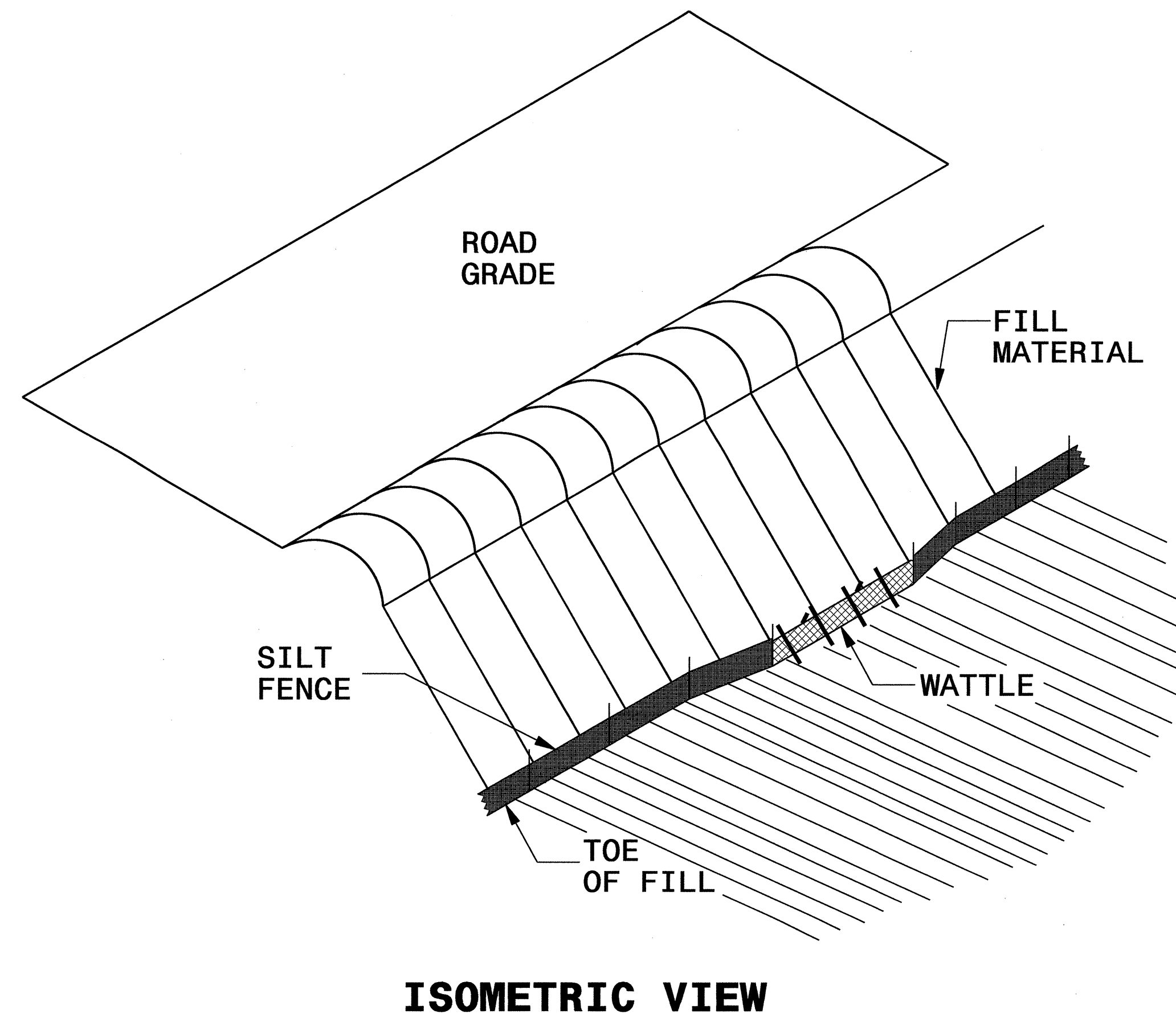
**NOTES:**

- 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.



# SILT FENCE COIR FIBER WATTLE BREAK DETAIL

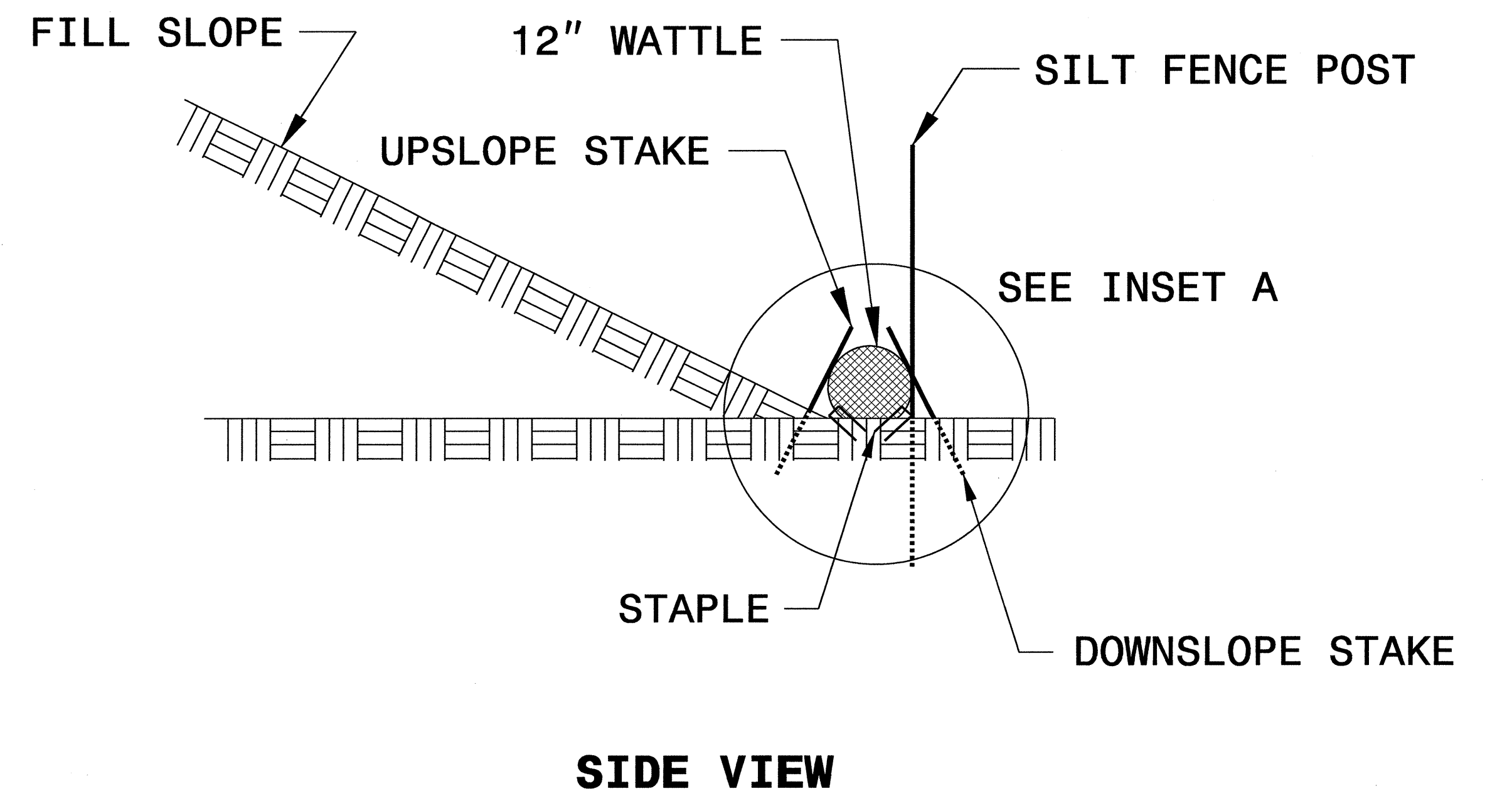
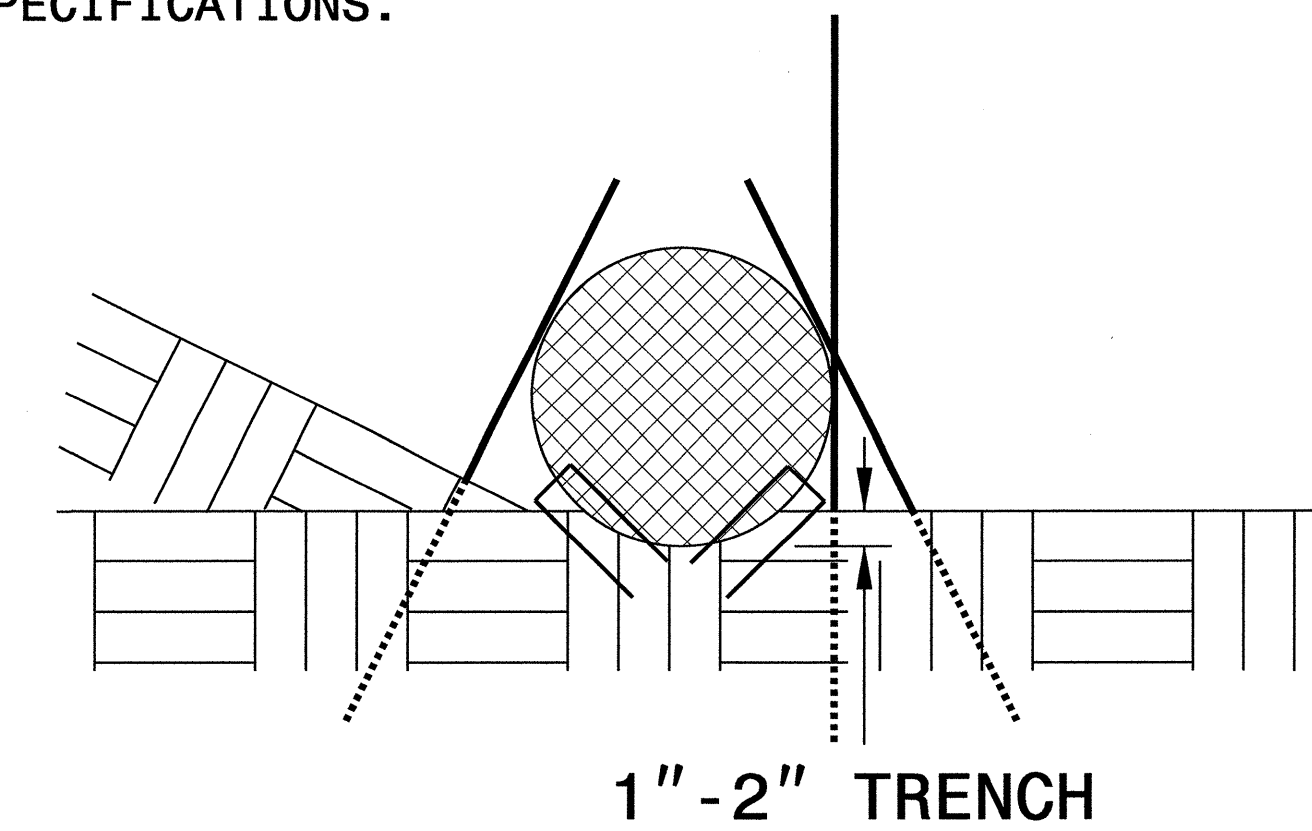
PROJECT REFERENCE NO. <i>R-3324</i>		SHEET NO. <i>EC-2E</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



**NOTES:**

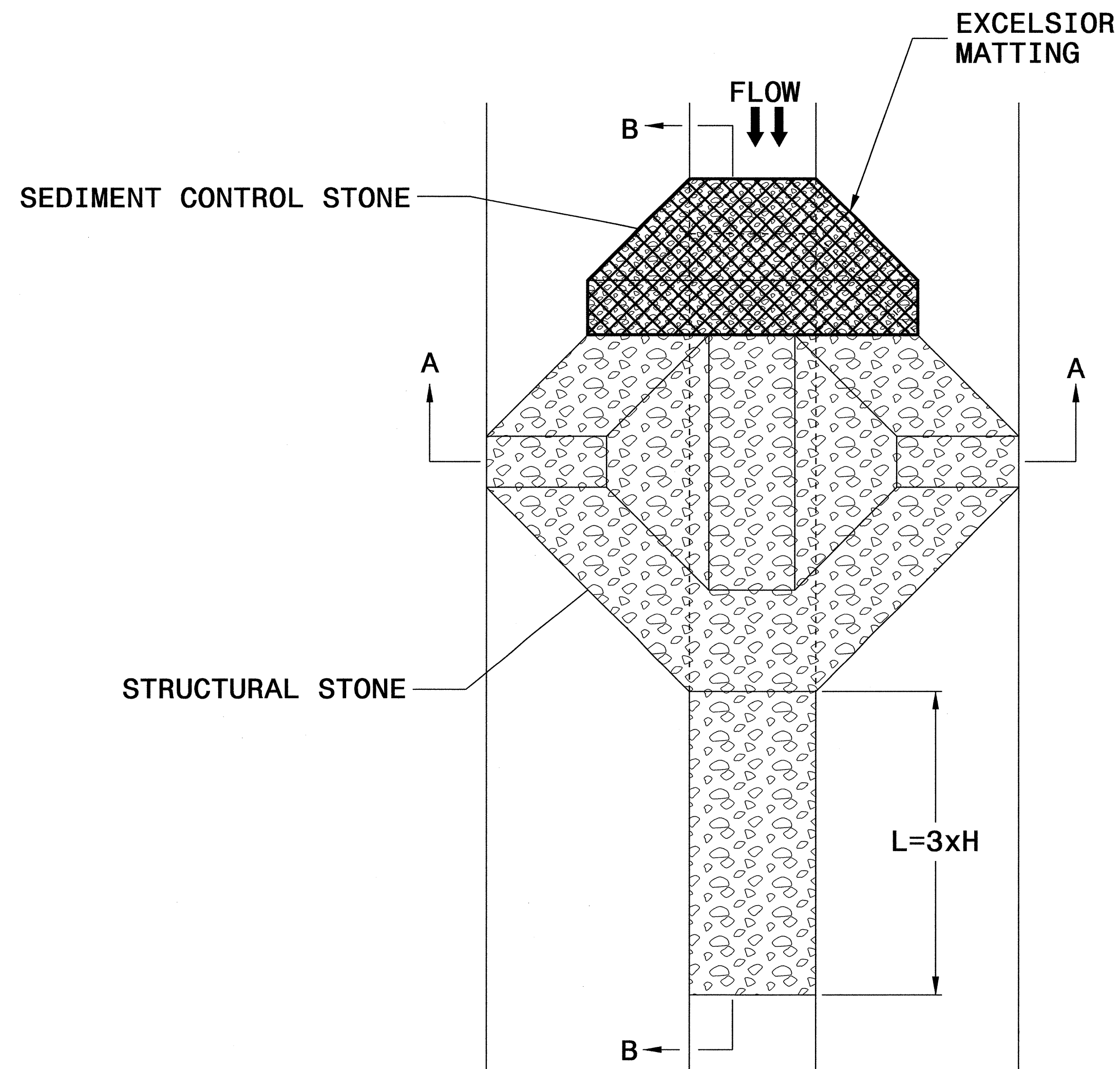
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- 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.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



PROJECT REFERENCE NO. R-3324	SHEET NO. EC-2F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



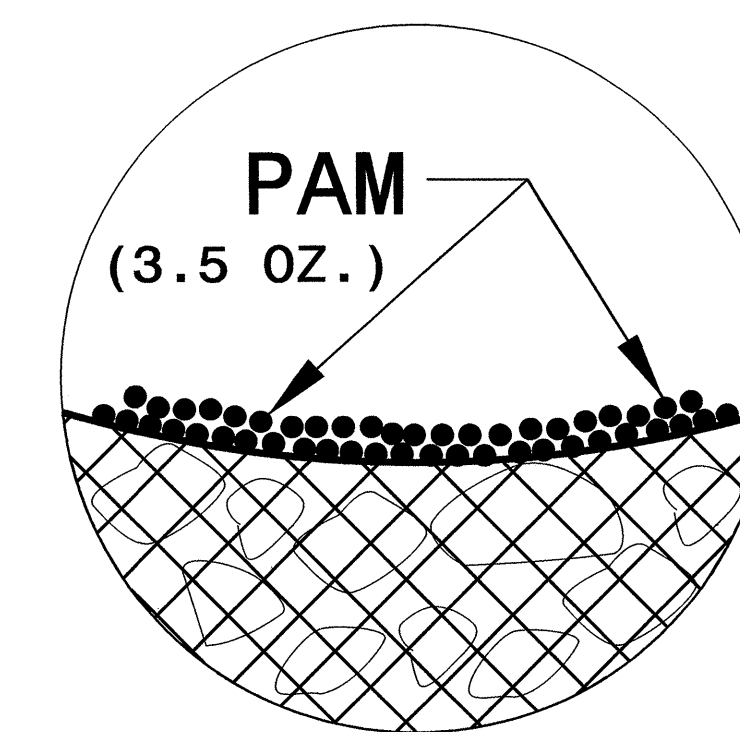
PLAN

## NOTES

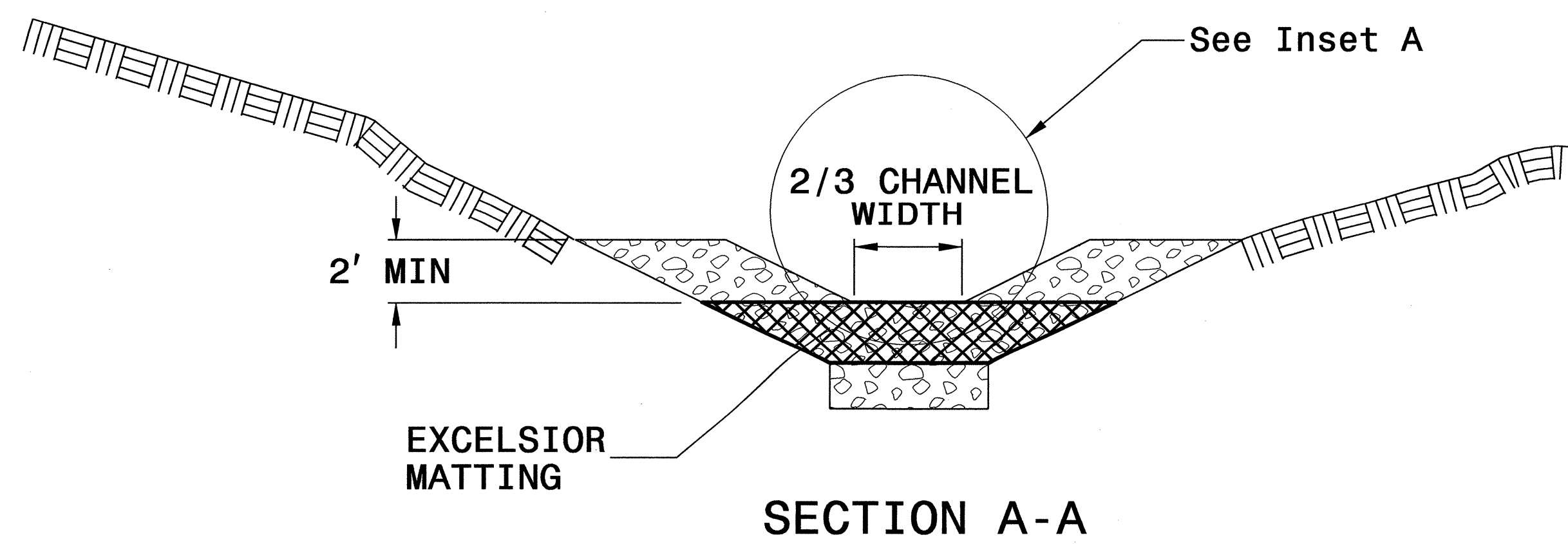
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

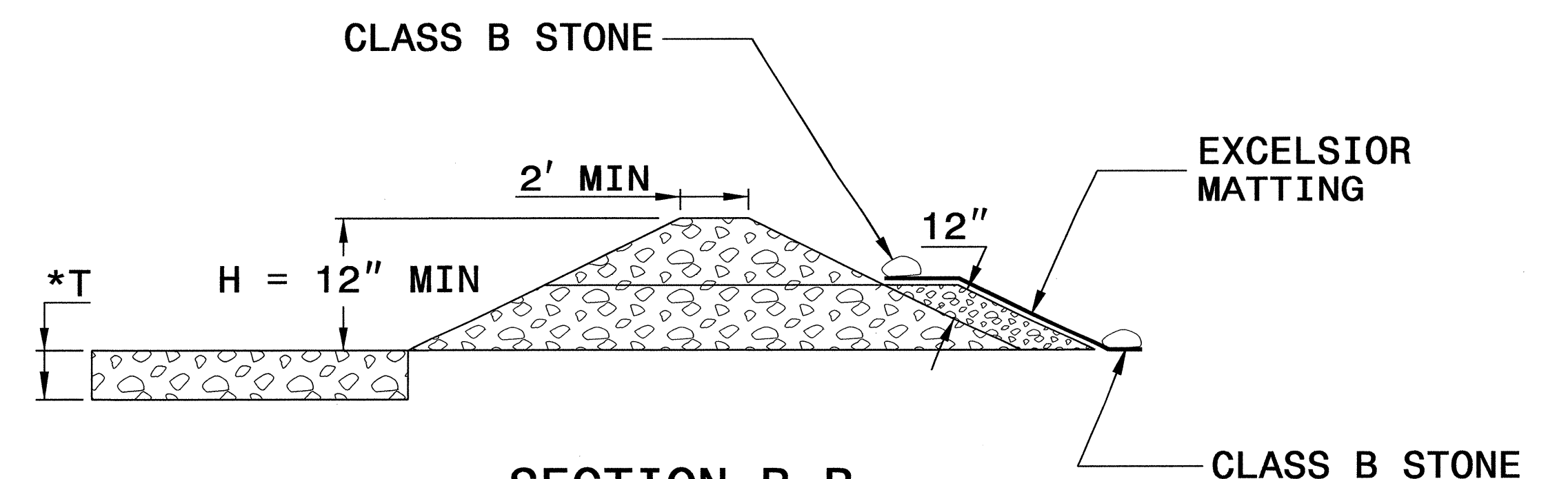
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

\*T = 12" MIN., 18" MAX.

NOT TO SCALE





DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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PROJECT REFERENCE NO. <i>R-3324</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***SOIL STABILIZATION TIMEFRAMES***

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

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.

SHOULDER BERM GUTTER LOCATIONS

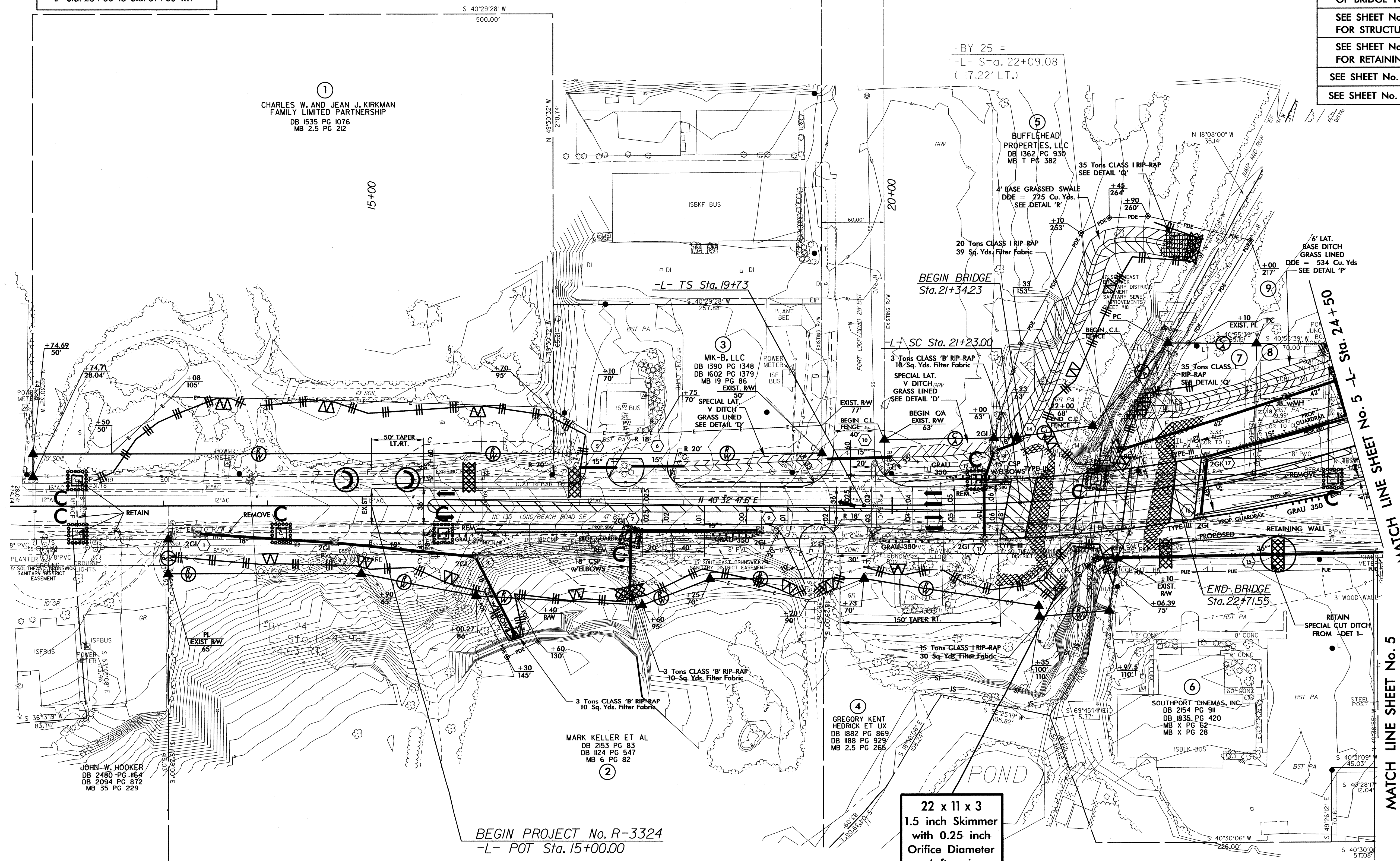
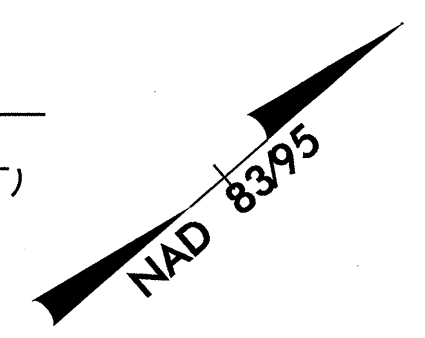
- L- Sta. 20+87 to BEGIN BRIDGE LT.
- L- END BRIDGE to Sta. 27+00 LT.
- L- Sta. 16+00 to Sta. 18+70 RT.
- L- END BRIDGE to Sta. 25+85 RT.
- L- Sta. 28+00 to Sta. 31+00 RT.

PROPERTY OWNERS			
6	SOUTHEAST CINEMA ENTERTAINMENT, INC. DB 1835 PG 420 MB X PG 62 MB X PG 28	10	DAVIDSON ANIMAL HOSPITAL, PA DB 1835 PG 420 DB 2160 PG 844 DB 1955 PG 088 MB Y PG 263
7	SOUTHPORT-OAK ISLAND CHAMBER OF COMMERCE DB 576 PG 382 DB 1134 PG 894	11	RONALD M. HUGHES DB 904 PG 482 MB X PG 28
8	KATHLEEN VILOSKI DB 2368 PG 197		

PROPERTY OWNERS	
7	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY SOUTHPORT-OAK ISLAND CHAMBER OF COMMERCE DB 3083 PG 116 DB 576 PG 382 DB 1134 PG 894
8	KATHLEEN VILOSKI DB 2368 PG 197

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 23 FOR -L- PROFILE	
SEE SHEET No. 2-F FOR RELATIONSHIP OF BRIDGE TO ROADWAY SKETCH	
SEE SHEET No. S-1 to S- FOR STRUCTURE PLANS	
SEE SHEET No. W-1 to W- FOR RETAINING WALL PLANS	
SEE SHEET No. 2-G FOR DITCH DETAILS	
SEE SHEET No. 4-A FOR DETOUR PLANS	

-L-  
 Pls Sta 20+73.01 PI Sta 25+50.41  
 $\theta_s = 2^\circ 57' 48.9''$   $\Delta = 32^\circ 50' 51.0''$  (LT)  
 $L_s = 150.00'$   $D = 3^\circ 57' 05.2''$   
 $LT = 100.01'$   $L = 831.28'$   
 $ST = 50.01'$   $T = 427.41'$   
 $R = 1,450.00'$



22 x 11 x 3  
 1.5 inch Skimmer  
 with 0.25 inch  
 Orifice Diameter  
 4 ft. weir  
 ID 4.1C

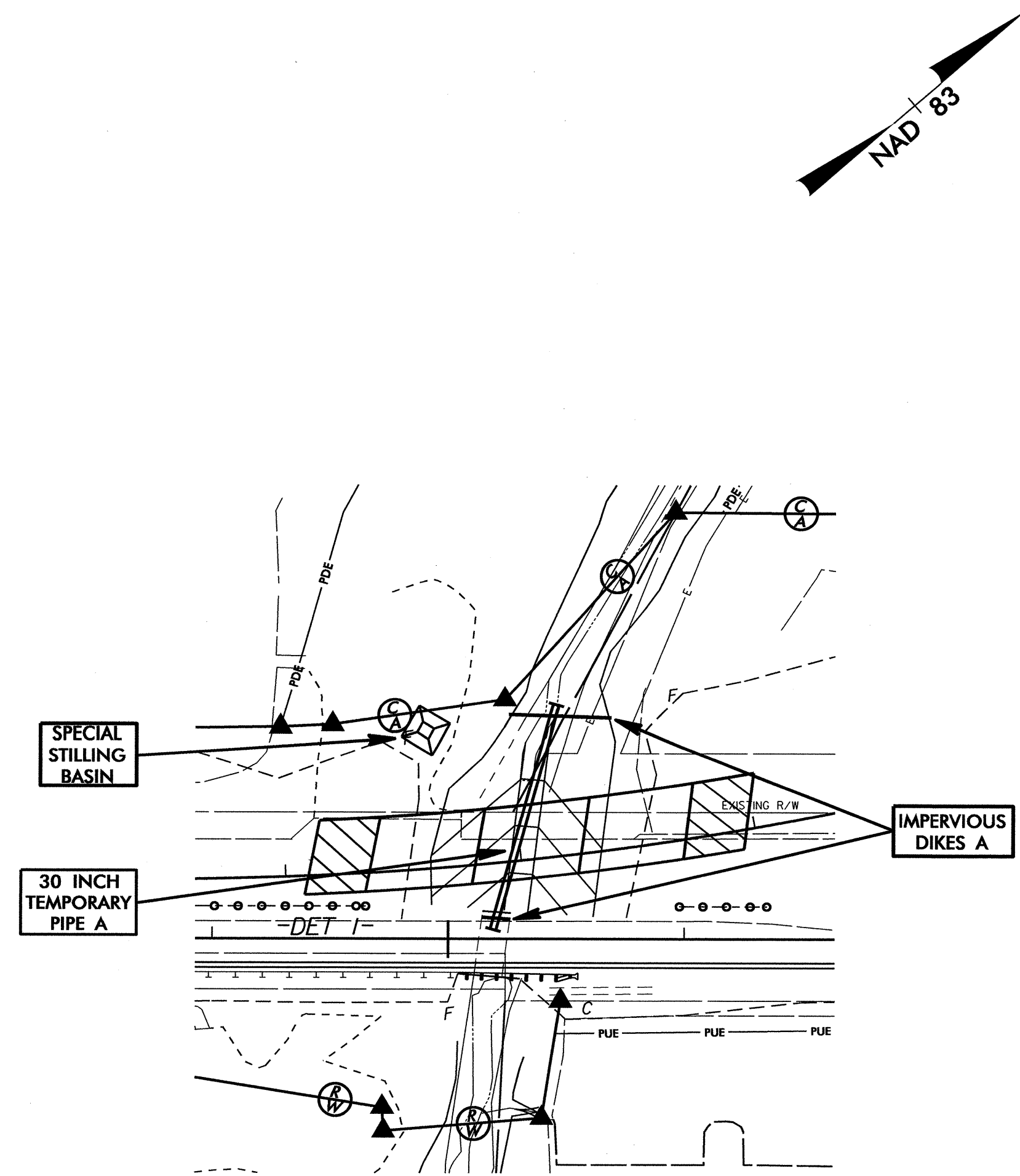
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# CULVERT REMOVAL / BRIDGE CONSTRUCTION SEQUENCE STA. 22 + 02.9 -L-

PROJECT REFERENCE NO. <i>R-3324</i>	SHEET NO. <i>EC-5/CONST.4</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

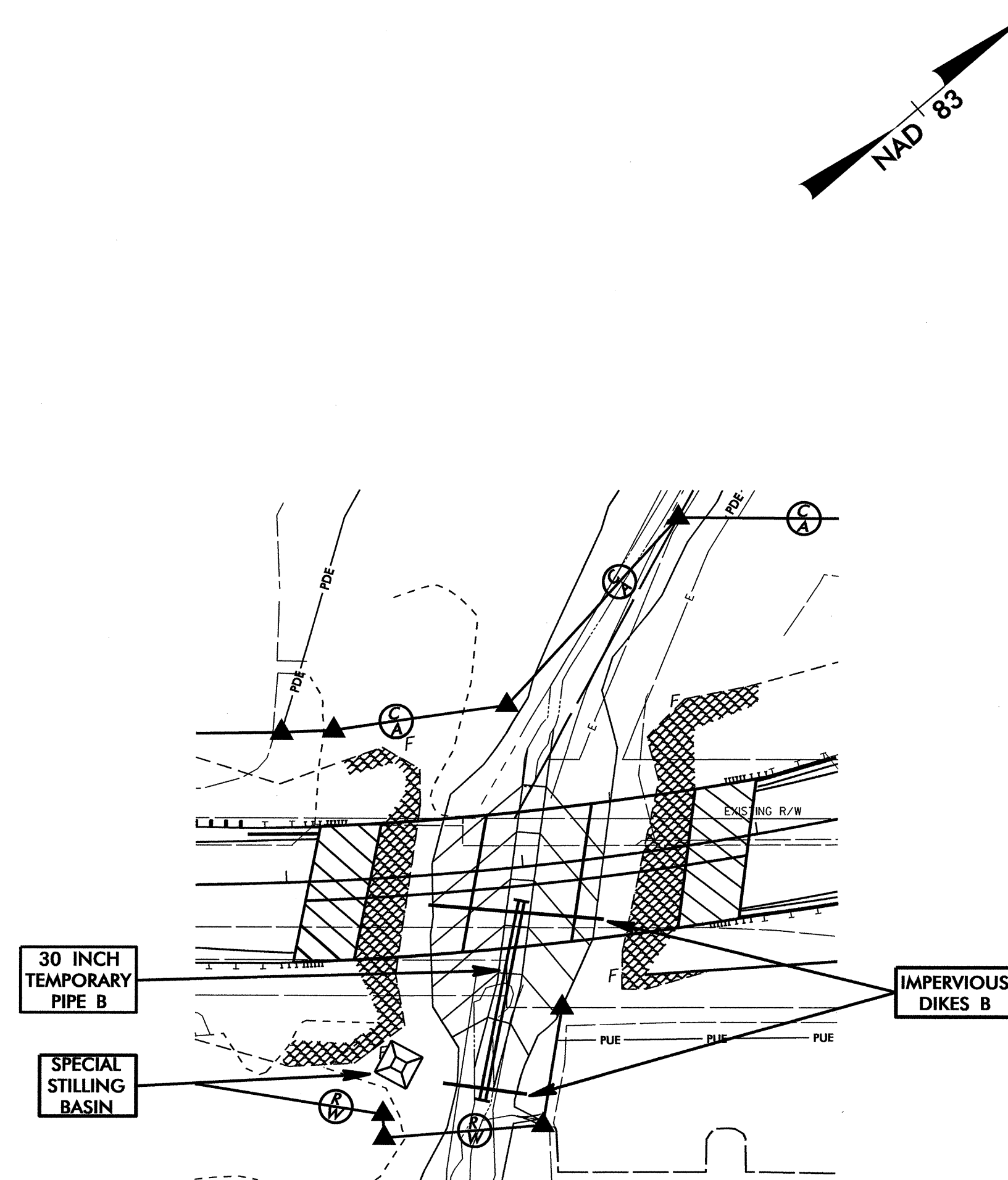
## PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CONSTRUCTION.
2. CONSTRUCT DETOUR 1, WIDENING EXISTING NC 133 TO THE SOUTH.
3. CONSTRUCT IMPERVIOUS DIKES A AND INSTALL 30" TEMPORARY PIPE A, DIVERTING FLOW THROUGH PIPE.
4. REMOVE +/- 50 FEET OF EXISTING CULVERT FROM NORTH SIDE OF DETOUR.
5. CONSTRUCT PORTION OF THE NEW STREAM AND STAGE 1 OF THE BRIDGE.



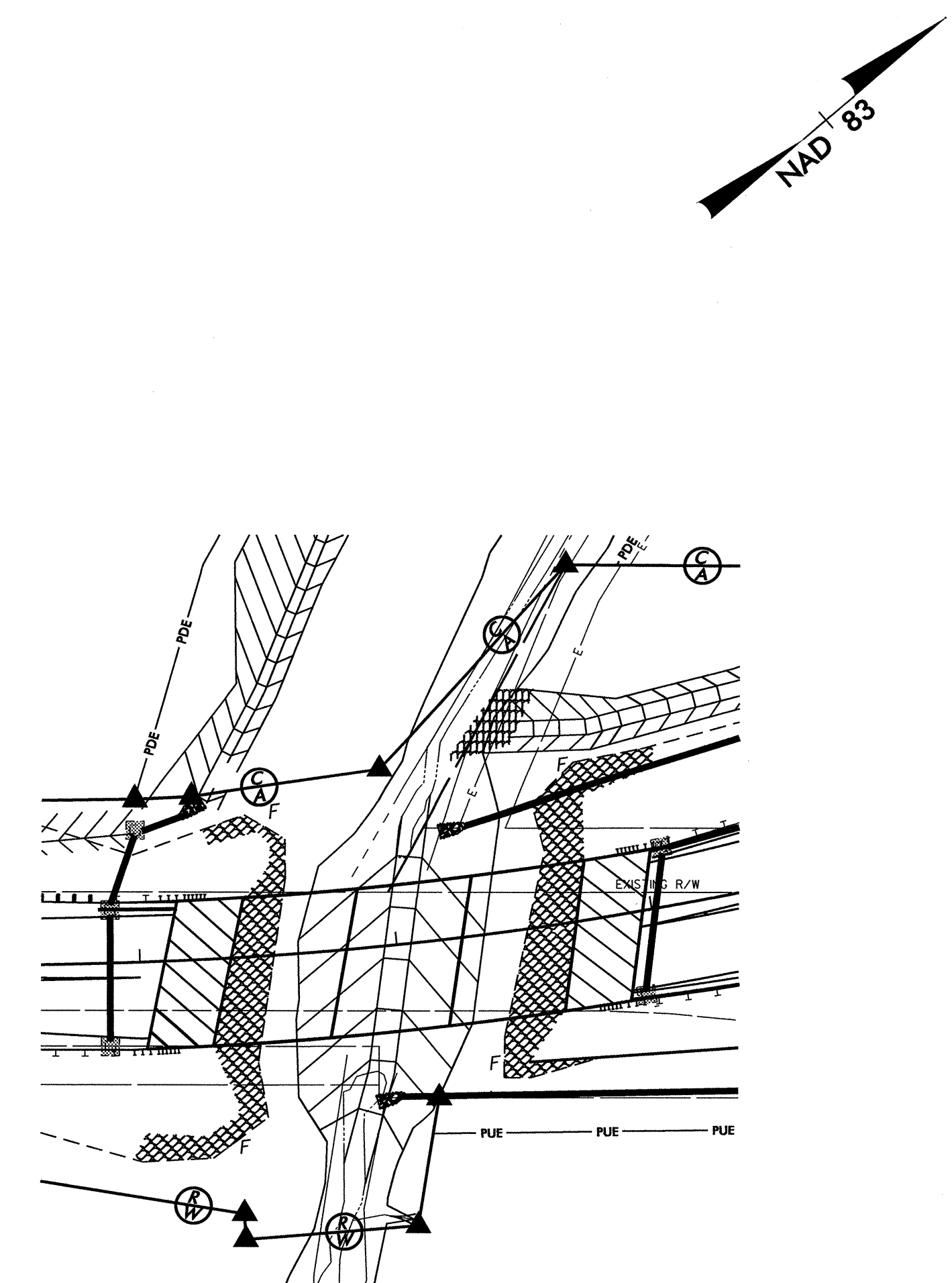
## PHASE II

6. REMOVE IMPERVIOUS DIKES A AND 30" TEMPORARY PIPE A.
7. CONSTRUCT IMPERVIOUS DIKES B AND INSTALL 30" TEMPORARY PIPE B, DIVERTING FLOW THROUGH PIPE.
8. SHIFT TRAFFIC, REMOVE DETOUR 1, AND REMOVE REMAINING CULVERT.
9. CONSTRUCT REMAINDER OF THE NEW STREAM AND COMPLETE THE BRIDGE.



## PHASE III

10. REMOVE IMPERVIOUS DIKES B AND 30" TEMPORARY PIPE B.
11. COMPLETE ANY REMAINING BANKSTREAM STABILIZATION.
12. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S), AND COMPLETE ROADWAY.



8/17/99

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.

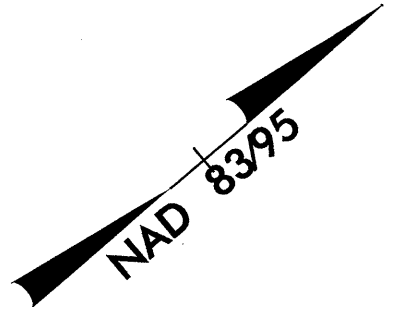
10	HOSPITAL, PA DB 1835 PG 420 DB 2160 PG 844 DB 1195 PG 1088 MB Y PG 263
12	GREGORY K. HEDRICK DB 1284 PG 974 DB 1155 PG 910 DB 2160 PG 844 DB 1176 PG 835
13	GREGORY K. HEDRICK DB 2412 PG 1036
14	133 PROPERTIES, LLC DB 2044 PG 471 DB 1134 PG 55

70 x 35 x 3  
1.5 inch Skimmer  
with 1.375 inch  
Orifice Diameter  
27 ft. weir  
ID 5.1C

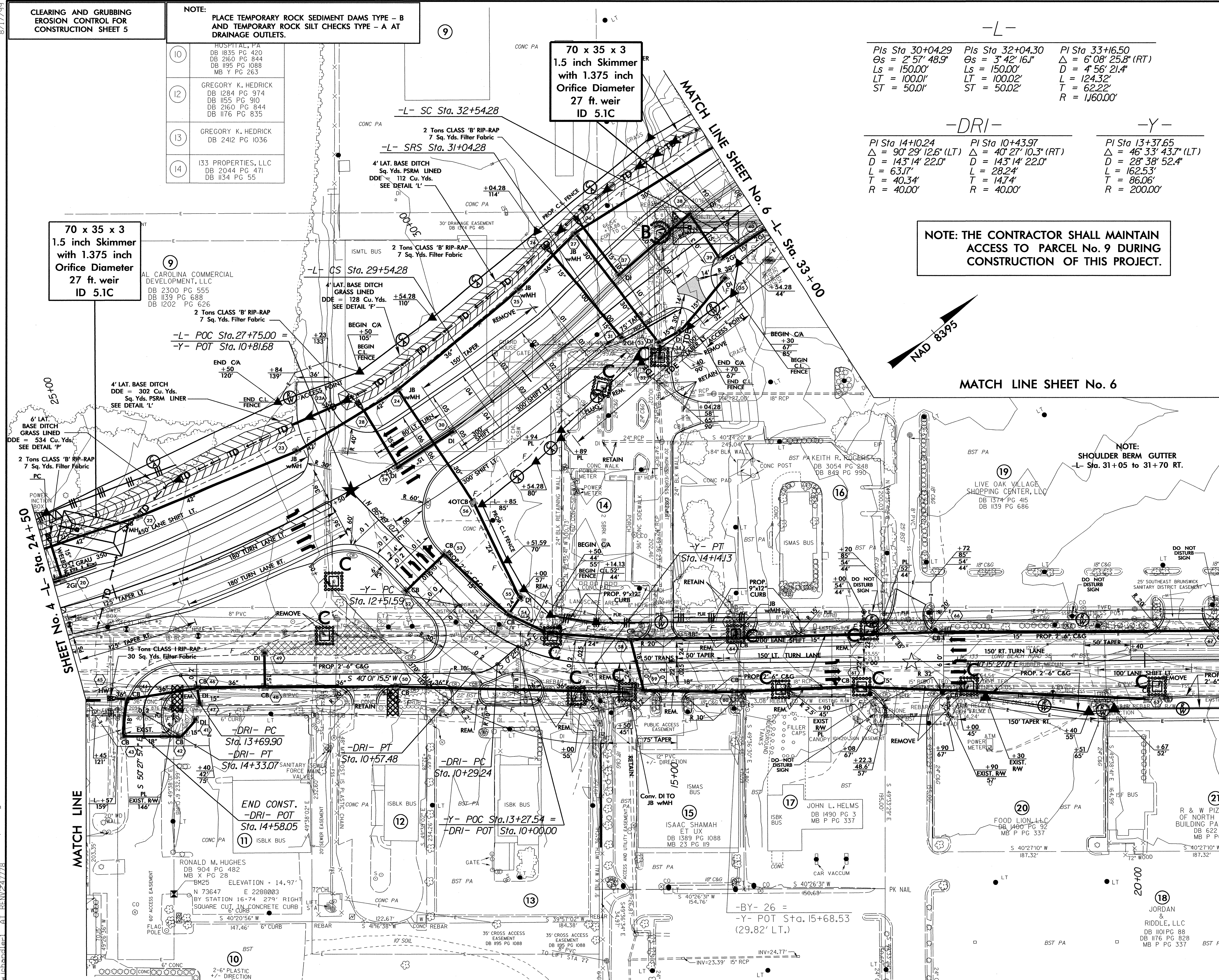
70 x 35 x 3  
1.5 inch Skimmer  
with 1.375 inch  
Orifice Diameter  
27 ft. weir  
ID 5.1C

-L-		
Pls Sta 30+04.29 θs = 2° 57' 48.9" Ls = 150.00' LT = 100.01' ST = 50.01'	Pls Sta 32+04.30 θs = 3° 42' 16.1" Ls = 150.00' LT = 100.02' ST = 50.02'	Pls Sta 33+16.50 Δ = 6° 08' 25.8" (RT) D = 4° 56' 21.4" L = 124.32' T = 62.22' R = 1,160.00'
-DRI-		
Pls Sta 14+10.24 Δ = 90° 29' 12.6" (LT) D = 143° 14' 22.0" L = 63.17' T = 40.34' R = 40.00'	Pls Sta 10+43.97 Δ = 40° 27' 10.3" (RT) D = 143° 14' 22.0" L = 28.24' T = 14.74' R = 40.00'	Pls Sta 13+37.65 Δ = 46° 33' 43.7" (LT) D = 28° 38' 52.4" L = 162.53' T = 86.06' R = 200.00'
-Y-		

NOTE: THE CONTRACTOR SHALL MAINTAIN  
ACCESS TO PARCEL No. 9 DURING  
CONSTRUCTION OF THIS PROJECT.



PROJECT REFERENCE NO. R-3324	SHEET NO. EC-6/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 23 FOR -L- PROFILE SEE SHEET No. 28 FOR -Y- PROFILE SEE SHEET No. 35 FOR -DRI- PROFILE	
SEE SHEET No. 2-G FOR DITCH DETAILS	
PROPOSED PAVEMENT REMOVAL PROPOSED CONC. ISLAND PROPOSED TRAFFIC SIGNAL EXIST. TRAFFIC SIGNAL TO BE REVISED	



MATCH LINE SHEET No. 6

NOTE:  
SHOULDER BERM GUTTER  
-L- Sta. 31+05 to 31+70 RT.

MATCH LINE SHEET No. 21 -Y- Sta. 21+00

NOV-2012 07:19  
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11/17/12

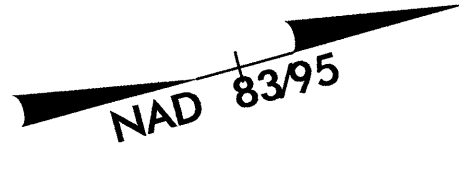
8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 6

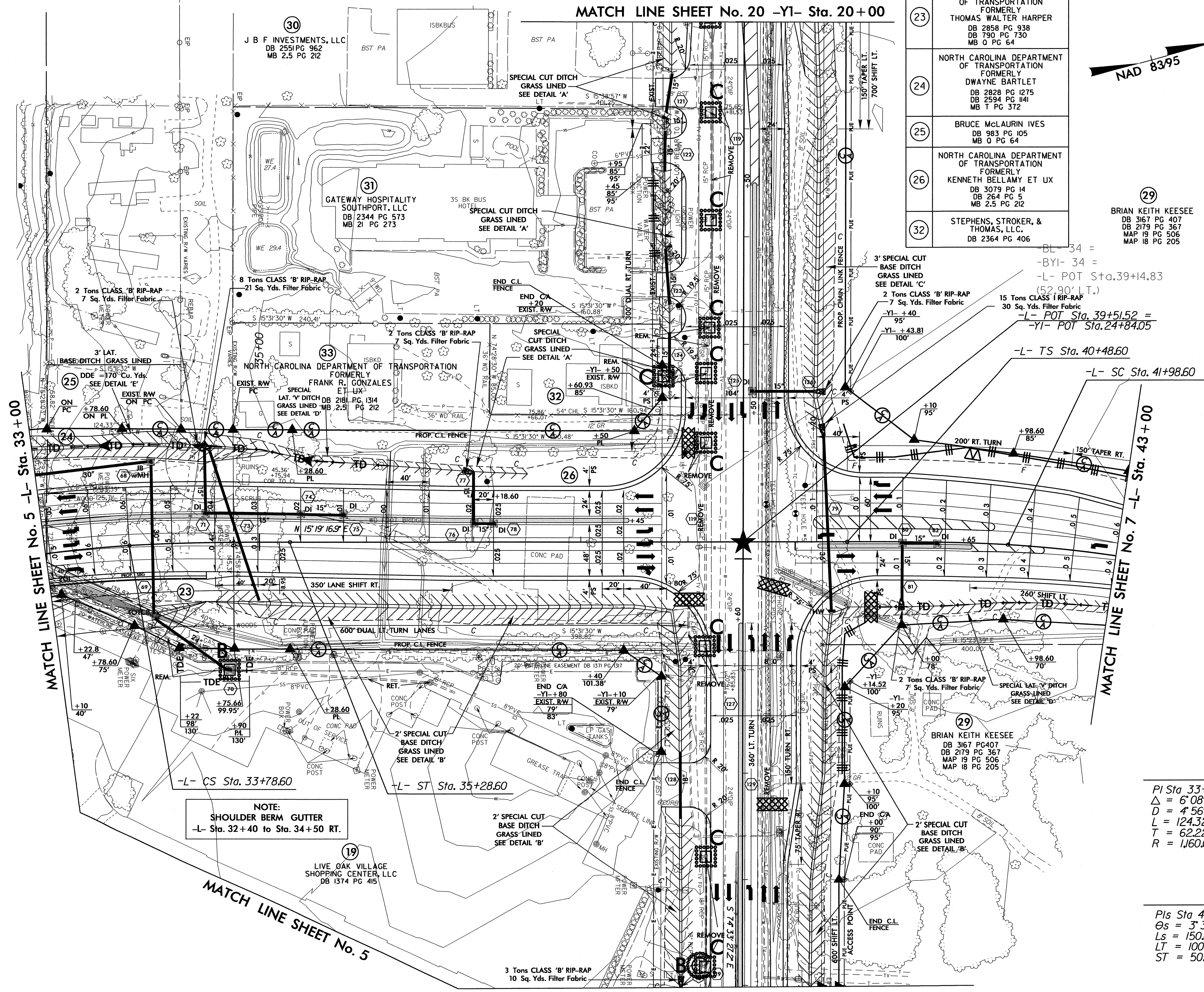
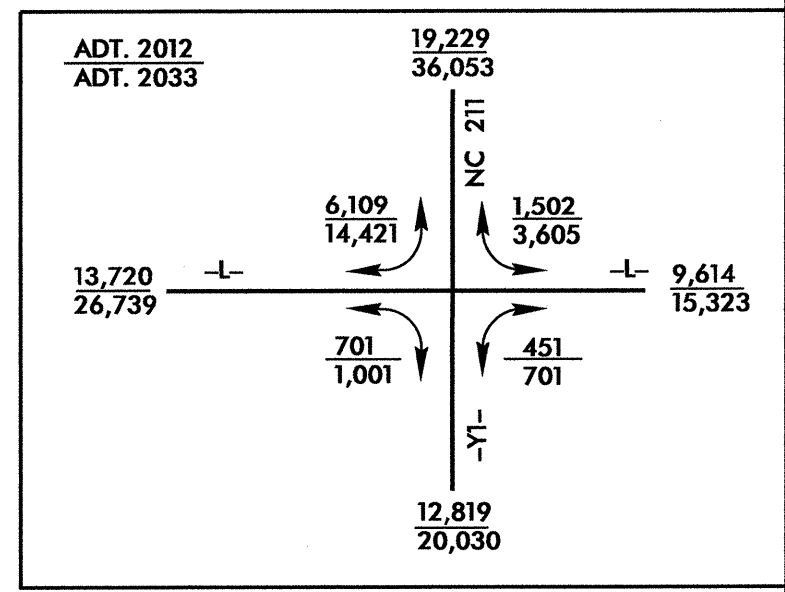
NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-7/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 23 & 24 FOR -L- PROFILE SEE SHEET No. 29 FOR -YI- PROFILE	
SEE SHEET 2-G FOR DITCH DETAILS	
★ PROPOSED TRAFFIC SIGNAL	
■ PROPOSED CONC. ISLAND	

PROPERTY OWNERS	
(23)	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY THOMAS WALTER HARPER DB 2858 PG 938 DB 790 PG 730 MB 0 PG 64
(24)	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY DWAYNE BARTLET DB 2828 PG 1275 DB 2594 PG 141 MB T PG 372
(25)	BRUCE McLAURIN IVES DB 983 PG 105 MB 0 PG 64
(26)	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY KENNETH BELLAMY ET UX DB 3079 PG 14 DB 264 PG 5 MB 2.5 PG 212
(32)	STEPHENS, STROKER, & THOMAS, L.L.C. DB 2364 PG 406



(29)  
BRIAN KEITH KEESEE  
DB 3167 PG 407  
DB 2179 PG 367  
MAP 19 PG 506  
MAP 18 PG 205



NOTE:  
SHOULDER BERM GUTTER  
-L- Sta. 32+40 to Sta. 34+50 RT.

-L-

PI Sta 33+16.50  
Δs = 6'08" 25.8" (RT)  
D = 4'56" 21.4"  
L = 124.32'  
T = 62.22'  
R = 1,160.00'

PIs Sta 34+28.62  
Δs = 3'42" 16.1"  
Ls = 150.00'  
LT = 100.02'  
ST = 50.02'

-L-

PIs Sta 41+48.62  
Δs = 3'32" 51.55"  
Ls = 150.00'  
LT = 100.02'  
ST = 50.02'

PI Sta 46+11.79  
Δs = 38'00" 00.0" (RT)  
D = 4'46" 28.7"  
Ls = 795.87'  
T = 413.19'  
R = 1,200.00'

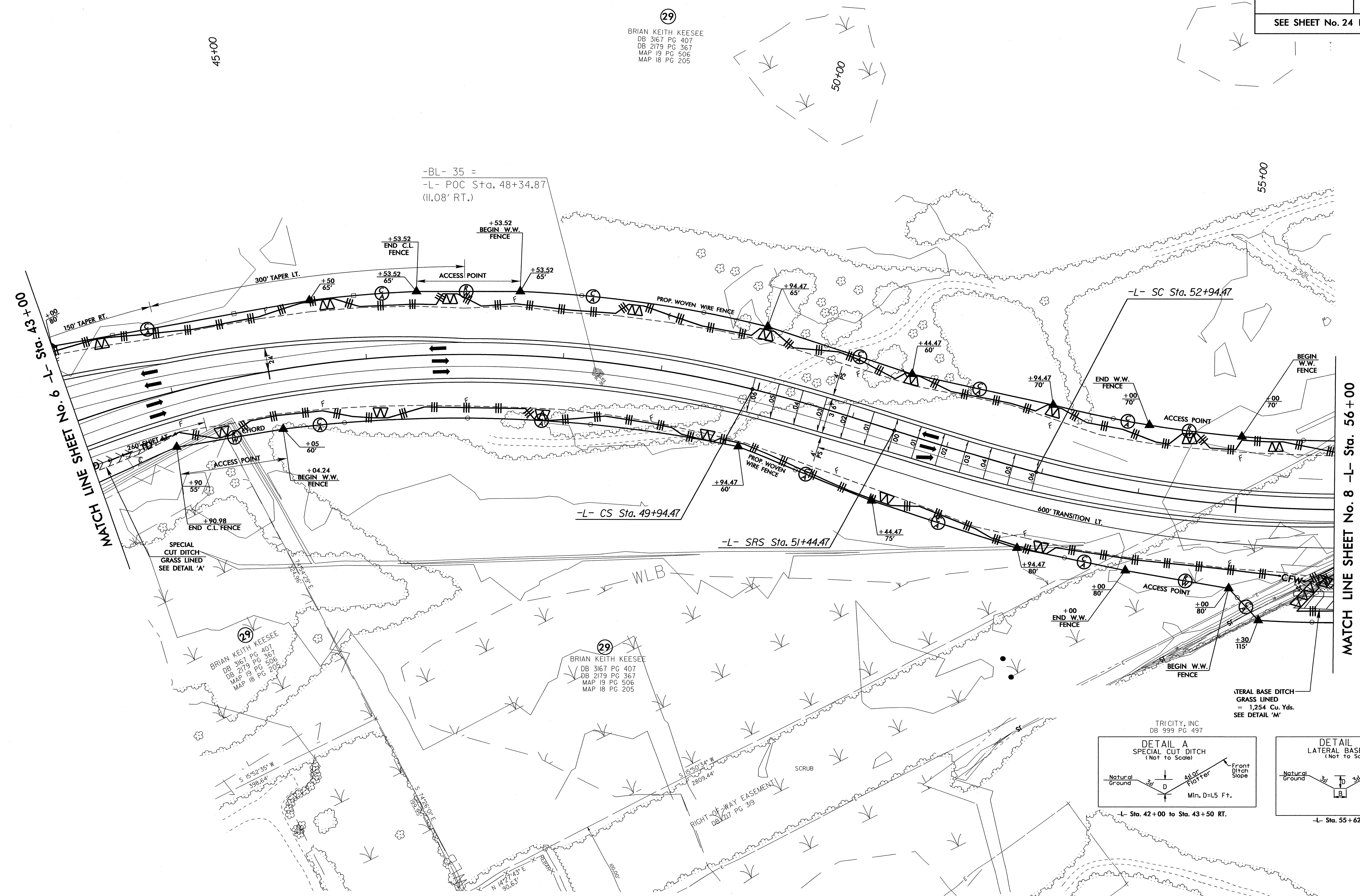
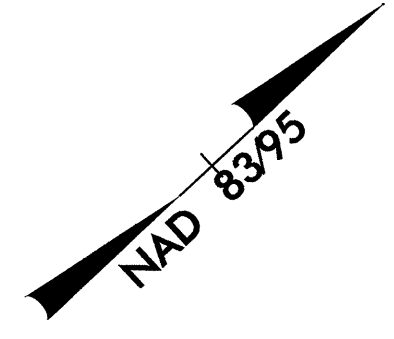
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8/17/99

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.

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-8/CONST.7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 24 FOR -L- PROFILE			

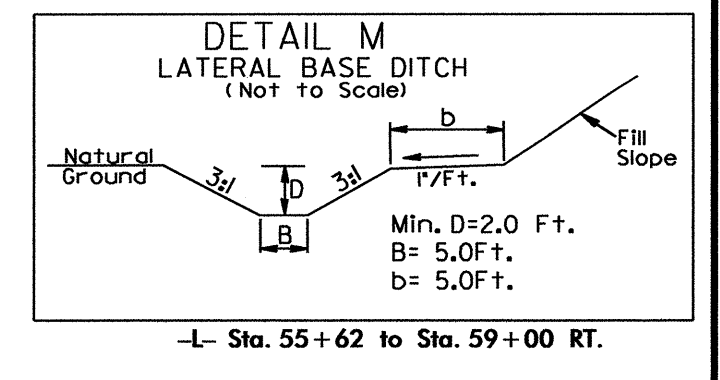
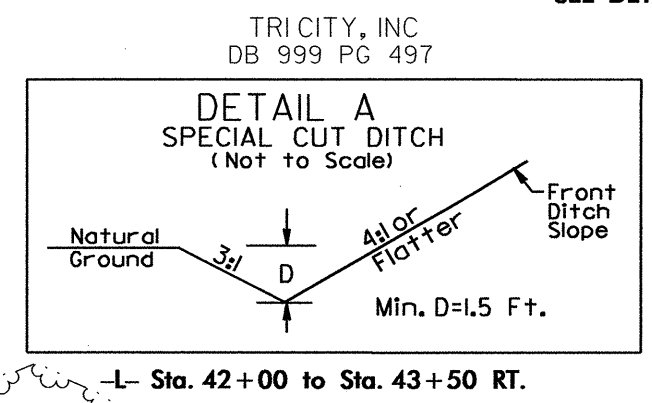


MATCH LINE SHEET N. 9 -L- Sta. 34+00

MATCH LINE SHEET No. 8 -L- Sta. 56+00

29  
BRIAN KEITH KEESEE  
DB 3167 PG 407  
DB 2179 PG 367  
MAP 19 PG 506  
MAP 18 PG 205

29  
BRIAN KEITH KEESEE  
DB 3167 PG 407  
DB 2179 PG 367  
MAP 19 PG 506  
MAP 18 PG 205



LATERAL BASE DITCH  
GRASS LINED  
= 1,254 Cu. Yds.  
SEE DETAIL 'M'

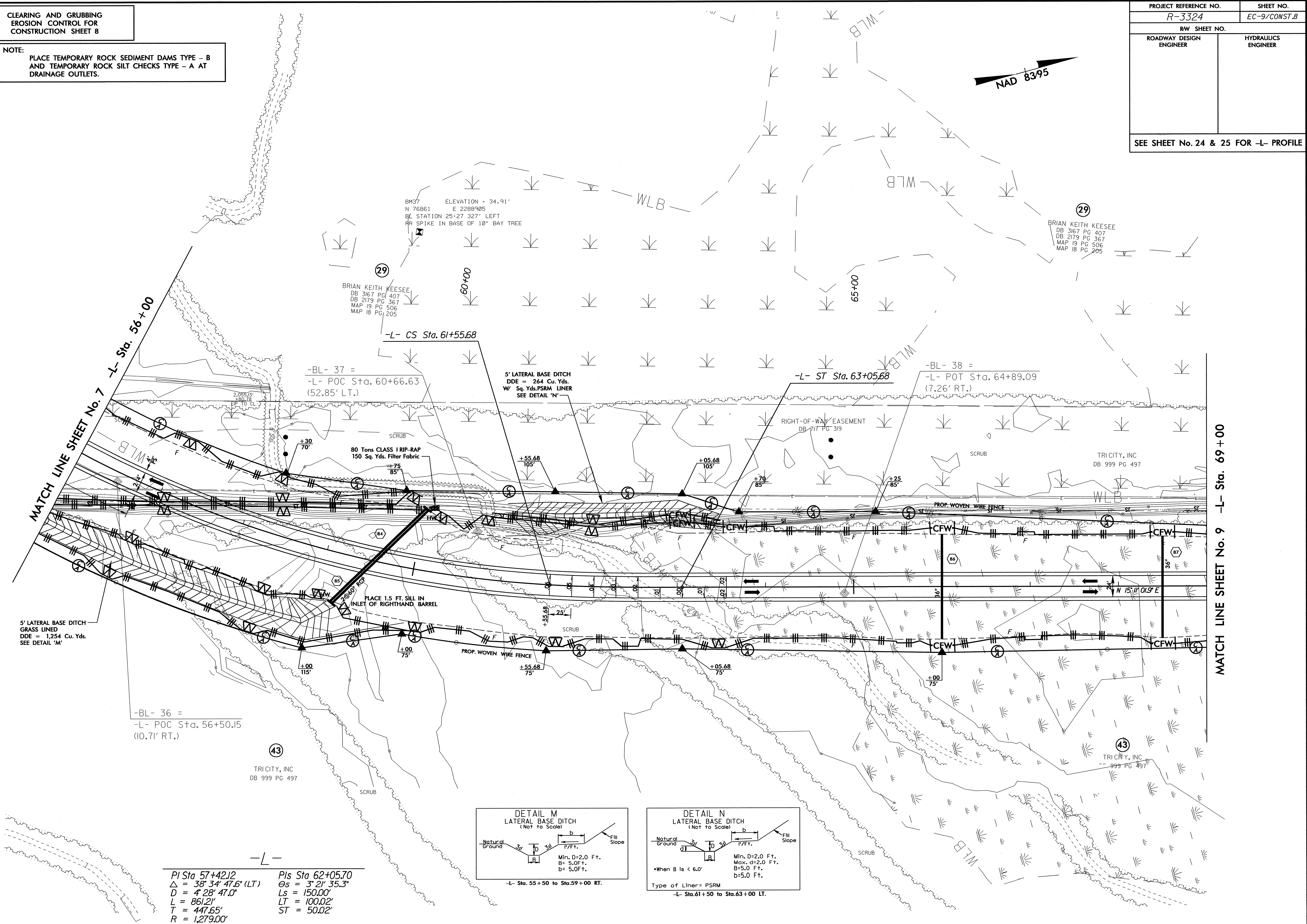
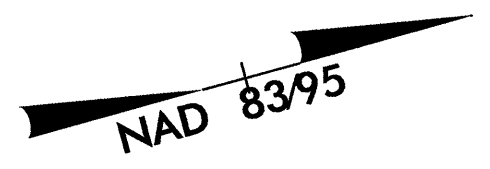
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8/17/99

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.

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-9/CONST.8
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
SEE SHEET No. 24 & 25 FOR -L- PROFILE	



MATCH LINE SHEET No. 7 -L- Sta. 56+00

MATCH LINE SHEET No. 9 -L- Sta. 69+00

5' LATERAL BASE DITCH  
GRASS LINED  
DDE = 1,254 Cu. Yds.  
SEE DETAIL 'M'

-BL- 37 =  
-L- POC Sta. 60+66.63  
(52.85' LT.)

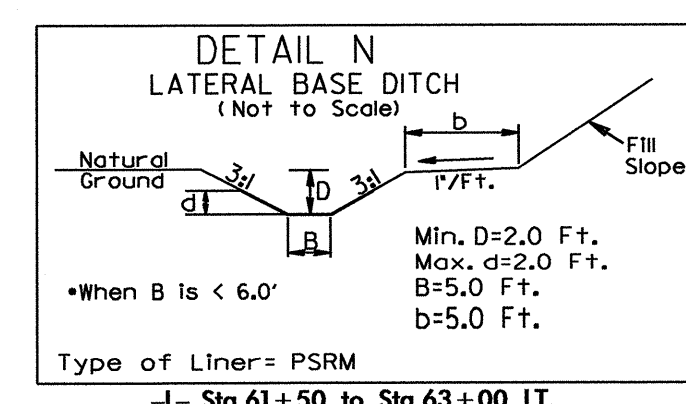
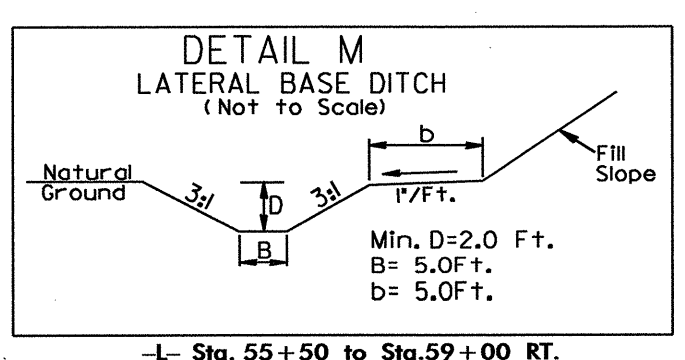
-L- ST Sta. 63+05.68

-BL- 38 =  
-L- POT Sta. 64+89.09  
(7.26' RT.)

-BL- 36 =  
-L- POC Sta. 56+50.15  
(10.71' RT.)

PI Sta 57+42.12  
 $\Delta = 38' 34" 47.6" (LT)$   
 $D = 4' 28" 47.0"$   
 $L = 861.21'$   
 $T = 447.65'$   
 $R = 1,279.00'$

PIs Sta 62+05.70  
 $\Theta_s = 3' 21" 35.3"$   
 $L_s = 150.00'$   
 $LT = 100.02'$   
 $ST = 50.02'$

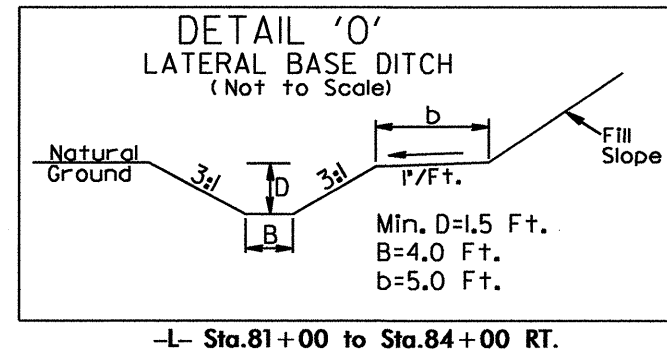


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Plotter: HP DesignJet 241778



**CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 9**

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

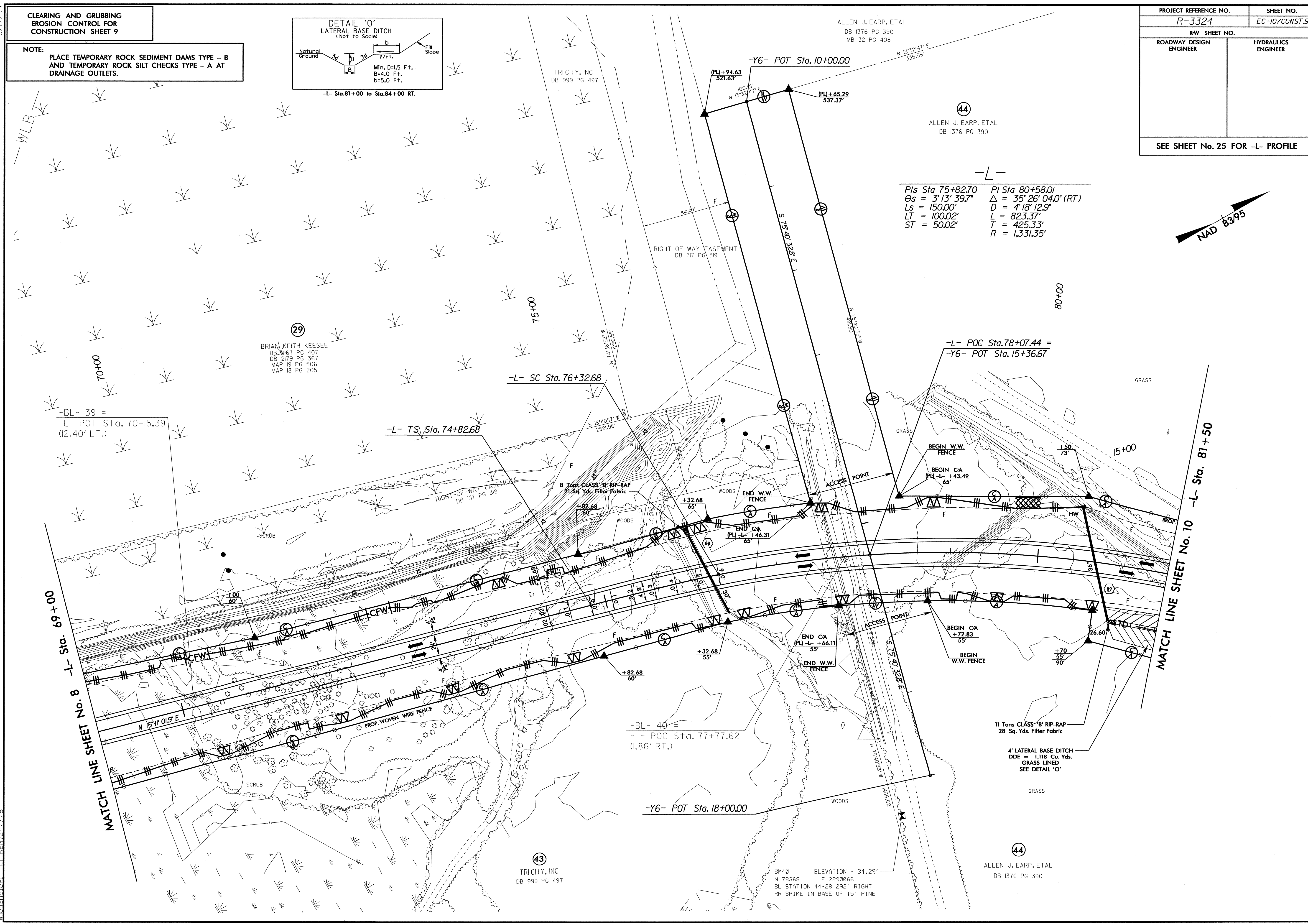
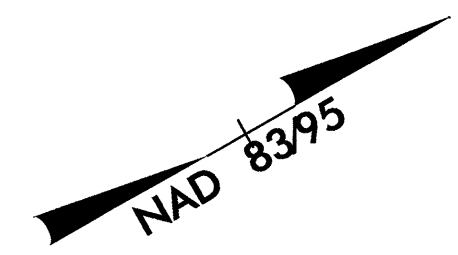


PROJECT REFERENCE NO. <i>R-3324</i>	SHEET NO. <i>EC-10/CONST.9</i>
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 25 FOR -L- PROFILE	

ALLEN J. EARP, ETAL  
DB 1376 PG 390  
MB 32 PG 408

ALLEN J. EARP, ETAL  
DB 1376 PG 390

**-L-**  
 PIs Sta 75+82.70    PI Sta 80+58.01  
 Os = 3°13'39.7"    Δ = 35°26'04.0" (RT)  
 Ls = 150.00'        D = 4'18"12.9"  
 LT = 100.02'        T = 823.37'  
 ST = 50.02'         R = 1,331.35'



-BL- 39 =  
-L- POT Sta. 70+15.39  
(12.40' LT.)

-L- SC Sta. 76+32.68

-L- TS Sta. 74+82.68

-L- POC Sta. 78+07.44 =  
-Y6- POT Sta. 15+36.67

-BL- 40 =  
-L- POC Sta. 77+77.62  
(1.86' RT.)

-Y6- POT Sta. 18+00.00

MATCH LINE SHEET No. 10 -L- Sta. 81+50

8/17/99  
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w:\chandler

TRICITY, INC  
DB 999 PG 497

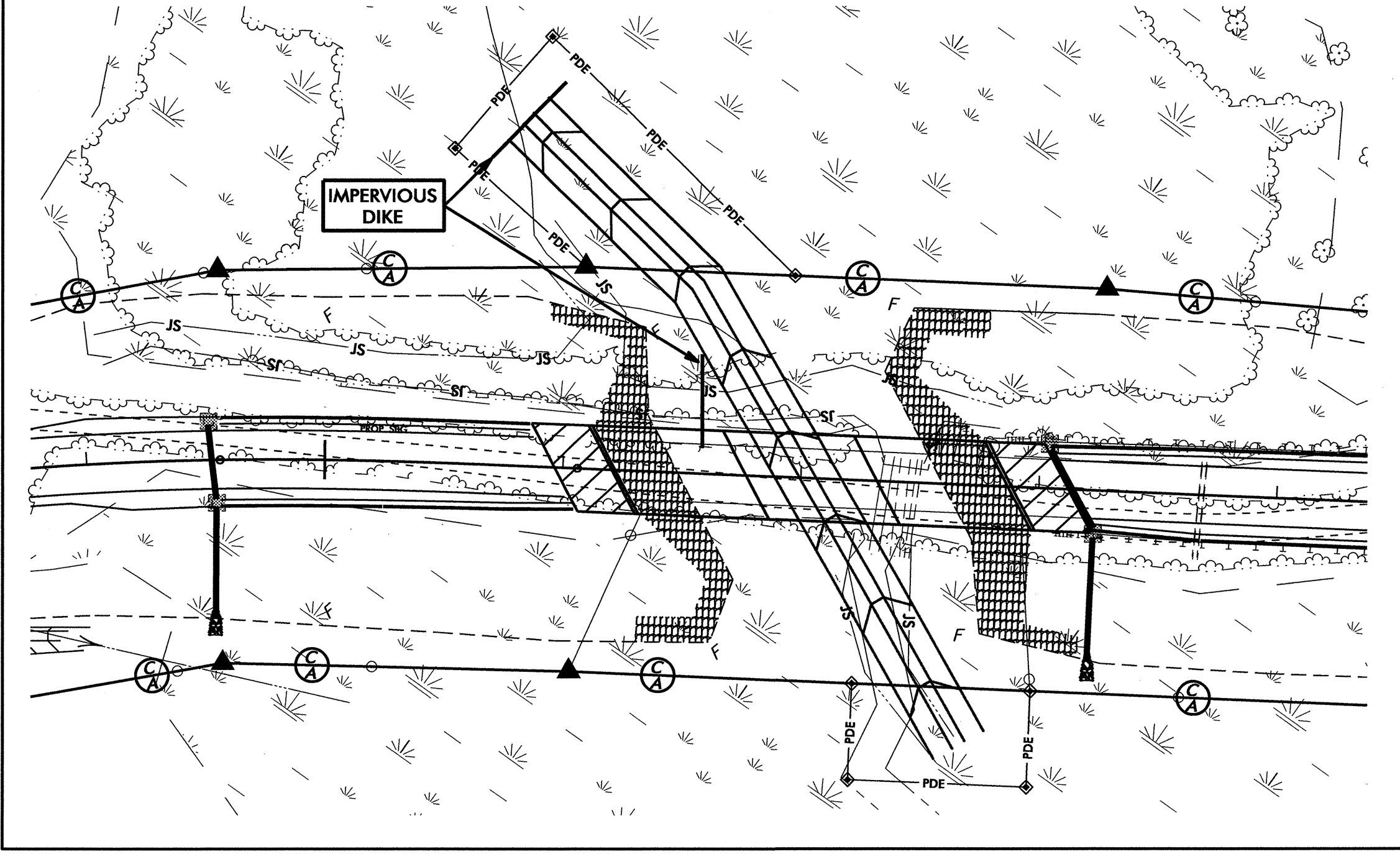
BH40 ELEVATION + 34.29'  
N 78368 E 2290066  
BL STATION 44+28 292' RIGHT  
RR SPIKE IN BASE OF 15' PINE

ALLEN J. EARP, ETAL  
DB 1376 PG 390

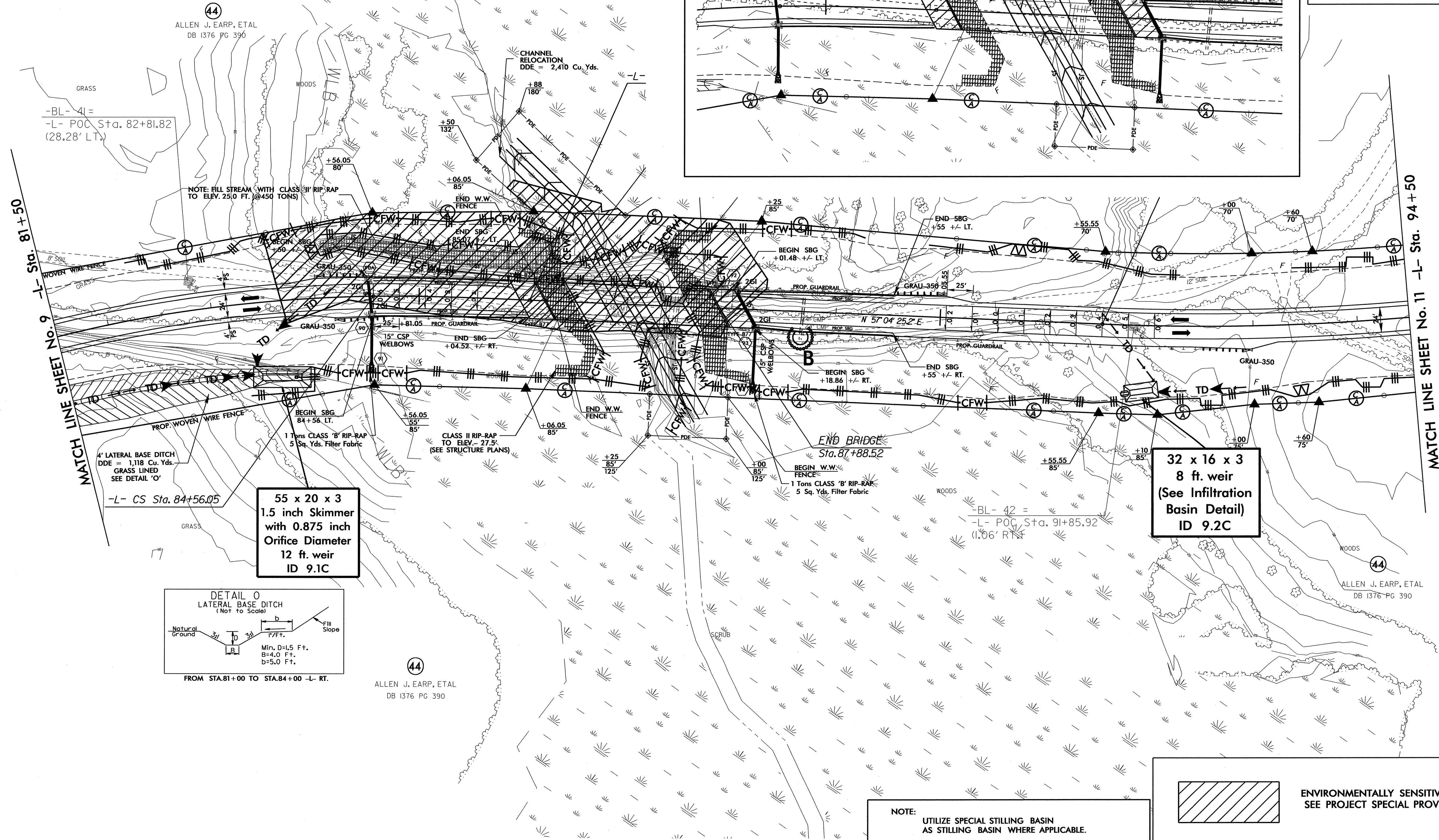
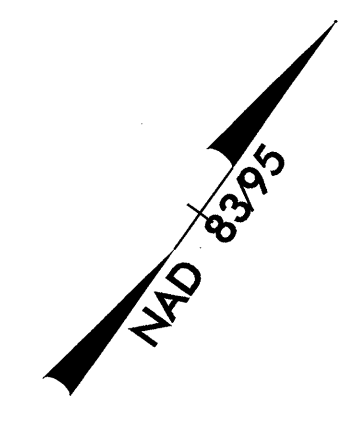
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 10

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

IMPERVIOUS DIKE LOCATIONS FOR CONST. SHEET 10



PROJECT REFERENCE NO. R-3324	SHEET NO. EC-II/CONST.10
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
SEE SHEET No. 25 & 26 FOR -L- PROFILE	
SEE SHEET No. 2-F FOR RELATIONSHIP OF BRIDGE TO ROADWAY SKETCH	
SEE SHEET No's. S- to S- FOR STRUCTURE PLANS	



-BL- 41 =  
-L- POC Sta. 82+81.82  
(28.28' LT)

44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

CHANNEL  
RELOCATION  
DDE = 2,410 Cu. Yds.

NOTE: FILL STREAM WITH CLASS 'B' RIP-RAP  
TO ELEV. 25.0 FT. @ 450 TONS

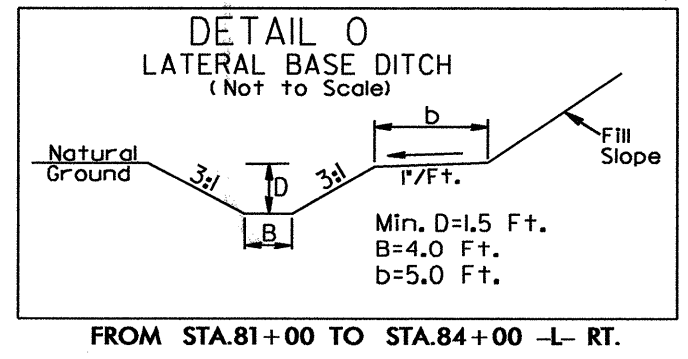
MATCH LINE SHEET No. 9 -L- Sta. 81+50

MATCH LINE SHEET No. 11 -L- Sta. 94+50

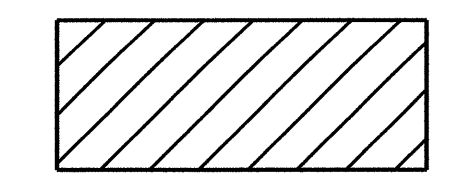
4' LATERAL BASE DITCH  
DDE = 1,118 Cu. Yds.  
GRASS LINED  
SEE DETAIL 'O'

55 x 20 x 3  
1.5 inch Skimmer  
with 0.875 inch  
Orifice Diameter  
12 ft. weir  
ID 9.1C

32 x 16 x 3  
8 ft. weir  
(See Infiltration  
Basin Detail)  
ID 9.2C



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



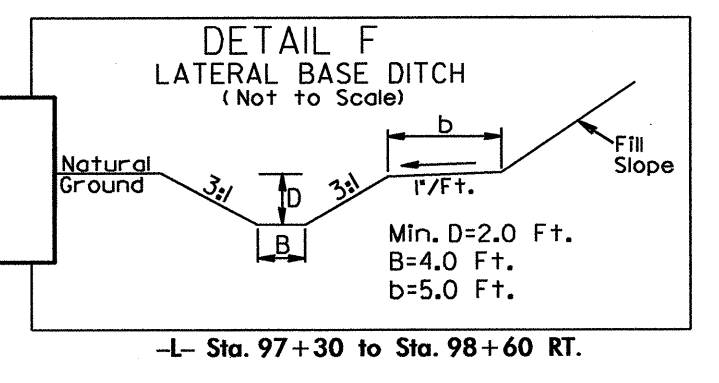
ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

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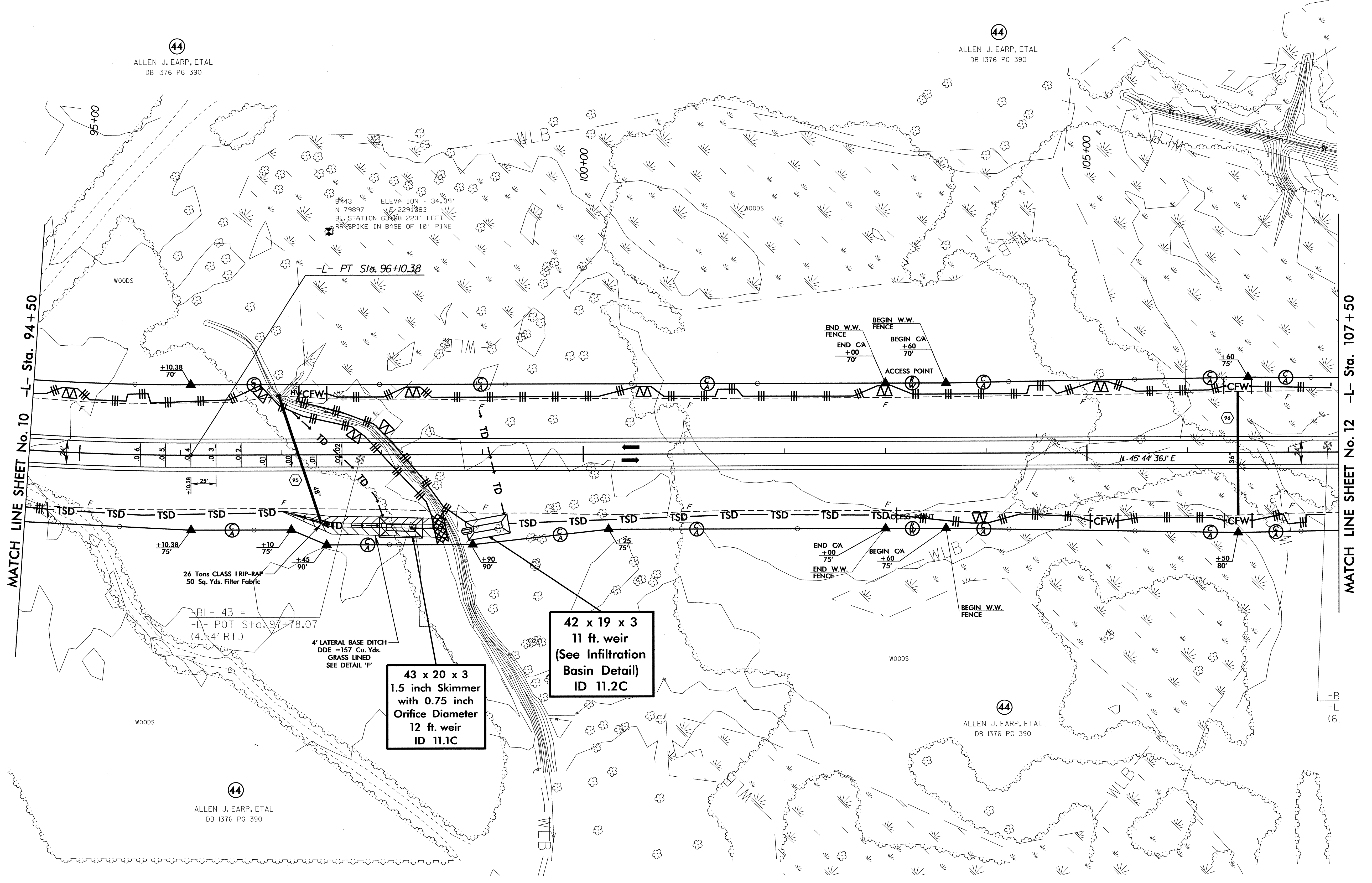
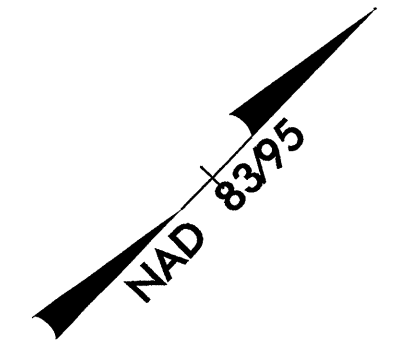
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 11

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



-L-  
PI Sta 93+83.71  
 $\Delta = 17' 19'' 49.1'' (LT)$   
 $D = 2' 29'' 28.0''$   
 $L = 454.83'$   
 $T = 228.16'$   
 $R = 2,300.00'$

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-12/CONST.11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 26 & 27 FOR -L- PROFILE	



MATCH LINE SHEET No. 10 -L- Sta. 94+50

MATCH LINE SHEET No. 12 -L- Sta. 107+50

44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

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REVISIONS  
REV 2/17/98

8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 12

NOTE:

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

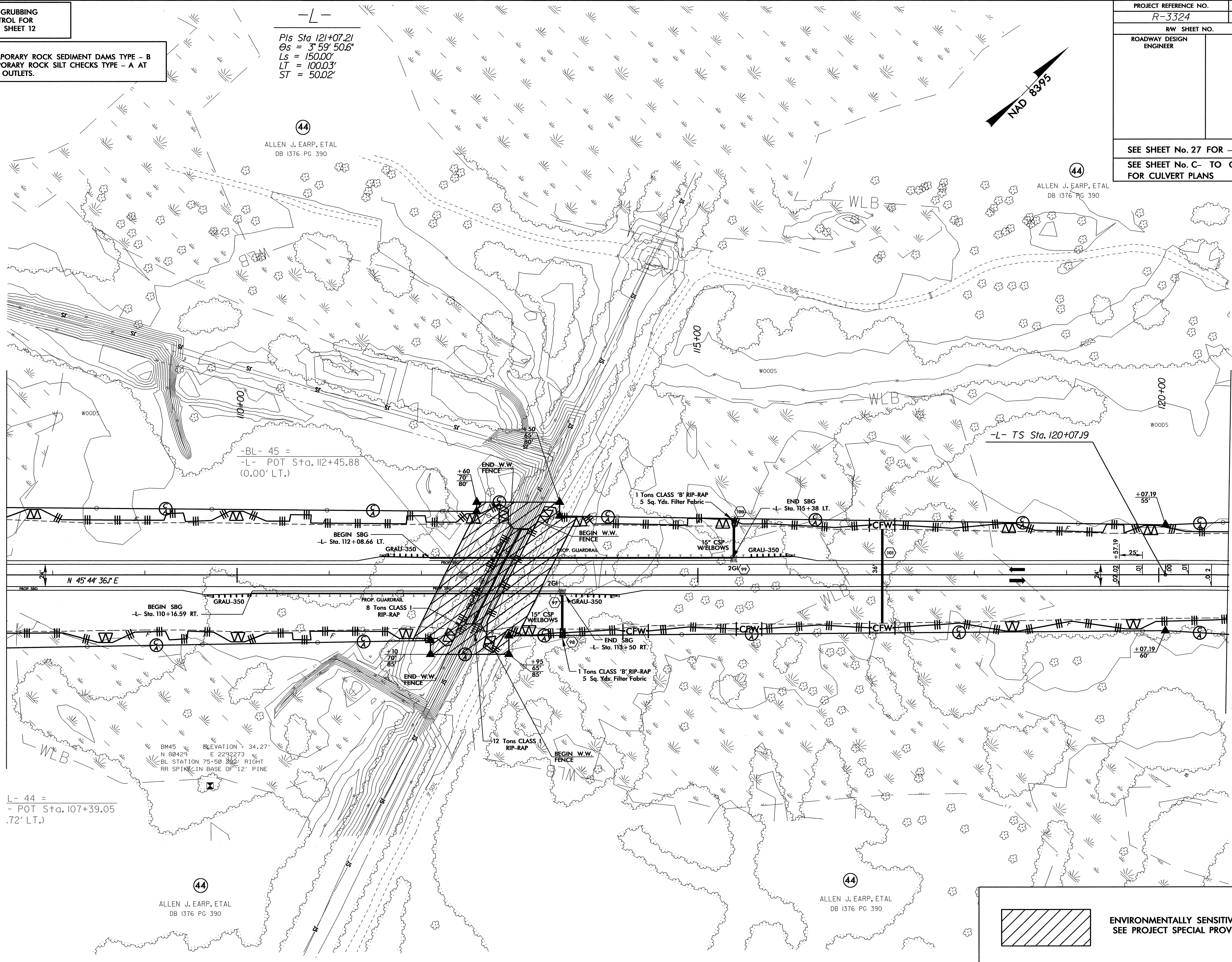
-L-  
Pis Sta 121+07.21  
 $\theta_s = 3^{\circ} 59' 50.6''$   
Ls = 150.00'  
LT = 100.03'  
ST = 50.02'

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-13/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHEET No. 27 FOR -L- PROFILE  
SEE SHEET No. C- TO C-  
FOR CULVERT PLANS

MATCH LINE SHEET No. 11 -L- Sta. 107 + 50

MATCH LINE SHEET No. 13 -L- Sta. 120 + 75



L- 44 =  
- POT Sta. 107+39.05  
(.72' LT.)

-BL- 45 =  
-L- POT Sta. 112+45.88  
(0.00' LT.)

ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

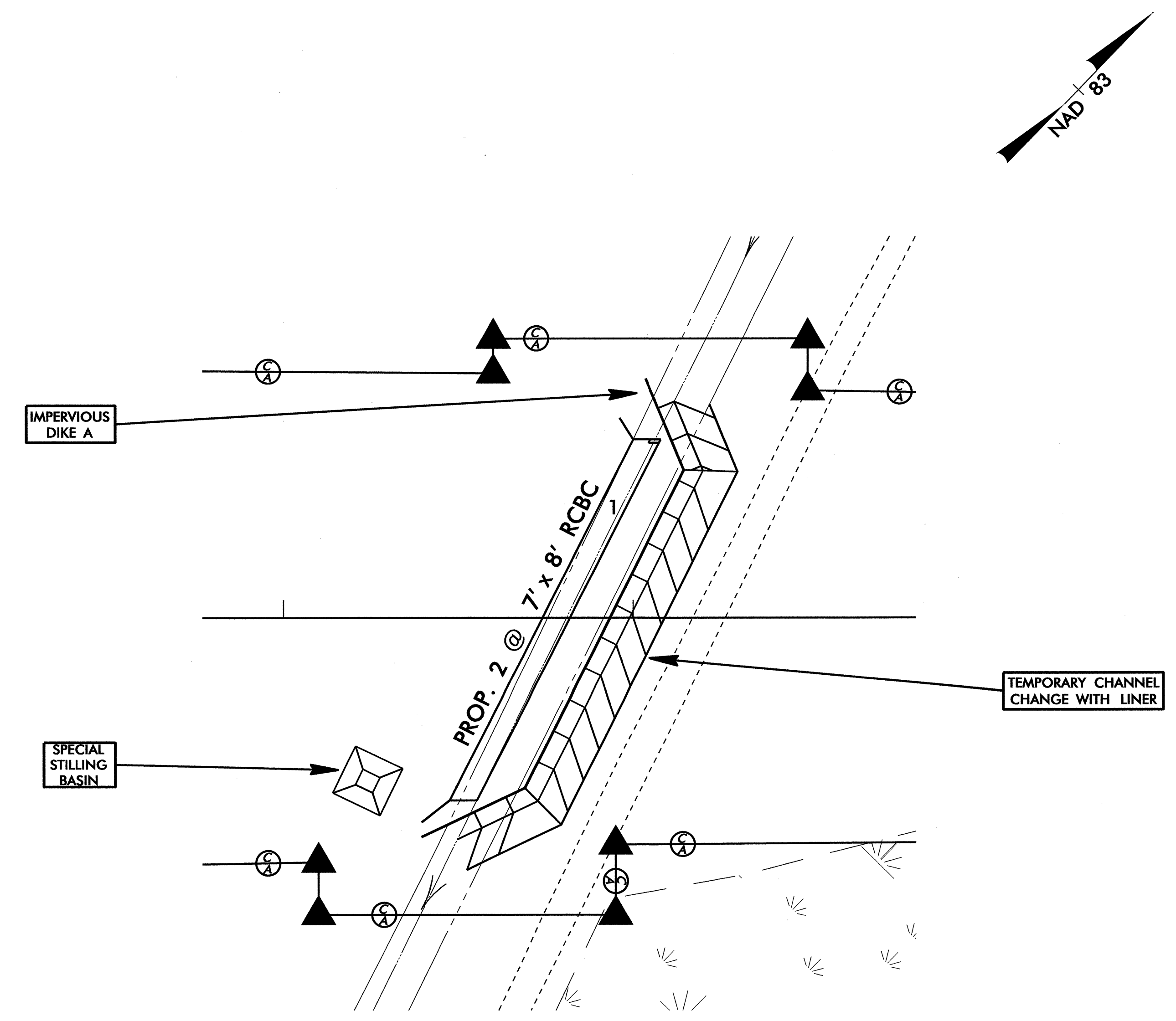
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Allen J. Earp

PROJECT REFERENCE NO.	SHEET NO.
R-3324	EC-1A/CONSTJ2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 112 + 82.5 -L-

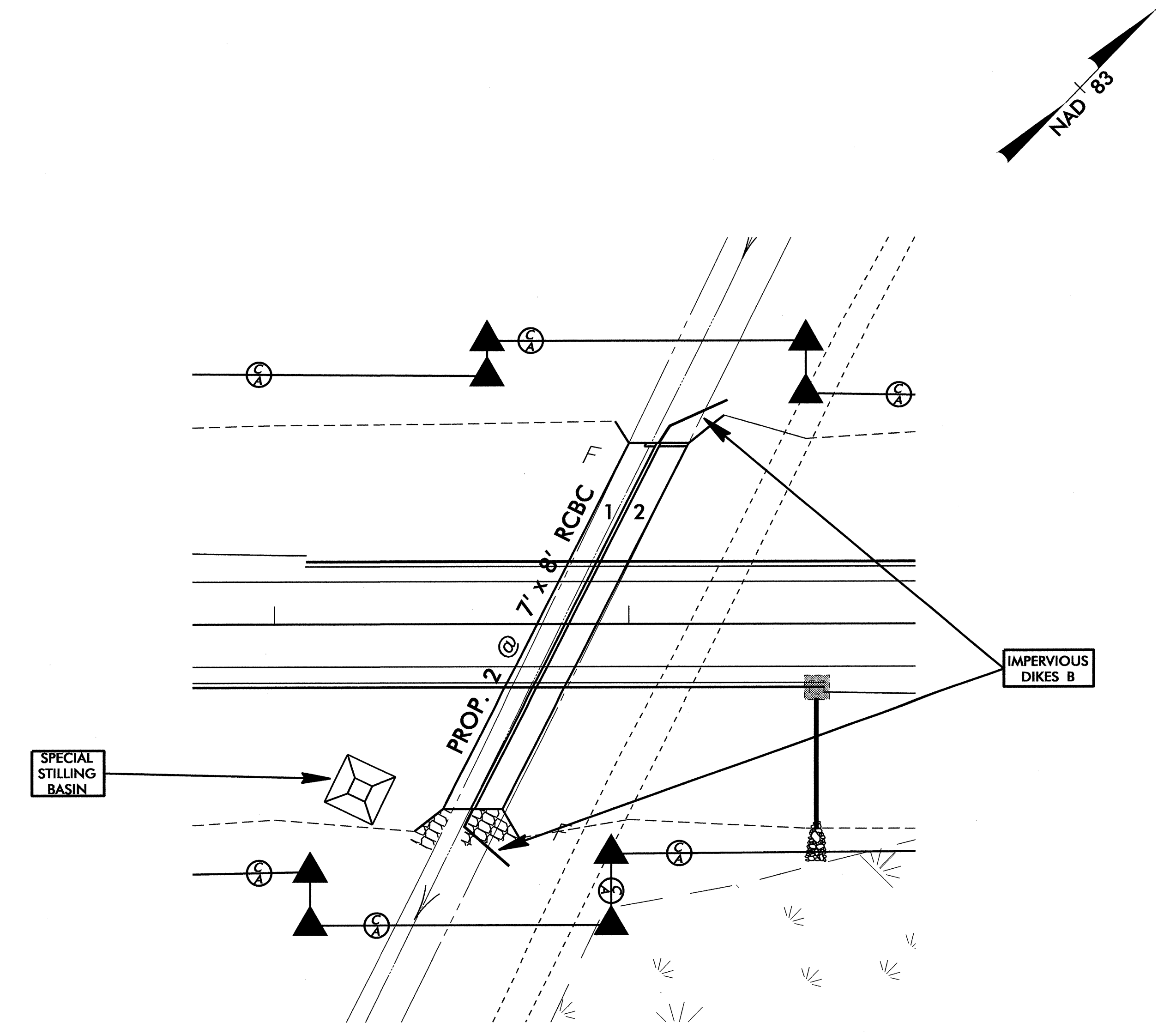
## PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKE A AND TEMPORARY CHANNEL CHANGE WITH LINER (5 FT. BASE, 3 FT. DEEP, 3:1 SIDE SLOPE), DIVERTING FLOW.
3. CONSTRUCT BARREL 1 OF THE PROPOSED CULVERT.
4. REMOVE IMPERVIOUS DIKE A AND TEMPORARY CHANNEL CHANGE.



## PHASE II

5. CONSTRUCT IMPERVIOUS DIKES B, DIVERTING FLOW THROUGH BARREL 1.
6. CONSTRUCT BARREL 2 OF THE PROPOSED CULVERT.
7. REMOVE IMPERVIOUS DIKES B, ALLOWING NORMAL FLOW THROUGH THE CULVERT.
8. COMPLETE ANY NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
9. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S), AND COMPLETE ROADWAY.



8/17/09

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 13

DETAIL A  
SPECIAL CUT DITCH  
(NOT TO SCALE)

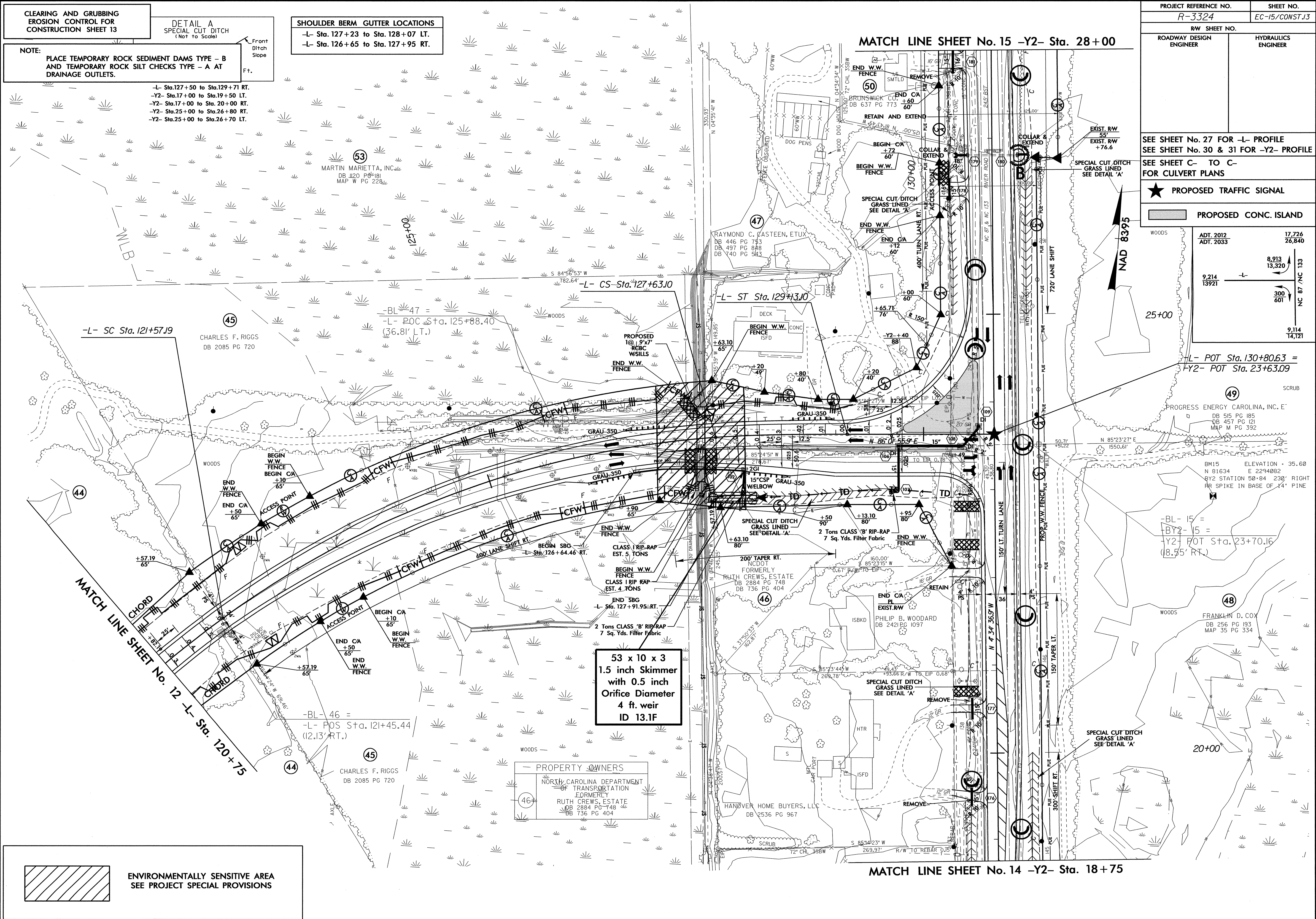
SHOULDER BERM GUTTER LOCATIONS

- L- Sta. 127+23 to Sta. 128+07 LT.
- L- Sta. 126+65 to Sta. 127+95 RT.

NOTE:

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

- L- Sta. 127+50 to Sta. 129+71 RT.
- Y2- Sta. 17+00 to Sta. 19+50 LT.
- Y2- Sta. 17+00 to Sta. 20+00 RT.
- Y2- Sta. 25+00 to Sta. 26+80 RT.
- Y2- Sta. 25+00 to Sta. 26+70 LT.



PROJECT REFERENCE NO. R-3324	SHEET NO. EC-15/CONST.13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHEET No. 27 FOR -L- PROFILE  
SEE SHEET No. 30 & 31 FOR -Y2- PROFILE  
SEE SHEET C- TO C- FOR CULVERT PLANS

★ PROPOSED TRAFFIC SIGNAL  
PROPOSED CONC. ISLAND

ADT. 2012 9,214	ADT. 2033 13,921	17,726 26,840
8,913 13,320	300 601	9,114 14,121

-L- POT Sta. 130+80.63 =  
-Y2- POT Sta. 23+63.09

PROGRESS ENERGY CAROLINA, INC.  
DB 515 PG 185  
DB 457 PG 121  
MAP M PG 392

-BL- 15 =  
-BY2- 15 =  
-Y2- POT Sta. 23+70.16  
(8.95' RT.)

FRANKLIN D. COX  
DB 256 PG 193  
MAP 35 PG 334

PROPERTY OWNERS  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
FORMERLY RUTH CREWS, ESTATE  
DB 2884 PG 748  
DB 736 PG 404

53 x 10 x 3  
1.5 inch Skimmer  
with 0.5 inch  
Orifice Diameter  
4 ft. weir  
ID 13.1F

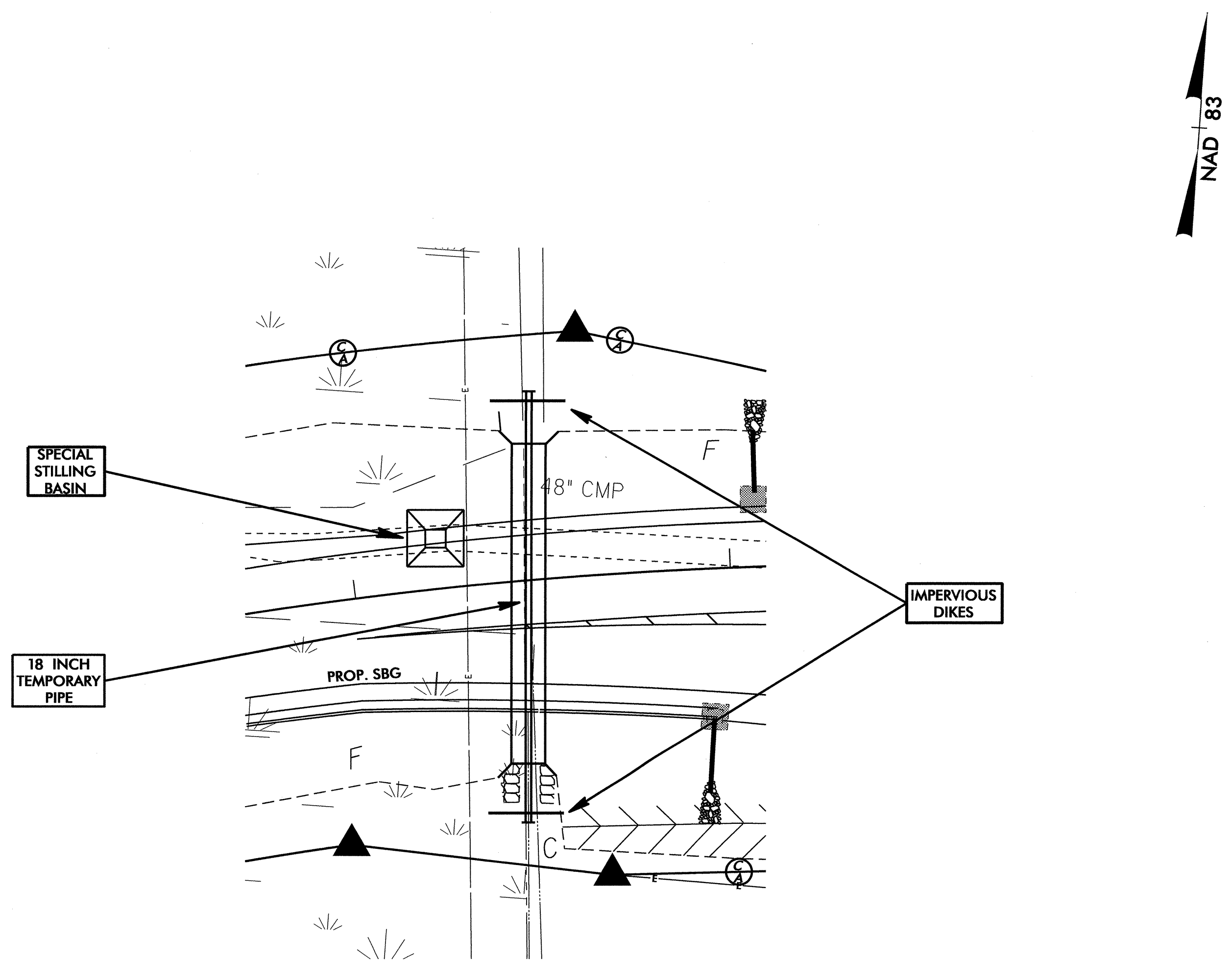
ENVIRONMENTALLY SENSITIVE AREA  
SEE PROJECT SPECIAL PROVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-3324	EC-16/CONST13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 127+46 -L-

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKES AND INSTALL 18" TEMPORARY PIPE, DIVERTING FLOW THROUGH THE TEMPORARY PIPE.
3. REMOVE THE EXISTING 48" CMP.
4. CONSTRUCT THE PROPOSED CULVERT, INCLUDING ANY NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
5. REMOVE THE IMPERVIOUS DIKES AND 18" TEMPORARY PIPE.
6. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S), AND COMPLETE ROADWAY.



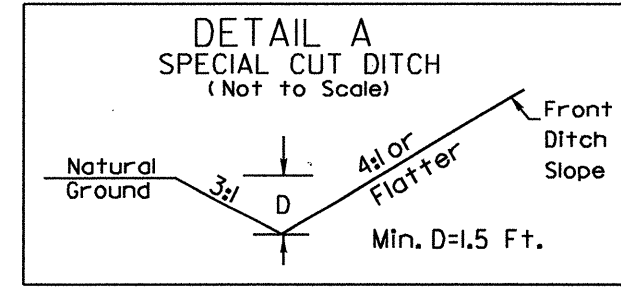




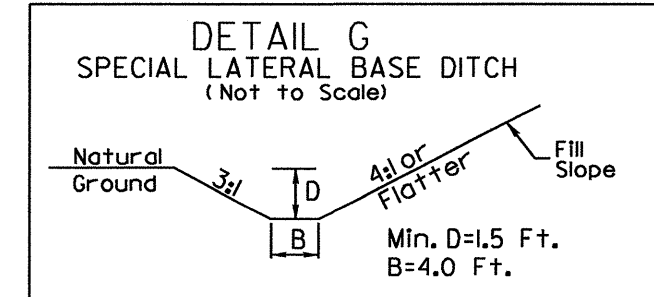
8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 15

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



-Y2- Sta.30+50 to Sta.33+00 LT.  
-Y2- Sta.28+00 to Sta. 28+50 RT.



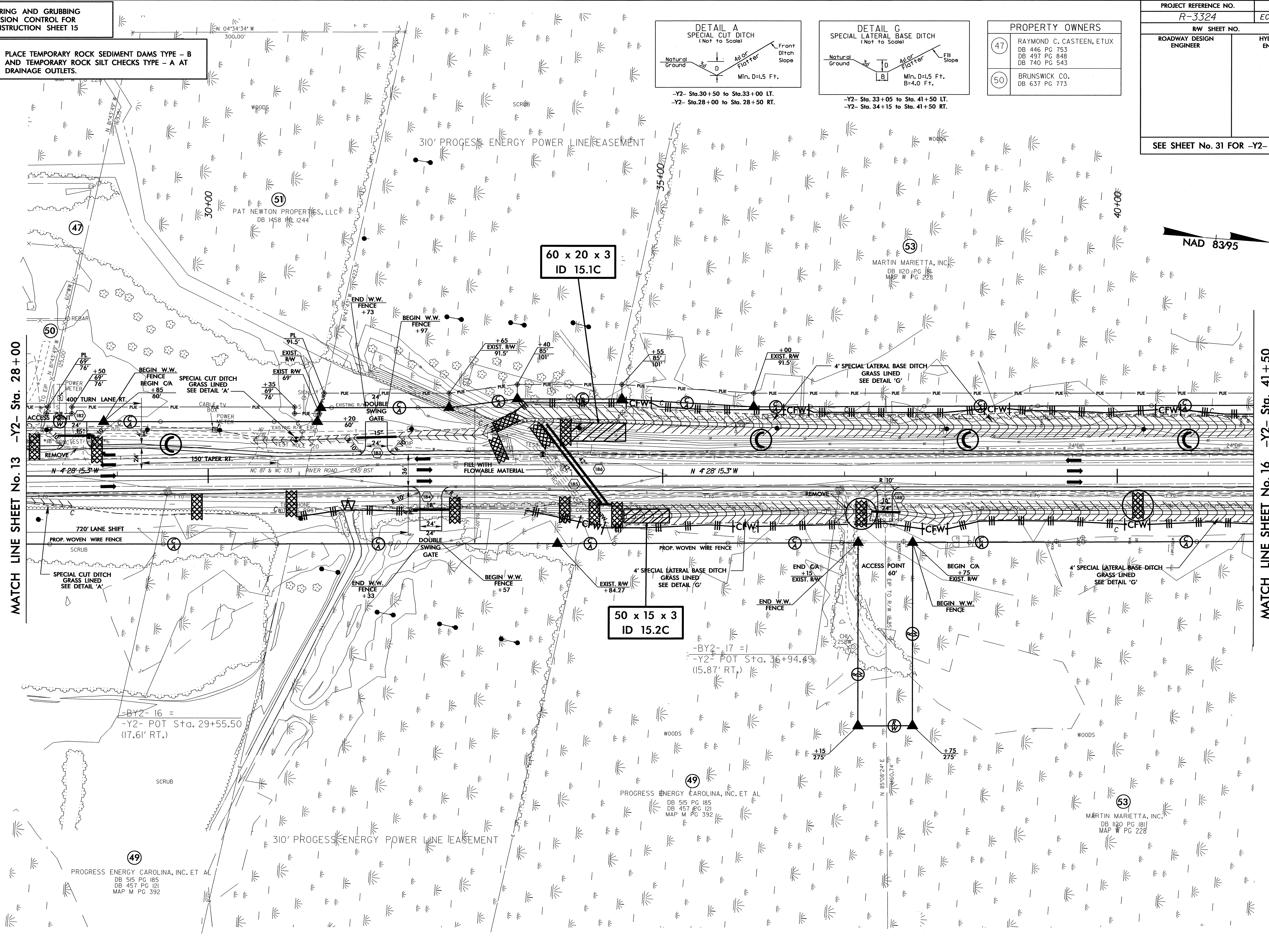
-Y2- Sta. 33+05 to Sta. 41+50 LT.  
-Y2- Sta. 34+15 to Sta. 41+50 RT.

PROPERTY OWNERS	
(47)	RAYMOND C. CASTEEN, ETUX DB 446 PG 753 DB 497 PG 848 DB 740 PG 543
(50)	BRUNSWICK CO. DB 637 PG 773

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-18/CONST.15
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
SEE SHEET No. 31 FOR -Y2- PROFILE	

MATCH LINE SHEET No. 13 -Y2- Sta. 28+00

MATCH LINE SHEET No. 16 -Y2- Sta. 41+50

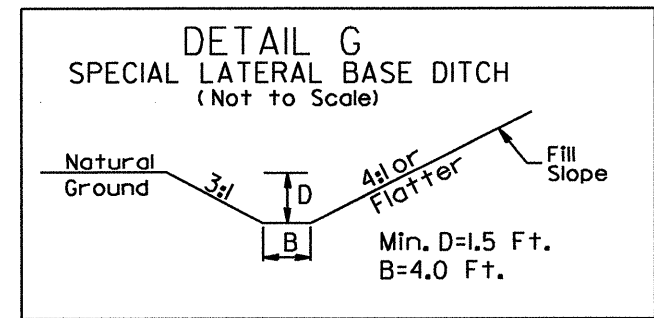


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AT:Richard  
Design:3324\_EC\_psh15.dgn  
REV:2/7/78

8/17/99

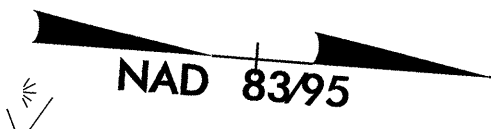
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 16

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



-Y2- Sta. 41+50 to Sta. 54+50 LT.  
-Y2- Sta. 41+50 to Sta. 54+50 RT.

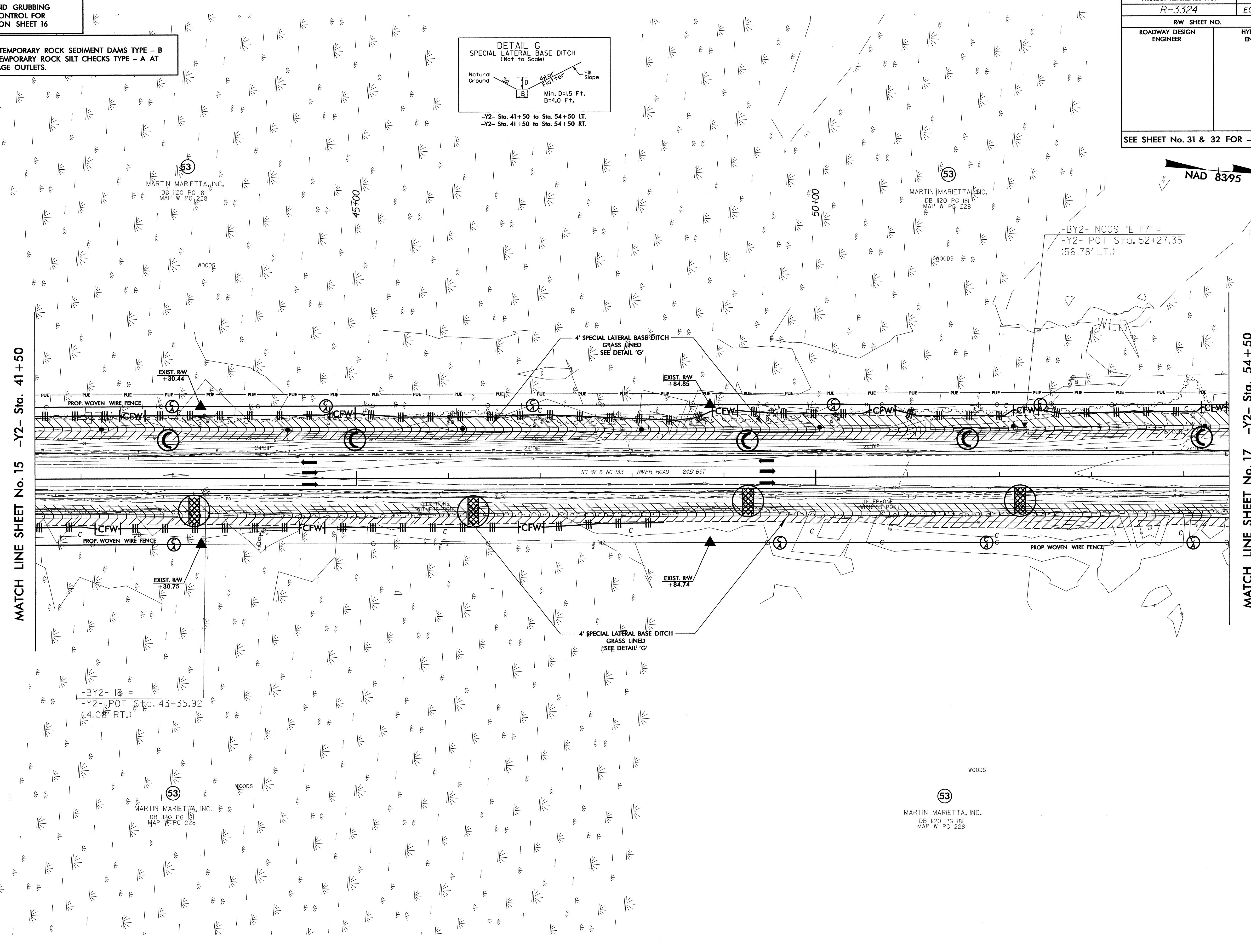
PROJECT REFERENCE NO. R-3324	SHEET NO. EC-19/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 31 & 32 FOR -Y2- PROFILE	



MATCH LINE SHEET No. 15 -Y2- Sta. 41+50

MATCH LINE SHEET No. 17 -Y2- Sta. 54+50

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User: jkennedy



53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

8/17/99

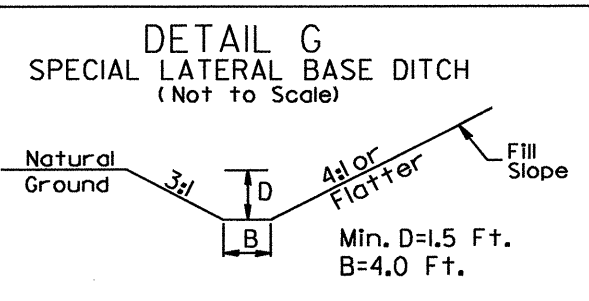
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 17

NOTE:

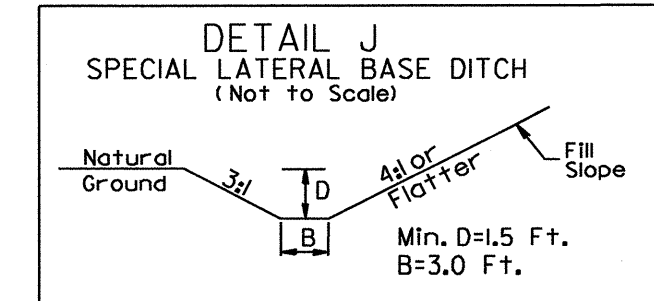
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

**-Y2-**

Pls Sta 66+86.71  
θs = 3° 42' 16.1"  
Ls = 150.00'  
LT = 100.02'  
ST = 50.02'

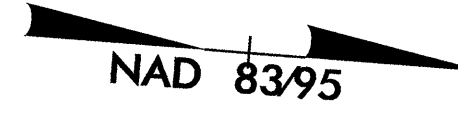


-Y2- Sta. 54+50 to Sta. 60+00 LT.  
-Y2- Sta. 54+50 to Sta. 58+00 RT.  
-Y2- Sta. 63+50 to Sta. 65+50 RT.  
-Y2- Sta. 59+85 to Sta. 62+00 RT.  
-Y2- Sta. 58+00 to Sta. 59+85 RT.



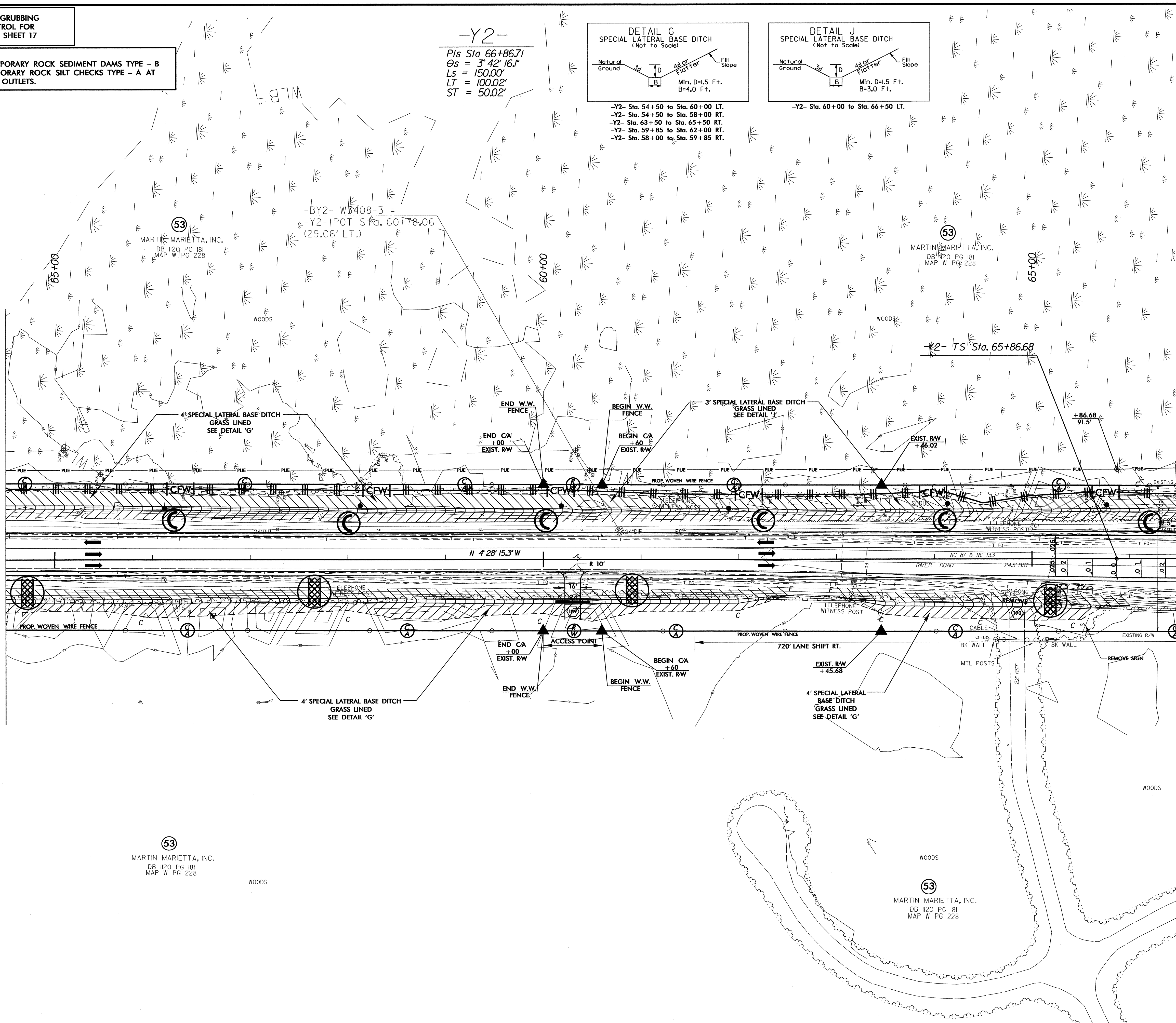
-Y2- Sta. 60+00 to Sta. 66+50 LT.

PROJECT REFERENCE NO. <i>R-3324</i>		SHEET NO. <i>EC-20/CONST.17</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 32 FOR -Y2- PROFILE			



MATCH LINE SHEET No. 16 -Y2- Sta. 54+50

MATCH LINE SHEET No. 18 -Y2- Sta. 66+50



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R:\proj\17\17.dgn

53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

110b

8/17/2012

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 18

DETAIL A  
SPECIAL CUT DITCH  
(Not to Scale)

DETAIL B  
SPECIAL CUT BASE DITCH  
(Not to Scale)

DETAIL C  
SPECIAL CUT BASE DITCH  
(Not to Scale)

DETAIL H  
STANDARD BASE DITCH  
(Not to Scale)

DETAIL I  
SPECIAL LATERAL BASE DITCH  
(Not to Scale)

DETAIL J  
SPECIAL LATERAL BASE DITCH  
(Not to Scale)

NOTE:

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

-Y2- Sta. 70+15 to Sta. 72+00 RT.  
-Y4- Sta. 10+50 to Sta. 12+00 RT.

-Y4- Sta. 10+50 to Sta. 19+50 LT.

-Y2- Sta. 67+50 TO Sta. 72+10 LT.

Min. D=1.5 Ft.  
B=2.0 Ft.

Min. D=1.5 Ft.  
B=2.0 Ft.

Min. D=1.5 Ft.  
B=3.0 Ft.

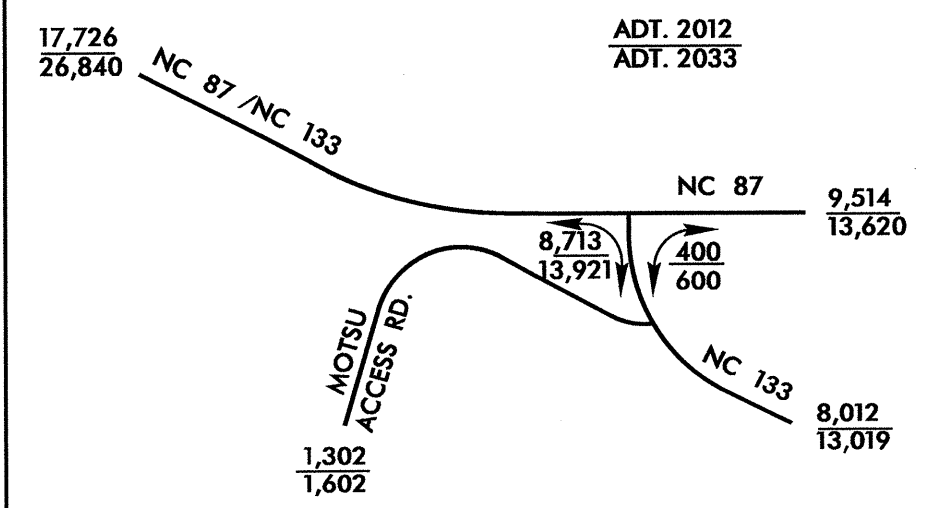
-Y2- Sta. 72+50 to Sta. 75+00 RT.  
-Y2- Sta. 72+10 to Sta. 79+50 LT.

-Y2- Sta. 65+50 to Sta. 67+50 LT.

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53  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

52  
DOLLAR PROPERTIES THREE, LLC.  
DB 2158 PG 400



-BY2- NCGS "J 216" =  
-BY4- NCGS "J 216" =  
-Y2- POC Sta. 69+78.29  
(108.37' RT.)

-Y2- POC Sta. 69+61.59 =  
-Y3- POT Sta. 10+00.00

-Y2- +92.99  
101.37'  
EXIST. RW

-Y3A- PT Sta. 18+87.70 =  
-Y3D- PT Sta. 18+87.70

-Y3A- PC Sta. 14+85.85

-Y3A- PT Sta. 11+59.53

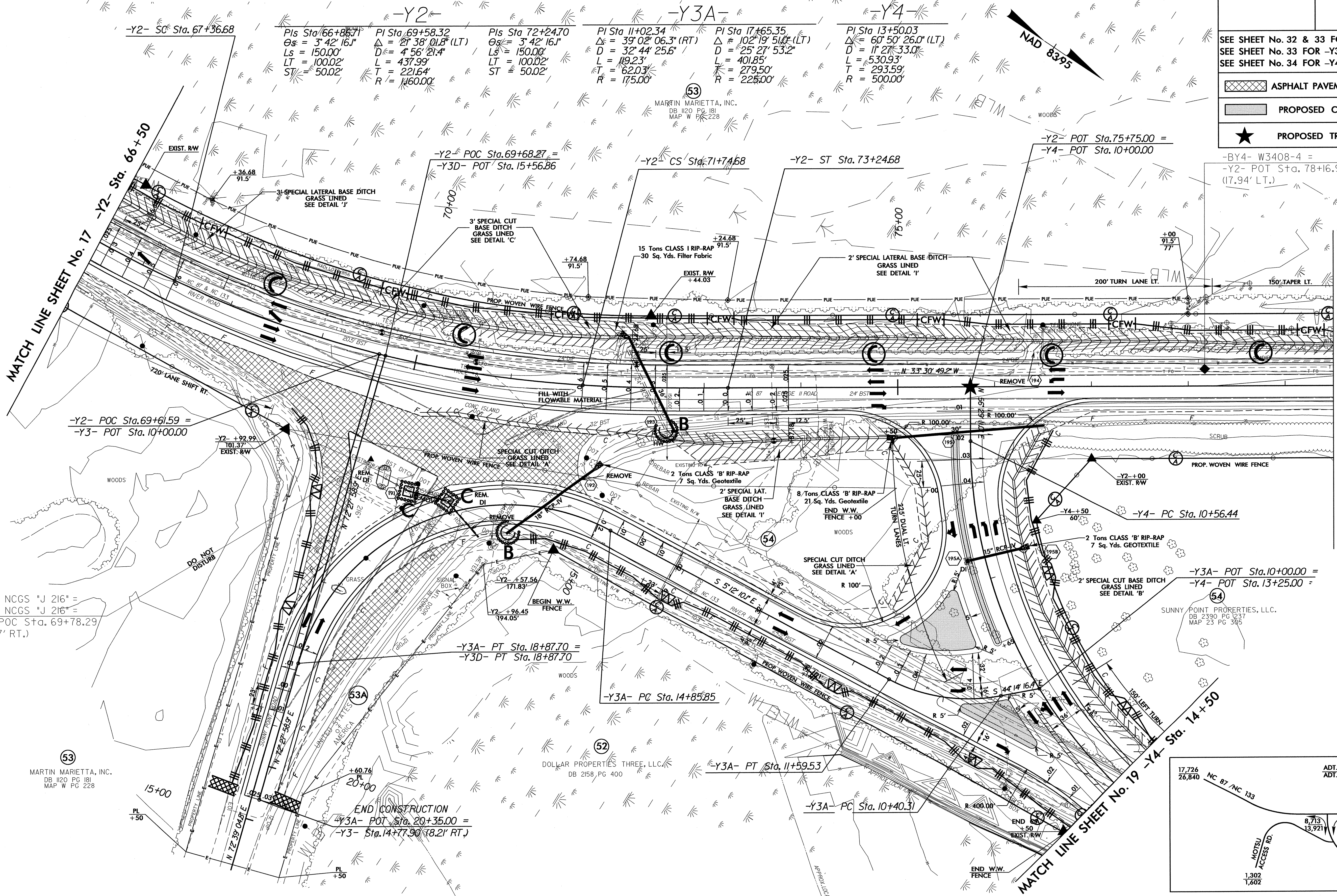
-Y3A- PC Sta. 10+40.31

-Y2- POT Sta. 75+75.00 =  
-Y4- POT Sta. 10+00.00

-BY4- W3408-4 =  
-Y2- POT Sta. 78+16.99  
(17.94' LT.)

-Y3A- POT Sta. 10+00.00 =  
-Y4- POT Sta. 13+25.00 =

54  
SUNNY POINT PROPERTIES, LLC.  
DB 2390 PG 327  
MAP 23 PG 305



MATCH LINE SHEET No. 17  
-Y2- Sta. 66+50

MATCH LINE SHEET No. 19 -Y2- Sta. 79+50

- ASPHALT PAVEMENT REMOVAL
- PROPOSED CONC. ISLAND
- PROPOSED TRAFFIC SIGNAL

SEE SHEET No. 32 & 33 FOR -Y2- PROFILE  
SEE SHEET No. 33 FOR -Y3- PROFILE  
SEE SHEET No. 34 FOR -Y4- PROFILE

PROJECT REFERENCE NO. R-3324  
SHEET NO. EC-21/CONST.18

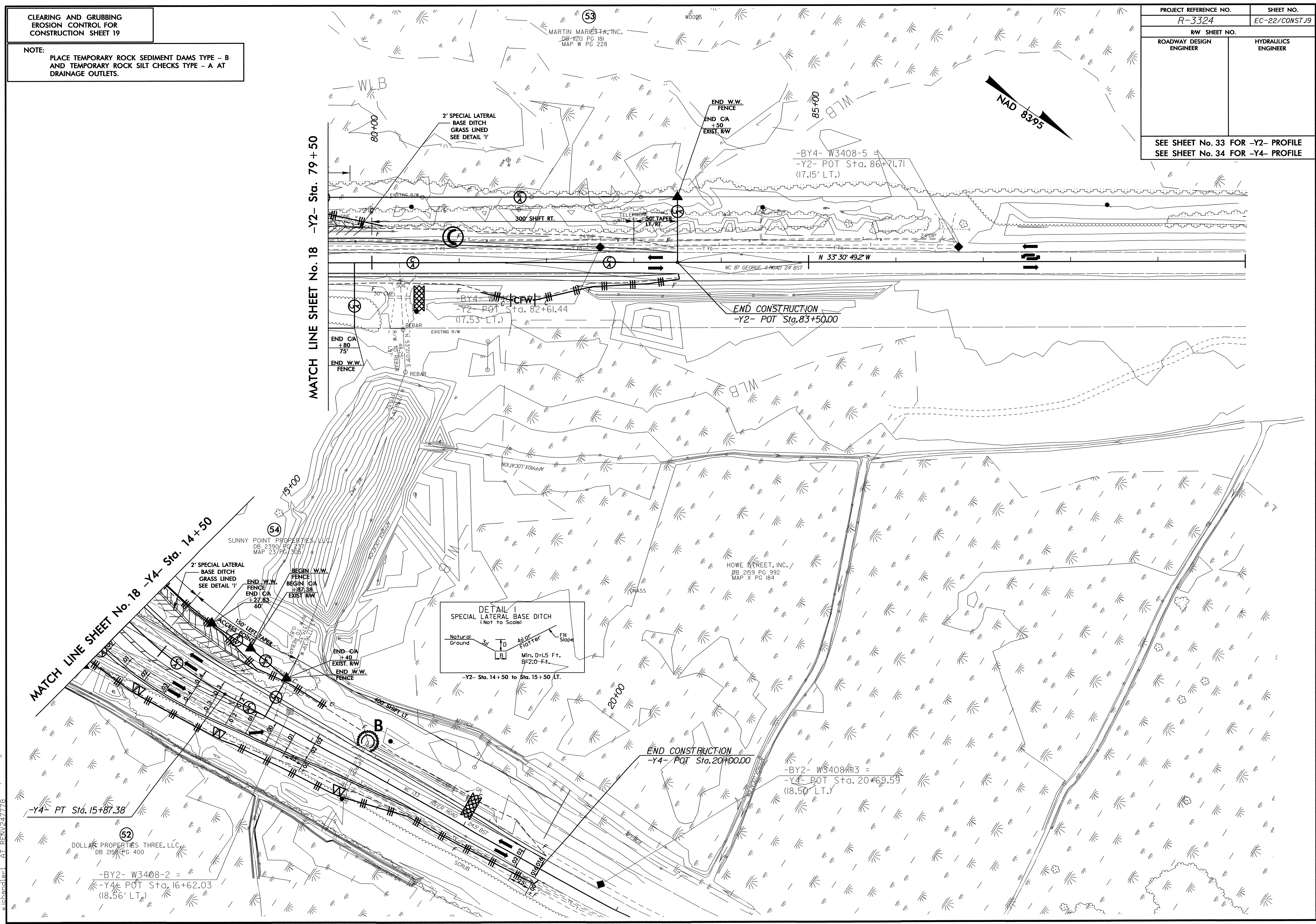
RW SHEET NO.  
ROADWAY DESIGN ENGINEER  
HYDRAULICS ENGINEER

8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 19

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

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-22/CONST.19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 33 FOR -Y2- PROFILE SEE SHEET No. 34 FOR -Y4- PROFILE			



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8/17/99

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 20

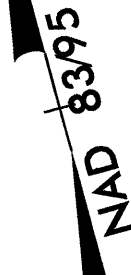
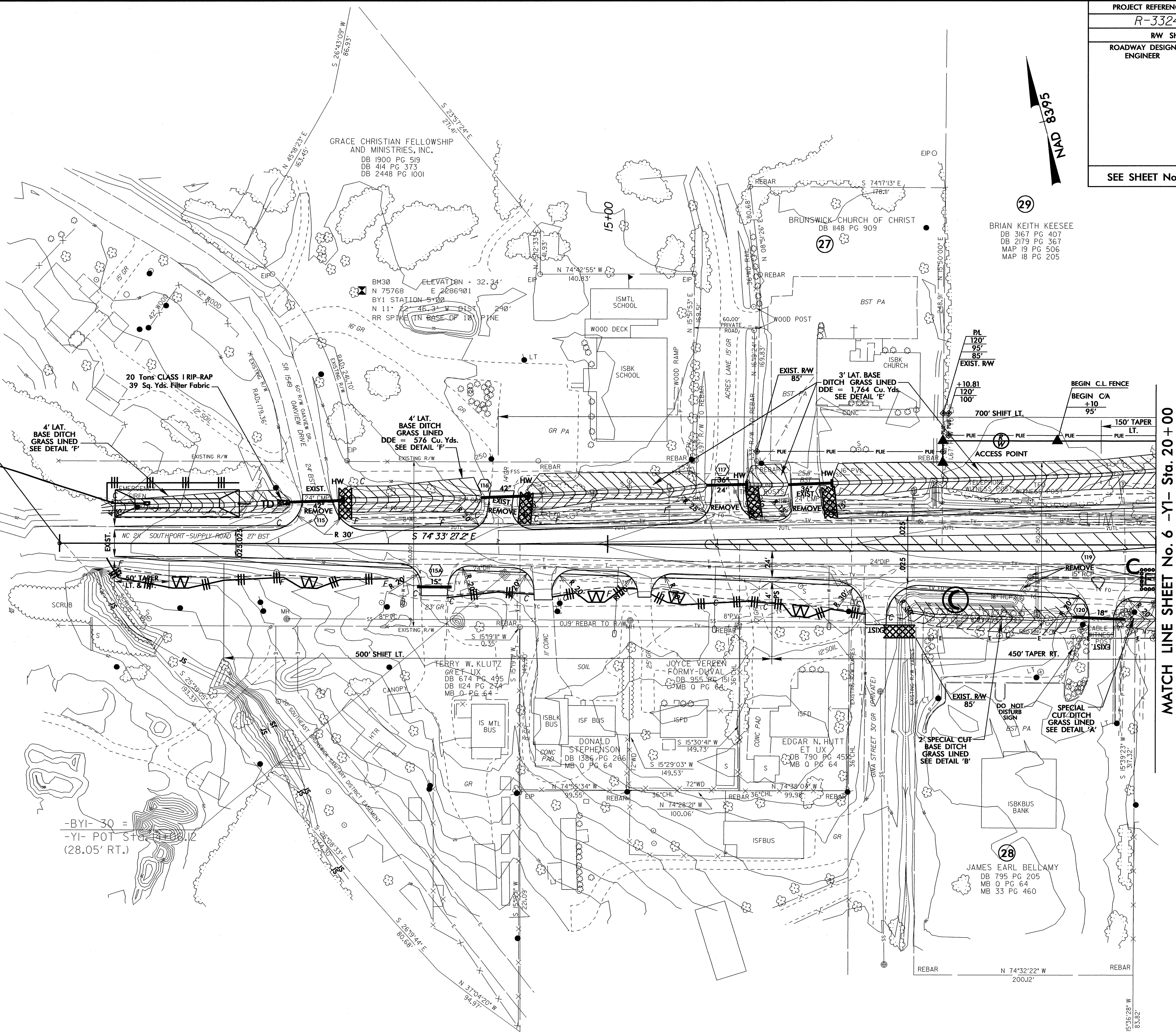
NOTE:

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

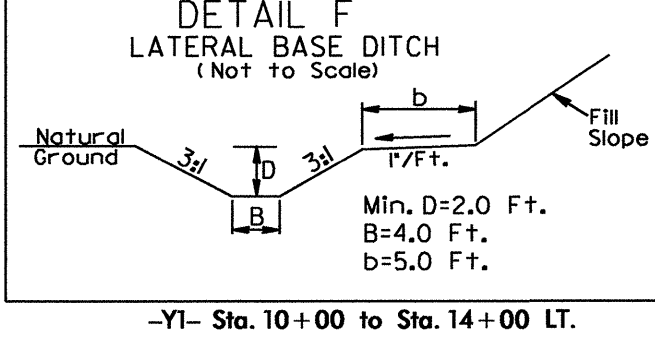
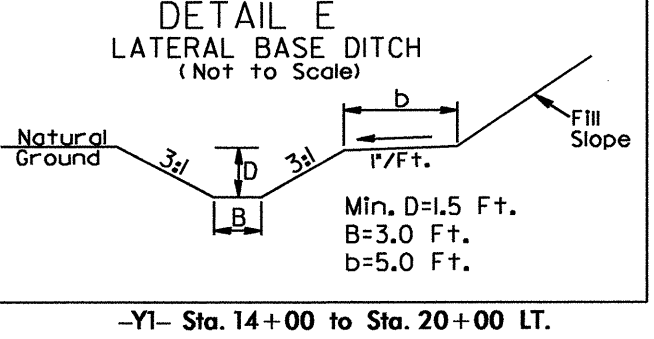
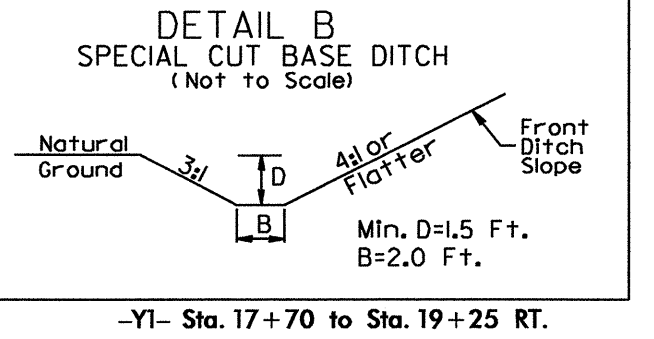
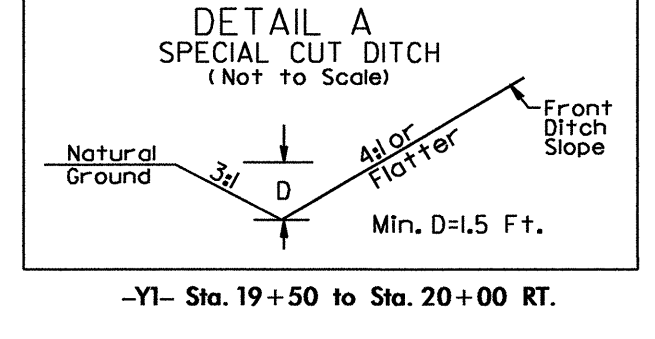
PROJECT REFERENCE NO. R-3324		SHEET NO. EC-23/CONST.20	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 29 FOR -Y1- PROFILE			

-Y1- POT Sta. 10+00.00

113 x 25 x 3  
1.5 inch Skimmer  
with 1.5 inch  
Orifice Diameter  
17 ft. weir  
ID 20.1F



MATCH LINE SHEET No. 6 -Y1- Sta. 20+00



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11/17/99

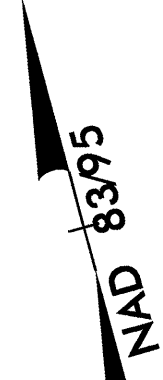
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 21

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

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-24/CONST.21	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 28 FOR -Y- PROFILE SEE SHEET No. 29, 30 FOR -YI- PROFILE SEE SHEET No. 34 FOR -Y5- PROFILE			
SEE SHEET 2-G FOR DITCH DETAILS			
★ EXIST. TRAFFIC SIGNAL TO BE REVISED			
■ PROPOSED CONC. ISLAND			

-Y5-  
PI Sta 11+64.15  
 $\Delta = 22^{\circ} 09' 09.0" (RT)$   
 $D = 28' 38" 52.4"$   
 $L = 77.33'$   
 $T = 39.15'$   
 $R = 200.00'$

LOWES HOME CENTERS, INC.  
DB 1319 PG 1272

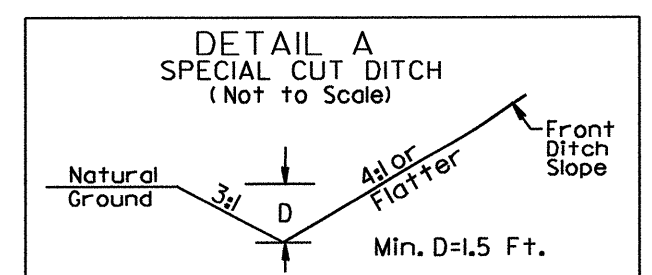
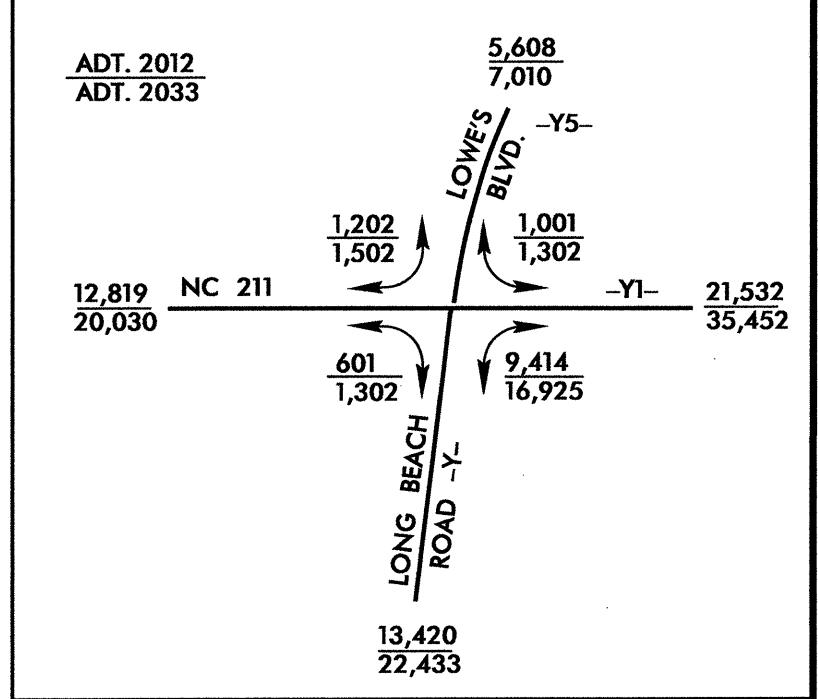


MATCH LINE SHEET No. 6 -YI- Sta. 29+00

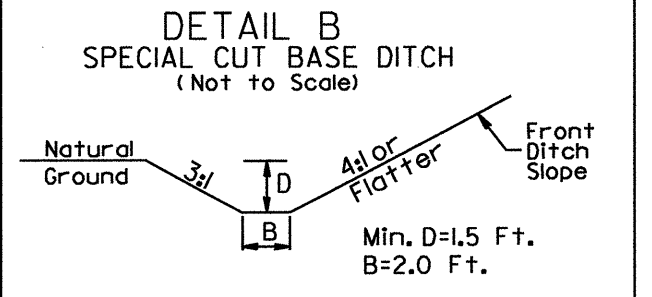
MATCH LINE SHEET No. 22 -YI- Sta. 39+00

SEE NOTE BELOW FOR  
BASE LINE DATA

NOTE: BASE LINE DATA  
-BY- 28 =  
-BYI- 28 =  
-Y- POT Sta. 24+35.57 (58.63' LT.) =  
-YI- POT Sta. 32+45.15 (55.17' RT.)



-YI- Sta. 29+70 to Sta. 32+50 LT.  
S 74°09'03" E 119.53'  
S 73°47'44" E 99.18'



-YI- Sta. 25+50 to Sta. 29+70 LT.

PROPERTY OWNERS

19	LIVE OAK VILLAGE SHOPPING CENTER, LLC DB 1374 PG 415 DB 1176 PG 828	38	NATIONSBANK OF NORTH CAROLINA DB 916 PG 320 MAP X PG 140
35	SAMPSON-BLADEN OIL CO., INC DB 608 PG 1052 DB 1124 PG 262		

18  
JORDAN & RIDDLE, LLC  
DB 1101 PG 88  
DB 1176 PG 828  
MB P PG 337

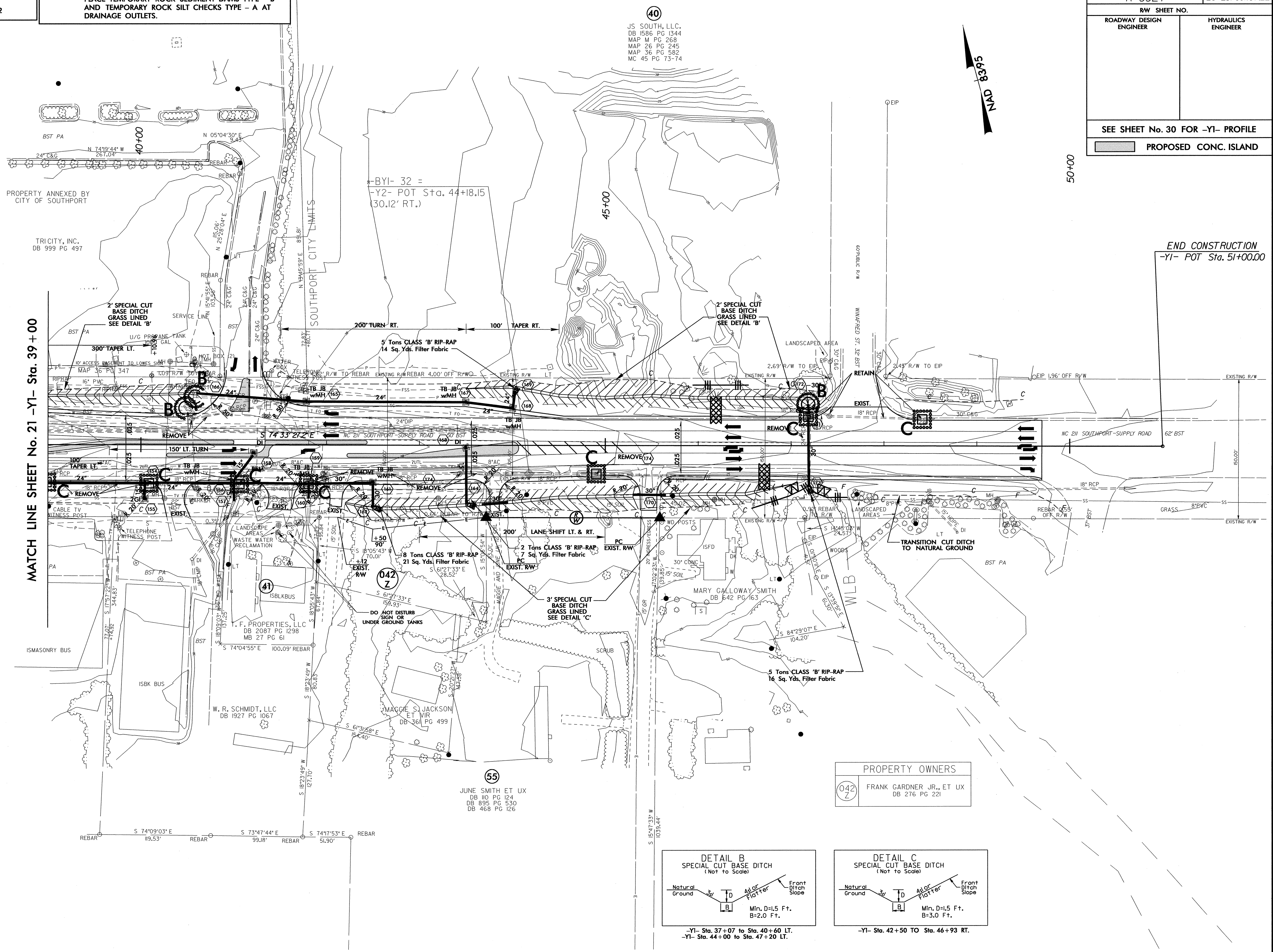
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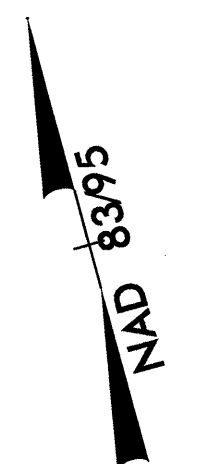
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 22

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

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-25/CONST.22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 30 FOR -Y1- PROFILE	
PROPOSED CONC. ISLAND	

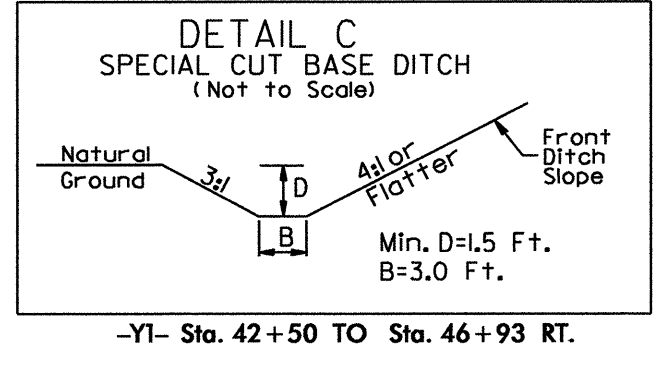
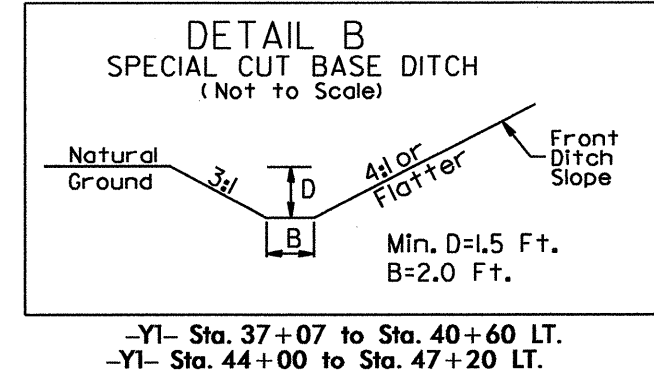


MATCH LINE SHEET No. 21 -Y1- Sta. 39+00



PROPERTY OWNERS

042 Z	FRANK GARDNER JR., ET UX DB 276 PG 221
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User: jrb



8/17/99

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shandell - RNV24778

-DET1-

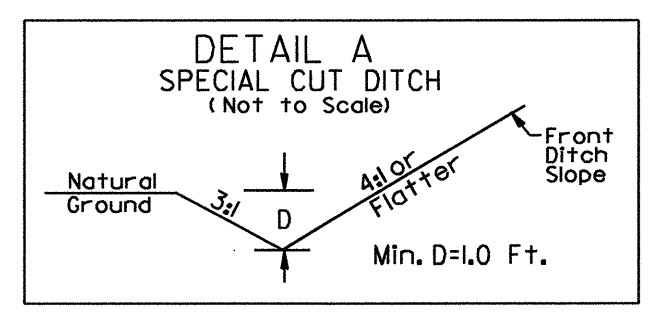
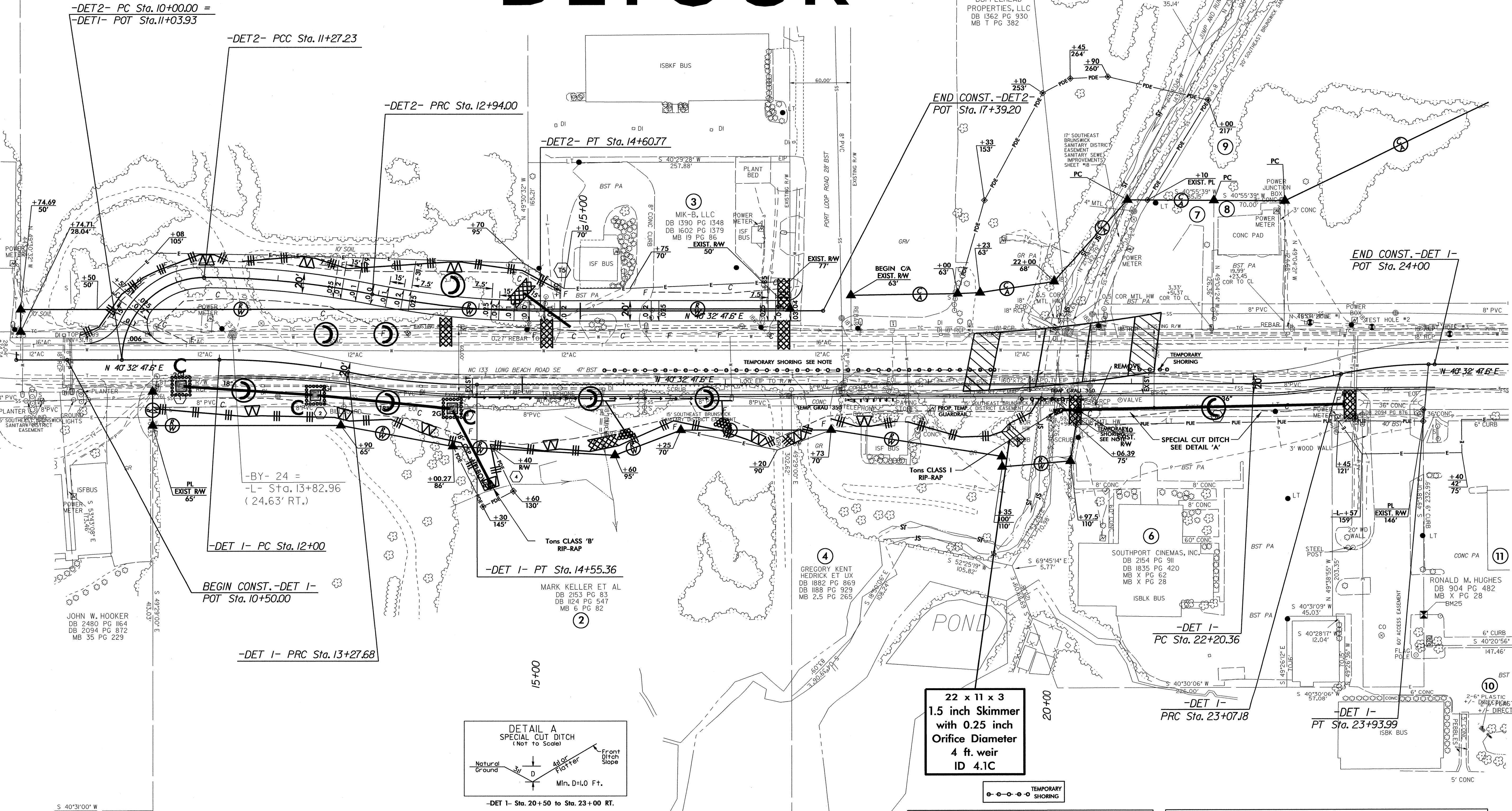
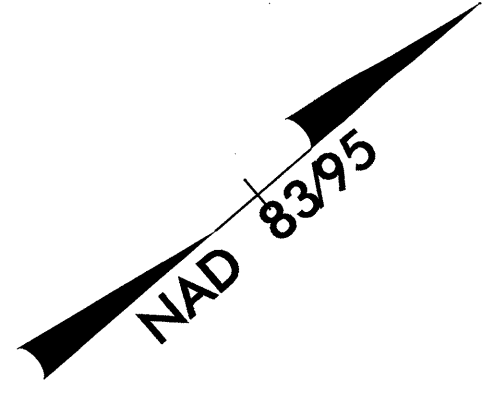
-DET2-

PI Sta 12+64.05 Δ = 11° 15' 17.0" (RT) D = 8' 48' 53.0" L = 127.68' T = 64.05' R = 650.00'	PI Sta 13+9.73 Δ = 11° 15' 17.0" (LT) D = 8' 48' 53.0" L = 127.68' T = 64.05' R = 650.00'	PI Sta 22+63.94 Δ = 12° 26' 07.7" (LT) D = 14' 19' 26.2" L = 86.82' T = 43.58' R = 400.00'	PI Sta 23+50.76 Δ = 12° 26' 07.7" (RT) D = 14' 19' 26.2" L = 86.82' T = 43.58' R = 400.00'
---	--	---	---

PI Sta 10+81.00 Δ = 90° 00' 00.0" (RT) D = 70' 44' 07.9" L = 127.23' T = 81.00' R = 81.00'	PI Sta 12+10.89 Δ = 11° 22' 30.2" (RT) D = 6' 49' 15.3" L = 166.77' T = 83.66' R = 840.00'	PI Sta 13+77.66 Δ = 11° 22' 30.2" (LT) D = 6' 49' 15.3" L = 166.77' T = 83.66' R = 840.00'
---	---	---

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-26/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 35 FOR -DET2- PROFILE	

# DETOUR



22 x 11 x 3  
1.5 inch Skimmer  
with 0.25 inch  
Orifice Diameter  
4 ft. weir  
ID 4.1C

TEMPORARY SHORING  
SHORING ID. No. 1 - DET 1 - Sta. 19+92 +/- to Sta. 20+42 +/- (15' RT.)  
SHORING ID. No. 2 - DET 1 - Sta. 15+81 +/- to Sta. 19+65 +/- (14' LT.)  
SHORING ID. No. 3 - DET 1 - Sta. 19+65 +/- to Sta. 20+98 +/- (17' LT.)  
SHORING ID. No. 4 - DET 1 - Sta. 20+98 +/- to Sta. 21+35 +/- (14' LT.)  
SEE GEOTECH STANDARD DRAWINGS No. 1801.01 AND No. 1801.02.

NOTE: USE THIS PLAN SHEET FOR CONSTRUCTION OF DETOURS 1 & 2 ONLY.

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
R-3324		EC-27/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 23 FOR -L- PROFILE			
SEE SHEET No. 2-F FOR RELATIONSHIP OF BRIDGE TO ROADWAY SKETCH			
SEE SHEET No. S-1 to S- FOR STRUCTURE PLANS			
SEE SHEET No. W-1 to W- FOR RETAINING WALL PLANS			
SEE SHEET No. 2-G FOR DITCH DETAILS			
SEE SHEET No. 4-A FOR DETOUR PLANS			

PROPERTY OWNERS		PROPERTY OWNERS	
6	SOUTHEAST CINEMA ENTERTAINMENT, INC. DB 1835 PG 420 MB X PG 62 MB Y PG 28	10	DAVIDSON ANIMAL HOSPITAL, PA DB 1835 PG 420 DB 2160 PG 844 DB 1195 PG 1088 MB Y PG 263
7	SOUTHPORT-OAK ISLAND CHAMBER OF COMMERCE DB 576 PG 382 DB 1134 PG 894	11	RONALD M. HUGHES DB 904 PG 482 MB X PG 28
8	KATHLEEN VILOSKI DB 2368 PG 1197	7	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY SOUTHPORT-OAK ISLAND CHAMBER OF COMMERCE DB 3083 PG 1116 DB 576 PG 382 DB 1134 PG 894
		8	KATHLEEN VILOSKI DB 2368 PG 1197

**SHOULDER BERM GUTTER LOCATIONS**

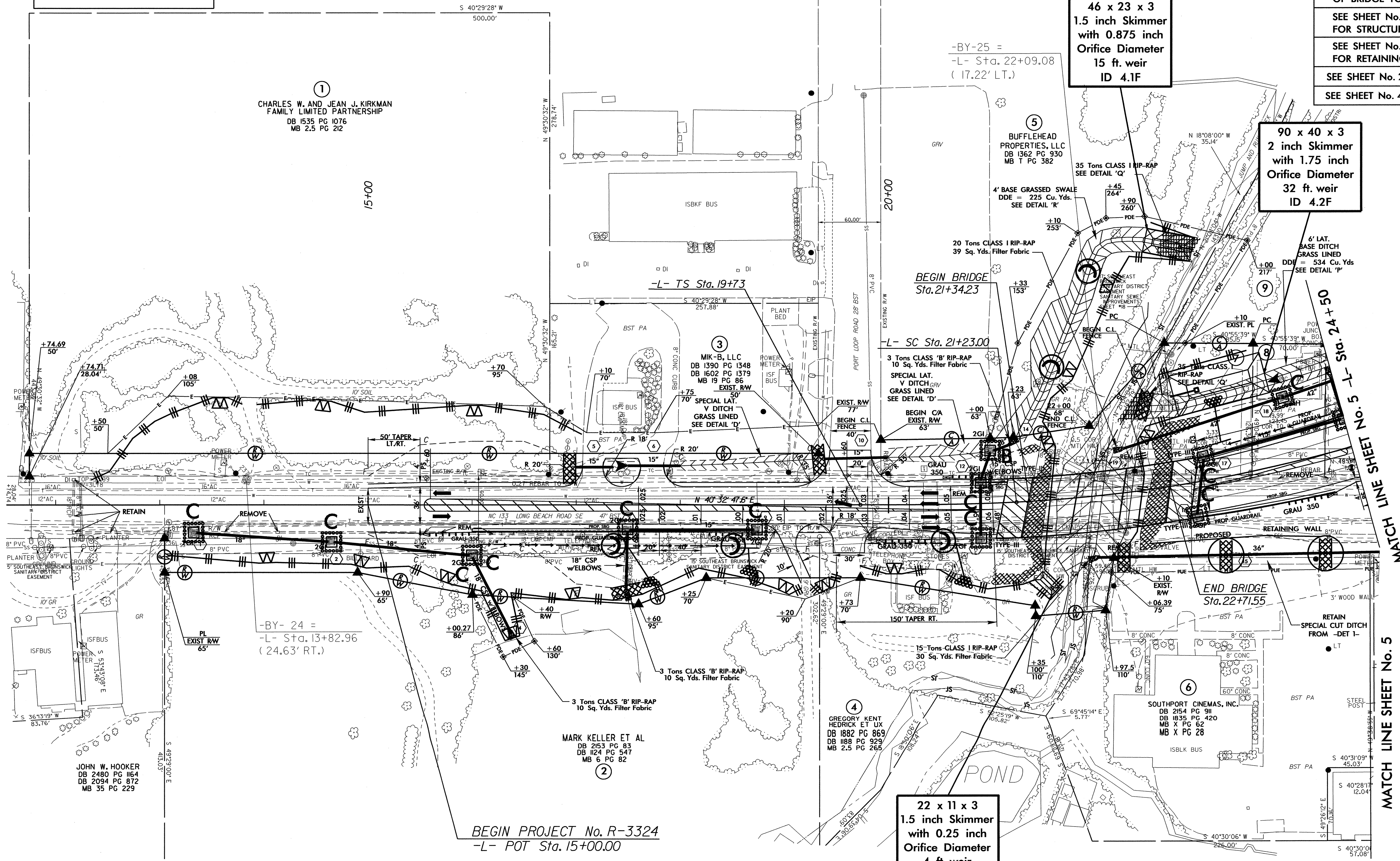
-L- Sta. 20+87 to BEGIN BRIDGE LT.  
 -L- END BRIDGE to Sta. 27+00 LT.  
 -L- Sta. 16+00 to Sta. 18+70 RT.  
 -L- END BRIDGE to Sta. 25+85 RT.  
 -L- Sta. 28+00 to Sta. 31+00 RT.

-L-  
 PIs Sta 20+73.01 PI Sta 25+50.41  
 $\Theta_s = 2^\circ 57' 48.9''$   $\Delta = 32^\circ 50' 51.0''$  (LT)  
 $L_s = 150.00'$   $D = 3^\circ 57' 05.2''$   
 $LT = 100.01'$   $L = 831.28'$   
 $ST = 50.01'$   $T = 427.41'$   
 $R = 1,450.00'$

46 x 23 x 3  
 1.5 inch Skimmer  
 with 0.875 inch  
 Orifice Diameter  
 15 ft. weir  
 ID 4.1F

90 x 40 x 3  
 2 inch Skimmer  
 with 1.75 inch  
 Orifice Diameter  
 32 ft. weir  
 ID 4.2F

22 x 11 x 3  
 1.5 inch Skimmer  
 with 0.25 inch  
 Orifice Diameter  
 4 ft. weir  
 ID 4.1C



1  
 CHARLES W. AND JEAN J. KIRKMAN  
 FAMILY LIMITED PARTNERSHIP  
 DB 1535 PG 1076  
 MB 2.5 PG 212

3  
 MIK-B, LLC  
 DB 1390 PG 1348  
 DB 1602 PG 1379  
 MB 19 PG 86  
 EXIST. RW

5  
 BUFFLEHEAD  
 PROPERTIES, LLC  
 DB 1362 PG 930  
 MB 1 PG 382

4  
 GREGORY KENT  
 HEDRICK ET UX  
 DB 1862 PG 869  
 DB 1188 PG 929  
 MB 2.5 PG 265

2  
 MARK KELLER ET AL  
 DB 2153 PG 83  
 DB 1124 PG 547  
 MB 6 PG 82

JOHN W. HOOKER  
 DB 2480 PG 1164  
 DB 2094 PG 872  
 MB 35 PG 229

BEGIN PROJECT No. R-3324  
 -L- POT Sta. 15+00.00

MATCH LINE SHEET No. 5

08-NOV-2012 07:48 R:\Environment\3324-EC\_pah4.dgn richardl... AT BENV27778

8/17/19

10	HOSPITAL, PA DB 1835 PG 420 DB 2160 PG 844 DB 1195 PG 1088 MB Y PG 263
12	GREGORY K. HEDRICK DB 1284 PG 974 DB 1155 PG 910 DB 2160 PG 844 DB 1176 PG 835
13	GREGORY K. HEDRICK DB 2412 PG 1036
14	133 PROPERTIES, LLC DB 2044 PG 471 DB 1134 PG 55

-L-

Pls Sta 30+04.29 Os = 2' 57" 48.9" Ls = 150.00' LT = 100.01' ST = 50.01'	Pls Sta 32+04.30 Os = 3' 42" 16.1" Ls = 150.00' LT = 100.02' ST = 50.02'	Pls Sta 33+16.50 Δ = 6' 08" 25.8" (RT) D = 4' 56" 21.4" L = 124.32' T = 62.22' R = 1,160.00'
--	--	---

-DRI-

Pls Sta 14+10.24 Δ = 90' 29" 12.6" (LT) D = 143' 14" 22.0" L = 63.17' T = 40.34' R = 40.00'	Pls Sta 10+43.97 Δ = 40' 27" 10.3" (RT) D = 143' 14" 22.0" L = 28.24' T = 14.74' R = 40.00'	Pls Sta 13+37.65 Δ = 46' 33" 43.7" (LT) D = 28' 38" 52.4" L = 162.53' T = 86.06' R = 200.00'
--	--	---

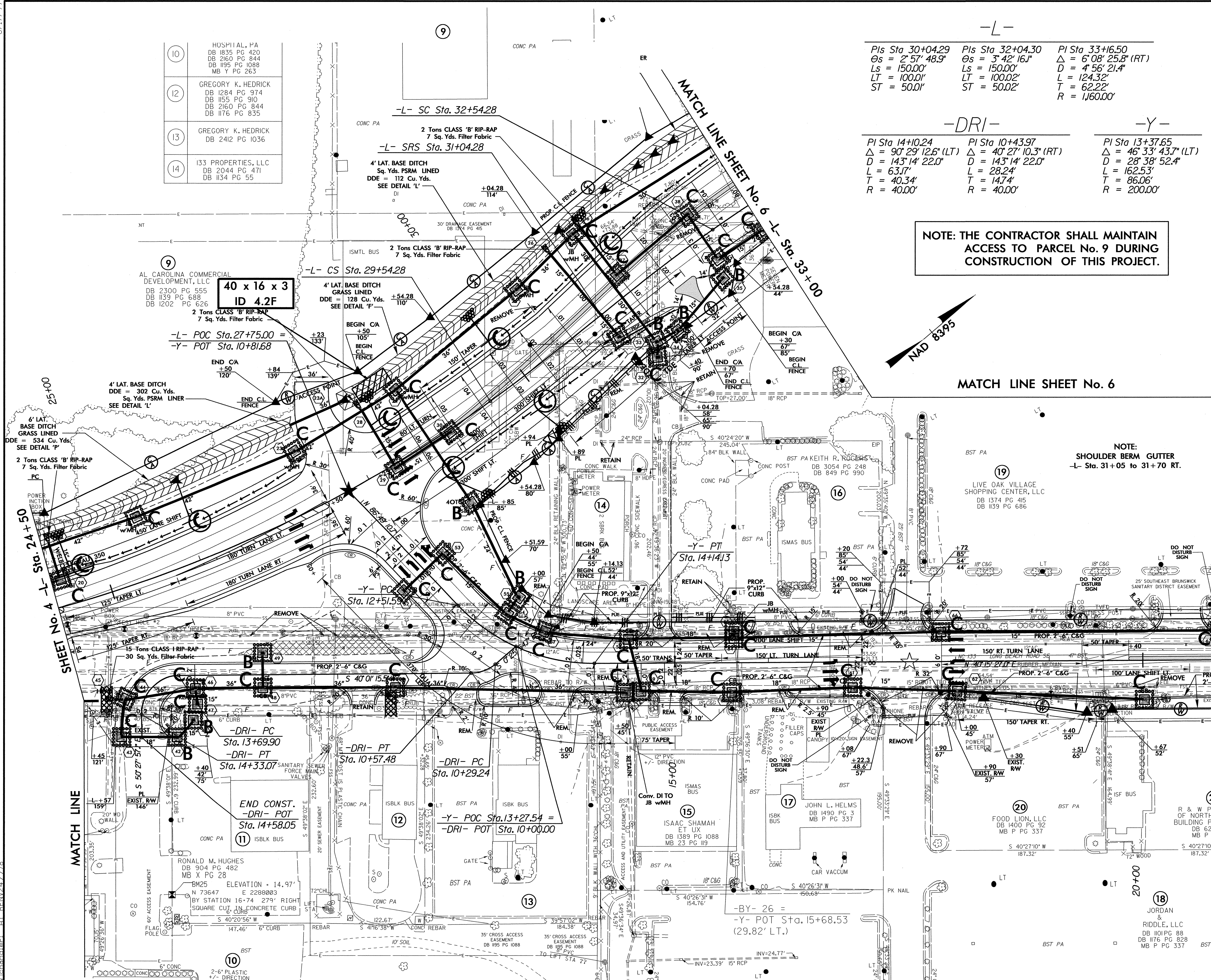
-Y-

NOTE: THE CONTRACTOR SHALL MAINTAIN ACCESS TO PARCEL No. 9 DURING CONSTRUCTION OF THIS PROJECT.

MATCH LINE SHEET No. 6

NOTE: SHOULDER BERM GUTTER -L- Sta. 31+05 to 31+70 RT.

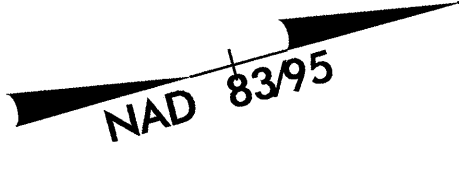
PROJECT REFERENCE NO. R-3324	SHEET NO. EC-28/CONST.5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 23 FOR -L- PROFILE SEE SHEET No. 28 FOR -Y- PROFILE SEE SHEET No. 35 FOR -DRI- PROFILE	
SEE SHEET No. 2-G FOR DITCH DETAILS	
	PROPOSED PAVEMENT REMOVAL
	PROPOSED CONC. ISLAND
	PROPOSED TRAFFIC SIGNAL
	EXIST. TRAFFIC SIGNAL TO BE REVISED



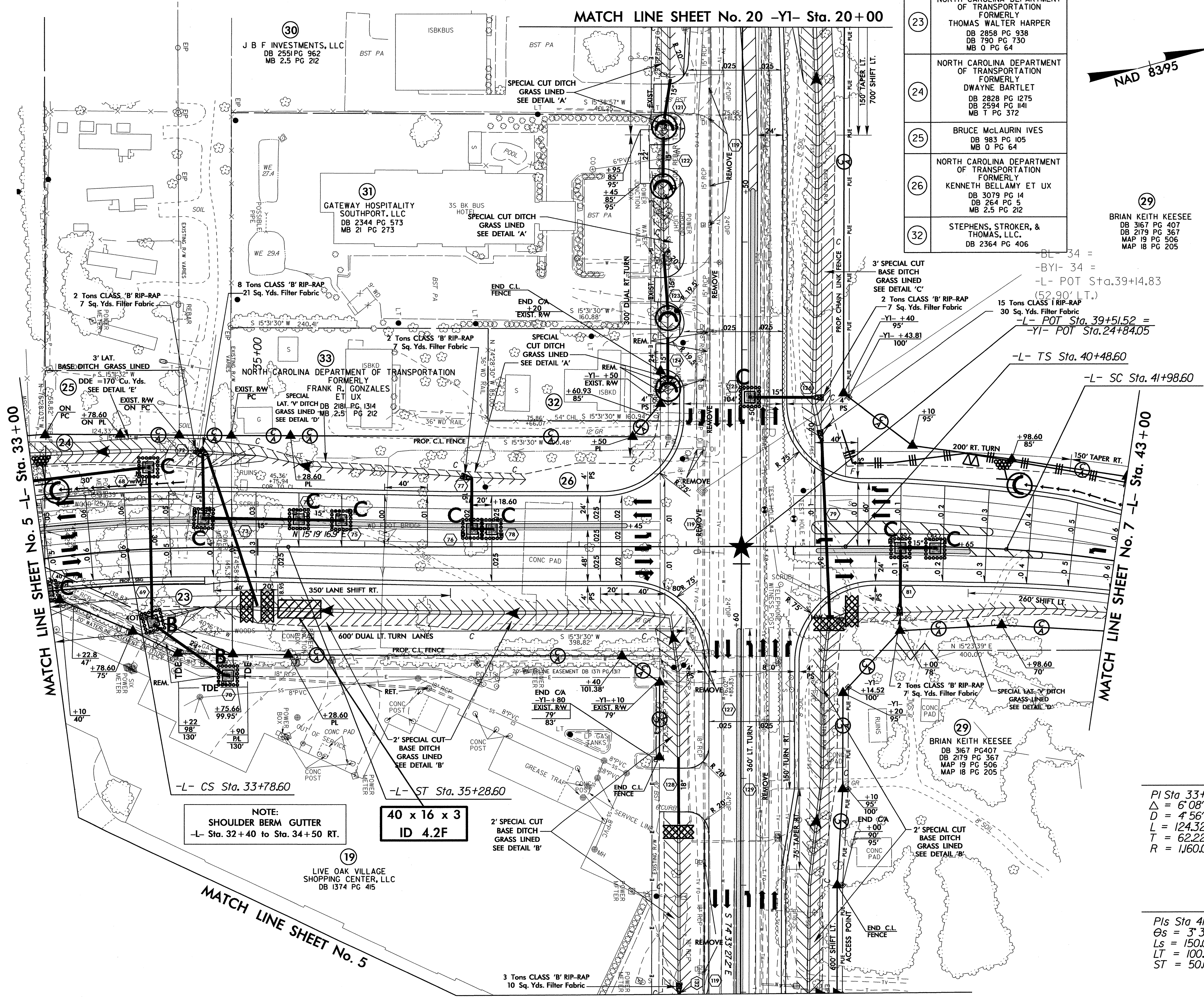
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 schubert

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-29/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 23 & 24 FOR -L- PROFILE SEE SHEET No. 29 FOR -YI- PROFILE	
SEE SHEET 2-G FOR DITCH DETAILS	
★ PROPOSED TRAFFIC SIGNAL	
■ PROPOSED CONC. ISLAND	

PROPERTY OWNERS	
23	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY THOMAS WALTER HARPER DB 2858 PG 938 DB 790 PG 730 MB 0 PG 64
24	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY DWAYNE BARTLET DB 2828 PG 1275 DB 2594 PG 1141 MB T PG 372
25	BRUCE McLaurin IVES DB 983 PG 105 MB 0 PG 64
26	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FORMERLY KENNETH BELLAMY ET UX DB 3079 PG 14 DB 264 PG 5 MB 2.5 PG 212
32	STEPHENS, STOKER, & THOMAS, LLC. DB 2364 PG 406



ADT. 2012 ADT. 2033	19,229 36,053
13,720 26,739	6,109 14,421
701 1,001	1,502 3,605
	9,614 15,323
	12,819 20,030



NOTE:  
SHOULDER BERM GUTTER  
-L- Sta. 32+40 to Sta. 34+50 RT.

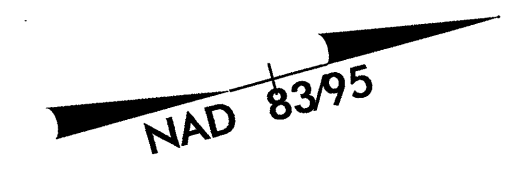
40 x 16 x 3  
ID 4.2F

-L-  
 Pls Sta 33+16.50 Δ = 6'08" 25.8" (RT)  
 D = 4'56" 21.4"  
 L = 124.32'  
 T = 62.22'  
 R = 1,160.00'  
 Pls Sta 34+28.62 Δ = 3'42" 16.1"  
 Ls = 150.00'  
 LT = 100.02'  
 ST = 50.02'

-L-  
 Pls Sta 41+48.62 Δ = 3'32" 51.55"  
 Ls = 150.00'  
 LT = 100.02'  
 ST = 50.02'  
 Pls Sta 46+11.79 Δ = 38'00" 00.0" (RT)  
 D = 4'46" 28.7"  
 L = 795.87'  
 T = 413.19'  
 R = 1,200.00'



PROJECT REFERENCE NO. R-3324		SHEET NO. EC-31/CONST.B	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 24 & 25 FOR -L- PROFILE			



Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

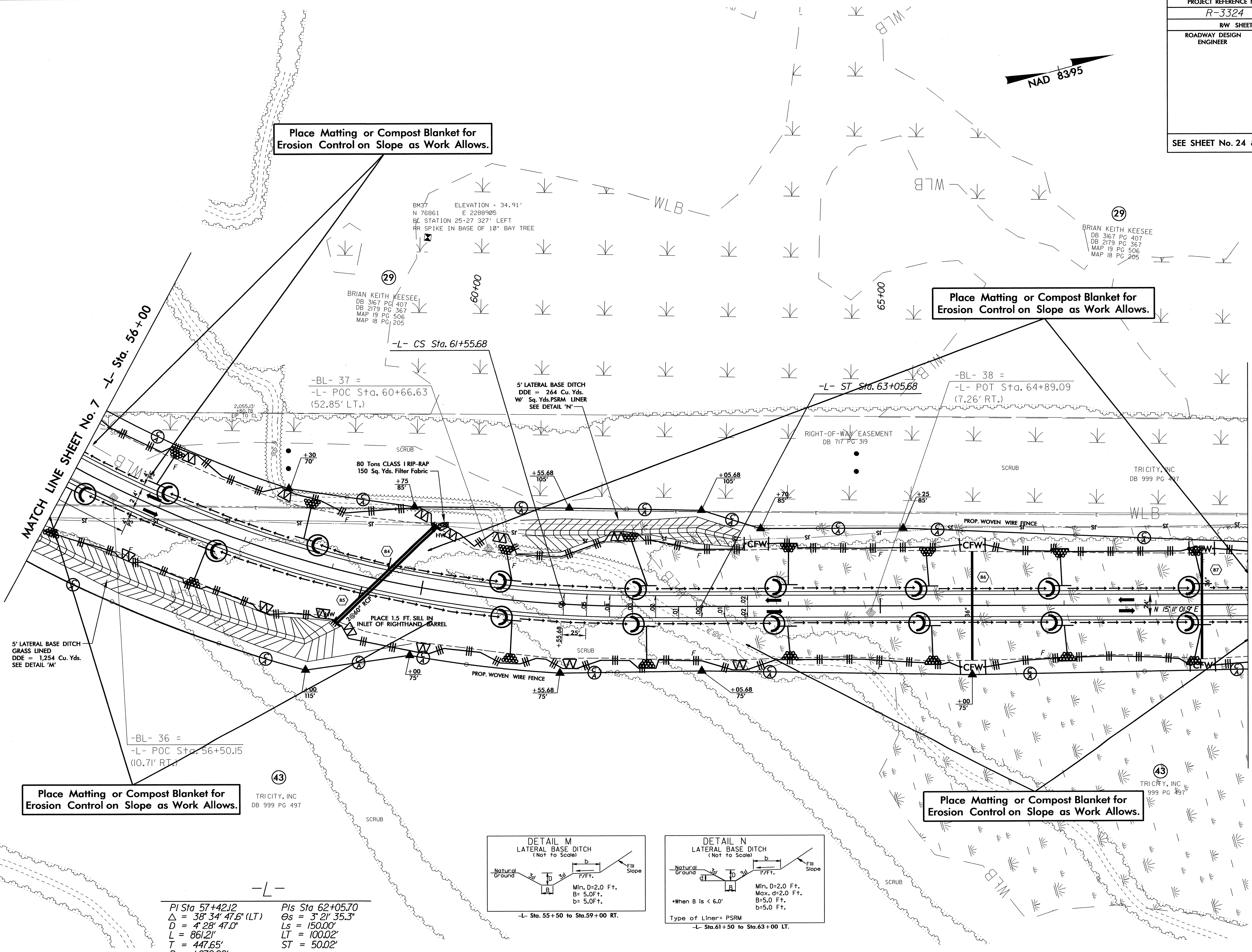
Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

MATCH LINE SHEET No. 7  
-L- Sta. 56+00

MATCH LINE SHEET No. 9  
-L- Sta. 69+00



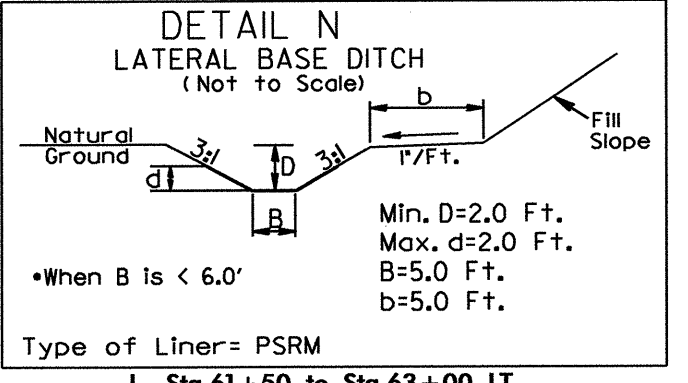
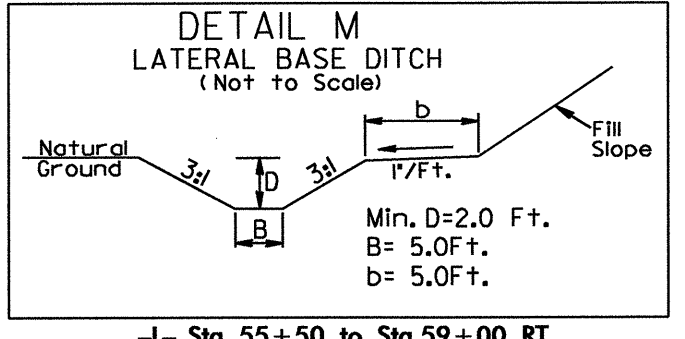
BM37  
N 76861 E 2288405  
BL STATION 25+27 327' LEFT  
RR SPIKE IN BASE OF 10' BAY TREE

BRIAN KEITH KEESEE  
DB 3167 PG 407  
DB 2179 PG 367  
MAP 19 PG 506  
MAP 18 PG 205

BRIAN KEITH KEESEE  
DB 3167 PG 407  
DB 2179 PG 367  
MAP 19 PG 506  
MAP 18 PG 205

TRI CITY, INC  
DB 999 PG 497

TRI CITY, INC  
999 PG 497

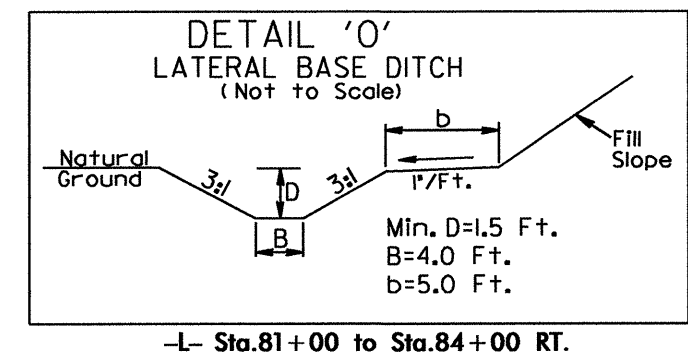


-L-  
PI Sta 57+42.12  
Δ = 38° 34' 47.6" (LT)  
D = 4' 28' 47.0"  
L = 861.2'  
T = 447.65'  
R = 1,279.00'

PIs Sta 62+05.70  
Θs = 3° 21' 35.3"  
Ls = 150.00'  
LT = 100.02'  
ST = 50.02'

8/17/99  
08 NOV 2016 07:30 Design: R-3324-EC-psh8.dgn  
Plot: R-3324-EC-psh8.plt  
Plotter: HP DesignJet 2778

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-32/CONST.9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 25 FOR -L- PROFILE	



ALLEN J. EARP, ETAL  
DB 1376 PG 390  
MB 32 PG 408

-L-  
 Pls Sta 75+82.70    Pl Sta 80+58.01  
 $\Delta s = 3' 13' 39.7''$      $\Delta = 35' 26' 04.0''$  (RT)  
 $Ls = 150.00'$      $D = 4' 18' 12.9''$   
 $LT = 100.02'$      $L = 823.37'$   
 $ST = 50.02'$      $T = 425.33'$   
                      $R = 1,331.35'$

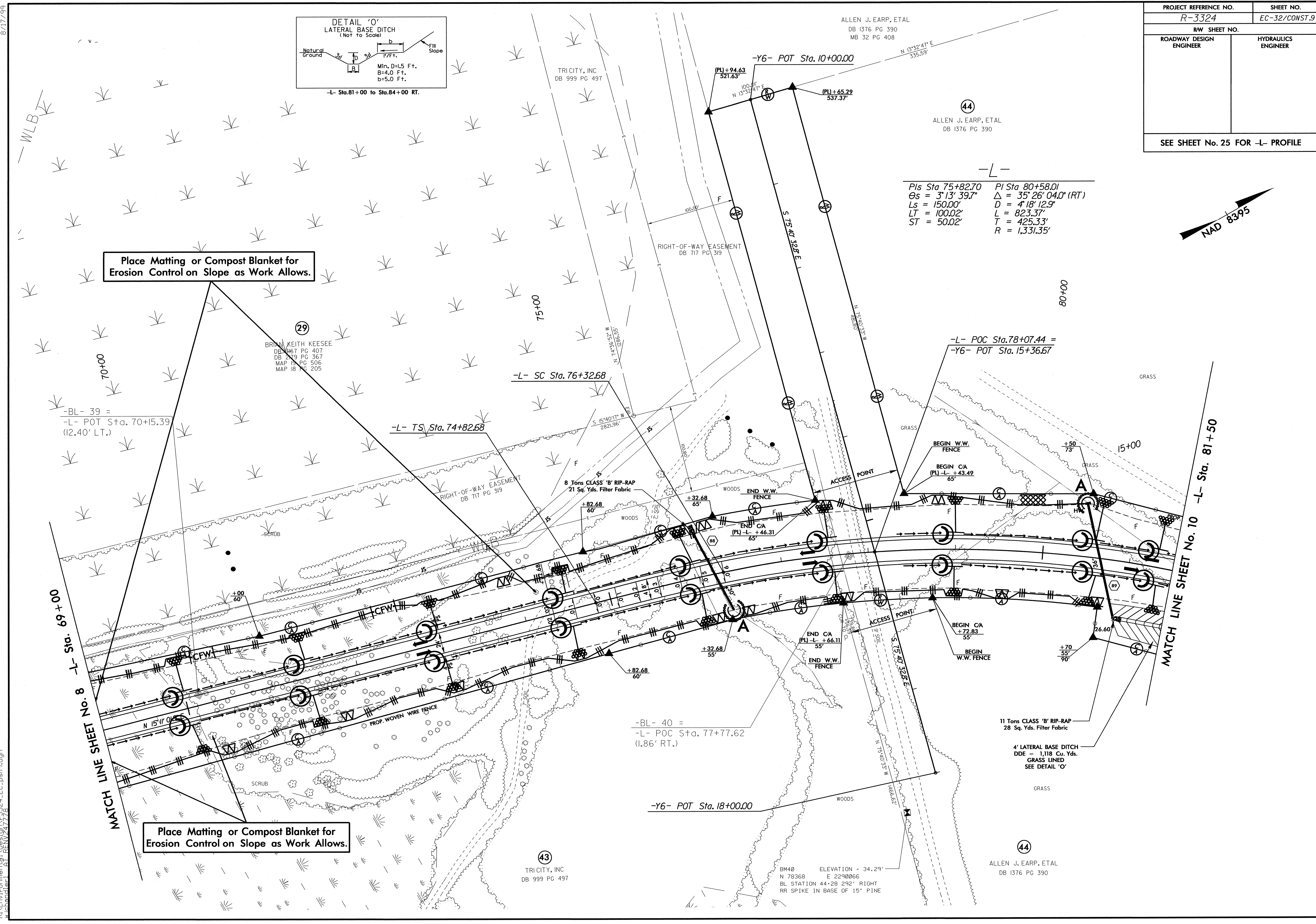


Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

8/17/99

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-BL- 39 =  
 -L- POT Sta. 70+15.39  
 (12.40' LT.)

-L- SC Sta. 76+32.68

-L- TS Sta. 74+82.68

-L- POC Sta. 78+07.44 =  
 -Y6- POT Sta. 15+36.67

-BL- 40 =  
 -L- POC Sta. 77+77.62  
 (1.86' RT.)

-Y6- POT Sta. 18+00.00

MATCH LINE SHEET No. 8 -L- Sta. 69+00  
 MATCH LINE SHEET No. 10 -L- Sta. 81+50

BRUNN KEITH KEESEE  
 DB 1467 PG 407  
 DB 1467 PG 367  
 MAP 18 PG 506  
 MAP 18 PG 205

TRICITY, INC  
 DB 999 PG 497

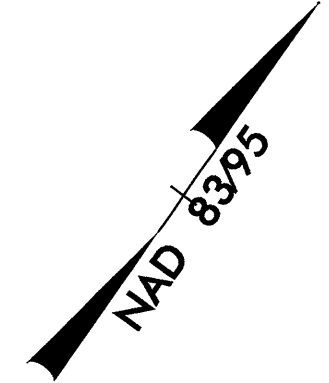
BM40 ELEVATION = 34.29'  
 N 78368 E 2290066  
 RL STATION 44+28 292' RIGHT  
 RR SPIKE IN BASE OF 15' PINE

ALLEN J. EARP, ETAL  
 DB 1376 PG 390

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-33/CONST.10	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 25 & 26 FOR -L- PROFILE			
SEE SHEET No. 2-F FOR RELATIONSHIP OF BRIDGE TO ROADWAY SKETCH			
SEE SHEET No's. S- to S- FOR STRUCTURE PLANS			

-L-

PI Sta 80+58.01 Δ = 35° 26' 04.0" (RT) D = 4' 18" 12.9" L = 823.37' T = 425.33' R = 1,331.35'	PIs Sta 85+06.07 Os = 3' 13' 39.7" Ls = 150.00' LT = 100.02' ST = 50.02'	PI Sta 93+83.71 Δ = 1' 19' 49.1" (LT) D = 2' 29' 28.0" L = 454.83' T = 228.16' R = 2,300.00'
--	--	---



Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

-BL- 41 =  
-L- POC Sta. 82+81.82  
(28.28' LT.)

NOTE: FILL STREAM WITH CLASS II RIP-RAP TO ELEV. 25.0 FT. @ 450 TONS

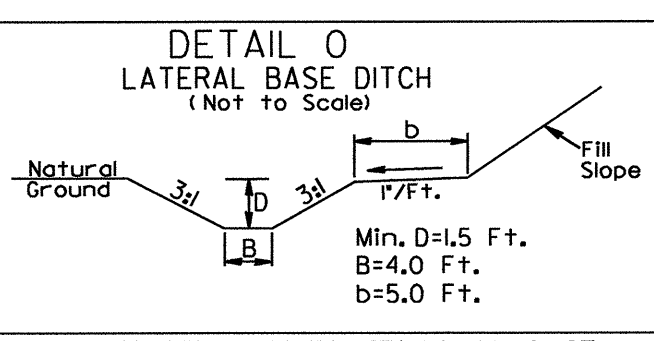
MATCH LINE SHEET No. 9  
-L- Sta. 81+50

MATCH LINE SHEET No. 11  
-L- Sta. 94+50

55 x 20 x 3  
1.5 inch Skimmer  
with 0.875 inch  
Orifice Diameter  
12 ft. weir  
ID 9.1C

Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.

Place Matting or Compost Blanket for Erosion Control on Slope as Work Allows.



FROM STA. 81+00 TO STA. 84+00 -L- RT.

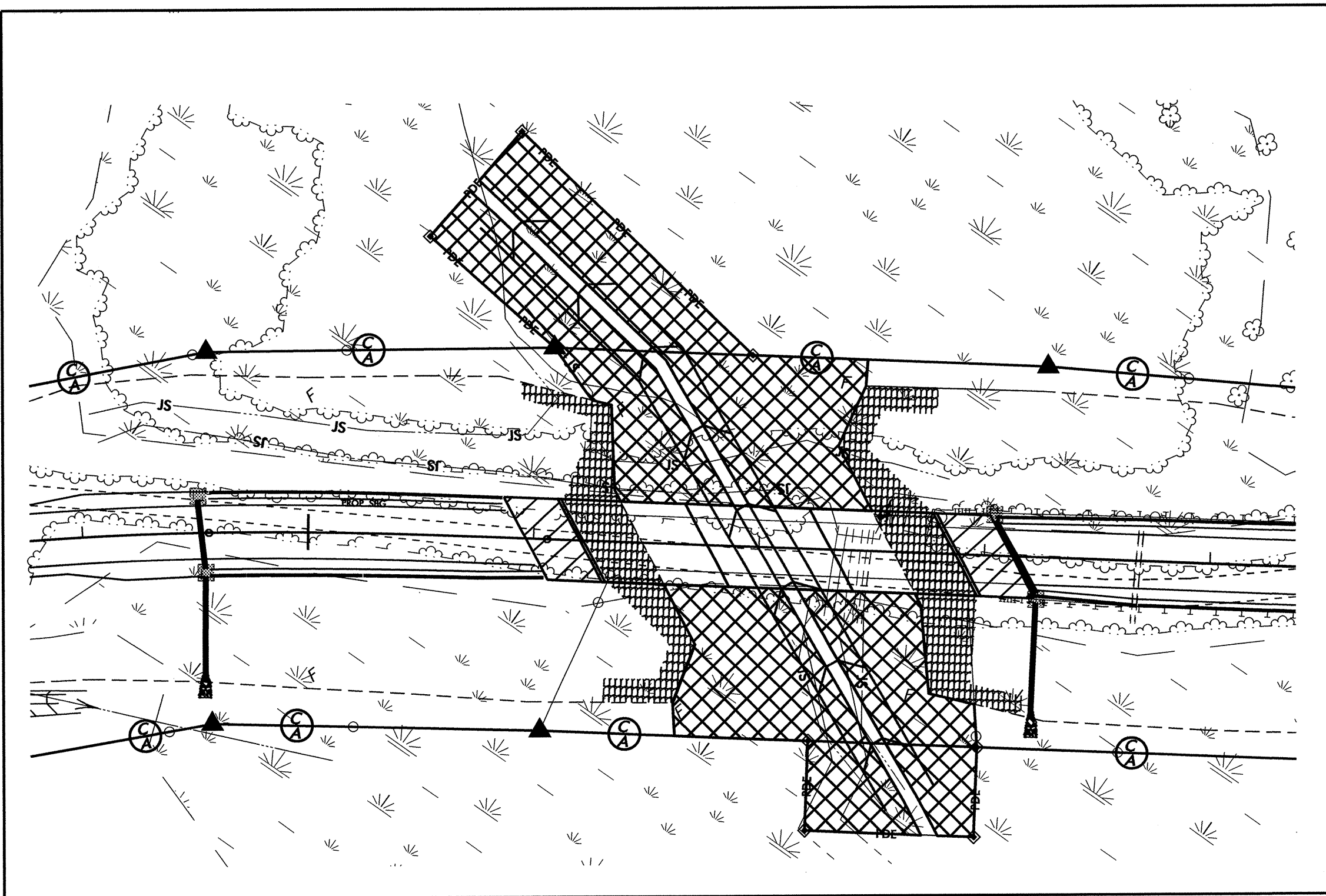
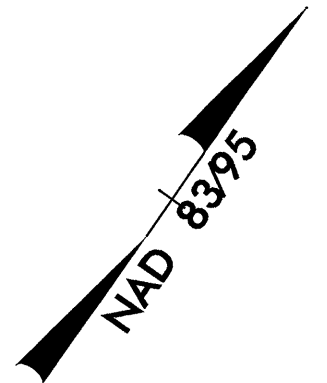
44  
ALLEN J. EARP, ETAL  
DB 1376 PG 390

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



# 0.55 ACRE STREAMBANK REFORESTATION

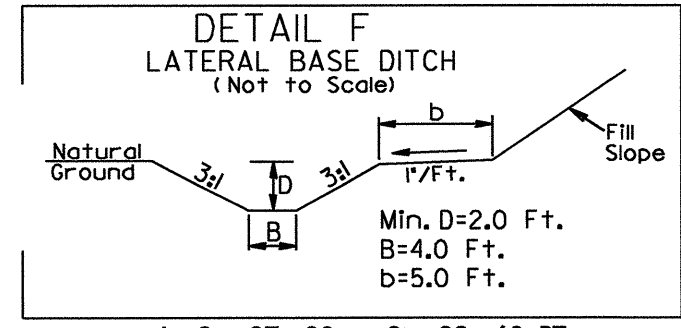
PROJECT REFERENCE NO.	SHEET NO.
R-3324	EC-33A/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



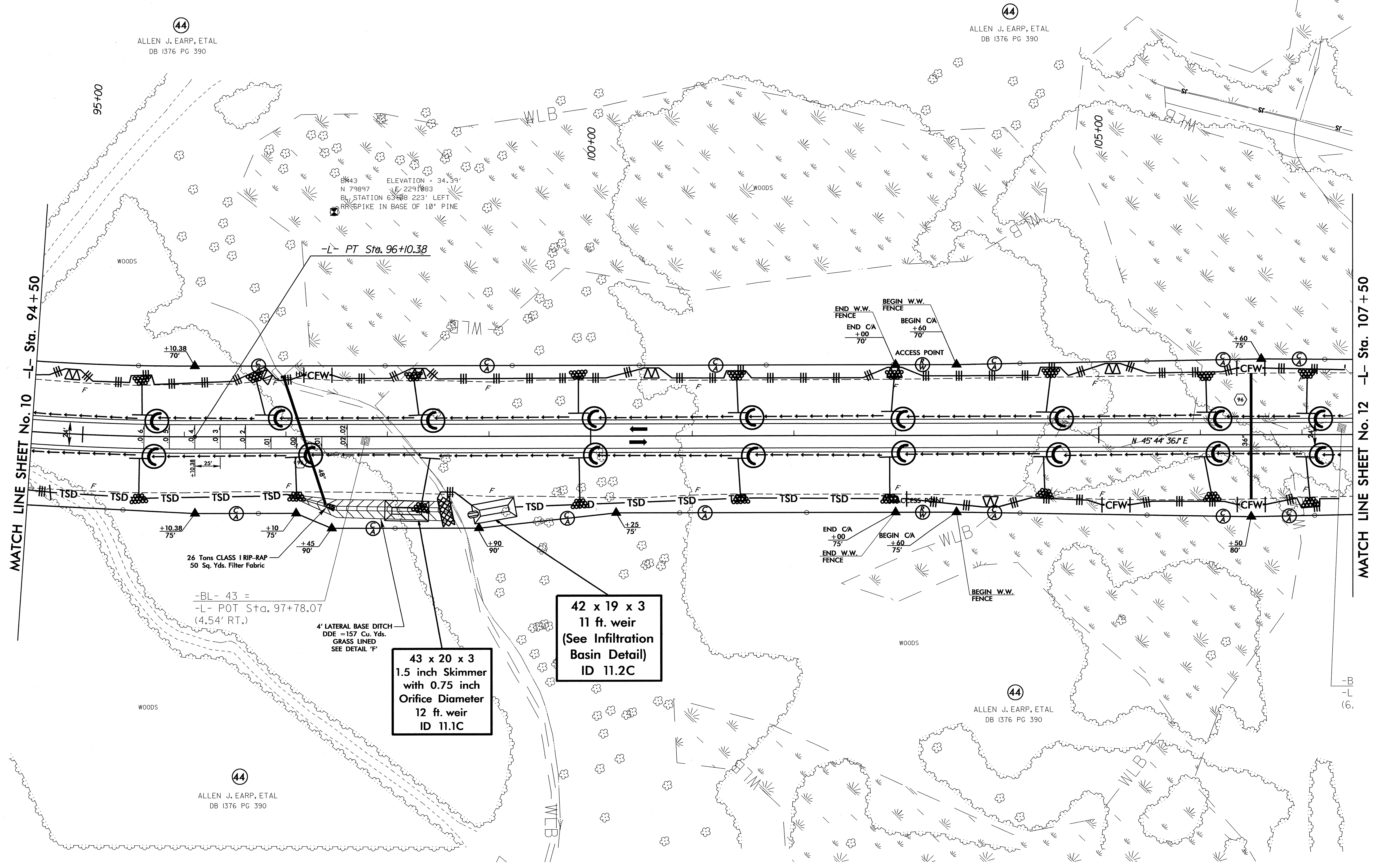
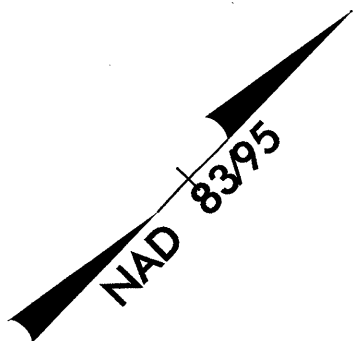
SEE RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS

8/17/09

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-34/CONST.II	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 26 & 27 FOR -L- PROFILE			



-L-  
 PI Sta 93+83.71  
 $\Delta = 11^{\circ}19'49.1''$  (LT)  
 $D = 2^{\circ}29'28.0''$   
 $L = 454.83'$   
 $T = 228.16'$   
 $R = 2,300.00'$



44  
 ALLEN J. EARP, ETAL  
 DB 1376 PG 390

44  
 ALLEN J. EARP, ETAL  
 DB 1376 PG 390

B443 ELEVATION = 34.39'  
 N 79897 2291883  
 BL STATION 63488 223' LEFT  
 RR SPIKE IN BASE OF 10' PINE

-L- PT Sta. 96+10.38

END W.W. FENCE  
 END CA +00  
 BEGIN W.W. FENCE  
 BEGIN CA +60  
 ACCESS POINT

END CA +00  
 END W.W. FENCE  
 BEGIN CA +60  
 BEGIN W.W. FENCE

26 Tons CLASS I RIP-RAP  
 50 Sq. Yds. Filter Fabric  
 -BL- 43 =  
 -L- POT Sta. 97+78.07  
 (4.54' RT.)  
 4' LATERAL BASE DITCH  
 DDE = 157 Cu. Yds.  
 GRASS LINED  
 SEE DETAIL 'F'

43 x 20 x 3  
 1.5 inch Skimmer  
 with 0.75 inch  
 Orifice Diameter  
 12 ft. weir  
 ID 11.1C

42 x 19 x 3  
 11 ft. weir  
 (See Infiltration  
 Basin Detail)  
 ID 11.2C

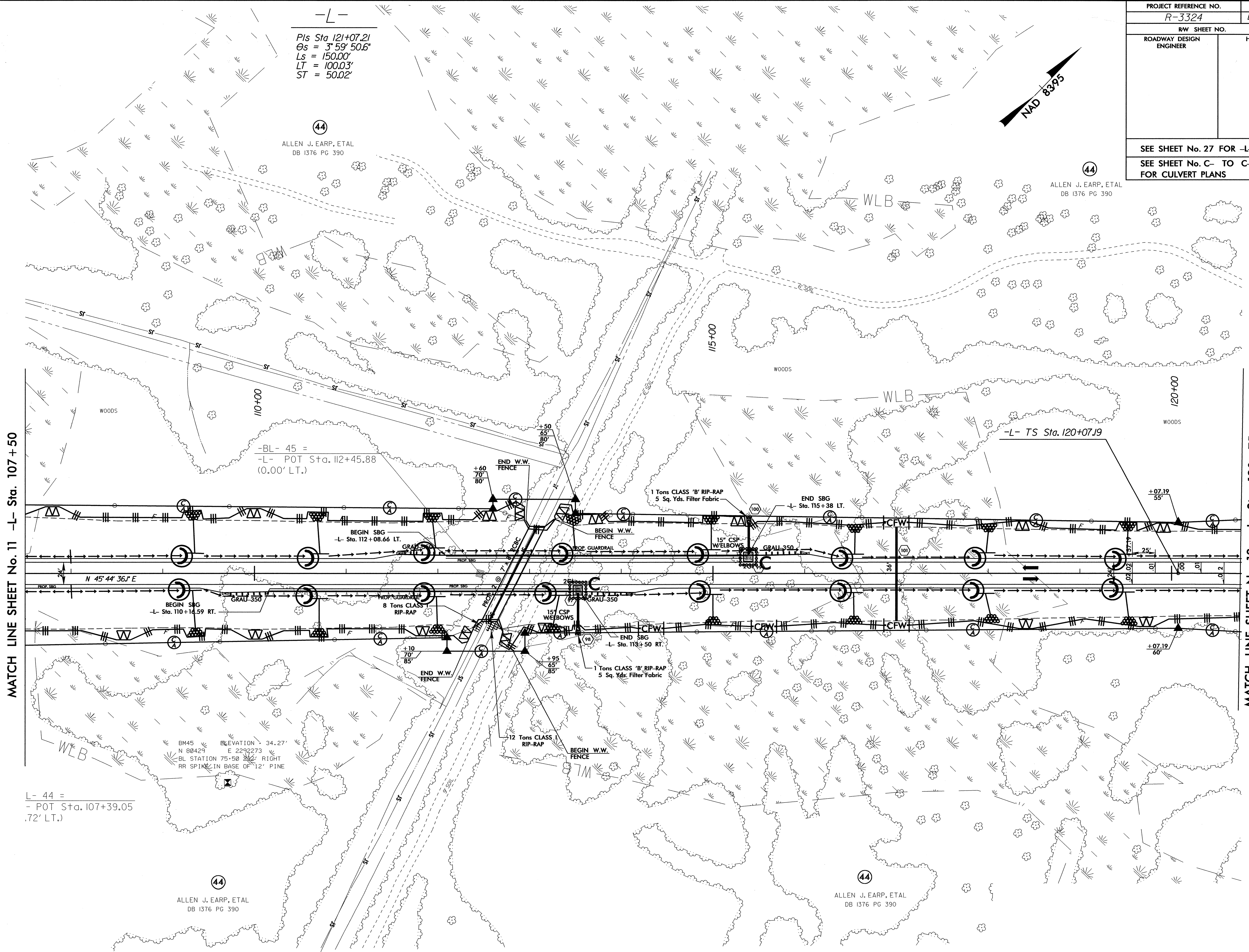
44  
 ALLEN J. EARP, ETAL  
 DB 1376 PG 390

44  
 ALLEN J. EARP, ETAL  
 DB 1376 PG 390

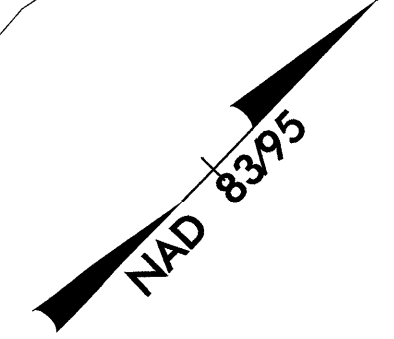
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8/17/99

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-35/CONST.12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 27 FOR -L- PROFILE			
SEE SHEET No. C- TO C- FOR CULVERT PLANS			



-L-  
 Pts Sta 121+07.21  
 $\theta_s = 3^\circ 59' 50.6''$   
 $L_s = 150.00'$   
 $LT = 100.03'$   
 $ST = 50.02'$



MATCH LINE SHEET No. 11 -L- Sta. 107+50

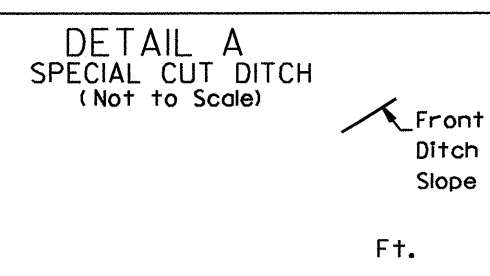
MATCH LINE SHEET No. 13 -L- Sta. 120+75

L- 44 =  
 - POT Sta. 107+39.05  
 .72' LT.)

BM45 ELEVATION = 34.27'  
 N 80429 E 2292273  
 BL STATION 75+50.34 RIGHT  
 RR SPINK IN BASE OF 12" PINE

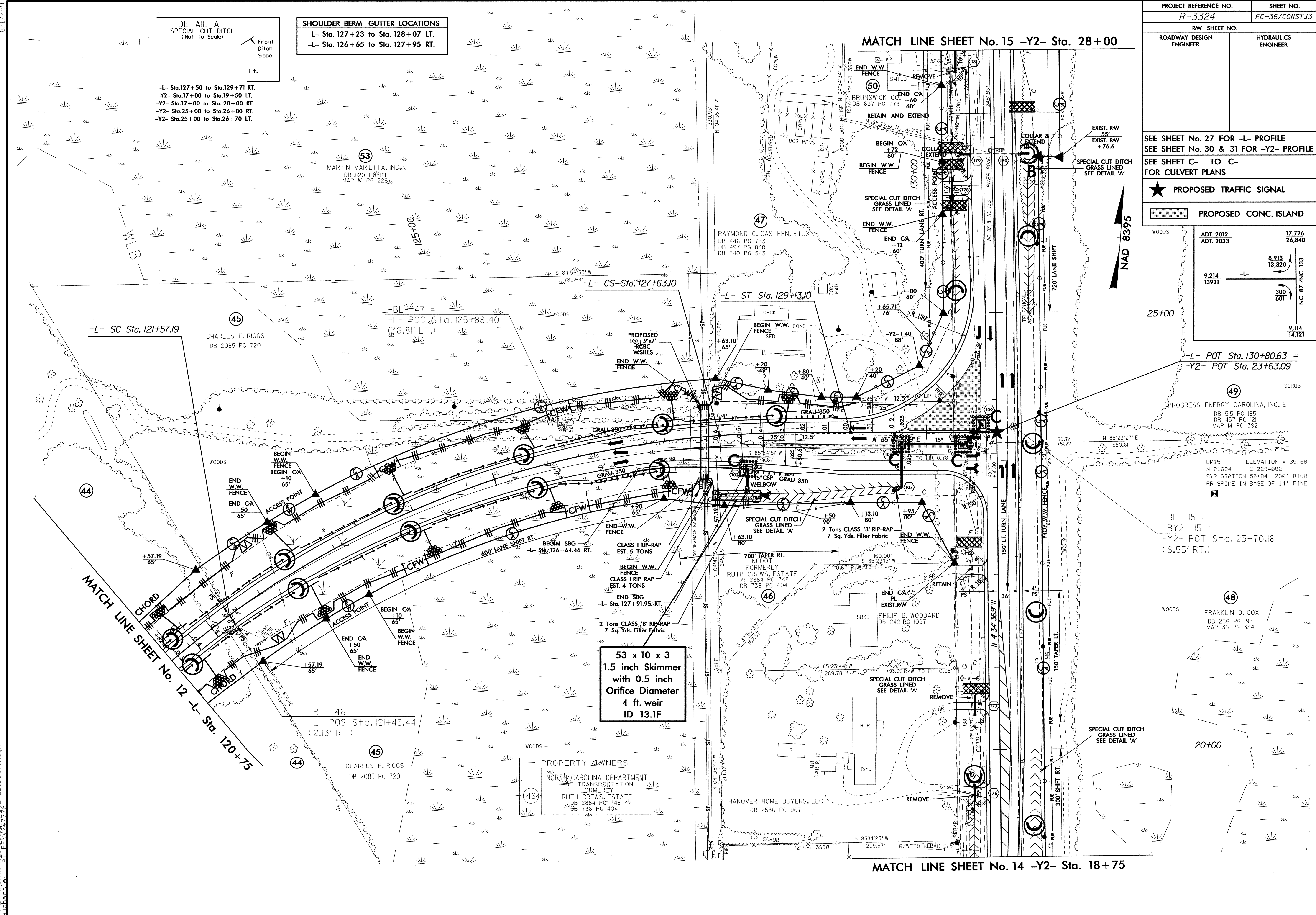
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 R:\Environment\3324\_EC\_pah12.dgn

8/17/99



**SHOULDER BERM GUTTER LOCATIONS**  
 -L- Sta. 127+23 to Sta. 128+07 LT.  
 -L- Sta. 126+65 to Sta. 127+95 RT.

-L- Sta. 127+50 to Sta. 129+71 RT.  
 -Y2- Sta. 17+00 to Sta. 19+50 LT.  
 -Y2- Sta. 17+00 to Sta. 20+00 RT.  
 -Y2- Sta. 25+00 to Sta. 26+80 RT.  
 -Y2- Sta. 25+00 to Sta. 26+70 LT.



**MATCH LINE SHEET No. 15 -Y2- Sta. 28+00**

**MATCH LINE SHEET No. 14 -Y2- Sta. 18+75**

PROJECT REFERENCE NO. <i>R-3324</i>		SHEET NO. <i>EC-36/CONST.13</i>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 27 FOR -L- PROFILE		SEE SHEET No. 30 & 31 FOR -Y2- PROFILE	
SEE SHEET C- TO C- FOR CULVERT PLANS			

★ PROPOSED TRAFFIC SIGNAL  
 PROPOSED CONC. ISLAND

ADT. 2012	17,726
ADT. 2033	26,840
9,214	8,913
13,921	13,320
	300
	601
	9,114
	14,121

-L- POT Sta. 130+80.63 =  
 -Y2- POT Sta. 23+63.09

-BL- 15 =  
 -Y2- POT Sta. 23+70.16  
 (18.55' RT.)

**53 x 10 x 3**  
**1.5 inch Skimmer**  
**with 0.5 inch**  
**Orifice Diameter**  
**4 ft. weir**  
**ID 13.1F**

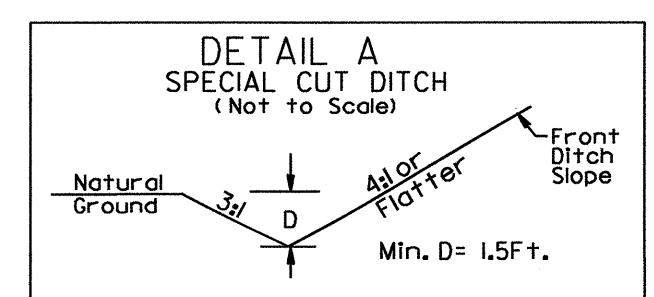
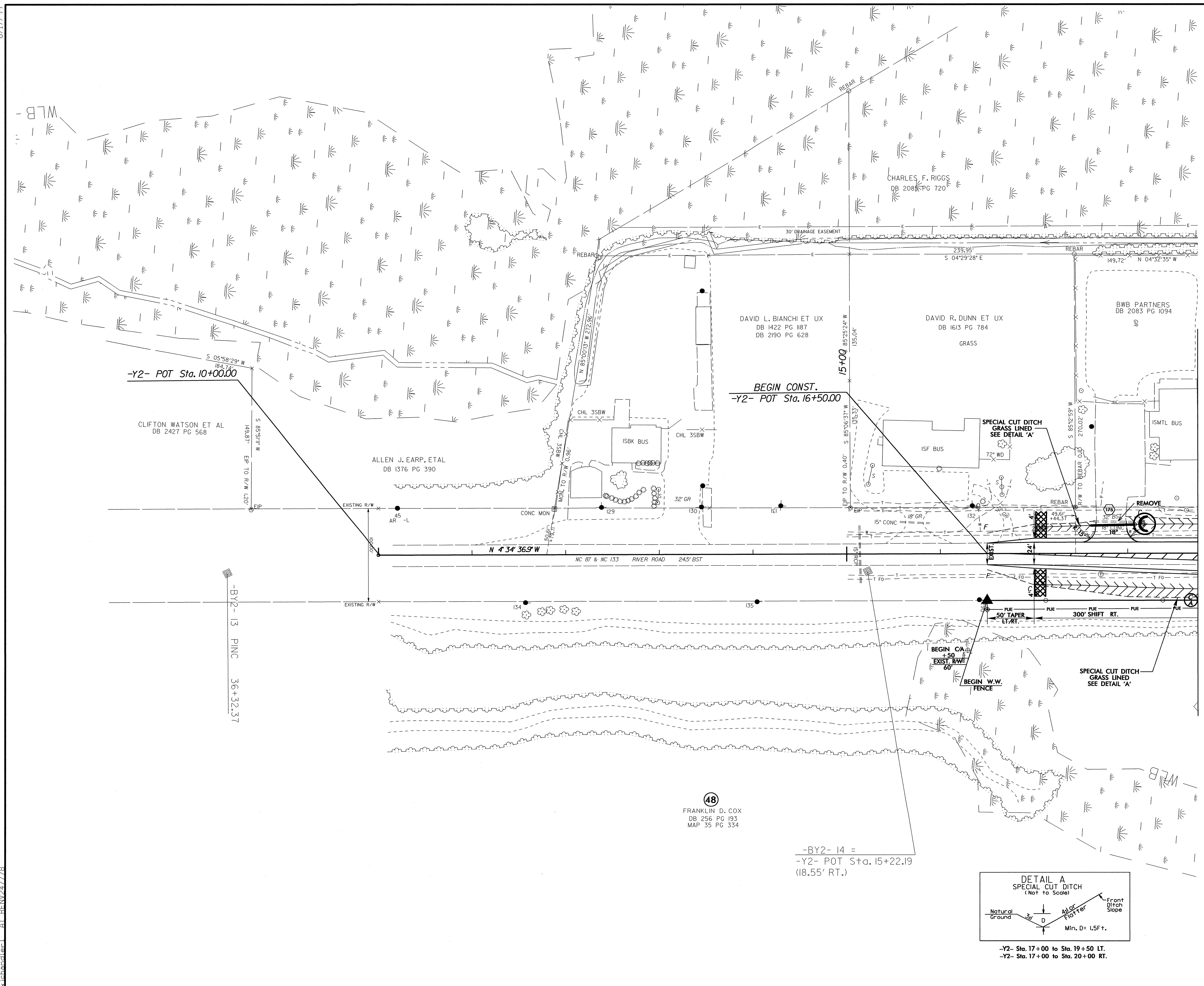
**PROPERTY OWNERS**  
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 FORMERLY RUTH CREWS, ESTATE  
 DB 2884 PG 748  
 DB 735 PG 404

28-NOV-2012 08:00  
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 11/27/2012 11:17:18

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-37/CONST.14	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 30 FOR -Y2- PROFILE			

NAD 8395

MATCH LINE SHEET No. 13 -Y2- Sta. 18 + 75



-Y2- Sta. 17+00 to Sta. 19+50 LT.  
-Y2- Sta. 17+00 to Sta. 20+00 RT.

(48)  
FRANKLIN D. COX  
DB 256 PG 193  
MAP 35 PG 334

-BY2- 14 =  
-Y2- POT Sta. 15+22.19  
(18.55' RT.)

-Y2- POT Sta. 10+00.00

BEGIN CONST.  
-Y2- POT Sta. 16+50.00

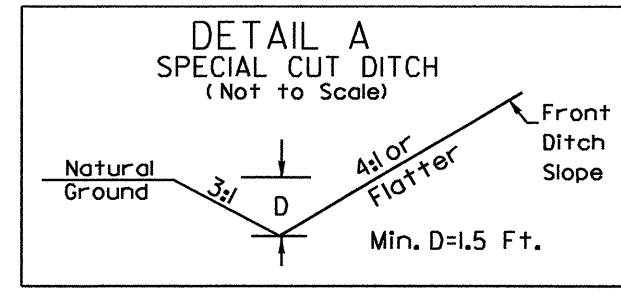
8/17/99

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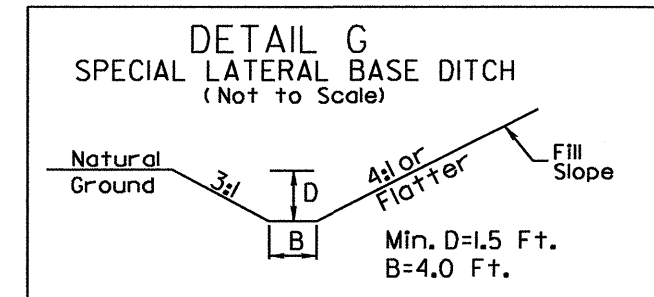
8/17/99

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-38/CONST.15	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 31 FOR -Y2- PROFILE			

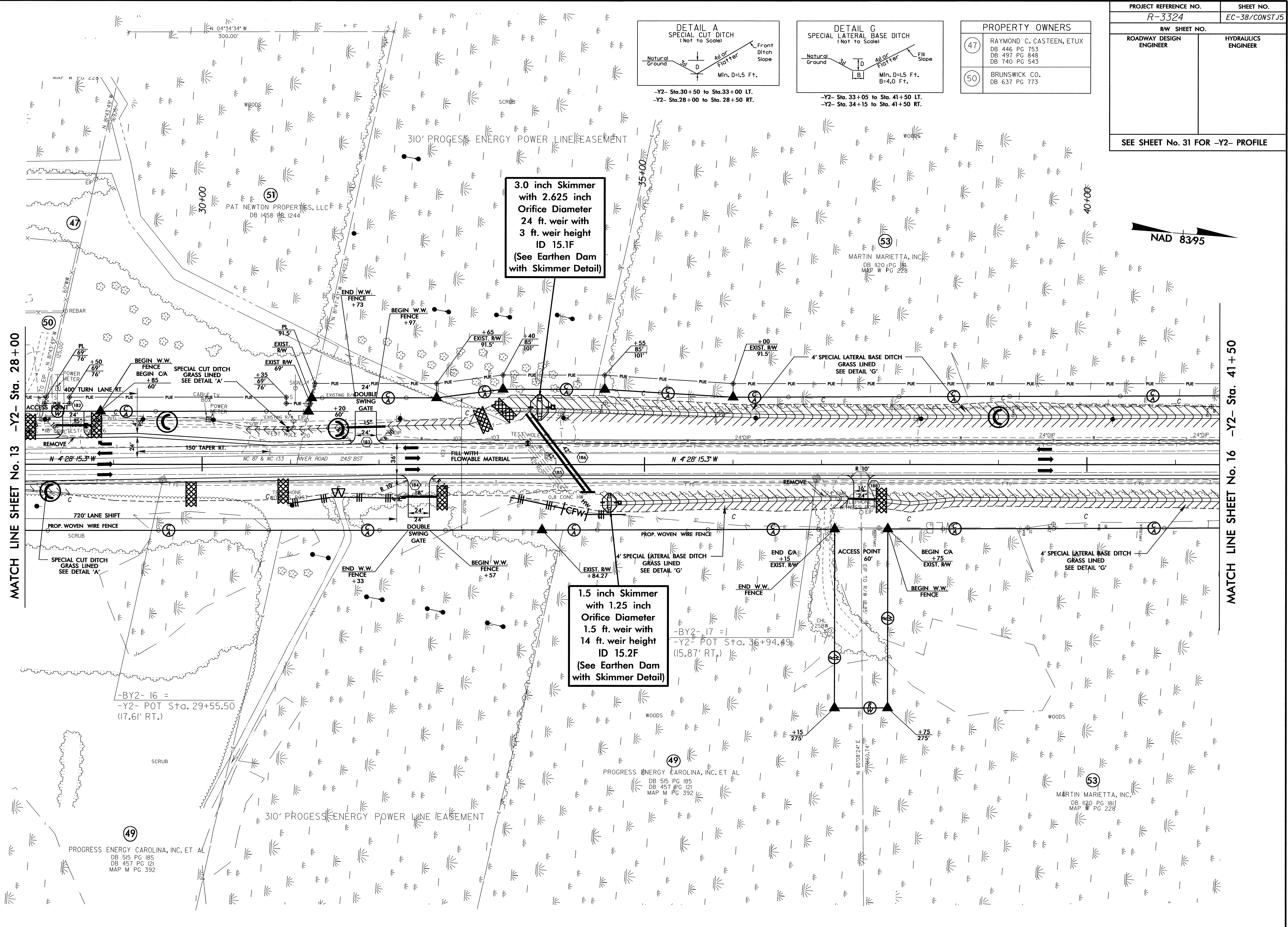
PROPERTY OWNERS	
(47)	RAYMOND C. CASTEEN, ETUX DB 446 PG 753 DB 497 PG 848 DB 740 PG 543
(50)	BRUNSWICK CO. DB 637 PG 773



-Y2- Sta.30+50 to Sta.33+00 LT.  
-Y2- Sta.28+00 to Sta.28+50 RT.

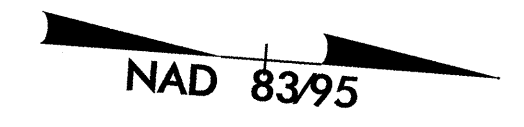


-Y2- Sta. 33+05 to Sta. 41+50 LT.  
-Y2- Sta. 34+15 to Sta. 41+50 RT.



**3.0 inch Skimmer  
with 2.625 inch  
Orifice Diameter  
24 ft. weir with  
3 ft. weir height  
ID 15.1F  
(See Earthen Dam  
with Skimmer Detail)**

**1.5 inch Skimmer  
with 1.25 inch  
Orifice Diameter  
14 ft. weir with  
14 ft. weir height  
ID 15.2F  
(See Earthen Dam  
with Skimmer Detail)**



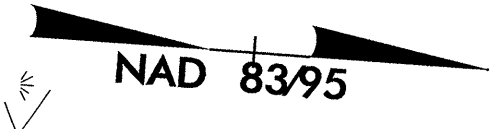
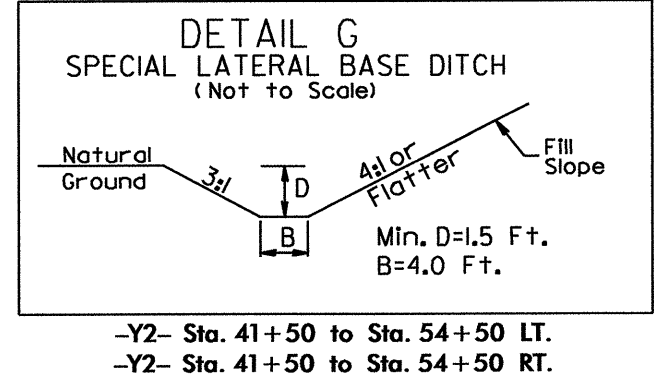
MATCH LINE SHEET No. 13 -Y2- Sta. 28+00

MATCH LINE SHEET No. 16 -Y2- Sta. 41+50

08-NOV-2012 08:41  
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wlabandier AT DENV24778

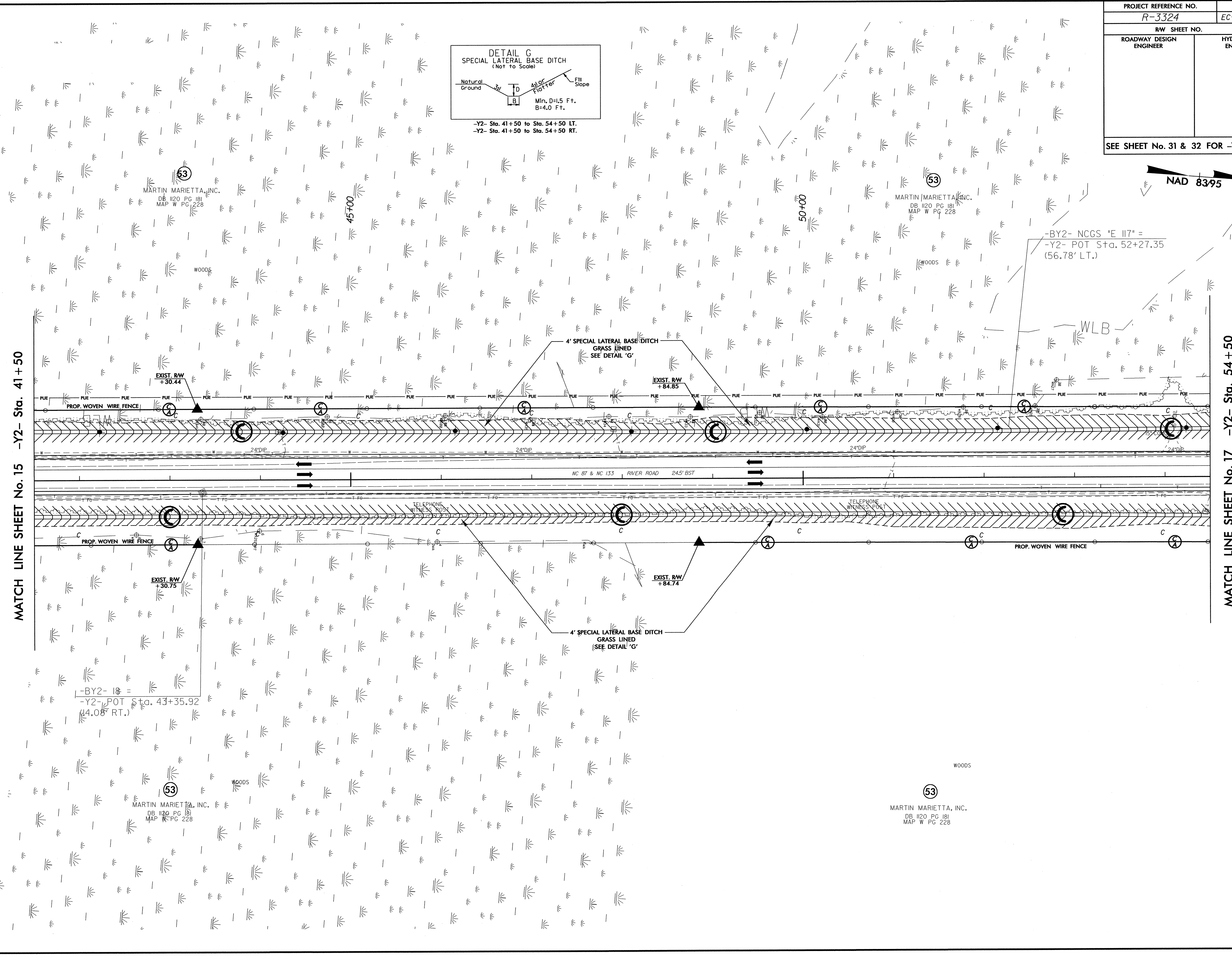
8/17/99

PROJECT REFERENCE NO. R-3324	SHEET NO. EC-39/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 31 & 32 FOR -Y2- PROFILE	



MATCH LINE SHEET No. 15 -Y2- Sta. 41+50

MATCH LINE SHEET No. 17 -Y2- Sta. 54+50



08-NOV-2012 08:21  
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(53)  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

(53)  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

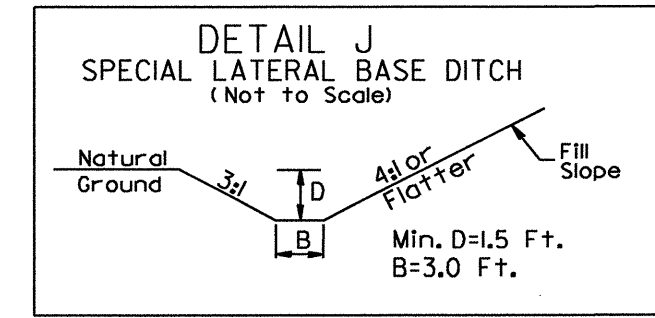
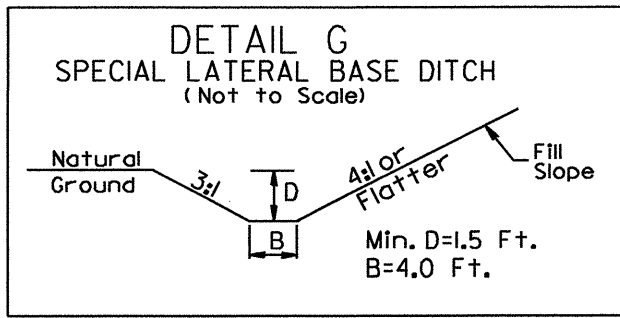
(53)  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

(53)  
MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

8/17/99

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-40/CONST.17	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 32 FOR -Y2- PROFILE			

**-Y2-**  
 PIs Sta 66+86.71  
 $\Theta_s = 3^\circ 42' 16.1''$   
 Ls = 150.00'  
 LT = 100.02'  
 ST = 50.02'

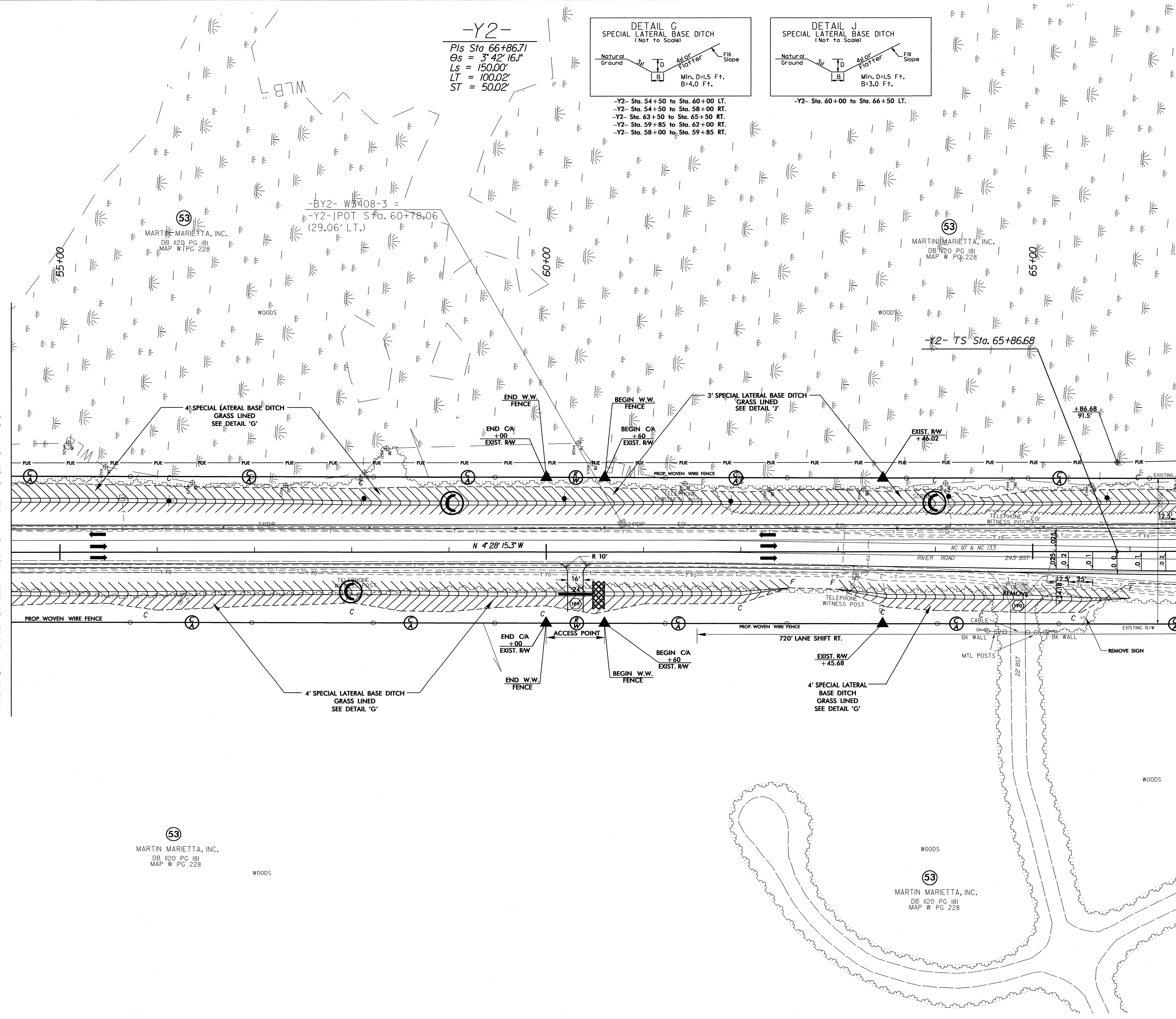
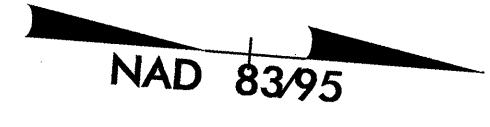


-Y2- Sta. 54+50 to Sta. 60+00 LT.  
 -Y2- Sta. 54+50 to Sta. 58+00 RT.  
 -Y2- Sta. 63+50 to Sta. 65+50 RT.  
 -Y2- Sta. 59+85 to Sta. 62+00 RT.  
 -Y2- Sta. 58+00 to Sta. 59+85 RT.

-Y2- Sta. 60+00 to Sta. 66+50 LT.

MATCH LINE SHEET No. 16 -Y2- Sta. 54+50

MATCH LINE SHEET No. 18 -Y2- Sta. 66+50



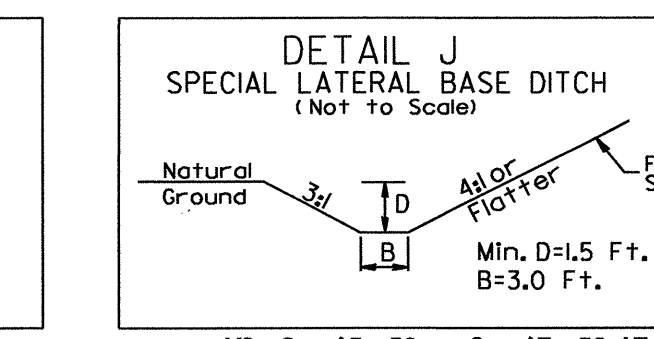
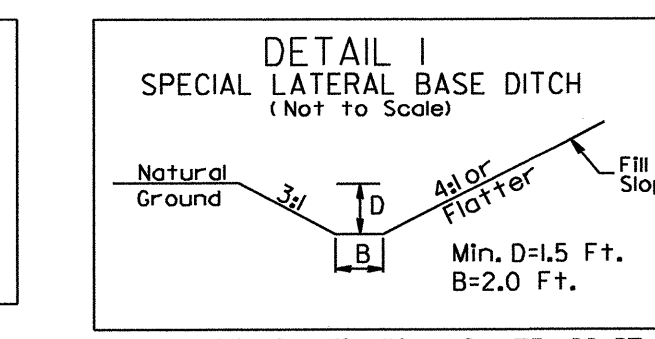
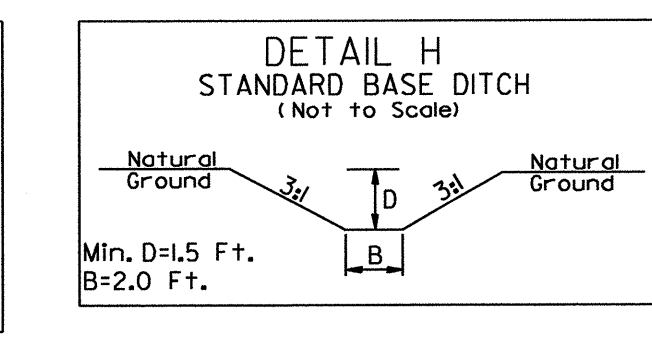
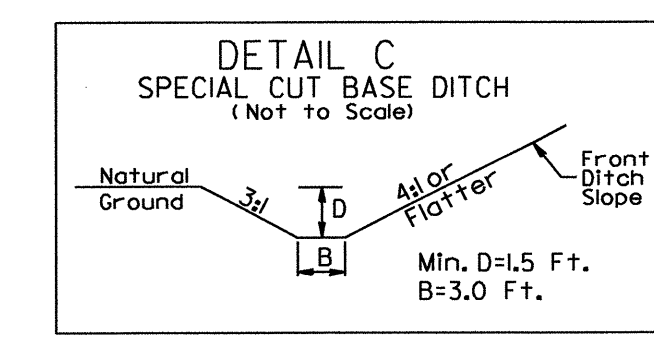
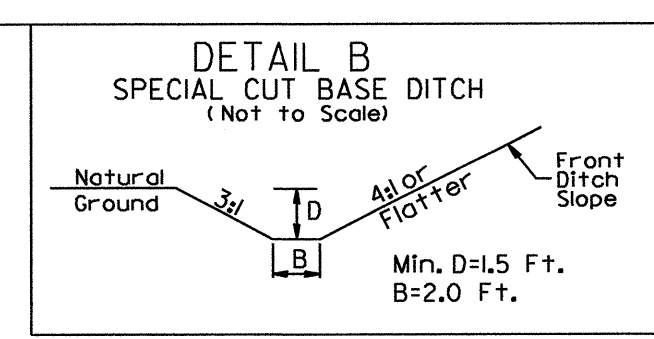
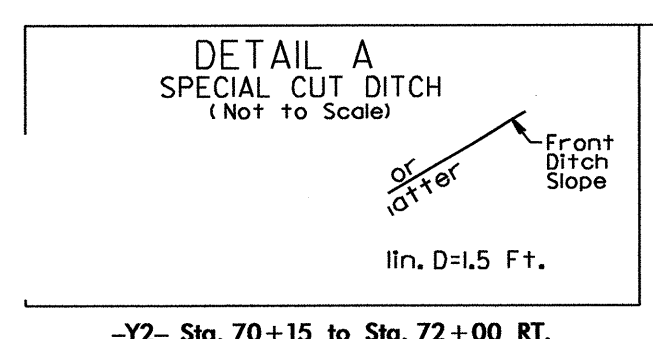
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(53)  
 MARTIN MARIETTA, INC.  
 DB 1120 PG 181  
 MAP W PG 228

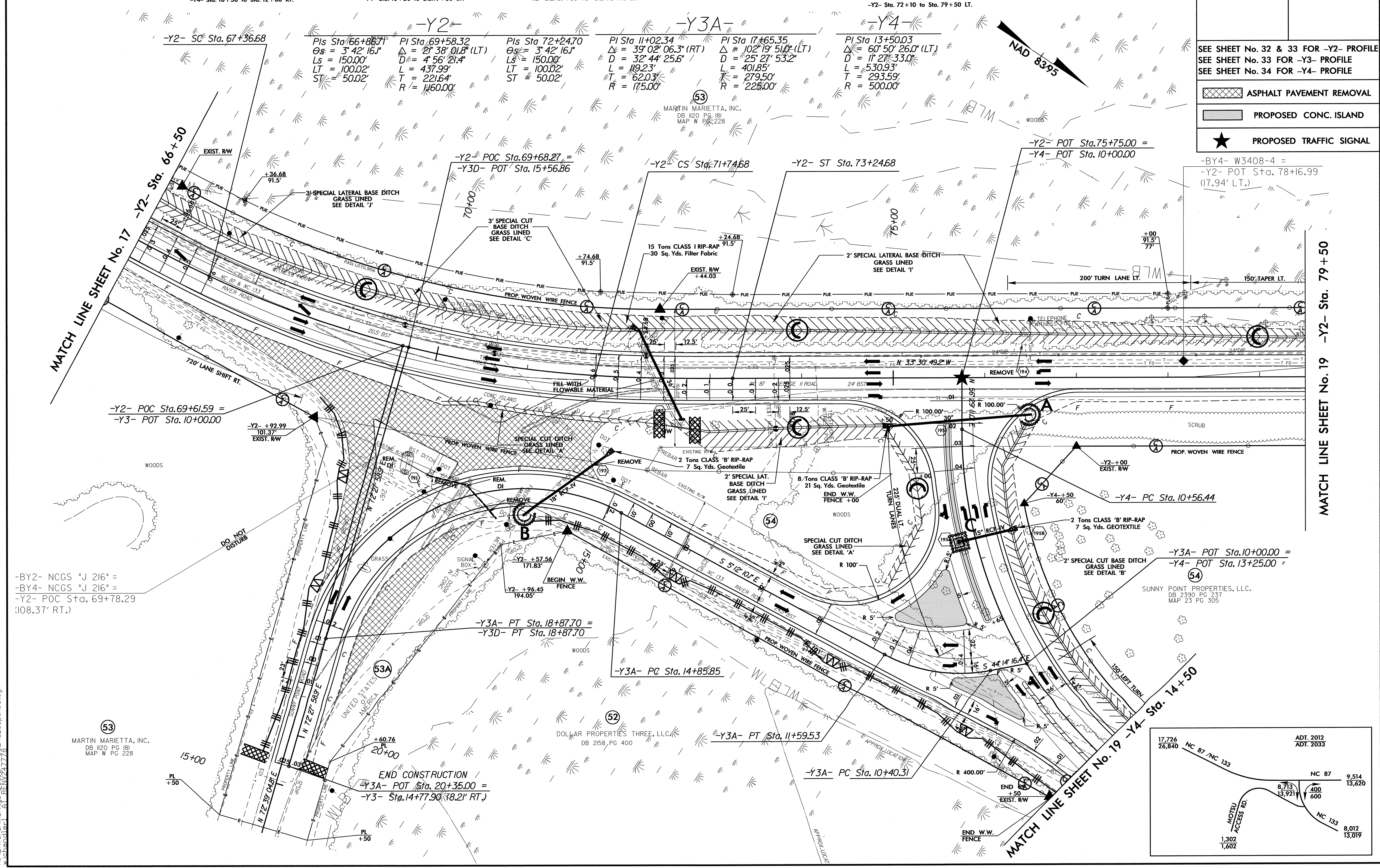
(53)  
 MARTIN MARIETTA, INC.  
 DB 1120 PG 181  
 MAP W PG 228



8/17/2012



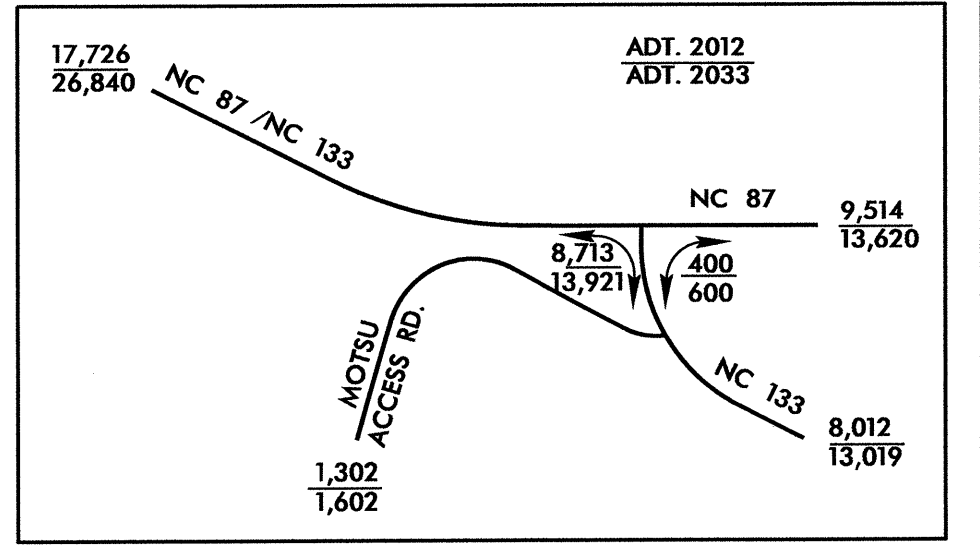
PROJECT REFERENCE NO. R-3324	SHEET NO. EC-41/CONST.1B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEE SHEET No. 32 & 33 FOR -Y2- PROFILE SEE SHEET No. 33 FOR -Y3- PROFILE SEE SHEET No. 34 FOR -Y4- PROFILE	
ASPHALT PAVEMENT REMOVAL PROPOSED CONC. ISLAND PROPOSED TRAFFIC SIGNAL	



08-NOV-2012 08:47  
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 11/18/2012 11:18:11 AM

53  
 MARTIN MARIETTA, INC.  
 DB 1120 PG 181  
 MAP W PG 228

52  
 DOLLAR PROPERTIES THREE, LLC.  
 DB 2158 PG 400



-BY2- NCGS 'J 216' =  
 -BY4- NCGS 'J 216' =  
 -Y2- POC Sta. 69+78.29  
 (108.37' RT.)

END CONSTRUCTION  
 -Y3A- POT Sta. 20+35.00 =  
 -Y3- Sta. 14+77.90 (8.21' RT.)

MATCH LINE SHEET No. 19 -Y2- Sta. 79 + 50

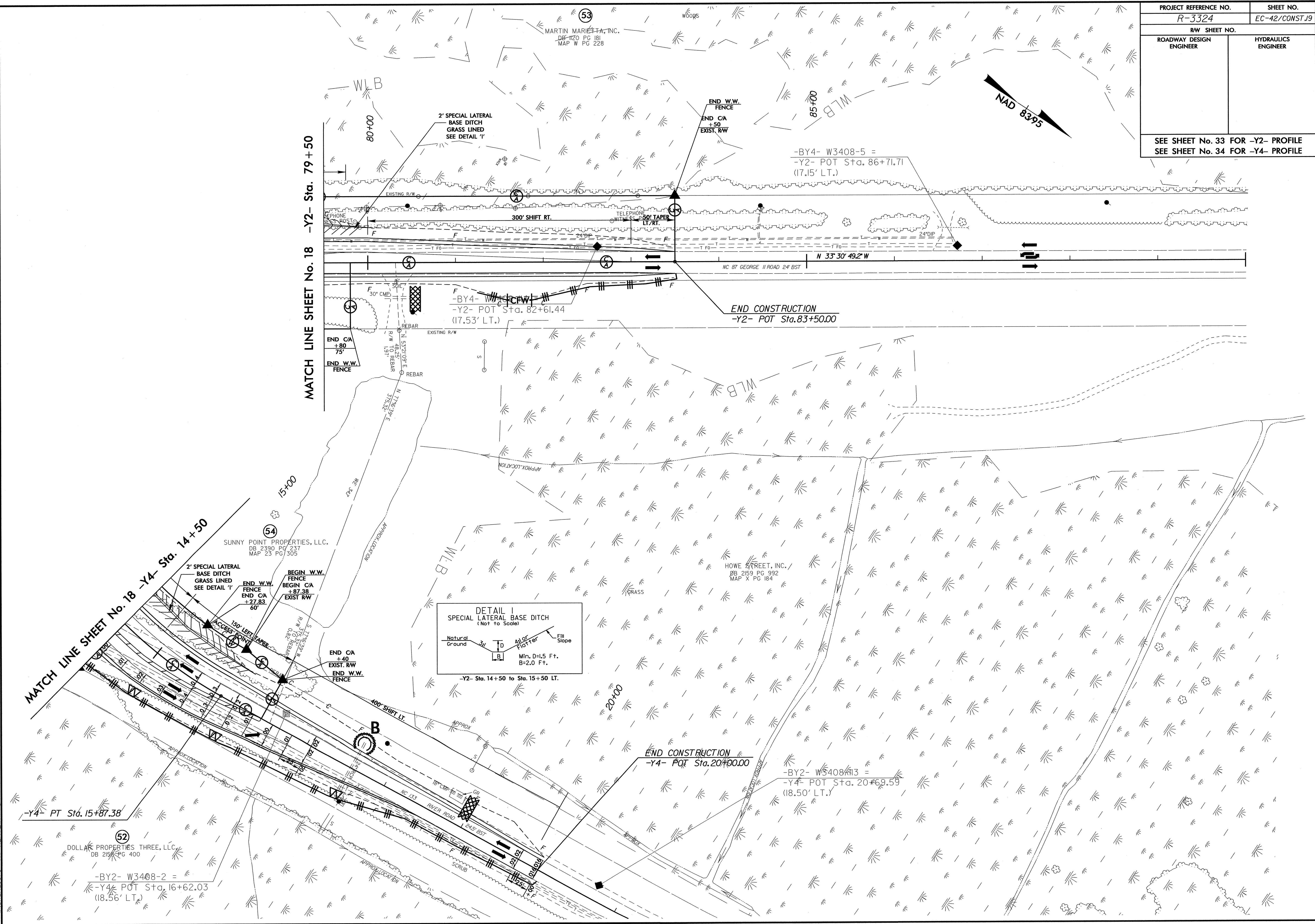
MATCH LINE SHEET No. 17 -Y2- Sta. 66 + 50

MATCH LINE SHEET No. 19 -Y4- Sta. 14 + 50

8/17/99

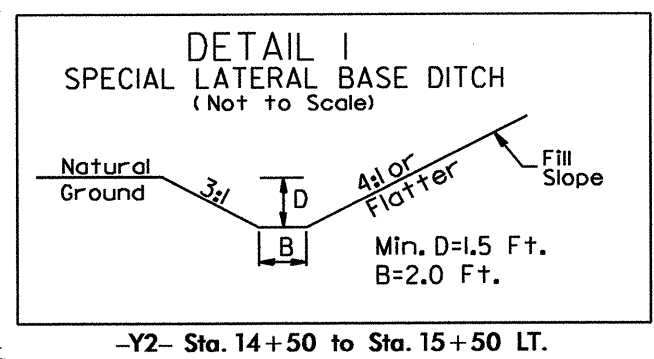
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PROJECT REFERENCE NO.		SHEET NO.	
R-3324		EC-42/CONST.19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 33 FOR -Y2- PROFILE SEE SHEET No. 34 FOR -Y4- PROFILE			



MATCH LINE SHEET No. 18 -Y2- Sta. 79+50

MATCH LINE SHEET No. 18 -Y4- Sta. 14+50



(52) DOLLAR PROPERTIES THREE, LLC  
DB 2154 PG 400

-BY2- W3408-2 =  
-Y4- POT Sta. 16+62.03  
(18.56' LT.)

END CONSTRUCTION  
-Y4- POT Sta. 20+00.00

-BY2- W3408-3 =  
-Y4- POT Sta. 20+69.59  
(18.50' LT.)

END CONSTRUCTION  
-Y2- POT Sta. 83+50.00

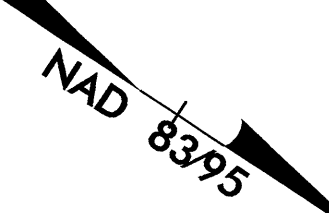
-BY4- W3408-5 =  
-Y2- POT Sta. 82+61.44  
(17.53' LT.)

-BY4- W3408-5 =  
-Y2- POT Sta. 86+71.71  
(17.15' LT.)

(53) MARTIN MARIETTA, INC.  
DB 1120 PG 181  
MAP W PG 228

(54) SUNNY POINT PROPERTIES, LLC.  
DB 2390 PG 237  
MAP 23 PG 305

HOWE STREET, INC.  
DB 2159 PG 992  
MAP X PG 184



2' SPECIAL LATERAL  
BASE DITCH  
GRASS LINED  
SEE DETAIL 'I'

END W.W.  
FENCE  
END CA  
+50  
EXIST. RW

END CA  
+80  
75'

END W.W.  
FENCE

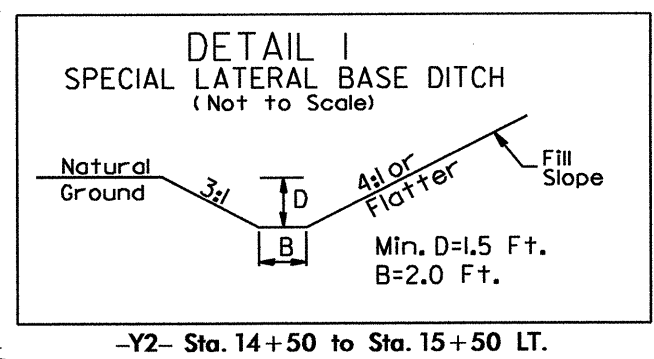
END W.W.  
FENCE  
END CA  
+87.38  
60'

BEGIN W.W.  
FENCE  
BEGIN CA  
+87.38  
EXIST. RW

END CA  
+40  
EXIST. RW  
END W.W.  
FENCE

END CONSTRUCTION  
-Y4- POT Sta. 20+00.00

-BY2- W3408-3 =  
-Y4- POT Sta. 20+69.59  
(18.50' LT.)



-Y2- Sta. 14+50 to Sta. 15+50 LT.

2' SPECIAL LATERAL  
BASE DITCH  
GRASS LINED  
SEE DETAIL 'I'

END W.W.  
FENCE  
END CA  
+50  
EXIST. RW

END CA  
+80  
75'

END W.W.  
FENCE

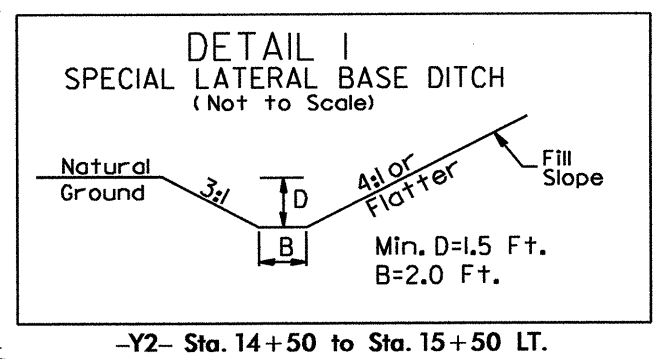
END W.W.  
FENCE  
END CA  
+87.38  
60'

BEGIN W.W.  
FENCE  
BEGIN CA  
+87.38  
EXIST. RW

END CA  
+40  
EXIST. RW  
END W.W.  
FENCE

END CONSTRUCTION  
-Y4- POT Sta. 20+00.00

-BY2- W3408-3 =  
-Y4- POT Sta. 20+69.59  
(18.50' LT.)



-Y2- Sta. 14+50 to Sta. 15+50 LT.



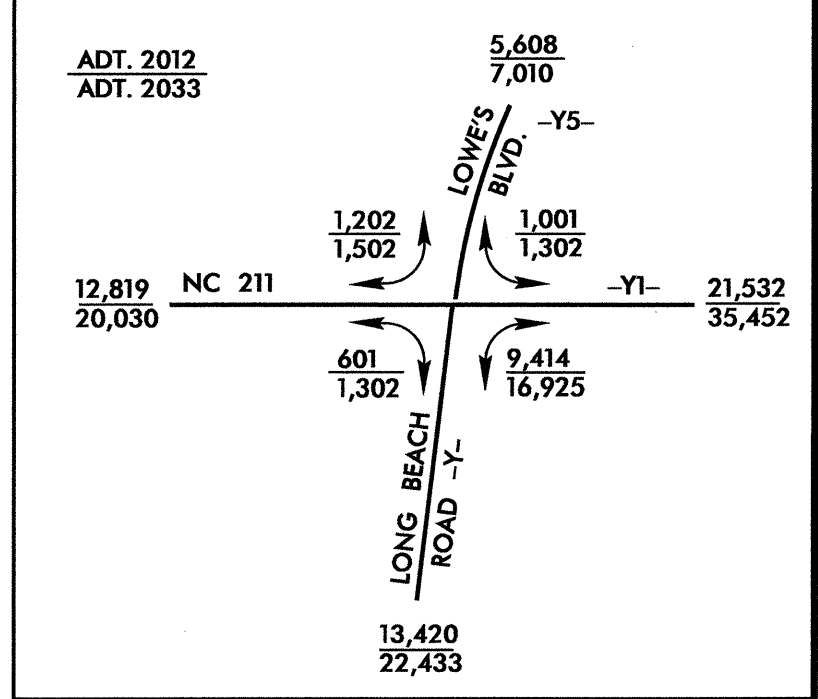
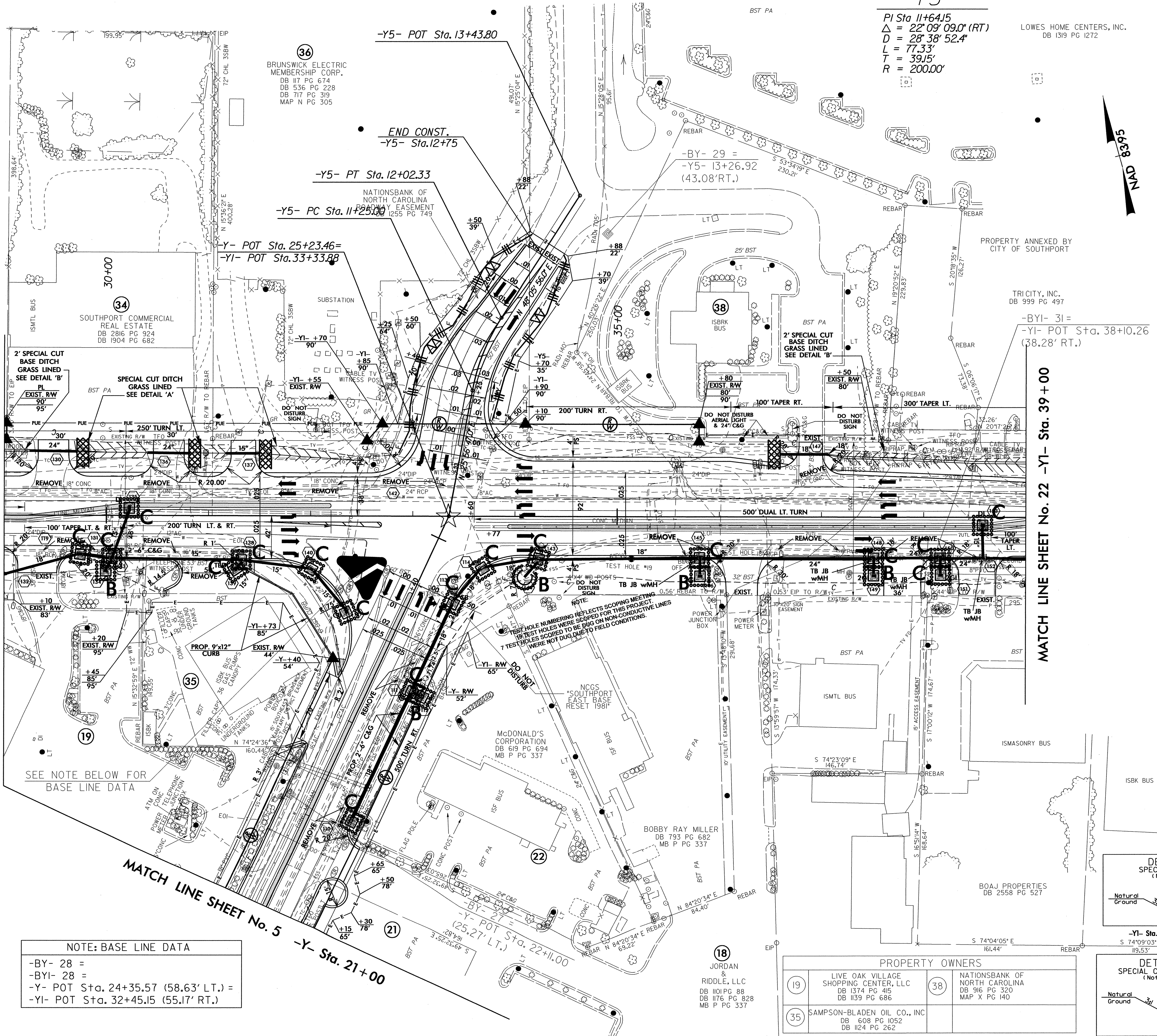
8/17/09

PROJECT REFERENCE NO. R-3324		SHEET NO. EC-44/CONST-21	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
SEE SHEET No. 28 FOR -Y- PROFILE SEE SHEET No. 29, 30 FOR -Y1- PROFILE SEE SHEET No. 34 FOR -Y5- PROFILE			
SEE SHEET 2-G FOR DITCH DETAILS			
★ EXIST. TRAFFIC SIGNAL TO BE REVISED			
■ PROPOSED CONC. ISLAND			

-Y5-  
 PI Sta 11+64.15  
 $\Delta = 22^{\circ} 09' 09.0''$  (RT)  
 $D = 28^{\circ} 38' 52.4''$   
 $L = 77.33'$   
 $T = 39.15'$   
 $R = 200.00'$

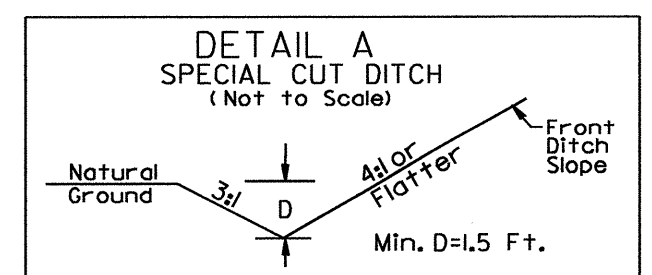
MATCH LINE SHEET No. 6 -Y1- Sta. 29 + 00

MATCH LINE SHEET No. 22 -Y1- Sta. 39 + 00

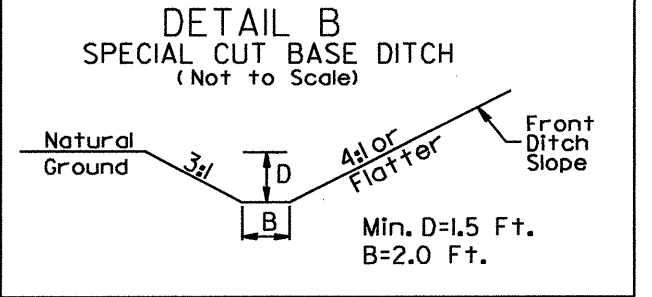


SEE NOTE BELOW FOR  
BASE LINE DATA

NOTE: BASE LINE DATA  
 -BY- 28 =  
 -BY1- 28 =  
 -Y- POT Sta. 24+35.57 (58.63' LT.) =  
 -Y1- POT Sta. 32+45.15 (55.17' RT.)



-Y1- Sta. 29+70 to Sta. 32+50 LT.



-Y1- Sta. 25+50 to Sta. 29+70 LT.

PROPERTY OWNERS			
19	LIVE OAK VILLAGE SHOPPING CENTER, LLC DB 1374 PG 415 DB 1139 PG 686	38	NATIONSBANK OF NORTH CAROLINA DB 916 PG 320 MAP X PG 140
35	SAMPSON-BLADEN OIL CO., INC DB 608 PG 1052 DB 1124 PG 262		

18  
 JORDAN & RIDDLE, LLC  
 DB 1101 PG 88  
 DB 1176 PG 828  
 MB P PG 337

08-NOV-2012 09:05  
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 3324-EC-psht21.dgn  
 R...  
 21778

