TIP PROJECT: R-2417C

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2417C	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

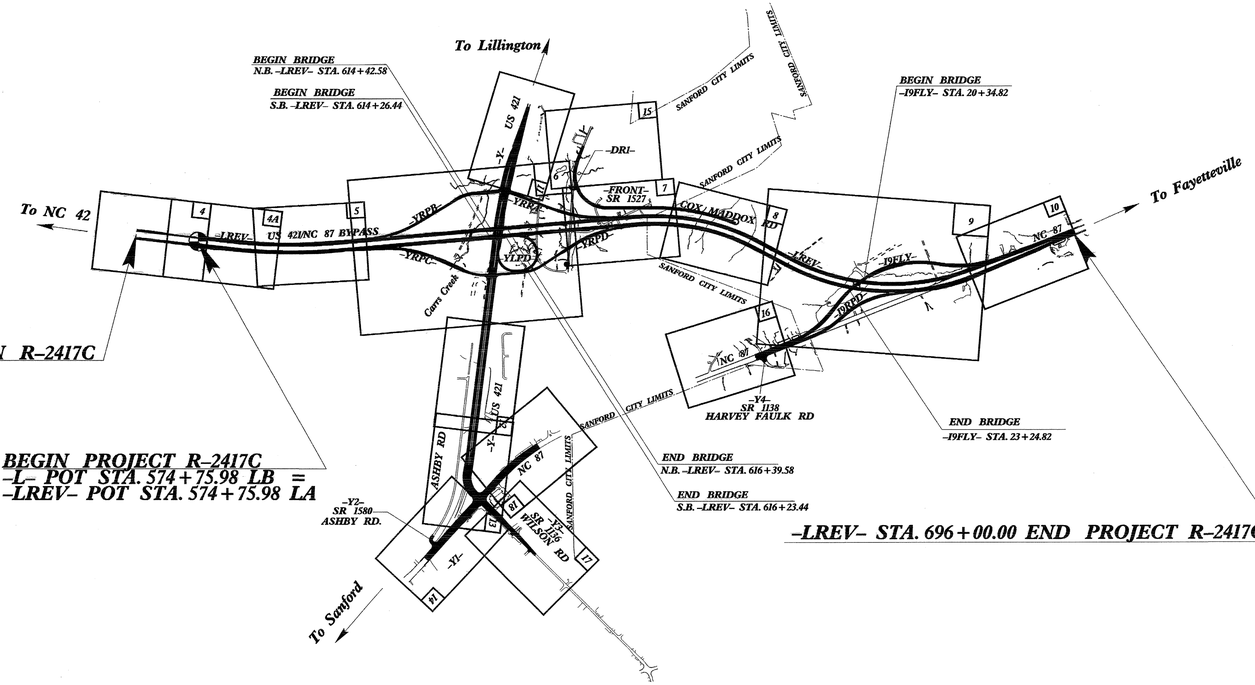
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

LEE COUNTY

LOCATION: US 421/NC 87 (SANFORD BYPASS) FROM EAST OF NC 42 TO NC 87 NEAR SR 1138.
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNING, SIGNALS, STRUCTURES AND CULVERTS.

NAD 83



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Riser Basin	
	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-B	
	Wattle	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

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 revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01	Temporary Silt Fence	1630.06	Special Stilling Basin
1606.01	Special Sediment Control Fence	1632.01	Rock Inlet Sediment Trap Type A
1607.01	Gravel Construction Entrance	1632.02	Rock Inlet Sediment Trap Type B
1622.01	Temporary Berms and Slope Drains	1632.03	Rock Inlet Sediment Trap Type C
1630.03	Temporary Silt Ditch	1633.01	Temporary Rock Silt Check Type A
1630.04	Stilling Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.05	Temporary Diversion	1634.02	Temporary Rock Sediment Dam Type B
		1635.01	Rock Pipe Inlet Sediment Trap Type A
		1635.02	Rock Pipe Inlet Sediment Trap Type B

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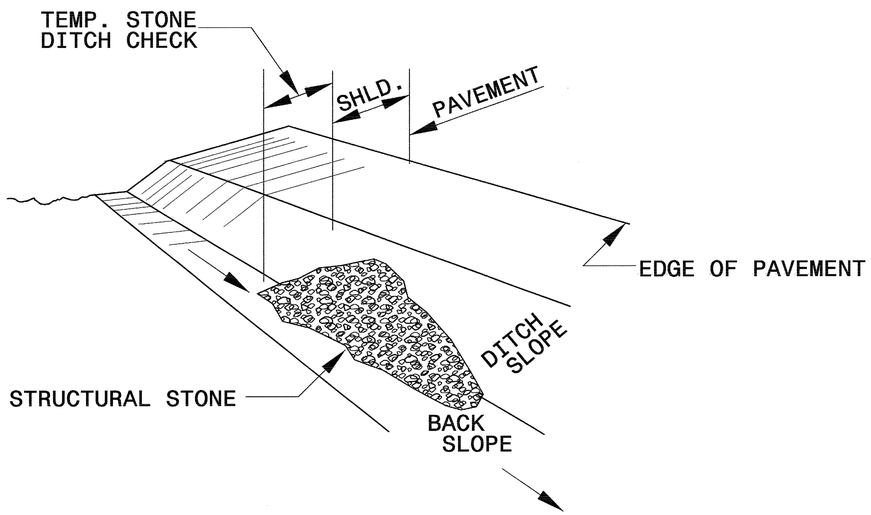
PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

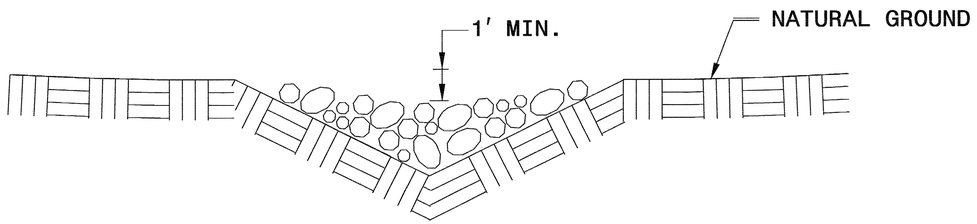


ISOMETRIC VIEW

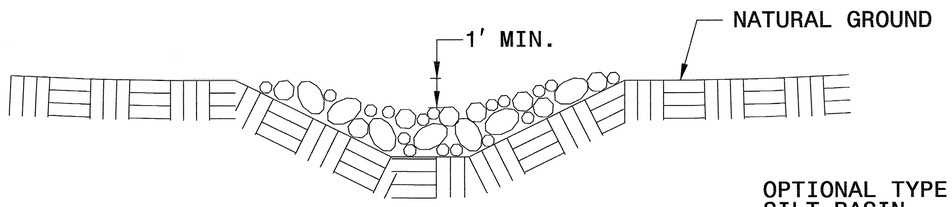
NOTES:

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

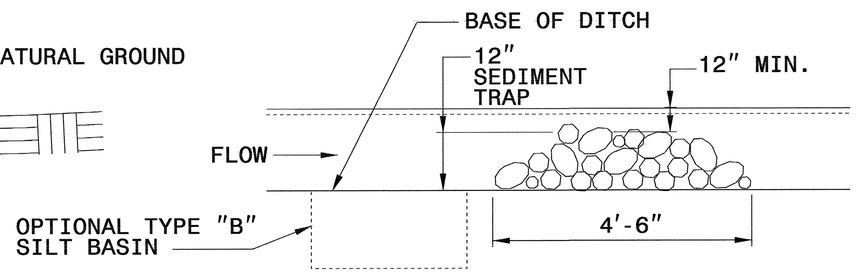
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



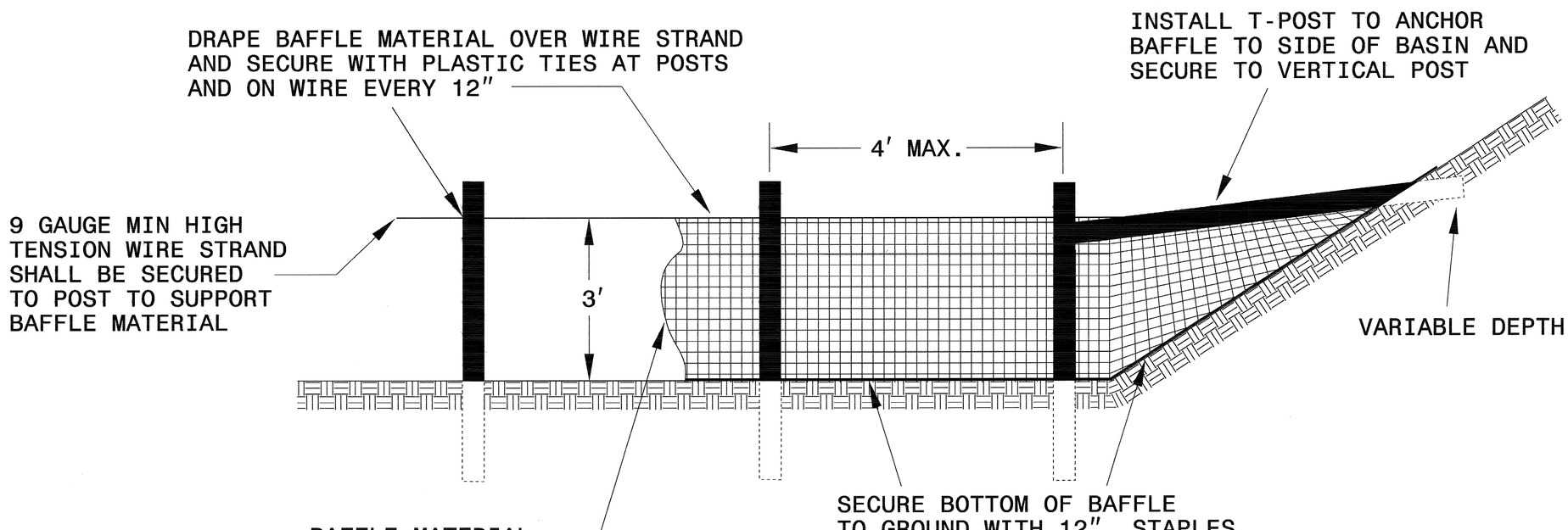
CROSS SECTION TRAPEZOIDAL DITCH

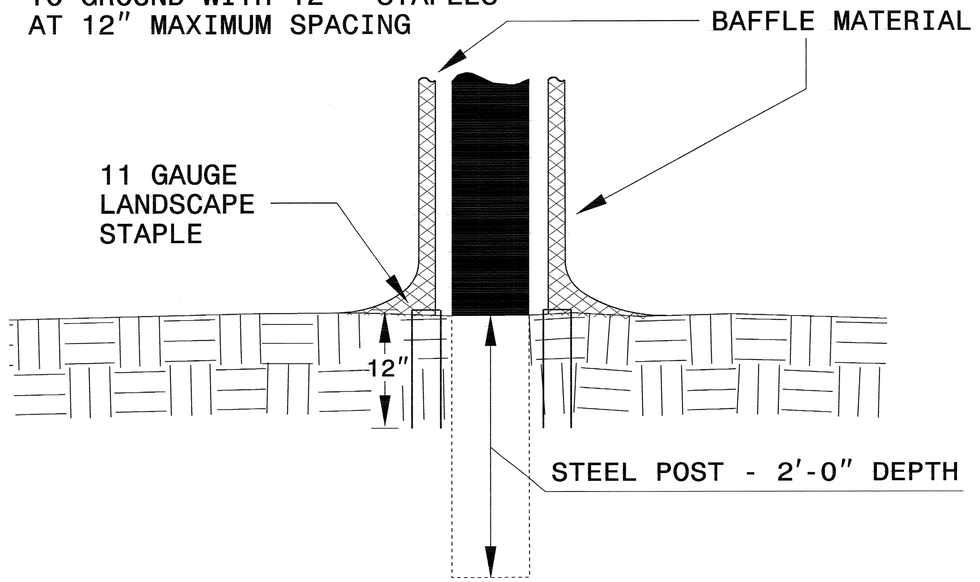


ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



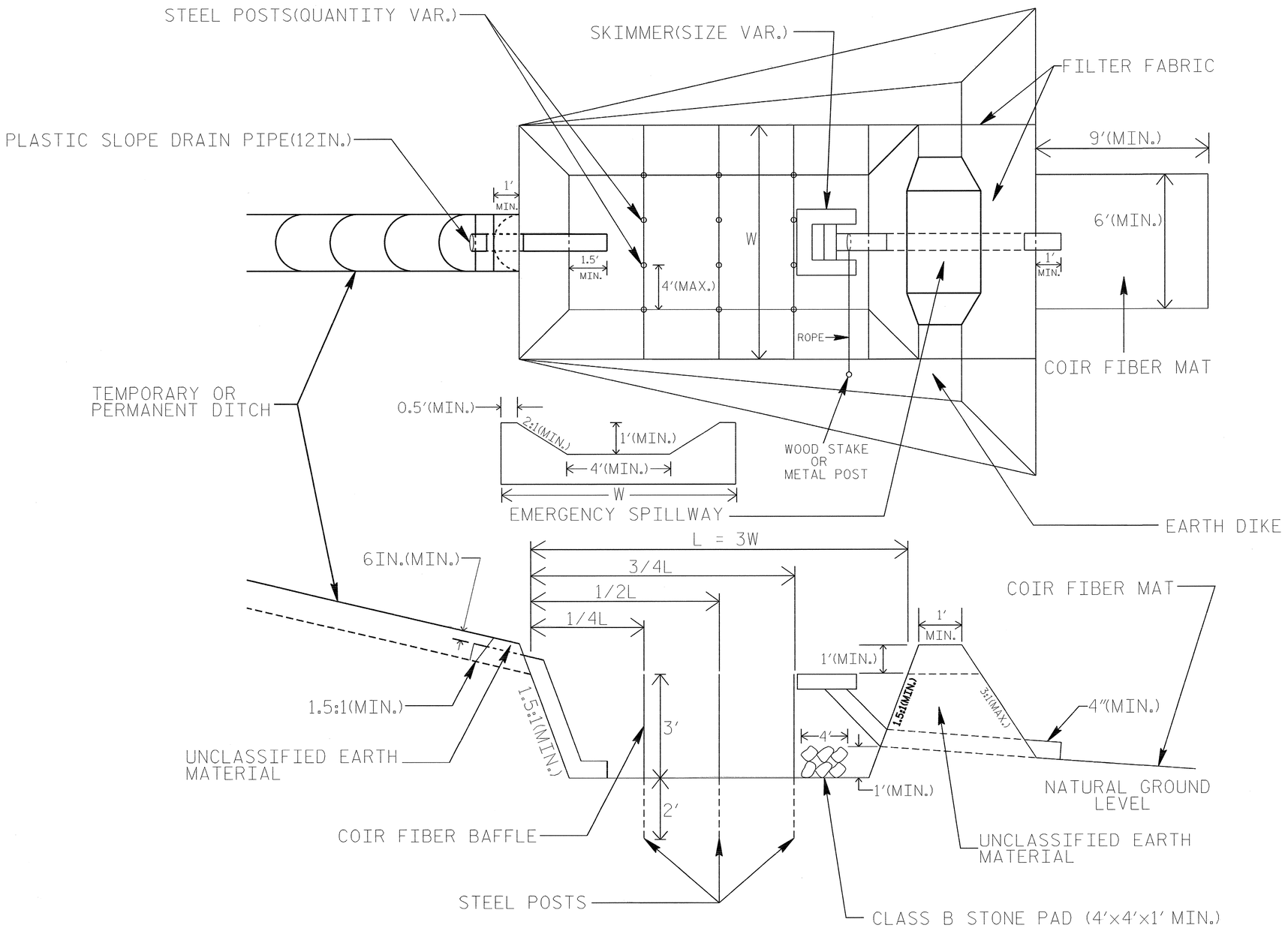


BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12″ LANDSCAPE STAPLES

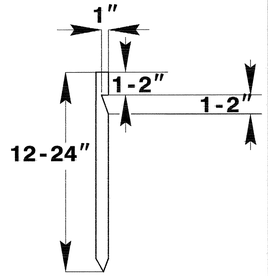
NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

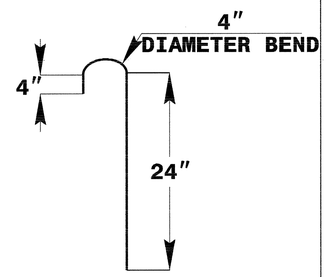
SKIMMER BASIN WITH BAFFLES DETAIL



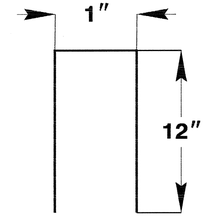
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

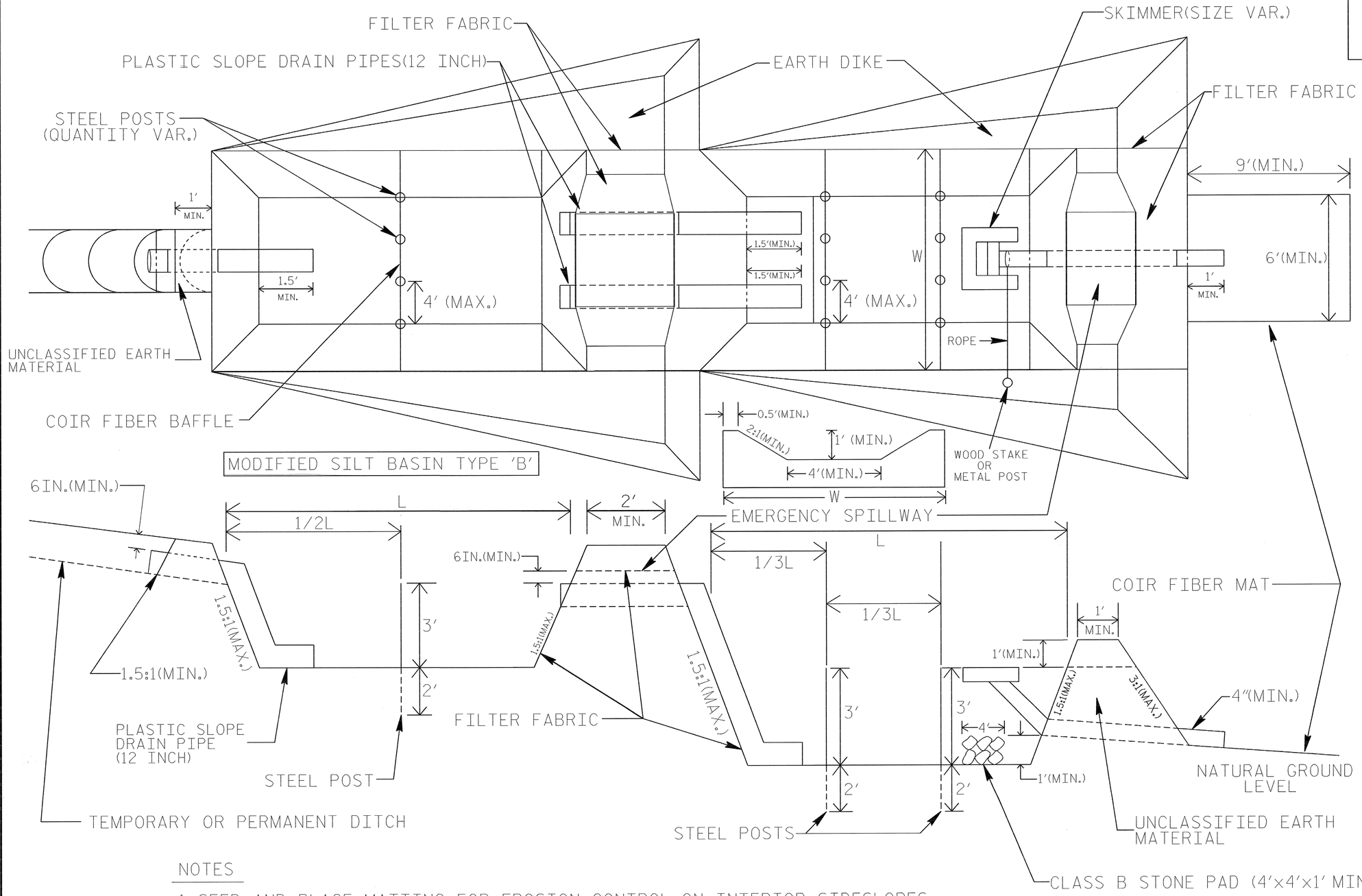
NOTES

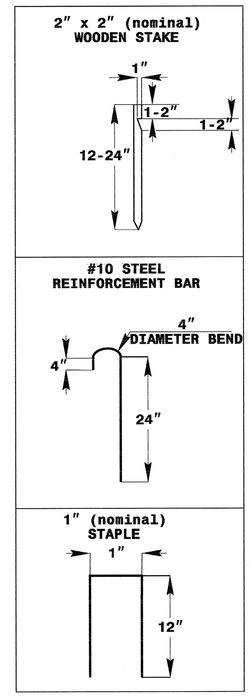
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TIERED SKIMMER BASIN DETAIL





COIR FIBER MAT ANCHOR OPTIONS

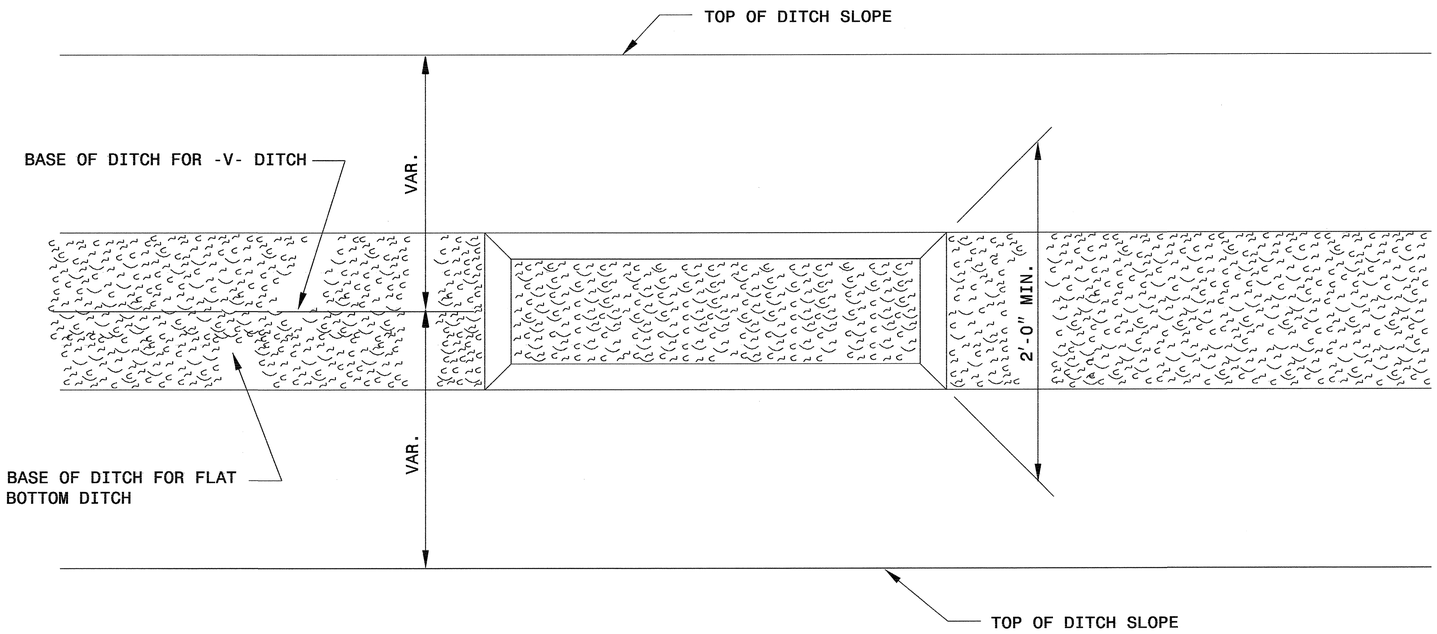
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.

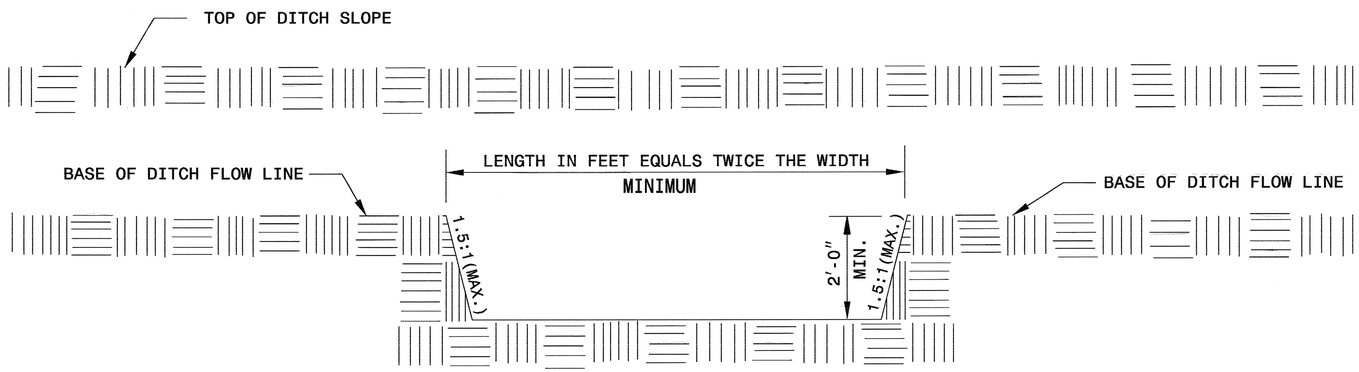
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SILT BASIN 'B' DETAIL



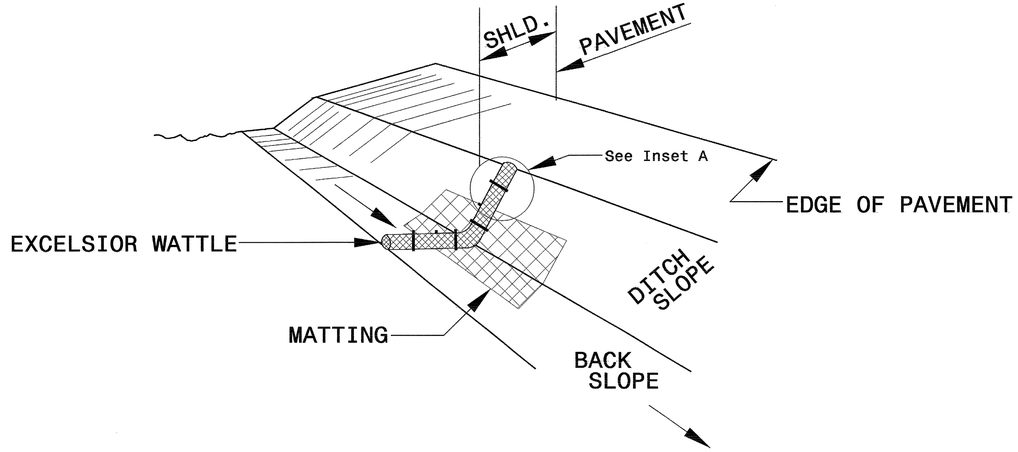
PLAN



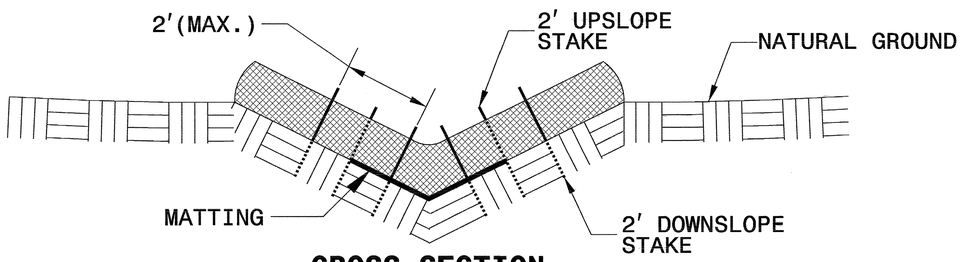
ELEVATION

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

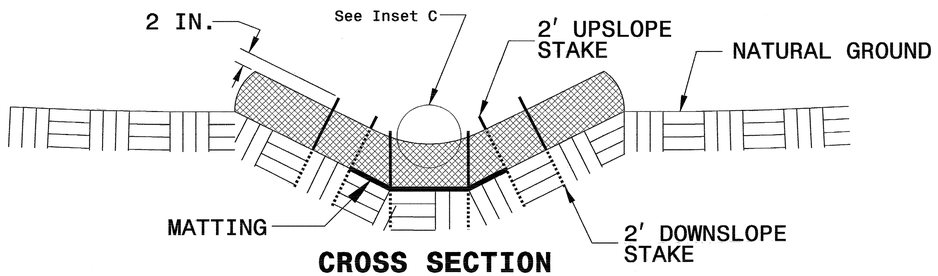
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

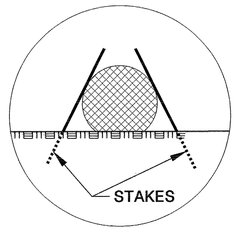
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

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

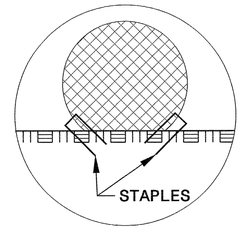
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

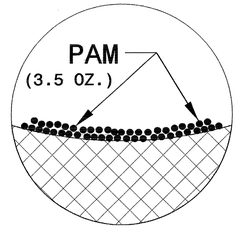
INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.25 IN.



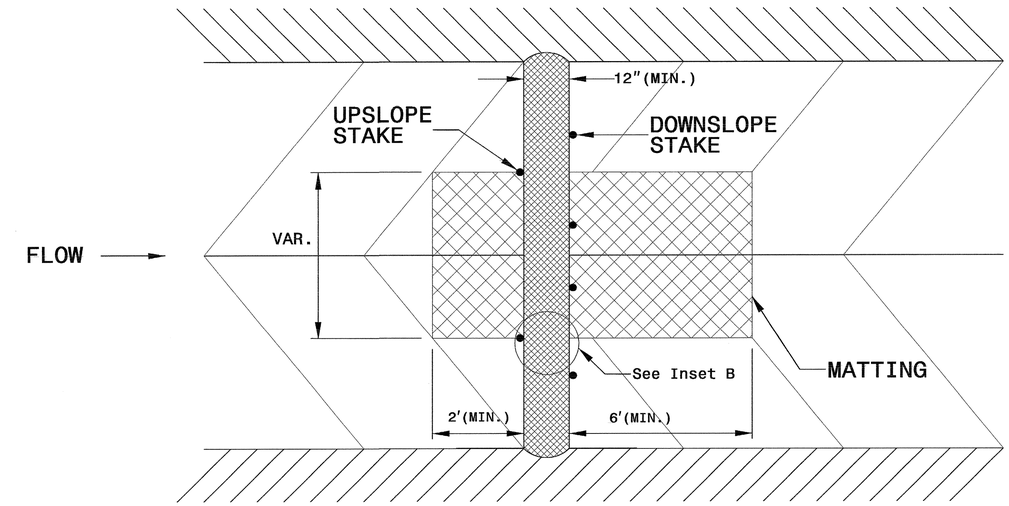
INSET A



INSET B



INSET C



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4A	-LREV-	574+76	610+50	M	9385
9	-LREV-	664+50	681+50	M	4935
9	-LREV-	681+50	692+00	M	1950
10	-LREV-	692+00	694+00	M	550
4A	-LREV-	582+82	584+50	LT	200
4A	-LREV-	584+50	587+00	LT	335
5	-LREV-	595+00	604+00	LT	935
7	-LREV-	631+00	633+00	LT	200
7	-LREV-	633+00	635+00	LT	280
8	-LREV-	644+00	646+00	LT	260
8	-LREV-	650+50	664+00	LT	1405
9	-LREV-	676+50	681+00	LT	595
10	-LREV-	683+50	686+50	LT	470
8	-LREV-	649+00	649+50	RT	70
9	-LREV-	666+00	669+50	RT	810
9	-LREV-	667+00	670+50	RT	755
9	-LREV-	670+00	673+50	RT	380
9	-LREV-	673+50	675+00	RT	270
10	-LREV-	682+50	691+50	RT	1310
10	-LREV-	686+50	688+50	RT	320
11	-Y-	10+50	11+00	LT	70
11	-Y-	11+00	12+00	LT	150
6	-Y-	26+00	28+00	LT	200
6	-Y-	28+50	30+50	LT	140
6	-Y-	33+50	35+50	LT	415
12	-Y-	40+00	42+50	LT	545
12	-Y-	43+00	44+00	LT	160
6	-Y-	22+50	32+00	M	1685
6	-Y-	33+50	62+00	M	5135

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
11	-Y-	10+50	12+00	RT	335
11	-Y-	12+00	15+00	RT	300
6	-Y-	30+00	32+50	RT	250
6	-Y-	34+00	43+50	RT	955
12	-Y-	46+00	50+00	RT	500
13	-Y-	52+00	61+00	RT	1170
9	-19FLY-	25+50	28+00	LT	585
9	-19FLY-	29+00	29+50	LT	85
9	-19FLY-	29+50	31+00	LT	160
9	-19FLY-	7+66	8+67	RT	105
9	-19FLY-	9+00	15+50	RT	735
9	-19FLY-	16+50	20+00	RT	440
9	-19FLY-	29+00	31+50	RT	275
9	-19FLY-	31+50	34+50	RT	355
16	-19FLY-	37+50	38+50	RT	75
15	-FRONT-	10+50	11+50	LT	150
15	-FRONT-	12+00	13+50	LT	140
7	-FRONT-	21+50	25+24	LT	305
8	-FRONT-	37+88	38+41	LT	225
15	-FRONT-	10+50	11+00	RT	70
14	-Y1-	13+50	16+00	LT	110
13	-Y1-	22+00	23+50	LT	115
18	-Y1-	31+50	35+00	RT	465
14	-Y2-	10+50	11+00	RT	75
6	-YRPA-	10+00	14+00	RT	465
6	-YRPB-	8+00	14+00	LT	620
6	-YRPC-	15+50	17+00	LT	175
6	-YRPC-	12+00	12+50	RT	35
6	-YRPC-	15+50	17+00	RT	185

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-YRPD-	12+00	16+50	LT	675
6	-YRPD-	20+00	21+50	LT	255
6	-YRPD-	12+50	16+00	RT	355
6	-YRPD-	16+50	17+00	RT	90
6	-YRPD-	20+00	20+50	RT/M	55
9	-19RPD-	8+00	10+00	LT	240
9	-19RPD-	10+00	12+00	LT	215
				SUBTOTAL	45,260
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					45,015
				TOTAL	90,275
				SAY	97,000

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-3B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4A	-LREV-	577+00	578+50	LT	210
5	-LREV-	587+00	589+00	LT	280
5	-LREV-	590+00	591+50	LT	195
6	-LREV-	601+00	604+00	LT	375
6	-LREV-	604+00	605+00	LT	195
6	-LREV-	610+50	612+50	LT	660
6	-LREV-	617+00	618+50	LT	1105
6	-LREV-	618+50	623+50	LT	4295
6	-LREV-	624+00	627+50	LT	290
7	-LREV-	629+50	630+50	LT	150
9	-LREV-	665+00	665+84	LT	440
9	-LREV-	667+50	669+50	LT	180
6	-LREV-	602+00	605+00	RT	455
7	-LREV-	625+00	630+00	RT	1915
9	-LREV-	665+50	666+00	RT	190
9	-LREV-	675+00	678+50	RT	465
9	-LREV-	678+50	679+00	LT	115
10	-LREV-	695+50	696+00	LT	35
11	-Y-	16+50	17+50	LT	85
6	-Y-	22+00	24+00	LT	1335
6	-Y-	28+50	29+50	LT	280
6	-Y-	29+30	30+00	LT	25
6	-Y-	30+00	30+50	LT	75
11	-Y-	16+00	17+50	RT	140
11	-Y-	22+50	23+00	RT	135
12	-Y-	44+00	45+00	RT	195
12	-Y-	45+00	46+00	RT	150
9	-Y-	24+00	24+50	RT	30
15	-FRONT-	11+50	12+00	LT	50

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
15	-FRONT-	15+50	16+00	LT	70
7	-FRONT-	20+00	21+50	LT	125
7	-FRONT-	19+00	22+20	LT	270
6	-YRPA-	9+00	14+00	LT	2545
6	-YRPA-	15+50	16+00	RT	70
6	-YRPB-	12+00	14+50	RT	255
6	-YRPB-	15+00	18+00	RT	570
6	-YRPC-	12+00	12+50	LT	120
6	-YLPD-	3+50	4+50	LT	605
9	-19RPD-	9+00	10+50	RT	370
				SUBTOTAL	19,050
		ADDITIONAL PSRM TO BE INSTALLED			645
				TOTAL	19,695
				SAY	20,500

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-RPB-
Pro Sta 7+33.59 | Pi Sta 11+22.09 | Pi Sta 11+90.09 | Pro Sta 13+45.64 | Pti Sta 18+89.4 | Pt Sta 20+51.23
Θs = 3°53'04.1" | Θs = 4°59'58.7" | Δ = 9°30'52.3" (LT) | Θs = 4°59'58.7" | Θs = 14°59'57.5" | Δ = 28°24'08.0" (RT)
Ls = 400.00' | Ls = 200.00' | D = 4°59'58.7" | Ls = 200.00' | Ls = 164.00' | D = 2°59'57.3"
Lt = 266.73' | Lt = 133.39' | L = 190.30' | Lt = 133.39' | Lt = 106.65' | L = 254.03'
St = 133.39' | St = 66.72' | T = 95.37' | St = 66.72' | St = 83.50' | T = 129.14'
e = 0.07' | | R = 1146.00' | | | R = 573.00'
| | | e = 0.07' | | | e = 0.08'

-RPC-
Pro Sta 3+33.62 | Pi Sta 7+76.88 | Pti Sta 11+53.57 | Pti Sta 16+20.40 | Pt Sta 17+89.17
Θs = 8°44'59.3" | Δ = 31°59'25.4" (RT) | Θs = 4°59'58.7" | Θs = 9°59'57.3" | Δ = 30°14'50.4" (LT)
Ls = 350.00' | D = 4°59'58.7" | Ls = 200.00' | Ls = 200.00' | D = 9°59'57.3"
Lt = 233.62' | Lt = 636.86' | Lt = 133.39' | Lt = 133.55' | Lt = 955.48'
St = 116.93' | T = 1356.68' | St = 66.72' | St = 66.86' | T = 482.12'
| R = 1146.00' | | | R = 573.00'
| e = 0.08' | | | e = 0.08'

B

C

NAD 83

BEGIN RESURFACING R-2417C
-L- POT Sta. 351+09.69

BEGIN RESURFACING R-2417C
-LPB- POT Sta. 12+50.50

BEGIN CONSTRUCTION R-2417C
-L- POT Sta. 566+20.63 LA =
R-2417BB -L- POT Sta. 566+20.63 LB

END RESURFACING R-2417C
-L- POT Sta. 564+54.65

BEGIN RESURFACING R-2417C
-LPC- POT Sta. 12+50.50

-RPB- PT Sta. 21+76.13
-RPB- SC Sta. 13+22.09
-RPB- TS Sta. 17+32.09
-RPB- ST Sta. 14+85.12
-RPB- CS Sta. 12+85.12
-RPB- SC Sta. 10+94.82
-RPB- TS to. 8+94.82
-LPB- SC Sta. 5+00.00
-LPB- TS Sta. 1+00.00 =
-L- POT Sta. 564+04.00 OFF 59.00 LT
-LPC- TS Sta. 1+00.00 =
-L- POT Sta. 564+00.00 OFF 59.00 RT
-LPC- SC Sta. 4+50.00
-L- ST Sta. 554+39.69
-L- CS Sta. 551+09.69
-RPC- SC Sta. 10+86.85
-RPC- CS Sta. 10+86.85
-RPC- ST Sta. 12+86.85
-RPC- TS Sta. 14+86.85
-RPC- SC Sta. 16+86.85
-RPC- PT Sta. 18+89.34
-LPC- SC Sta. 5+00.00
-LPC- CS Sta. 10+02.32
-LPC- ST Sta. 11+92.32
-LPC- TS Sta. 13+92.32
-LPC- POT Sta. 14+38.95 =
-Y3- POC Sta. 23+10.93
-RPC- POT Sta. 22+32.72 =
-Y3- POC Sta. 22+85.93
-Y3- CS Sta. 25+46.88
-RPB- POT Sta. 24+77.12 =
-Y3- POT Sta. 35+13.75
-LPB- POT Sta. 14+17.46 =
-Y3- POT Sta. 35+48.75

PROPOSED CABLE GUIDERAIL
PROPOSED WW FENCE
S 9°54'20.4"W
S 78°02'46.8"E
S 11°07'13.2"W
S 14°12'08.7"W
S 1°57'08.7"W
CONCRETE CURB (TYP)
CONCRETE CHANNEL (TYP)
CORRUGATED CONC. ISLAND
EXIST. CONCRETE ISLAND
END BRIDGE STA. 562+78.03
END APPROACH SLAB STA. 562+78.03
BEGIN APPROACH SLAB -L- Sta. 564+14.65
BEGIN BRIDGE -L- Sta. 564+19.65
END APPROACH SLAB -L- Sta. 564+77.65
BEGIN BRIDGE -L- Sta. 564+77.65
BEGIN CABLE GUIDERAIL -L- STA 546+40.65
RESLEEVE 1+58.53
RESLEEVE 1+58.53
MATCH LINE TO SHEET 4-4 STA. 573+58.69 -L-

NOTE: LEAVE OFF FINAL LAYER OF SURFACE COURSE -LPC- 21+14.35 TO 9+41.46

CLEARING AND GRUBBING
EROSION CONTROL FOR CONSTRUCTION SHEET 4

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

NOTE:
1) SEE SHEET 19 FOR -LREV- PROFILE

GRAPHIC SCALE
50 25 0 50 100
PLANS

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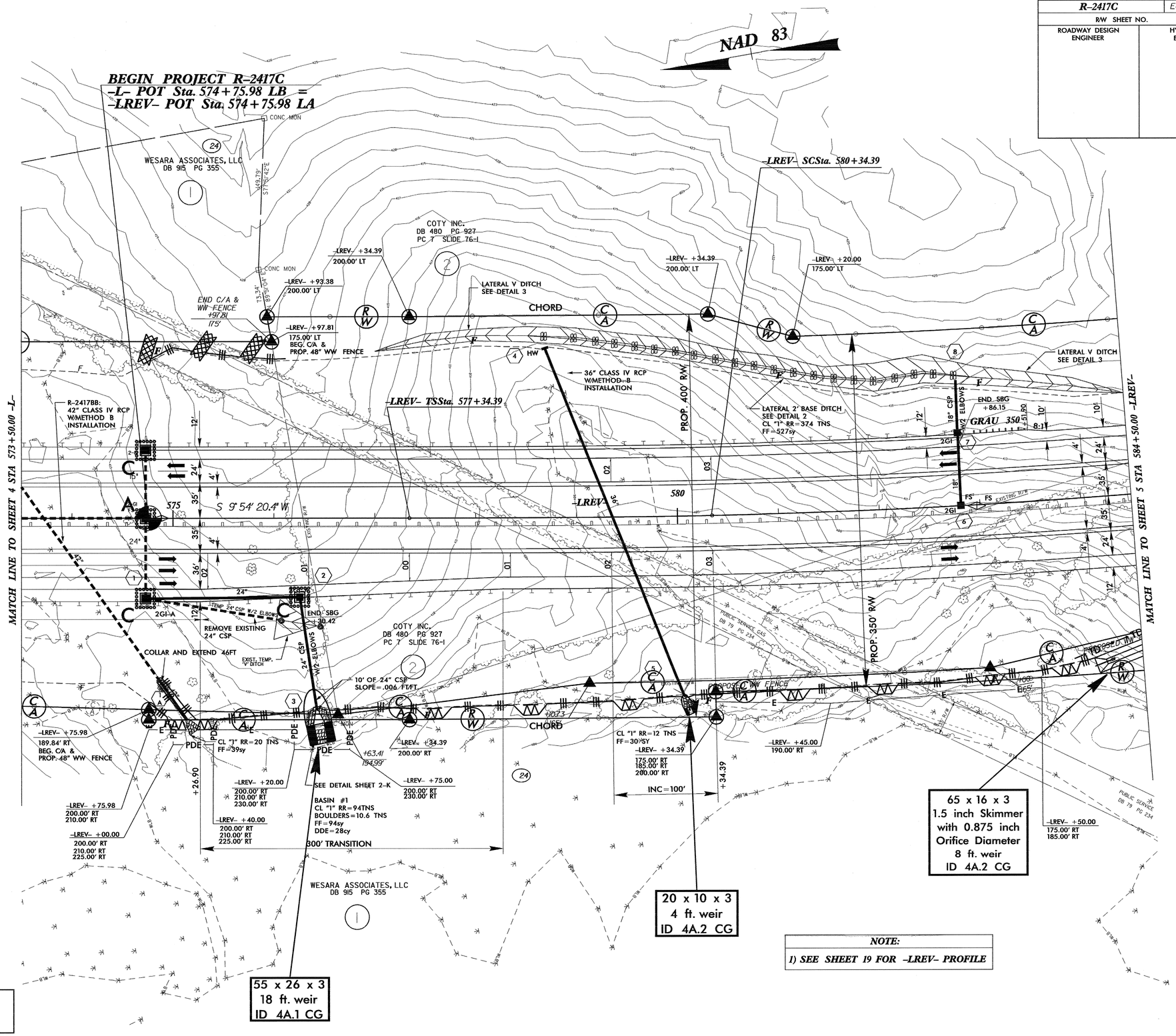
PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-5/CONST.4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:

1) SEE SHEET 19 FOR -LREV- PROFILE

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4A

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

8/17/99

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jenniferparish AT RENV242003

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.

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-6/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

-LREV-
PI Sta 586+24.42
Δ = 9° 03' 10.2" (LT)
D = 0° 46' 07.5"
L = 1,177.61
T = 590.03'
R = 7,453.13'
SE = .03'
RO = SEE PLANS

PIs Sta 593+12.00
Θs = 1° 09' 11.2"
Ls = 300.00'
LT = 200.00'
ST = 100.00'

-LREV- POT Sta. 596+50.00 =
-YRPB- TS Sta. 0+00.00 59' LT.

58 x 10 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 5.2 F

45 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 5.3 F

COTY INC.
DB 480 PG 927
PC 7 SLIDE 76-I

-LREV- STSta. 595+11.99

-LREV- CSSta. 592+11.99

580' FULL LANE

300' TRANSITION

±70.00

±50.00

-LREV- +11.99
175.00' LT

-LREV- +50.00
175.00' LT

CHORD

LATERAL BASE DITCH
SEE DETAIL 1C

CONC MON 65

GL "B" RR=2 TNS
FF=79

LATERAL V DITCH
SEE DETAIL 3

SPECIAL DITCH
SEE DETAIL 7

BL-280 (POINT HAS BEEN DESTROYED)
PINC 114+45.83 R-2417BB LB=
BL-280 (POINT HAS BEEN DESTROYED)
PINC 114+45.83 R-2417C LA

MATCH LINE TO SHEET 4 STA 584+50.00 -LREV-

PROP. 350' R/W

EXISTING R/W

END CABLE GUIDERAIL
-LREV- STA 594+51.11

TYPE M350

BEGIN CABLE GUIDERAIL
-LREV- STA 596+28.77

SEE DETAIL SHEET 2-Q

MATCH LINE TO SHEET 6 STA 597+00.00 -LREV-

8:1
CAT-1

-LREV- POT Sta. 596+75.00
-YRPC- POTSta. 0+00.00 59' RT.

TOE PROTECTION
SEE DETAIL 31
GL "B" RR=132 TN
FF=400sy

INC=100

-LREV- +85.00
174.34' RT

-LREV- +90.00
174.31' RT

-LREV- +11.99
175.00' RT

-YRPC- +00.00
115.00' RT

-LREV- +11.99
175.00' RT

300' TAPER

-LREV- +45.00
225.00' RT

SEE DETAIL SHEET 2-K
BASIN #2
GL "T" RR=162 TNS
BOULDERS=5.5 TNS
RIP RAP TO ELEV. 388.3'
FF=1680 sy
DDE=202 cy

WESARA ASSOCIATES, LLC
DB 915 PG 355

MYRTLE MATTHEWS POE
DB 940 PG 208
PC 10 SLIDE 52E

COTY INC.
DB 480 PG 927
PC 7 SLIDE 76-I

65 x 16 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
8 ft. weir
ID 4A.2 CG

70 x 13 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
5 ft. weir
ID 5.1 F

60 x 12 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 5.2 CG

Modified Silt Basin
Type 'B'
60 x 12 x 3
(See Tiered Skimmer
Basin Detail)
ID 5.2 CG

60 x 30 x 3
22 ft. weir
ID 5.2 CG

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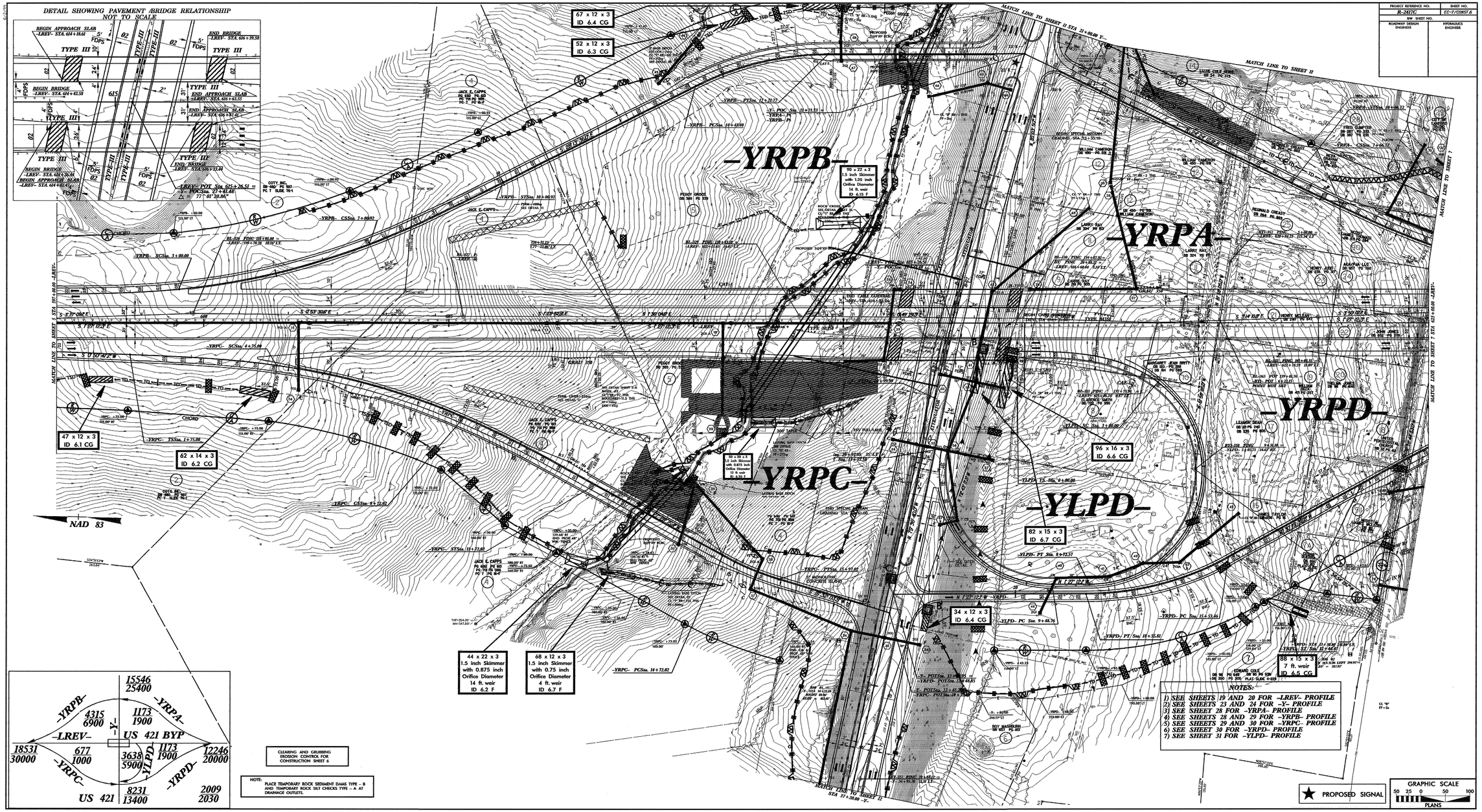
\\environmental\design\2417c_ec_psh05.dgn
rmcgee
ec_psh05 ET ENV/42003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-7,7ZZHST 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DETAIL SHOWING PAVEMENT /BRIDGE RELATIONSHIP
NOT TO SCALE



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.

NOTES:

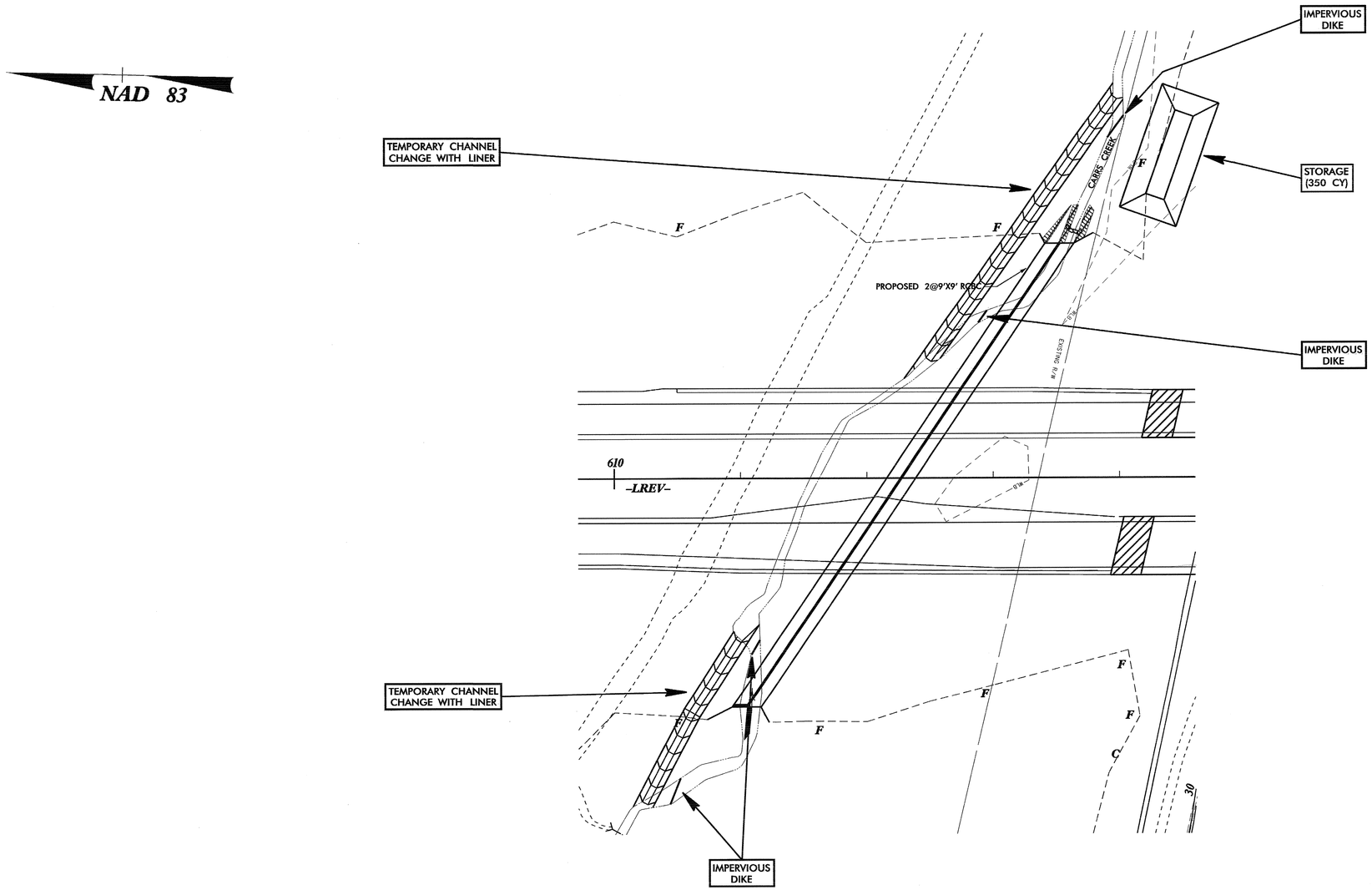
1) *SEE SHEETS 19 AND 20 FOR -LREV- PROFILE*
2) *SEE SHEETS 23 AND 24 FOR -V- PROFILE*
3) *SEE SHEET 28 FOR -YRPA- PROFILE*
4) *SEE SHEETS 28 AND 29 FOR -YRPB- PROFILE*
5) *SEE SHEETS 29 AND 30 FOR -YRPC- PROFILE*
6) *SEE SHEET 30 FOR -YRPD- PROFILE*
7) *SEE SHEET 31 FOR -YLPD- PROFILE*

13-NOV-2009 15:58
jenni1/projects/2417c/roadway/sht/2417c_ec_pshtfile.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-8/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 612+27 –LREV–

1. CONSTRUCT STILLING BASIN (350 CY).
2. CONSTRUCT TEMPORARY CHANNEL CHANGES WITH LINER (5 FT. BASE, 3 FT. DEEP, 1.5:1 SIDE SLOPES) AND IMPERVIOUS DIKES, DIVERTING FLOW.
3. CONSTRUCT CULVERT AND ANY NECESSARY INLET/OUTLET CHANNEL IMPROVEMENTS.
4. REMOVE TEMPORARY CHANNEL CHANGES AND IMPERVIOUS DIKES, DIVERTING FLOW THROUGH CULVERT.
5. REMOVE STILLING BASIN, AND COMPLETE ROADWAY.

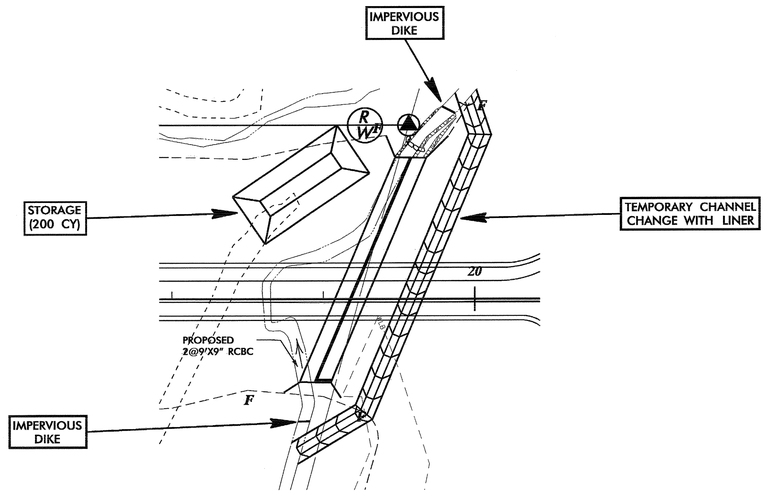


CULVERT CONSTRUCTION SEQUENCE STA. 19+18 –YRPB–

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-9/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

1. CONSTRUCT STILLING BASIN (200 CY).
2. CONSTRUCT TEMPORARY CHANNEL CHANGE WITH LINER (5 FT. BASE, 3 FT. DEEP, 1.5:1 SIDE SLOPES) AND IMPERVIOUS DIKES, DIVERTING FLOW.
3. CONSTRUCT CULVERT AND ANY NECESSARY INLET/OUTLET CHANNEL IMPROVEMENTS.
4. REMOVE TEMPORARY CHANNEL CHANGE AND IMPERVIOUS DIKES, DIVERTING FLOW THROUGH CULVERT.
5. REMOVE STILLING BASIN, AND COMPLETE ROADWAY.

NAD 83

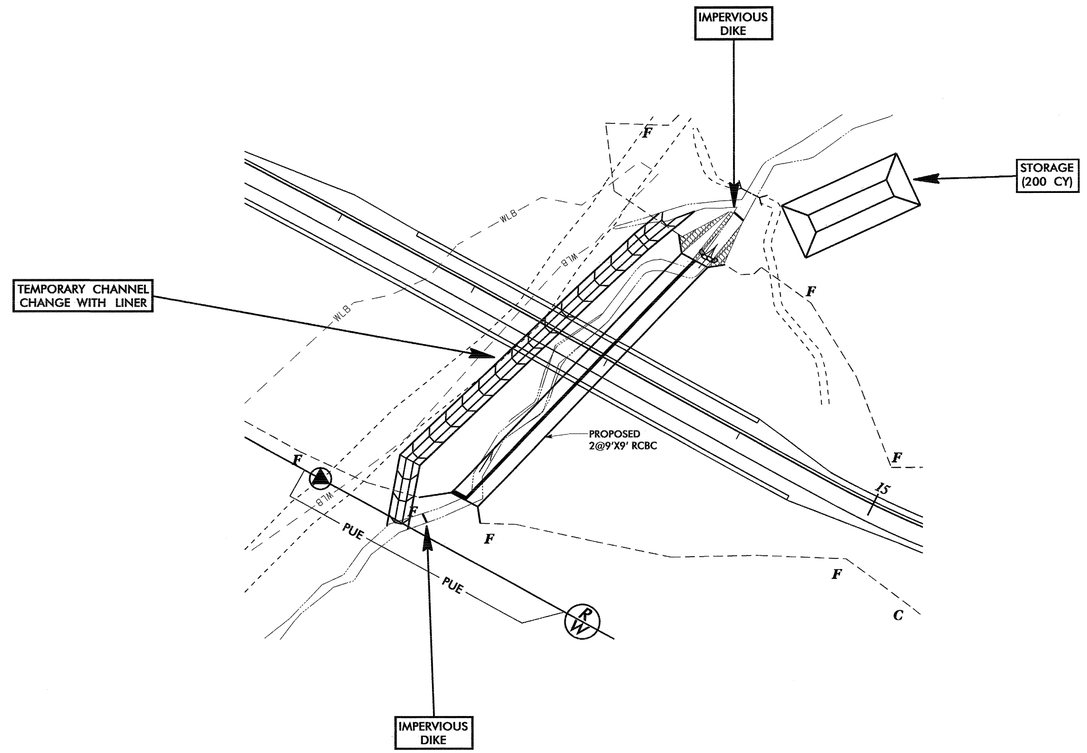


PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-10/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

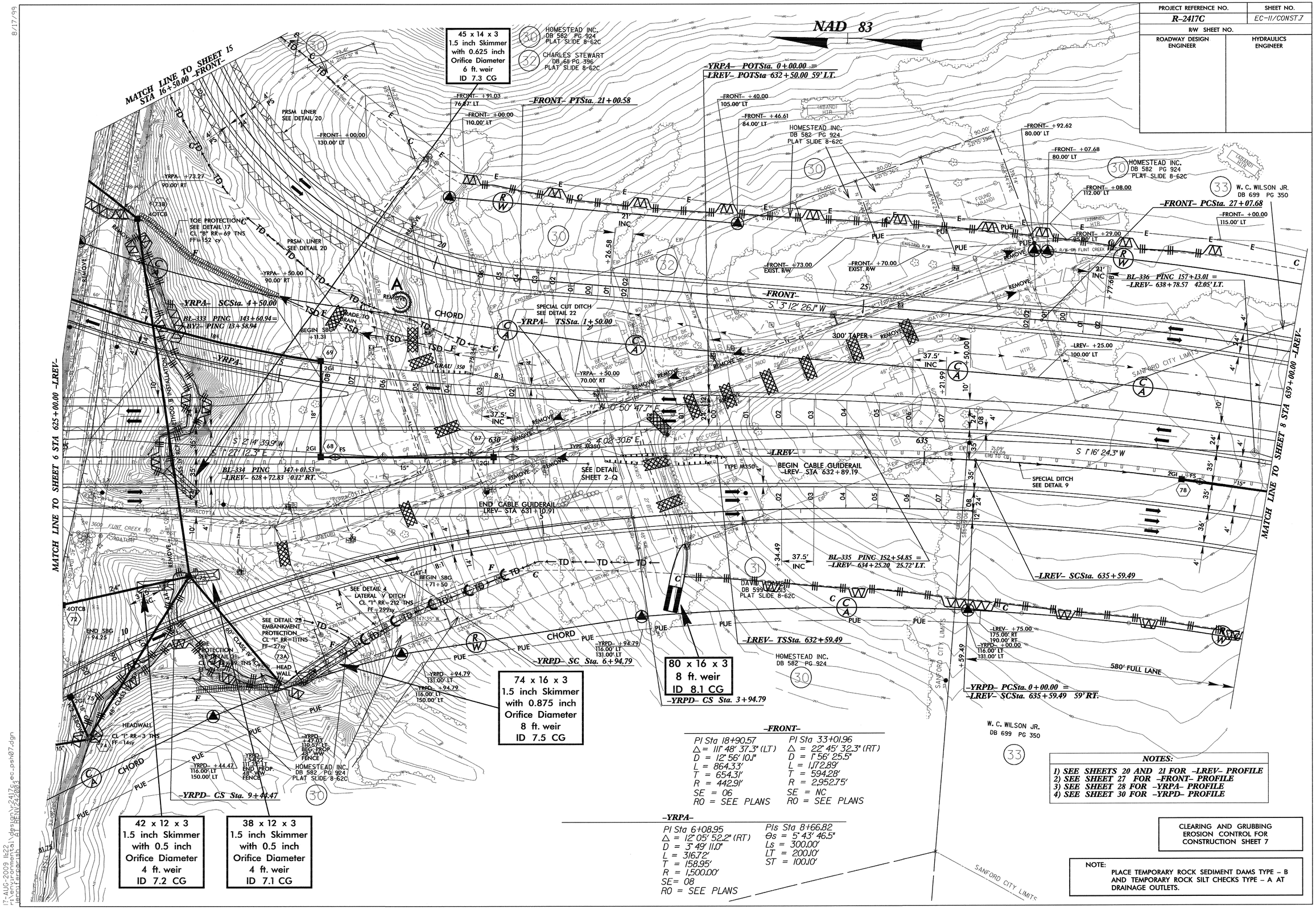
CULVERT CONSTRUCTION SEQUENCE STA. 12 + 96 –YRPC–

1. CONSTRUCT STILLING BASIN (200 CY).
2. CONSTRUCT TEMPORARY CHANNEL CHANGE WITH LINER (5 FT. BASE, 3 FT. DEEP, 1.5:1 SIDE SLOPES) AND IMPERVIOUS DIKES, DIVERTING FLOW.
3. CONSTRUCT CULVERT AND ANY NECESSARY INLET/OUTLET CHANNEL IMPROVEMENTS.
4. REMOVE TEMPORARY CHANNEL CHANGE AND IMPERVIOUS DIKES, DIVERTING FLOW THROUGH CULVERT.
5. REMOVE STILLING BASIN, AND COMPLETE ROADWAY.

NAD 83



PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-11/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-FRONT-

PI Sta 18+90.57	PI Sta 33+01.96
Δ = 111° 48' 37.3" (LT)	Δ = 22° 45' 32.3" (RT)
D = 12° 56' 10.1"	D = 1° 56' 25.5"
L = 864.33'	L = 1,172.89'
T = 654.31'	T = 594.28'
R = 442.91'	R = 2,952.75'
SE = 06	SE = NC
RO = SEE PLANS	RO = SEE PLANS

-YRPA-

PI Sta 6+08.95	PIs Sta 8+66.82
Δ = 12° 05' 52.2" (RT)	Θs = 5° 43' 46.5"
D = 3° 49' 11.0"	Ls = 300.00'
L = 316.72'	LT = 200.10'
T = 158.95'	ST = 100.10'
R = 1,500.00'	
SE= 08	
RO = SEE PLANS	

NOTES:

1) SEE SHEETS 20 AND 21 FOR -LREV- PROFILE
2) SEE SHEET 27 FOR -FRONT- PROFILE
3) SEE SHEET 28 FOR -YRPA- PROFILE
4) SEE SHEET 30 FOR -YRPD- PROFILE

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.

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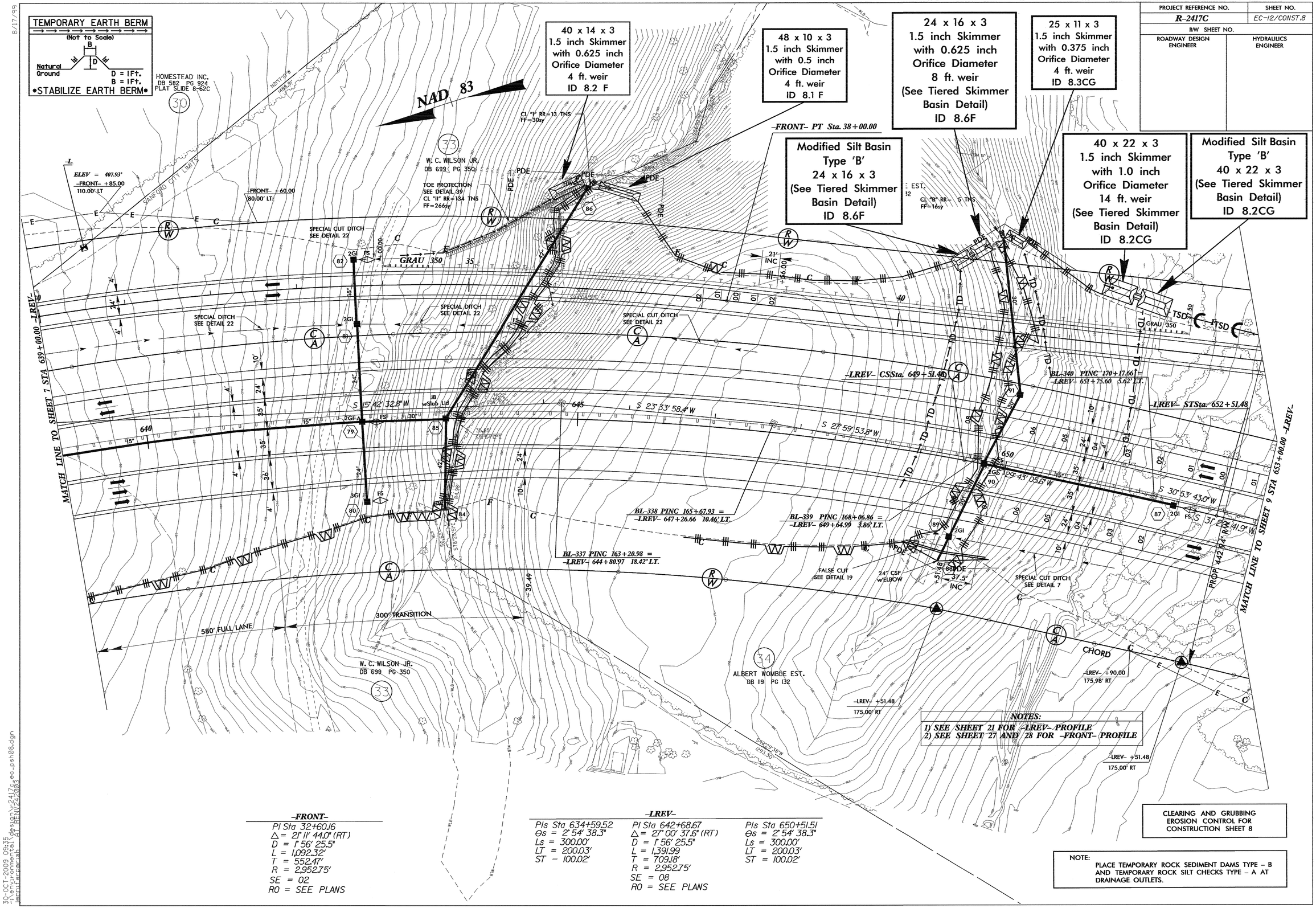
jennifer parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-12/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:
1) SEE SHEET 21 FOR -LREV- PROFILE
2) SEE SHEET 27 AND 28 FOR -FRONT- PROFILE

-FRONT-

PI Sta 32+60.16
Δ = 21° 11' 44.0" (RT)
D = 1° 56' 25.5"
L = 1,092.32'
T = 552.47'
R = 2,952.75'
SE = 02
RO = SEE PLANS

-LREV-

PIs Sta 634+59.52	PI Sta 642+68.67	PIs Sta 650+51.51
Θs = 2° 54' 38.3"	Δ = 27° 00' 37.6" (RT)	Θs = 2° 54' 38.3"
Ls = 300.00'	D = 1° 56' 25.5"	Ls = 300.00'
LT = 200.03'	L = 1,391.99	LT = 200.03'
ST = 100.02'	T = 709.18'	ST = 100.02'
	R = 2,952.75'	
	SE = 08	
	RO = SEE PLANS	

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.

8/17/99

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jenniferparish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-13/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

GRAPHIC SCALE
50 25 0 50 100
PLANS

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jenniferparrish AT REN2420003

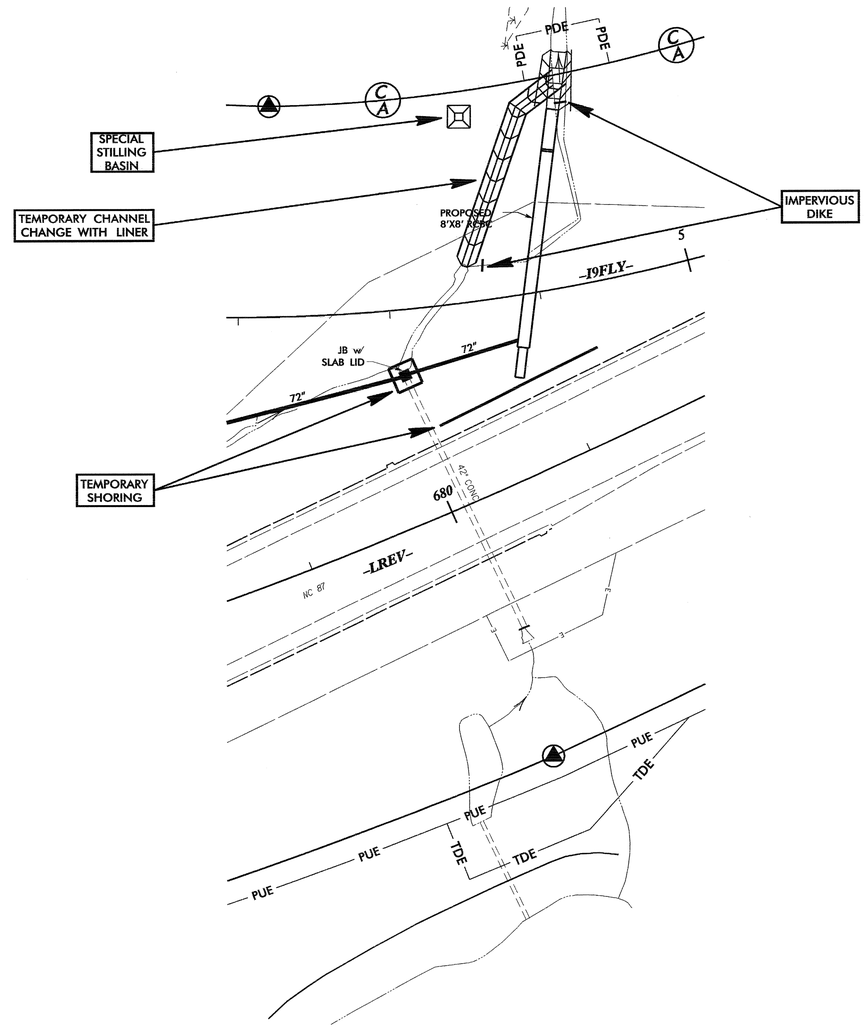
CULVERT CONSTRUCTION SEQUENCE STA. 680+39 –LREV–

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-14/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

1. MAINTAIN TWO LANE, TWO–WAY TRAFFIC ON NC–87.
2. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
3. CONSTRUCT TEMPORARY CHANNEL CHANGE WITH LINER (4 FT. BASE, 3 FT. DEEP, 1.5:1 SIDE SLOPES) AND IMPERVIOUS DIKES, DIVERTING FLOW.
4. INSTALL TEMPORARY SHORING PARALLEL TO NC–87 AND CONSTRUCT ENTIRE SECTION OF PROPOSED 8' X 8' CULVERT, INCLUDING WINGWALLS, AND PORTION OF 6' X 8' CULVERT.
5. INSTALL 72" PIPE, INCLUDING JUNCTION BOX AT 42" PIPE, DIVERTING FLOW FROM 42" PIPE THROUGH 72" PIPE AND PROPOSED 8' X 8' CULVERT.
6. REMOVE IMPERVIOUS DIKES AND TEMPORARY CHANNEL CHANGE.
7. INSTALL TEMPORARY SHORING AROUND JUNCTION BOX FOR 72" AND 42" PIPES.

NAD 83



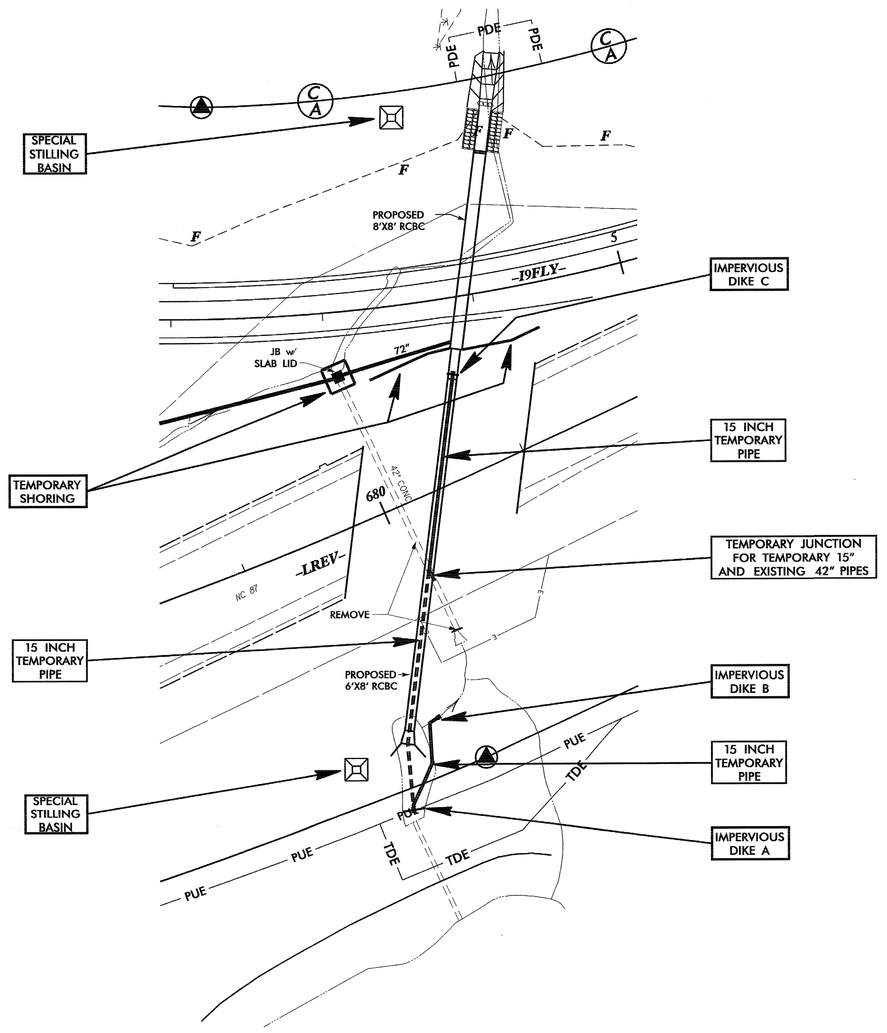
CULVERT CONSTRUCTION SEQUENCE STA. 680+39 –LREV–

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-15/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE II

8. CONSTRUCT –I9FLY–. INSTALL PHASE II TEMPORARY SHORING, REMOVE PHASE I TEMPORARY SHORING, AND SHIFT ALL TRAFFIC TO –I9FLY–, USING TWO LANE, TWO–WAY TRAFFIC PATTERN.
9. INSTALL SPECIAL STILLING BASIN(S) AT UPSTREAM END OF PROPOSED 6′ X 8′ CULVERT.
10. CONSTRUCT IMPERVIOUS DIKES A AND B AND INSTALL 15″ TEMPORARY PIPE, DIVERTING FLOW AROUND CONSTRUCTION AREA AND INTO EXISTING 42″ PIPE.
11. CONSTRUCT PORTION OF BOTTOM SLAB OF THE PROPOSED 6′ X 8′ CULVERT.
12. CONSTRUCT IMPERVIOUS DIKE C AND INSTALL 15″ TEMPORARY PIPE WITH TEMPORARY JUNCTION TO EXISTING 42″ PIPE.
13. COMPLETE CONSTRUCTION OF BOTTOM SLAB OF THE PROPOSED 6′ X 8′ CULVERT.
14. REMOVE IMPERVIOUS DIKE B AND SHIFT 15″ TEMPORARY PIPE TO CARRY FLOW COMPLETELY THROUGH THE PROPOSED 6′ X 8′ CULVERT.
15. REMOVE PORTION OF EXISTING 42″ PIPE IN CONFLICT WITH THE PROPOSED 6′ X 8′ CULVERT, AND CONSTRUCT SIDE WALLS OF THE PROPOSED 6′ X 8′ CULVERT.

NAD 83



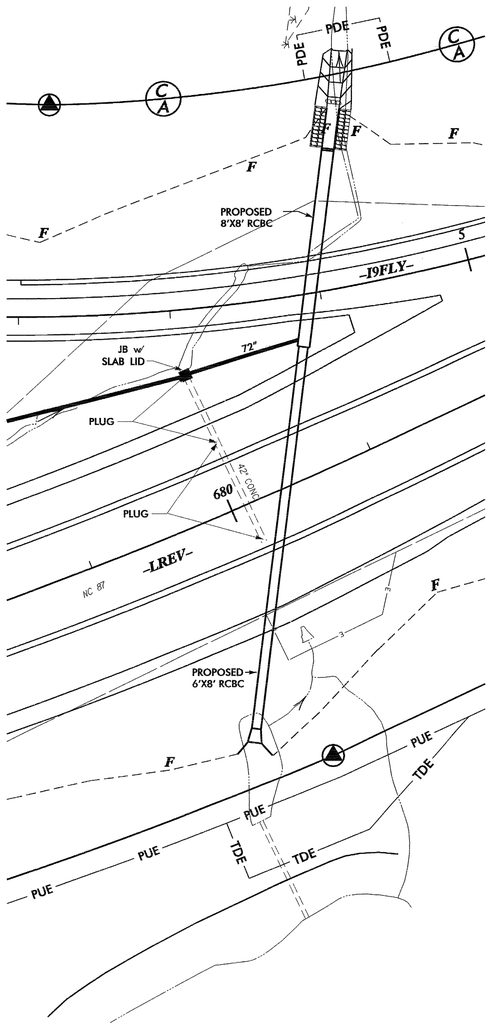
CULVERT CONSTRUCTION SEQUENCE STA. 680+39 –LREV–

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-16/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE III

16. PLUG THE EXISTING 42" PIPE AND FILL WITH FLOWABLE FILL. PLUG ENTRANCE FOR 42" PIPE INTO THE JUNCTION BOX AT THE 72" PIPE.
17. REMOVE IMPERVIOUS DIKES A AND C, AND ALL 15" TEMPORARY PIPE, ALLOWING FLOW THROUGH THE ENTIRE PROPOSED CULVERT.
18. COMPLETE ANY NECESSARY INLET/OUTLET CHANNEL IMPROVEMENTS, AND CONSTRUCT TOP SLAB OF THE PROPOSED 6' X 8' CULVERT.
19. PLACE SLAB LID ON THE JUNCTION BOX AT THE 72" PIPE AND REMOVE ANY REMAINING TEMPORARY SHORING.
20. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
21. COMPLETE ROADWAY, AND SHIFT TRAFFIC INTO FINAL PATTERN.

NAD 83



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PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-17/CONSTJO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

40 x 16 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
8 ft. weir
ID 10.2 F

-I9FLY-
PI Sta 5+90.06
△ = 18° 00' 00.0" (RT)
D = 4° 46' 28.7"
L = 376.99'
T = 190.06'
R = 1,200.00'
SE = 06
R0 = SEE PLANS

PIs Sta 3+33.38
Θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

-LREV- POTSta. 687+10.99
-I9FLY- POTSta. 0+00.00
(47' LT) △ = 2°18'00"

-I9FLY- SCSta. 4+00.00

34 x 10 x 3
ID 10.5 CG

-I9FLY- TSSta. 2+00.00

TIE TO EXISTING
END GUARDRAIL LT. & RT.
END 2'-6" C&G -LREV- +10.99 LT.

END PROJECT R-2417C
-LREV- POTSta. 696+10.99
600' TAPER

Temporary Rock
Sediment
Dam Type A
1.5 ft. weir height

300' TAPER
TAIL DITCH
SEE DETAIL 24
EST 16cy DDE
CL "B" RR=38 TNS
FF=75sy

LATERAL BASE DITCH
SEE DETAIL 23
CL "B" RR=135 TNS
FF=300sy

CL "I" RR=5 STNS
FF=16sy

ERNEST BAKER
DB 37 PG 80

WILLARD BATCHELOR
DB 94 PG 649

DORISE STILLWELL
DB 103 PG 194

DORISE STILLWELL
DB 369 PG 668

ELIZABETH STUTTS
DB 462 PG 998

ELIZABETH STUTTS
DB 592 PG 66

ELIZABETH STUTTS
DB 604 PG 737

CLINTON BRYAN
DB 661 PG 228
DB 719 PG 664
PLAT SLIDE 9-151
PLAT SLIDE 9-58B

DB 627 PG 346
THUNDER CYCLES

-I9FLY- +00.00
140.00' RT

-I9FLY- +00.00
103.08' RT

-LREV- +58.00
150.00' LT
160.00' LT

-LREV- +50.00
150.00' LT
160.00' LT

-LREV- +50.00
104.60' LT

-LREV- +50.00
150.00' LT
END PROP.
48" WW FENCE

BEGIN SBG
+66.00

33.33'
INC
+66.67

37.5'
INC
+72.59

+06.06

+10.99

ELBOW
T=27.3'
L=54.55

GRAU-350'

-I9FLY- N 15° 57' 56.5" W

-LREV- S 18° 15' 56.5" E

-LREV- STSta. 682+97.59

-LREV- STA 684+25.00
END CABLE GUIDERAIL

FILL w/FLOWABLE FILL

BERM DITCH
SEE DETAIL 10

STANDARD BERM DITCH

BEGIN 2'-6"C&G
-LREV- +90.00

-LREV- +65.00
175.00' RT

-LREV- +97.59
175.00' RT
190.00' RT

-LREV- +16.55
71.95' RT

P/L
175.00' RT
END PROP.
48" WW FENCE
190.00' RT

-LREV- +16.55

BEGIN 2'-6" C&G
-LREV- +86.28

END 2'-6" C&G
-LREV- +52.26

END 2'-6" C&G
-LREV- +39.49

BEGIN 2'-6" C&G
-LREV- +94.64

END 2'-6" C&G
-LREV- +20.00

BEGIN SBG
+10.99 RETAIN

BL-345 PINC 210+74.34 =
-LREV- 692+35.25 42.27' RT.

675' UNIFORM MEDIAN TRANSITION

900' UNIFORM MEDIAN TAPER

300' TRANSITION

NAD 83

68 x 16 x 3
ID 10.1 CG

58 x 14 x 3
ID 10.2 CG

60 x 12 x 3
ID 10.4 CG

MATCH LINE TO SHEET 9 STA 682+50.00 -LREV-

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.

NOTES:
1) SEE SHEET 22 AND 23 FOR -LREV- PROFILE
2) SEE SHEET 31 FOR -I9FLY- PROFILE
3) PAINT STRIPING

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PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-18/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE TO SHEET 15

NAD 83

–Y– POTSta. 10+00.00
BEGIN CONSTRUCTION

234.20'
N87°39'36"W

165.50'
S56°01'25"W

165.88'
S56°01'25"W

–Y– PCSta. 15+47.94

102 x 20 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
12 ft. weir
ID 11.2 CG

58 x 12 x 3
ID 11.1 CG

Temporary Rock
Sediment
Dam Type A
2 ft. weir height

DAVID JOHNSON
DB 625 PG 771

44
DESSIE WILLIAMS
DB 294 PG 626
DB 735 PG 381

14
LIZZIE COLE HEIRS
DB 54 PG 379

DALE MELLETTE
DB 757 PG 711

NC STATE HIGHWAY COMMISION
DB 242 PG 743

PEGGY GROCE
PLAT SLIDE 3-245
DB 521 PG 757

IFT PROPERTIES
DB 554 PG 328
PLAT SLIDE 3-245

PEGGY GROCE
DB 389 PG 339
PLAT SLIDE 3-245

650' TRANSITION
925' UNIFORM MEDIAN TRANSITION
200' RT. TURN LANE TRANSITION

EXISTING R/W

REMOVE DI & 5' OF PIPE
SEE DETAIL 5
COLLAR AND EXTEND
REMOVE
RETAIN
SPECIAL CUT DITCH
SEE DETAIL 7
BY–350 POT 5+00.00 =
–Y– H+18.63 24.26' RT.
BERM DITCH
SEE DETAIL 33
CL "B" RR=104 TNS
FF=231sy
BERM DITCH
SEE DETAIL 10
EMBANKMENT PROTECTION
SEE DETAIL 25
CL "1" RR=7 TNS
BOULDERS=8 TNS
FF=14.5sy
CL "1" RR=180 TNS
FF=388sy
TRENCHLESS INSTALLATION
DOUBLE 84" SMOOTH STEEL PIPES w/
CAT-1 8:1
24"CSP W/ELBOW
GRAU 350
BEGIN SBG
+06.00
TOE PROTECTION
SEE DETAIL 17B
CL "1" RR=140 TN
FF=238 sy
FALSE CUT
SEE DETAIL 19A
CL "1" RR=7 TNS
FF=9sy
3' BASE DITCH
SEE DETAIL 12
DDE=187cy
ROCK CROSS VANE
SEE DETAIL SHEET 21
REMOVE WW
MEDIAN DITCH
SEE DETAIL 9
RETAIN AND EXTEND DOUBLE 6' x 6' RCBC
R2417C-2 BY– PINC 13+17.00
GPS MONUMENT =
Y– 19+35.09 0.64 RT.
ROCK CROSS VANE
SEE DETAIL SHEET 21
CL "1" RR=17 TNS
BOULDERS=6 TNS
FF=255sy

–Y– +03.30
EXIST R/W
BEG. PROP. 48"
WW FENCE

–Y– +90.00
152.19' LT
190.00' LT

–Y– +00.00
300' LT

–Y– +40.00
300' LT

–Y– +30.00
150.32' LT

–Y– +25.24
150' LT
END PROP.
48" WW
FENCE

–Y– +84.96
127.62' LT
END PROP 48"
WW FENCE

–Y– +37.28
156.31' LT
BEG PROP 48"
WW FENCE

–Y– +07.61
150.82' LT
END PROP 48"
WW FENCE

–Y– +10.60
164.80' RT
END PROP
48" WW
FENCE

–Y– +99.88
165.40' RT
END PROP. 48"
WW FENCE

–Y– +00.00
EXIST R/W
205.00' RT

–Y– +74.11
155.70' RT
BEG. PROP. 48"
WW FENCE

–Y– +96.27
192.35' RT

–YRPB– +56.45
115' LT
END C/A

–YRPB– +41.45
108.05' LT
END PROP. 48"
WW FENCE

–YRPB– +15.00
115.00' LT
130.00' LT

–YRPB– +21.77
115.00' LT

–Y– +00.00

MATCH LINE TO SHEET 6 STA 21+00.00 –Y–

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.

42 x 10 x 3
ID 11.3 CG

90 x 20 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
12 ft. weir
ID 11.4 CG

42 x 9 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 11.8 F

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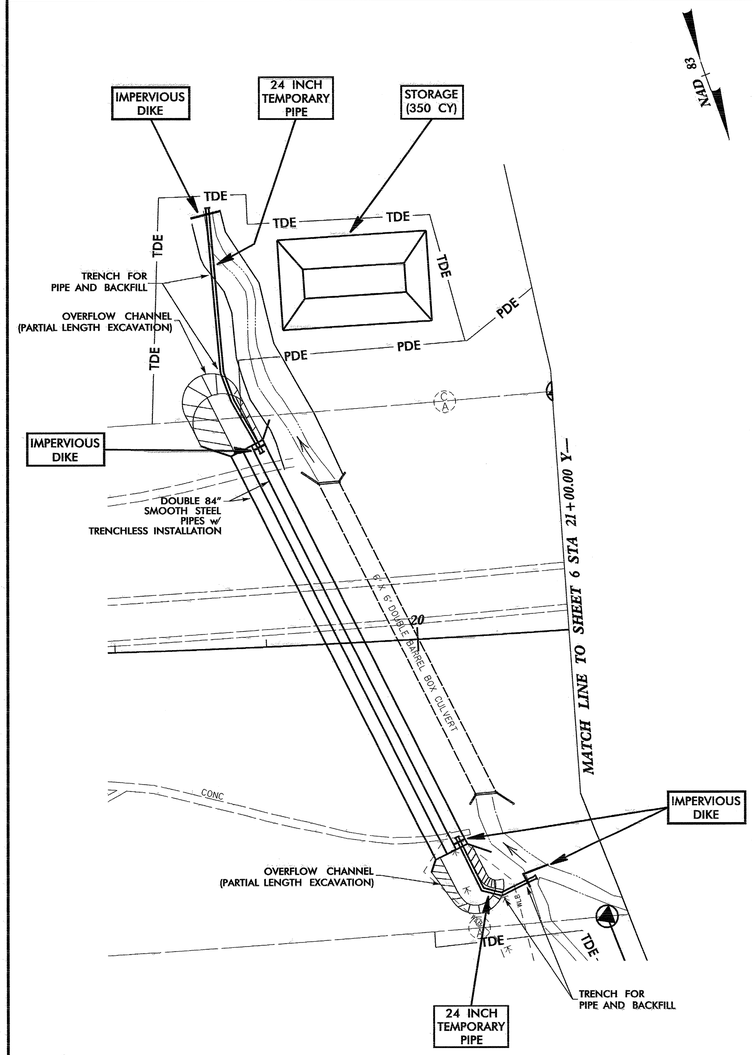
CULVERT CONSTRUCTION SEQUENCE STA. 19+93 –Y–

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-19/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

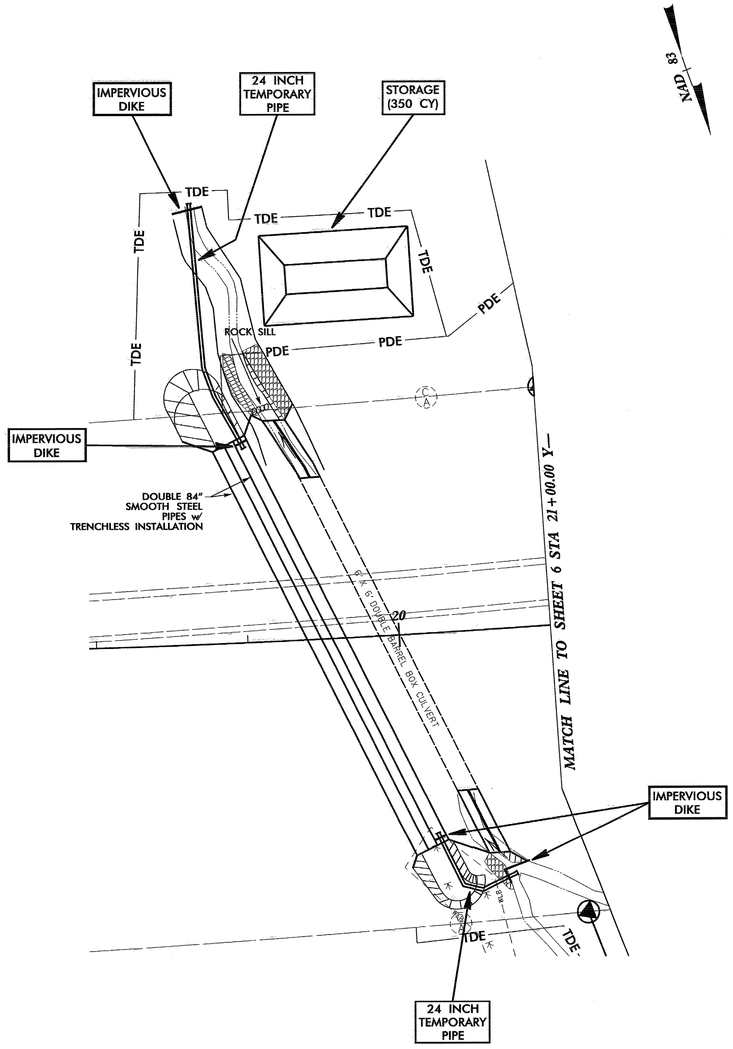
PHASE I

1. CONSTRUCT STILLING BASIN (350 CY).
2. EXCAVATE APPROXIMATELY 40' OF INLET/OUTLET OVERFLOW CHANNELS FOR 84" OVERFLOW PIPES. INSTALL 84" PIPES USING TRENCHLESS INSTALLATION, AND CONSTRUCT HEADWALLS/WINGWALLS FOR THE 84" PIPES.
3. CONSTRUCT IMPERVIOUS DIKES AND INSTALL 24" TEMPORARY PIPES, DIVERTING FLOW. TRENCH IN AND BACKFILL OVER 24" PIPES BETWEEN THE STREAM AND OVERFLOW CHANNELS.



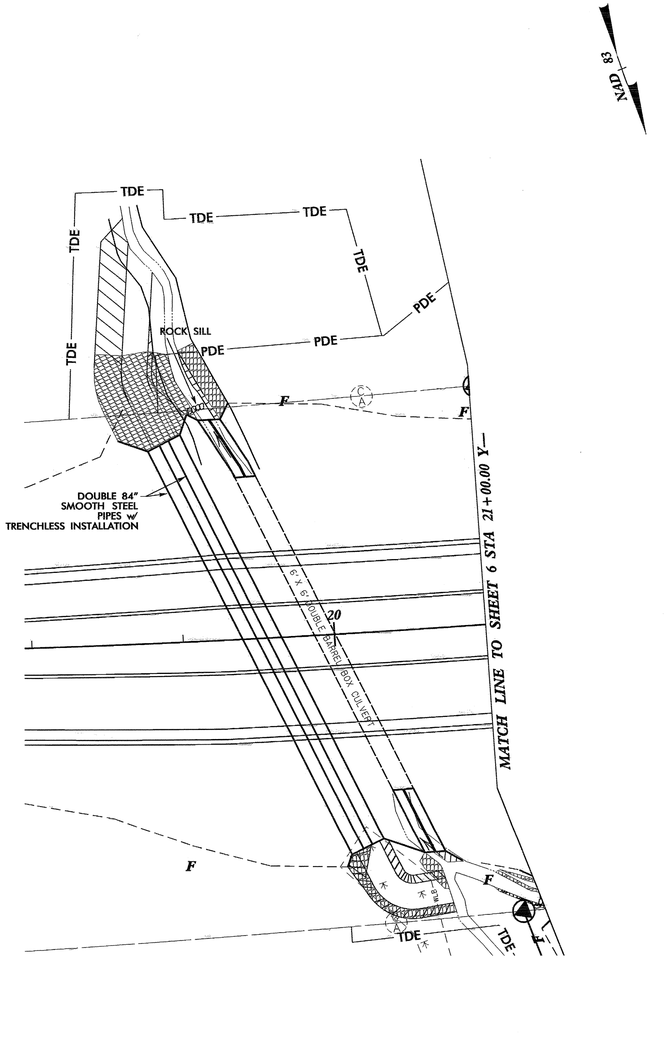
PHASE II

4. CONSTRUCT PROPOSED CULVERT EXTENSIONS FOR THE EXISTING CULVERT. REMOVE EXISTING HEADWALLS/WINGWALLS AND CONSTRUCT PROPOSED HEADWALLS/WINGWALLS.
5. CONSTRUCT ALL NECESSARY INLET/OUTLET CHANNEL IMPROVEMENTS FOR THE MAIN CHANNEL, INCLUDING INSTALLATION OF THE ROCK SILL.



PHASE III

6. COMPLETE CHANNEL EXCAVATION FOR THE 84" OVERFLOW PIPES.
7. REMOVE ALL IMPERVIOUS DIKES AND TEMPORARY PIPES, ALLOWING FLOW THROUGH THE CULVERT.
8. PLACE ALL REMAINING RIPRAP.
9. REMOVE STILLING BASIN, AND COMPLETE ROADWAY.



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PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-20/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

MATCH LINE TO SHEET 6 STA 37+20.00 -Y-

MATCH LINE TO SHEET 13 STA 51+90.00 -Y-

SR 1554 HEADE ST 21' BST

SR 1555 ARIE RD 21' BST

SR 1556 BLUMONT RD 20' BST BLUMONT DRIVE SR 1556

ISF&BLKD

ISFD

2SBKD

BLK WALL

15" CONC

EXISTING R/W

N67°29'22"W 414.83'

N67°29'22"W 231.08'

W/LT

6 ROY MASHBURN DB 657 PG 213

JACKIE MORRISS HEIRS DB 81 PG 549 PLAT SLIDE 2-765

CHARMETTA WILLIAMS DB 77 PG 221 DB 121 PG 501 PLAT SLIDE 2-765

YVAIN DOWDY DB 549 PG 748 PLAT SLIDE 2-765

FRED SUMPTER DB 87 PG 670 PLAT SLIDE 2-765

ROY MASHBURN DB 310 PG 535 DB 366 PG 569 DB 691 PG 996 PLAT SLIDE 4-252

BOOKER STREET EXTENSION

TRUELOVE STREET

48" WW

60" WW & 15BW

EIP

BY-352 PINC 43+79.41 = -Y- 49+88.11 61.24' LT.

LATERAL BASE DITCH SEE DETAIL "28" CL "B" RR-22 TNS FF-49sy

HW

153 A

REMOVE CONC. DITCH

RETAIN

US 421 23' BST

CONC

4' BST

2' CONC

REMOVE

152 2GI

153 2GI-A

30"

N 81° 49' 13.8" W

N 79° 36' 40.0" W

45

50

154 Top= 408.0 Inv= 406.0

JB w/Slope Lid 36"x 60"x 1315

15" CSP w/2 Elbows

60" CSP

FILL WITH FLOWABLE FILL

CL

TD

153 B

153 C

SEE DETAIL 44 CL "L" RR-50 TNS FF-56sy

PDE

-Y- +60.00 193.36' RT 245.00' RT

-Y- +10.00 195.27' RT 245.00' RT

SR 1580 ASHBY RD 20' BST ASHBY ROAD

-Y- +50.00 EXIST. R/W BEG. C/A & PROP. 60" WW FENCE

NC STATE HIGHWAY COMMISION DB 237 PG 447

199.30' N85°27'45"W

W/LT

BARBARA JOHNSON DB 380 PG 533

127.2' N85°27'45"W

BRENDA JOHNSON DB 703 PG 476

RFD ABANDA

TRUELOVE STREET 8' BST

COLE STREET EXTENSION (UNOPENED)

311.75' S46°28'20"E

TB.64' N50°51'16"W

S40°14'40"W 95.57'

EXISTING R/W

60'

JERRY B. MADDOX, ET AL

JERRY MADDOX DB 760 PG 005

4 JACK E. CAPPS PG 692 PG 613 PG 701 PG 988 PC 7 PG 16-F

45 x 12 x 3 ID 12.2 F

76 x 20 x 3 ID 12.1 CG

NOTE:

1) SEE SHEET 24 FOR -Y- PROFILE

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.

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6

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-2I/CONST.J3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NAD 83

-Y-
PI Sta 61+86.95
Δ = 52° 23' 31.1" (LT)
D = 19° 05' 54.9"
L = 274.32'
T = 147.59'
R = 300.00'
SE = NC

MATCH LINE TO SHEET 18 STA 28+00.00 -Y1-

MATCH LINE TO SHEET 17 STA 12+25.00 -Y2-

MATCH LINE TO SHEET 12 STA 51+90.00 -Y-

MATCH LINE TO SHEET 14 STA 21+75.00 -Y1-

-Y3- POTSta. 10+00.00
-Y1- POTSta. 24+58.67

-Y- PCSta. 60+39.36

-Y- POTSta. 64+34.50 =
-Y1- POTSta. 24+66.39

-Y- PTSta. 63+13.68

-Y- +00.00
EXIST. R/W
END C/A &
PROP. 60" WW
FENCE

ROY MASHBURN
DB 310 PG 535
DB 366 PG 569
DB 691 PG 996
PLAT SLIDE 4-252

RUBY TUESDAY, INC.
DB 783 PG 104

TACOHEAD ENTERPRISES, LLC
DB 1129 PG 667
DB 1129 PG 665
PLAT SLIDE 4-400
PLAT SLIDE 2006-16

JERRY B. MADDOX, ET AL
DB 524 PG 581

CALVIN HARDY JR.
DB 783 PG 232

VERNON THOMAS
DB 582 PG 960
DB 271 PG 572

5" MONOLITHIC CONCRETE ISLAND

DO NOT DISTURB LT. POLES OR METAL POLES

DO NOT DISTURB SIGN, LT. POLES OR METAL POLES

500' MEDIAN TRANSITION

200' LT. TURN TRANSITION

200' RT. TURN TRANSITION

SPECIAL DITCH SEE DETAIL 5

LATERAL BASE DITCH SEE DETAIL "I"

SPECIAL DITCH SEE DETAIL "S"

60 x 14 x 3
6 ft. weir
ID 13.2 CG

78 x 16 x 3
ID 13.3 CG

120 x 25 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
17 ft. weir
ID 13.1 CG

CL "I" RR = 13 TNS
FF = 30sy

CL "B" RR = 2 TNS
FF = 20sy

S 41° 59' 48.9" W

S 43° 56' 07.6" E

N 81° 51' 43.3" W

N 79° 36' 40.0" W

S 36° 29' 26.1" E

3.84 AC±

492.92'
N89°30'10"W

NC 87
22046
34000

8231 / 13400	1392 / 2200	5646 / 9200
		9862 / 16000
US 421	6838 / 11200	SR 1136
2009 / 2030	4215 / 6800	26062 / 40600

US 421 /NC 87

NOTES:
1) SEE SHEET 25 AND 26 FOR -Y- PROFILE
2) SEE SHEET 26 AND 27 FOR -Y1- PROFILE
3) SEE SHEET 27 FOR -Y3- PROFILE
4) DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

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

★ PROPOSED SIGNAL

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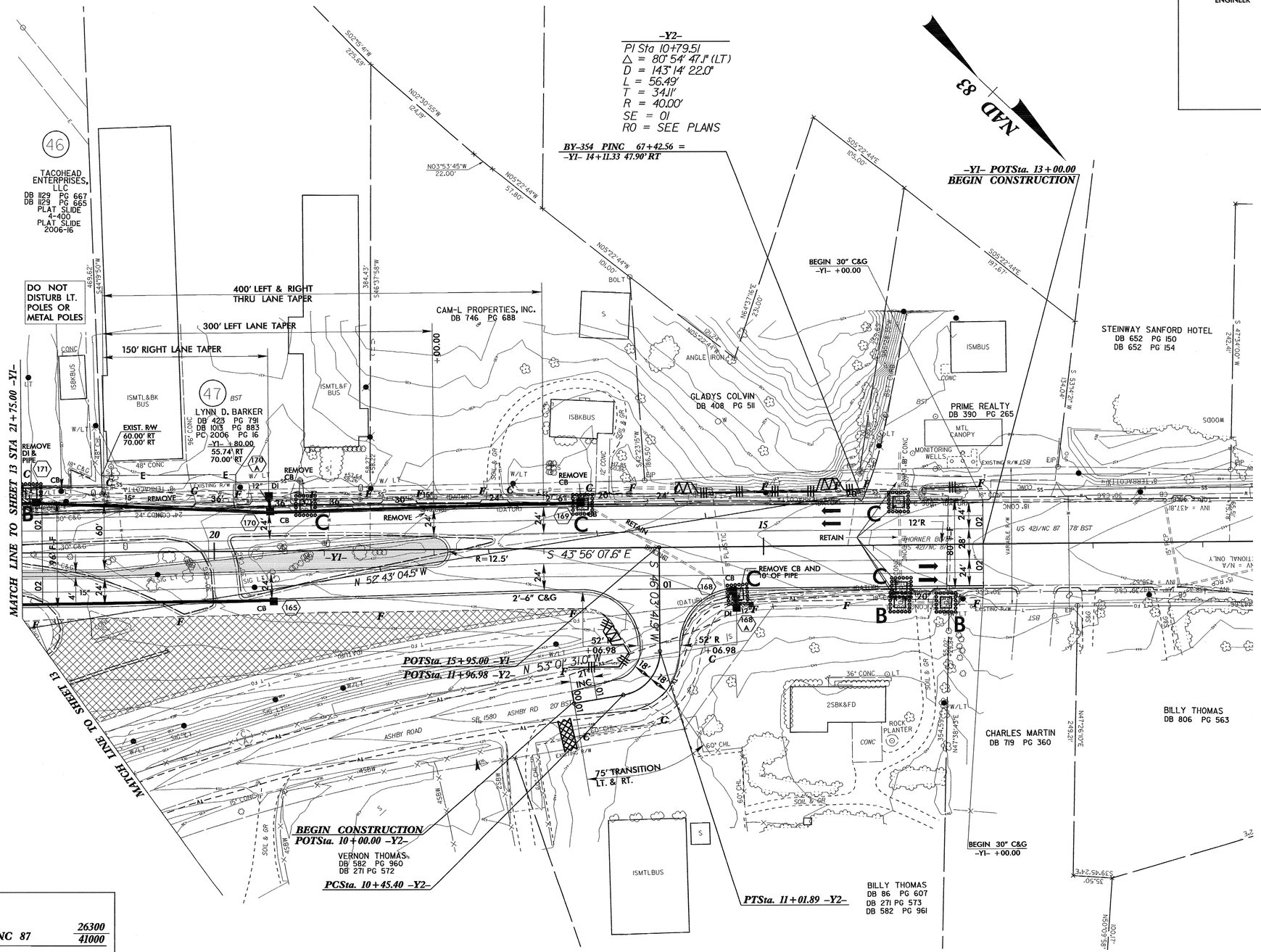
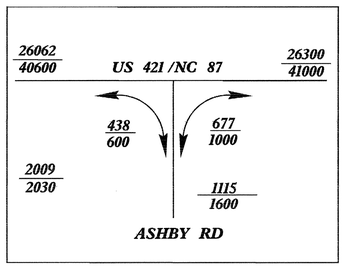
PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-22/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 14

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

NOTES:

1) SEE SHEET 25 FOR -Y1- PROFILE
2) SEE SHEET 33 FOR -Y2- PROFILE
3) DRIVEWAY RADII ARE 20' ULESS NOTED OTHERWISE

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jenniferparish AT RENV242003

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PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-23/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

MATCH LINE TO SHEET 11

MATCH LINE TO SHEET 6

MATCH LINE TO SHEET 7 STA 16+50.00 -FRONT-

68 x 12 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
4 ft. weir
ID 15.1 F

27 x 9 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 15.3 F

64 x 14 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
6 ft. weir
ID 15.2 F

52 PETER JUDD
DB 642 OPG 647
PLAT SLIDE 8-34G

BARBARA SPIGNER
DB 572 PG 878

51 JIMMY JOHNSON
DB 633 PG 837

50 BRENDA LAWSON
DB 951 PG 469
PLAT SLIDE 8-34G

44 DESSIE WILLIAMS
DB 735 PG 381
DB 294 PG 626
3' LATERAL BASE DITCH
SEE DETAIL 38
CL "I" RR=122 TNS
FF=172sy

30 HOMESTEAD INC.
DB 582 PG 924
PLAT SLIDE 8-62C

14 LIZZIE COLE HEIRS
DB 54 PG 379

29 CITY OF SANFORD
DB 310 PG 672

28 FRED SUMPTER
DB 287 PG 232
DB 387 PG 235

-FRONT- POTSta. 10+00.00
BEGIN CONSTRUCTION

-DRI- POTSta. 10+00.00

-DRI- PCSta. 10+19.46
BEGIN CONSTRUCTION

-DRI- POCSta. 10+20.00

-DRI- POTSta. 11+11.47

-FRONT- POCSta. 15+85.00 =
-DRI- POTSta. 11+48.39

Temporary Rock Sediment Dam
SEE DETAIL SHEET 26
CL "I" RR=99 TNS
BOTTOM weir height
FF=342sy

CL "I" RR=17 TNS
FF=40sy

CL "I" RR=49 TNS
FF=69sy

-FRONT-
PI Sta 18+90.57
Δ = 111° 48' 37.3" (LT)
D = 12° 56' 10.1"
L = 864.33'
T = 654.31'
R = 442.91'
SE = 06
RO = SEE PLANS

PI Sta 33+01.96
Δ = 22° 45' 32.3" (RT)
D = 1° 56' 25.5"
L = 1172.89'
T = 594.28'
R = 2952.75'
SE = NC
RO = SEE PLANS

-DRI-
PI Sta 10+85.13
Δ = 105° 25' 49.4" (LT)
D = 114° 35' 29.6"
L = 92.01'
T = 65.67'
R = 50.00'

NOTE:
1) SEE SHEET 27 FOR -FRONT- PROFILE

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.

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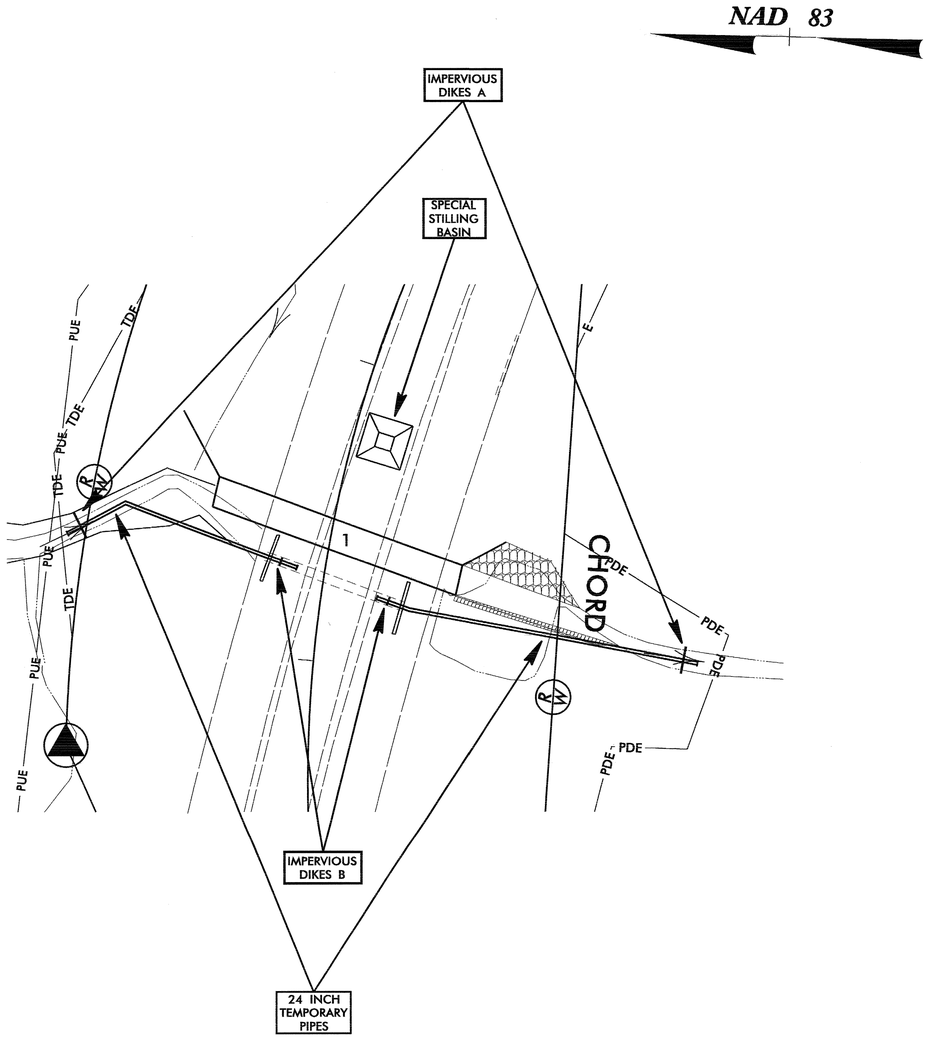
PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-24/CONST J5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 13+63 –FRONT–

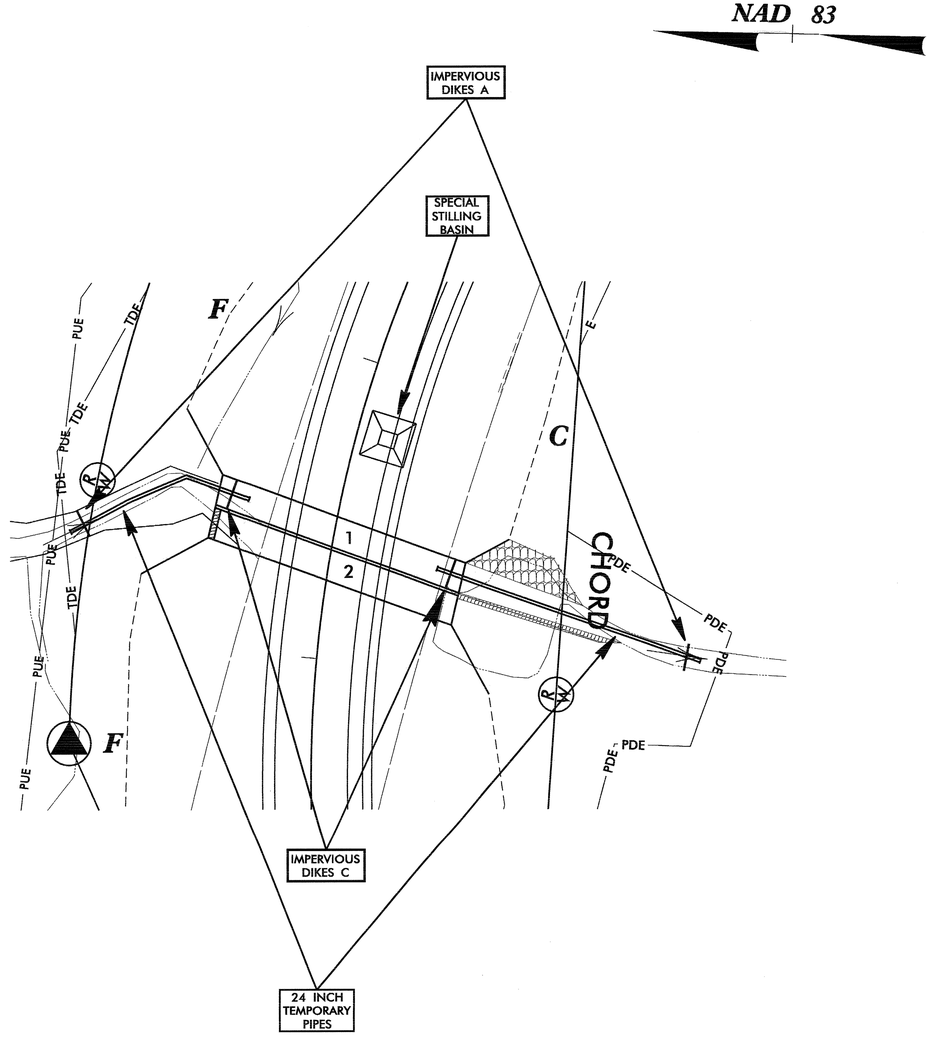
PHASE I

1. CLOSE ROAD TO TRAFFIC. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. CONSTRUCT IMPERVIOUS DIKES A AND B AND INSTALL 24" TEMPORARY PIPES, TO MAINTAIN FLOW IN THE EXISTING 72" PIPE. BACKFILL OVER 24" TEMPORARY PIPES BETWEEN THE STREAM AND 72" PIPE.
3. FILL IN THE SCOUR HOLE AT THE OUTLET OF THE EXISTING 72" PIPE.
4. CONSTRUCT BARREL 1 OF THE PROPOSED CULVERT, INCLUDING HEADWALLS AND WINGWALLS, AND THE INLET/OUTLET CHANNELS FOR THIS BARREL.

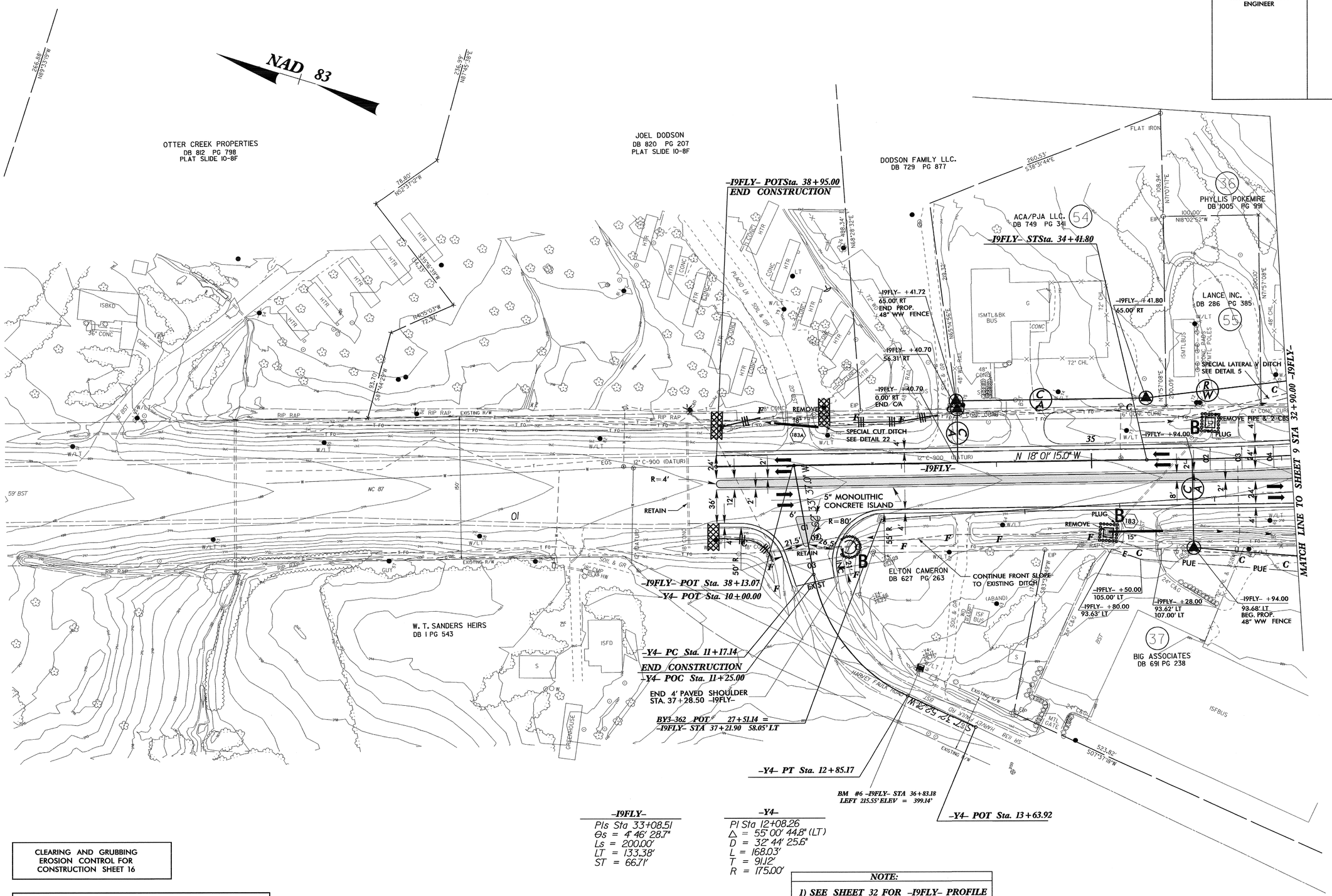


PHASE II

5. REMOVE IMPERVIOUS DIKES B, CONSTRUCT IMPERVIOUS DIKES C, AND SHIFT 24" TEMPORARY PIPES TO DIVERT FLOW THROUGH BARREL 1.
6. REMOVE EXISTING 72" PIPE.
7. CONSTRUCT BARREL 2 OF THE PROPOSED CULVERT, THE REMAINING HEADWALLS AND WINGWALLS, AND REMAINING INLET/OUTLET CHANNEL IMPROVEMENTS.
8. REMOVE ALL IMPERVIOUS DIKES, TEMPORARY PIPES, AND SPECIAL STILLING BASIN(S), AND COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-25/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-I9FLY-

PIs Sta 33+08.51
Θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

-Y4-

PI Sta 12+08.26
Δ = 55° 00' 44.8" (LT)
D = 32° 44' 25.6"
L = 168.03'
T = 91.12'
R = 175.00'

NOTE:

1) SEE SHEET 32 FOR -I9FLY- PROFILE

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.

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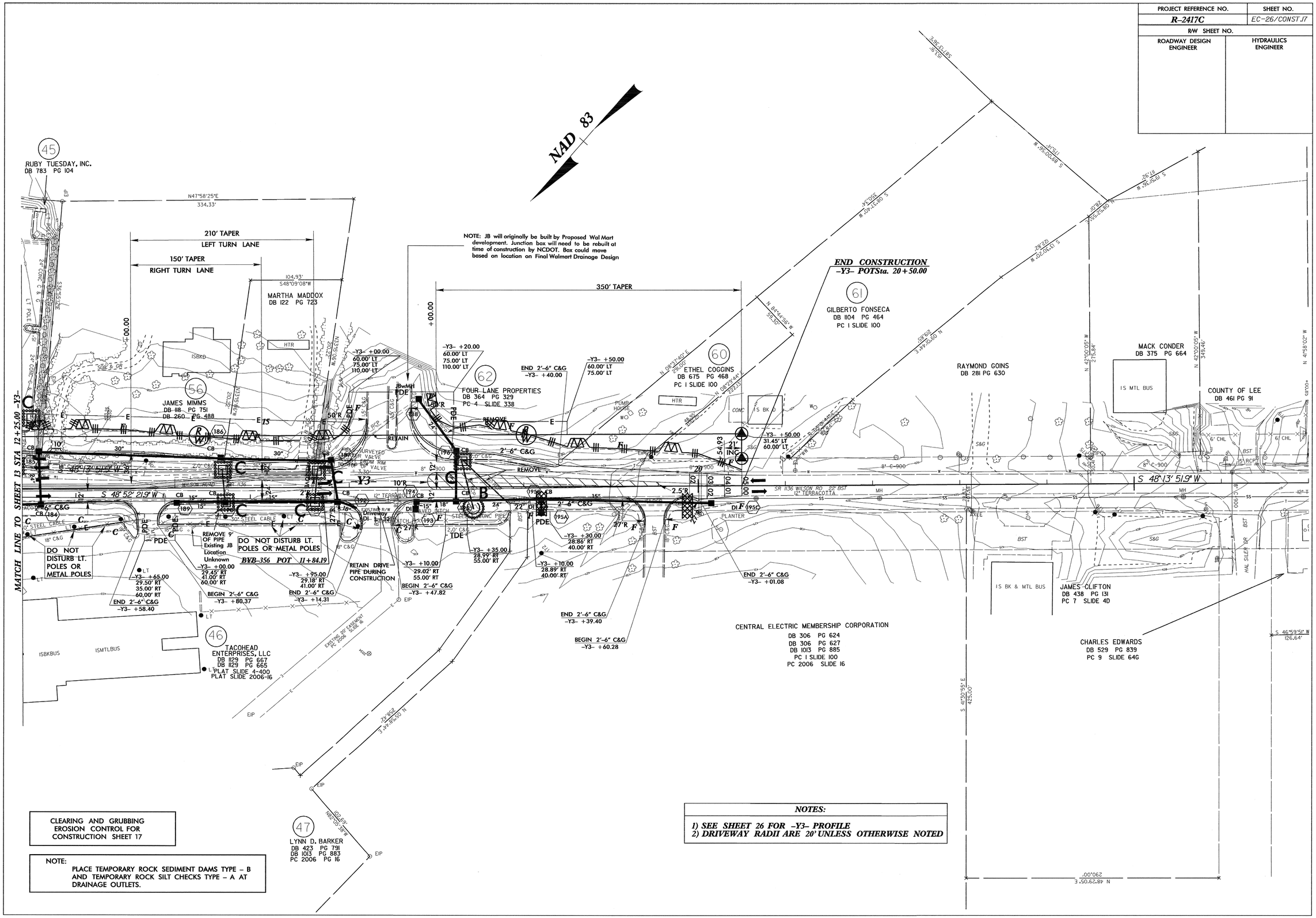
jenniferparish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-26/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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.

NOTES:

1) SEE SHEET 26 FOR -Y3- PROFILE
2) DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

8/17/99

17-AUG-2009 12:21
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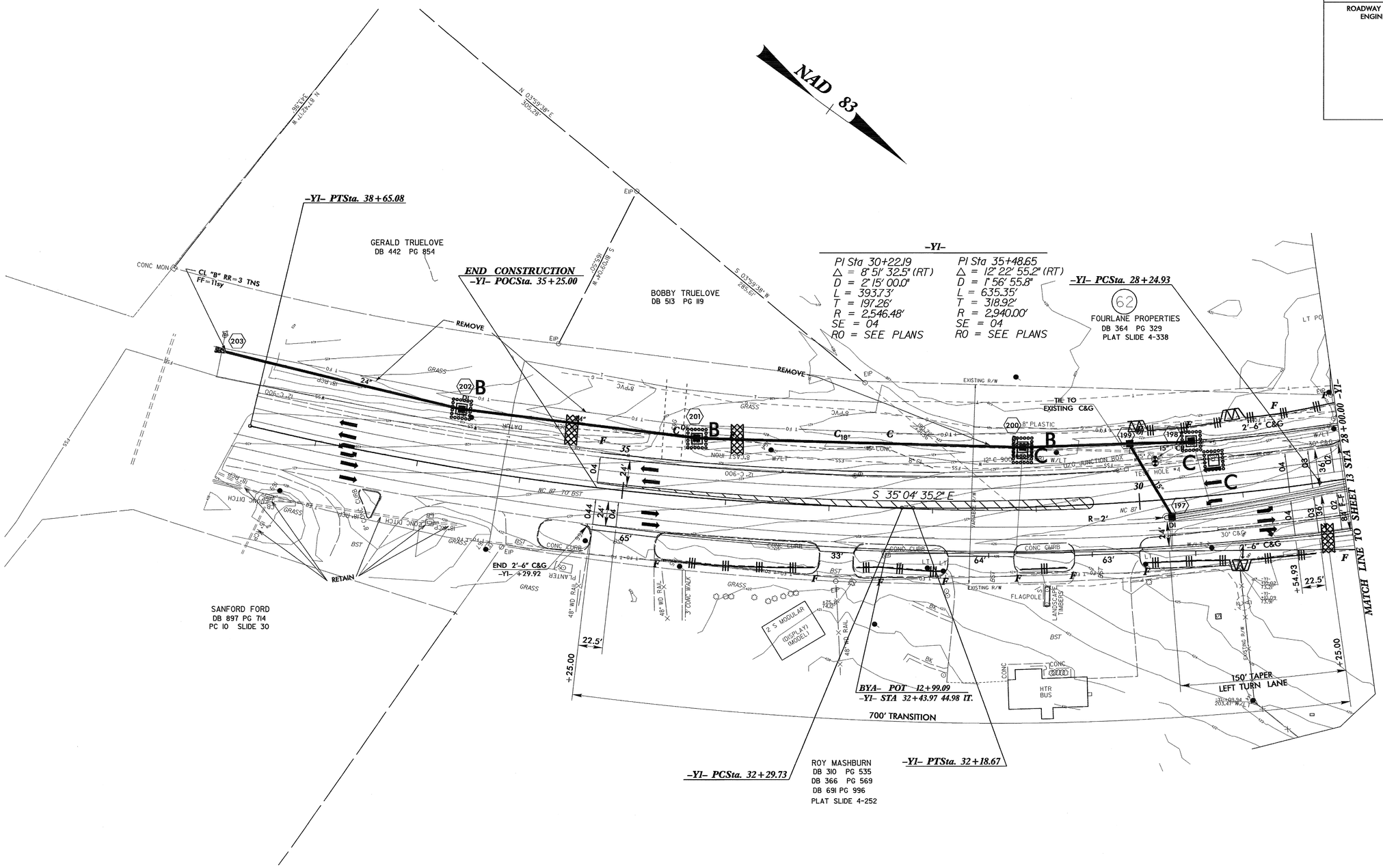
jennifer parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-27/CONST.18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 18

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

NOTES:

1) SEE SHEET 26 FOR -Y1- PROFILE

8/17/99

17-AUG-2009 12:23
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jennifer.parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-08/CONST.4
SW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-RPB-
Pls Sta 2+33.39 PI Sta 179+09.
Gs = 3°57'04.7 Gs = 4°59'58.7 Δ = 5°30'59.7" (LT)
Ls = 200.00' Ls = 200.00' D = 4°59'58.7'
Lt = 266.73' Lt = 133.39' L = 190.50'
St = 133.39' St = 66.72' T = 95.32'
e = 0.07' R = 1146.00'
e = 0.07'

Pls Sta 7+49.84 PI Sta 181+83.04
Gs = 4°59'58.7' Gs = 9°59'57.5'
Ls = 200.00' Ls = 200.00'
Lt = 133.39' Lt = 126.85'
St = 66.72' St = 63.50'

Pls Sta 20+91.23
Δ = 65°04'06.0" (RT)
D = 9°59'57.5"
L = 654.03'
T = 369.14'
R = 573.00'
e = 0.08

-RPC-
Pls Sta 3+33.68
Gs = 3°44'39.9"
Ls = 350.00'
Lt = 233.62'
St = 116.93'

Pls Sta 7+76.88
Δ = 31°57'25.4" (RT)
D = 4°59'58.7'
L = 639.85'
T = 328.88'
R = 1146.00'
e = 0.08

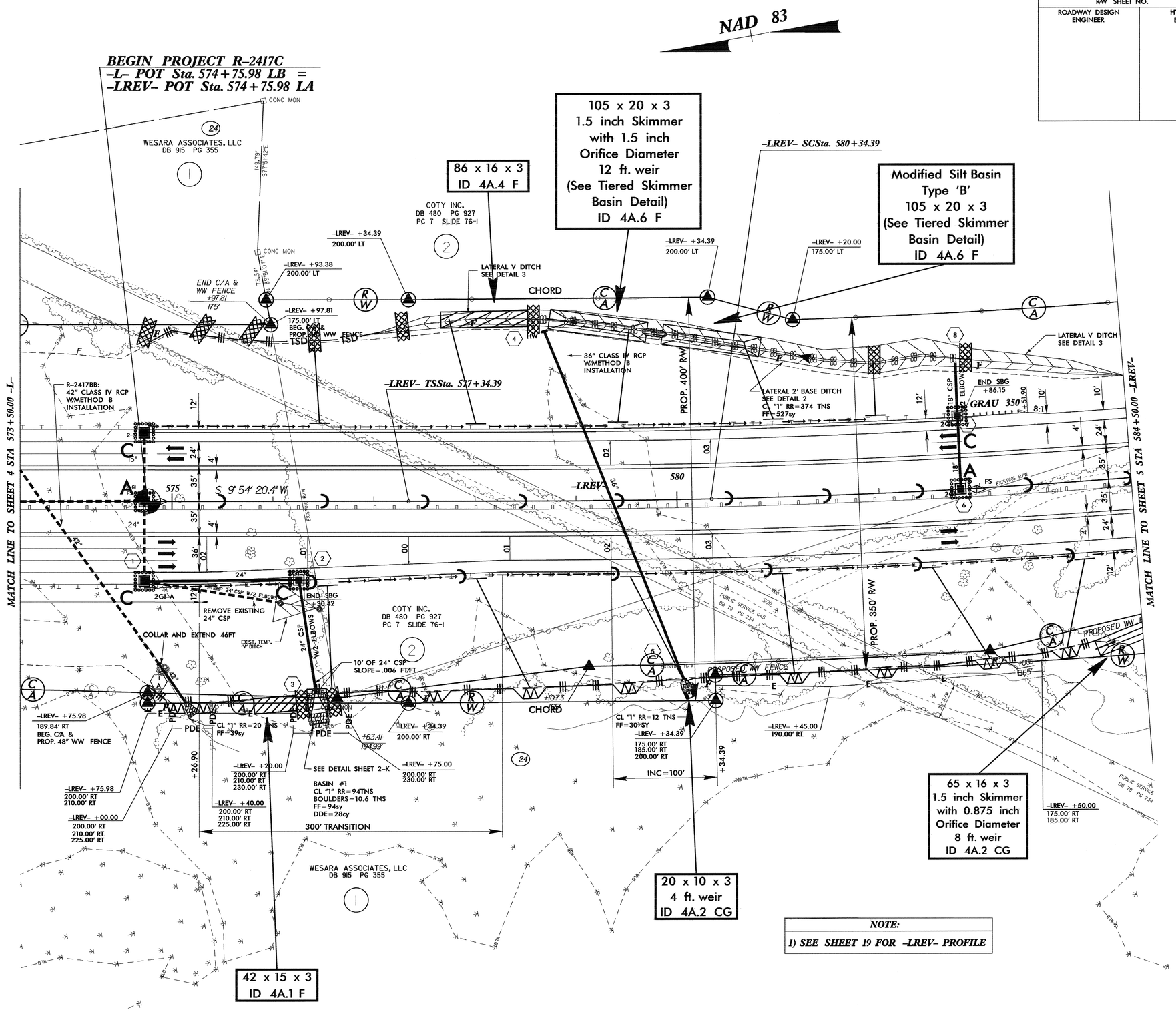
Pls Sta 11+53.57
Gs = 4°59'58.7'
Ls = 200.00'
Lt = 133.39'
St = 66.72'

Pls Sta 16+60.40
Gs = 9°59'57.5'
Ls = 200.00'
Lt = 133.55'
St = 66.88'

Pls Sta 17+89.07
Δ = 31°14'50.4" (LT)
D = 9°59'57.5'
L = 312.49'
T = 160.51'
R = 573.00'
e = 0.08

-RPB- PT Sta. 21+76.13
-RPB- SC Sta. 19+22.09
-RPB- TS Sta. 17+32.09
-RPB- ST Sta. 14+85.12
-RPB- CS Sta. 12+85.12
-RPB- SC Sta. 10+94.82
-RPB- TS Sta. 8+94.82
BEGIN RESURFACING R-2417C
-L- POT Sta. 551+09.69
-L- CS Sta. 551+09.69
-L- ST Sta. 554+39.69
-RPC- SC Sta. 4+50.00
1.546+11.71 =
to. 16+86.30
14.17
-RPC- CS Sta. 10+86.85
-RPC- ST Sta. 12+86.85
-RPC- TS Sta. 14+86.85
-RPC- SC Sta. 16+86.85
-RPC- PT Sta. 18+89.34
BEGIN RESURFACING R-2417C
-LPB- POT Sta. 12+30.50
-LPB- CS Sta. 10+27.33
-LPB- ST Sta. 12+11.33
-LPB- SC Sta. 5+00.00
-LPB- TS Sta. 1+00.00 =
-L- POT Sta. 564+04.00 OFF 59.00 LT
-LPC- TS Sta. 1+00.00 =
-L- POT Sta. 564+00.00 OFF 59.00 RT
-LPC- SC Sta. 5+00.00
-LPC- CS Sta. 10+02.32
-LPC- ST Sta. 11+92.32
-LPC- TS Sta. 14+38.95 =
-Y3- POC Sta. 23+10.93
-RPC- POT Sta. 224+32.72 =
-Y3- POC Sta. 22+85.93
-Y3- CS Sta. 25+46.88
END RESURFACING R-2417C
-L- POT Sta. 564+54.65
BEGIN CONSTRUCTION R-2417C
-L- POT Sta. 566+20.63 LA =
R-2417BB -L- POT Sta. 566+20.63 LB
-RPB- POT Sta. 24+77.12 =
-Y3- POT Sta. 35+73.75
-LPB- POT Sta. 14+71.46 =
-Y3- POT Sta. 35+98.75
BEGIN CABLE GUIDERAIL
-L- STA 564+40.65
PROPOSED CABLE GUIDERAIL
PROPOSED WW FENCE
EXIST. WW FENCE
S 9°54'20.4"W
S 78°02'46.8"E
S 11°07'13.2"W
S 14°16'08.7"W
NAD 83
MATCH LINE TO SHEET 4-A STA. 573+59.00 -L-
A
B
C
NOTE:
1) SEE SHEET 19 FOR -LREV- PROFILE.
GRAPHIC SCALE
50 25 0 50 100
PLANS

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-29/CONST.4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE:

1) SEE SHEET 19 FOR -LREV- PROFILE

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jennifer parish AT RENV242003

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-30/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

-LREV-

PI Sta 586+24.42
△ = 9° 03' 10.2" (LT)
D = 0° 46' 07.5"
L = 1,177.61
T = 590.03'
R = 7,453.13'
SE = 03
RO = SEE PLANS

PIs Sta 593+12.00
Θs = 1° 09' 11.2"
Ls = 300.00'
LT = 200.00'
ST = 100.00'

-LREV- POT Sta. 596+50.00 =
-YRPB- TS Sta. 0+00.00 59' LT.

58 x 10 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 5.2 F

45 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 5.3 F

80 x 20 x 3
ID 5.4 F

COTY INC.
DB 480 PG 927
PC 7 SLIDE 76-1
2

-LREV- CSSta. 592+11.99

-LREV- STSta. 595+11.99

300' TRANSITION

580' FULL LANE

+70.00

+50.00

-LREV- +11.99
175.00' LT

-LREV- +50.00
175.00' LT

CHORD

LATERAL BASE DITCH
SEE DETAIL 1C

CL "B" RR=2 TNS
FF=7sy

LATERAL V DITCH
SEE DETAIL 3

SPECIAL DITCH
SEE DETAIL 7

BL-280 (POINT HAS BEEN DESTROYED)
PINC 114+45.83 R-2417BB LB=
BL-280 (POINT HAS BEEN DESTROYED)
PINC 114+45.83 R-2417C LA

MATCH LINE TO SHEET 4 STA 584+50.00 -LREV-

MATCH LINE TO SHEET 6 STA 597+00.00 -LREV-

PROP. 350' R/W

EXISTING R/W

END CABLE GUIDERAIL
-LREV- STA 594+51.11

TYPE M350

BEGIN CABLE GUIDERAIL
-LREV- STA 596+28.77

SEE DETAIL SHEET 2-Q

-LREV- POT Sta. 596+75.00
-YRPC- POTSta. 0+00.00 59' RT.

TOE PROTECTION
SEE DETAIL 31
CL "B" RR=132 TN
FF=400sy

INC=100'

-LREV- +85.00
174.34' RT

-LREV- +90.00
174.31' RT

-LREV- +11.99
175.00' RT

-YRPC- +00.00
115.00' RT

-LREV- +45.00
225.00' RT

300' TAPER

WESARA ASSOCIATES, LLC
DB 915 PG 355
1

MYRTLE MATTHEWS POE
DB 940 PG 208
PC 10 SLIDE 52E
3

COTY INC.
DB 480 PG 927
PC 7 SLIDE 76-1
2

SEE DETAIL SHEET 2-K
BASIN #2
CL "I" RR=162 TNS
BOULDERS=5.5 TNS
RIP RAP TO ELEV. 388.3'
FF=1680 sy
DDE=202 cy

65 x 16 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
8 ft. weir
ID 4A.2 CG

70 x 13 x 3
1.5 inch Skimmer
with 0.75 inch
Orifice Diameter
5 ft. weir
ID 5.1 F

60 x 12 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
8 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 5.2 CG

Modified Silt Basin
Type 'B'
60 x 12 x 3
(See Tiered Skimmer
Basin Detail)
ID 5.2 CG

60 x 30 x 3
22 ft. weir
ID 5.2 CG

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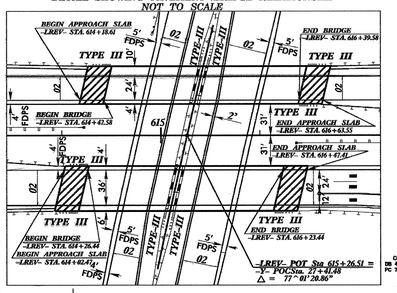
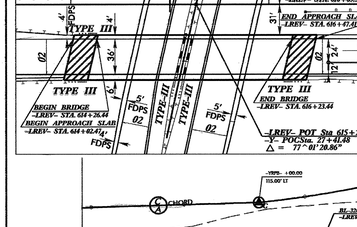
jennifer.parish AT PENV232003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-31/CONST 6
ROADWAY DESIGN ENGINEER	SW SHEET NO. / HYDRAULICS ENGINEER

DETAIL SHOWING PAVEMENT /BRIDGE RELATIONSHIP
NOT TO SCALE





67 x 12 x 3
ID 6.4 CG

110 x 25 x 3
ID 6.3 F

52 x 12 x 3
ID 6.3 CG

48 x 12 x 3
ID 6.5 F

-YRPB-

52 x 14 x 3
1.5 inch Skimmer with 0.875 inch Orifice Diameter
6 ft. wide
(See Tiered Skimmer Basin Detail)
ID 6.6 F

90 x 22 x 3
1.5 inch Skimmer with 1.25 inch Orifice Diameter
14 ft. wide
ID 6.15 F

90 x 30 x 3
1.5 inch Skimmer with 1.375 inch Orifice Diameter
22 ft. weir
ID 6.22 F

-YRPA-

-YRPC-

84 x 30 x 3
1.5 inch Skimmer with 1.375 inch Orifice Diameter
22 ft. weir
ID 6.21 F

84 x 18 x 3
1.5 inch Skimmer with 0.625 inch Orifice Diameter
6 ft. wide
ID 6.20 F

50 x 20 x 3
1.5 inch Skimmer with 0.875 inch Orifice Diameter
12 ft. wide
ID 6.24 F

60 x 12 x 3
ID 6.12 F

54 x 12 x 3
ID 6.13 F

28 x 12 x 3
ID 6.11 F

65 x 22 x 3
ID 6.1 F

44 x 22 x 3
1.5 inch Skimmer with 0.875 inch Orifice Diameter
14 ft. weir
ID 6.2 F

68 x 12 x 3
1.5 inch Skimmer with 0.75 inch Orifice Diameter
4 ft. weir
ID 6.7 F

45 x 12 x 3
ID 6.10 F

70 x 15 x 3
ID 6.9 F

34 x 12 x 3
ID 6.16 F

68 x 16 x 3
ID 6.17 F

92 x 16 x 3
ID 6.18 F

76 x 15 x 3
ID 6.19 F

-YLPD-

-YRPD-

MATCH LINE TO SHEET 11

MATCH LINE TO SHEET 7

MATCH LINE TO SHEET 12

NAD 83

NOTES:

1) SEE SHEETS 19 AND 20 FOR -LREV- PROFILE
2) SEE SHEETS 23 AND 24 FOR -Y- PROFILE
3) SEE SHEET 28 FOR -YRPA- PROFILE
4) SEE SHEETS 28 AND 29 FOR -YRPB- PROFILE
5) SEE SHEETS 29 AND 30 FOR -YRPC- PROFILE
6) SEE SHEET 30 FOR -YRPD- PROFILE
7) SEE SHEET 31 FOR -YLPD- PROFILE

★ PROPOSED SIGNAL

GRAPHIC SCALE
50 25 0 50 100
PLANS

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PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-32/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

MATCH LINE TO SHEET 15 STA 16+50.00 -FRONT-

MATCH LINE TO SHEET 6 STA 625+00.00 -LREV-

MATCH LINE TO SHEET 8 STA 639+00.00 -LREV-

30 HOMESTEAD INC. DB 582 PG 924 PLAT SLIDE 8-62C

32 CHARLES STEWART DB 611 PG 396 PLAT SLIDE 8-62C

68 x 13 x 3 ID 7.2 F

-YRPA- POTSta. 0+00.00 = -LREV- POTSta 632+50.00 59' LT.

-FRONT- PTSta. 21+00.58

-FRONT- PCSta. 27+07.68

BL-336 PINC 157+13.01 = -LREV- 638+78.57 42.05' LT.

-YRPA- SCSta. 4+50.00

BL-333 PINC 143+60.94= -BY2- PINC 13+58.94

BL-334 PINC 147+01.53 = -LREV- 628+72.83 0.12' RT.

BL-335 PINC 152+54.85 = -LREV- 634+21.20 25.72' LT.

-LREV- SCSta. 635+59.49

-YRPD- PCSta. 0+00.00 = -LREV- SCSta. 635+59.49 59' RT.

-YRPD- CS Sta. 3+94.79

-YRPD- CS Sta. 9+44.47

-LREV- TSSta. 632+59.49

-YRPD- SC Sta. 6+94.79

-YRPA- TSSta. 1+50.00

74 x 16 x 3 1.5 inch Skimmer with 0.875 inch Orifice Diameter 8 ft. weir ID 7.5 CG

75 x 18 x 3 ID 7.3 F

48 x 10 x 3 ID 7.1 F

-FRONT-

PI Sta 18+90.57	PI Sta 33+01.96
Δ = 111° 48' 37.3" (LT)	Δ = 22° 45' 32.3" (RT)
D = 12° 56' 10.1"	D = 1° 56' 25.5"
L = 864.33'	L = 1,172.89'
T = 654.31'	T = 594.28'
R = 442.91'	R = 2,952.75'
SE = 06	SE = NC
RO = SEE PLANS	RO = SEE PLANS

-YRPA-

PI Sta 6+08.95	PIs Sta 8+66.82
Δ = 12° 05' 52.2" (RT)	Θs = 5° 43' 46.5"
D = 3° 49' 11.0"	Ls = 300.00'
L = 316.72'	LT = 200.10'
T = 158.95'	ST = 100.10'
R = 1,500.00'	
SE= 08	
RO = SEE PLANS	

NOTES:

1) SEE SHEETS 20 AND 21 FOR -LREV- PROFILE
2) SEE SHEET 27 FOR -FRONT- PROFILE
3) SEE SHEET 28 FOR -YRPA- PROFILE
4) SEE SHEET 30 FOR -YRPD- PROFILE

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jennifer.parrish
dgn: HENV2420003

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-33/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

HOMESTEAD INC.
DB 582 PG 924
PLAT SLIDE 8-62C
30
N01°17'10"W 488.68'

SANFORD CITY LIMITS

33
W. C. WILSON JR.
DB 699 PG 350

34
ALBERT WOMBLE EST.
DB 119 PG 132

100 x 20 x 3
ID 8.4 F

80 x 20 x 3
ID 8.3 F

78 x 18 x 3
ID 8.8 F

40 x 14 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 8.2 F

48 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 8.1 F

28 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 8.10F

25 x 11 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 8.3CG

40 x 22 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
14 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 8.2CG

Modified Silt Basin
Type 'B'
40 x 22 x 3
(See Tiered Skimmer
Basin Detail)
ID 8.2CG

110 x 20 x 3
ID 8.5 F

70 x 18 x 3
ID 8.7 F

50 x 12 x 3
ID 8.9 F

ELEV = 407.93'
-FRONT- +85.00
110.00' LT

-FRONT- +60.00
80.00' LT

-FRONT- PT Sta. 38+00.00

CL "I" RR=13 TNS
FF=30sy

TOE PROTECTION
SEE DETAIL 39
CL "H" RR=134 TNS
FF=266sy

CL "B" RR= 5 TNS
FF=16sy

SPECIAL CUT DITCH
SEE DETAIL 22

SPECIAL DITCH
SEE DETAIL 22

SPECIAL CUT DITCH
SEE DETAIL 22

GRAU 350

TSD

FTSD

21' INC
+56.00

-LREV- CSSta. 649+51.48

BL-340 PINC 170+17.66 =
-LREV- 651+75.60 5.62' LT.

-LREV- STSta. 652+51.48

BL-338 PINC 165+67.93 =
-LREV- 647+26.66 10.46' LT.

BL-339 PINC 168+06.86 =
-LREV- 649+64.99 3.86' LT.

BL-337 PINC 163+20.98 =
-LREV- 644+80.97 18.42' LT.

+39.49

FALSE CUT
SEE DETAIL 19

24" CSP
W/ELBOW

+51.48
37.5'
INC

SPECIAL CUT DITCH
SEE DETAIL 7

580' FULL LANE

300' TRANSITION

JB
wSlab Lid

CHORD

-LREV- +90.00
175.98' RT

-LREV- +51.48
175.00' RT

-LREV- +51.48
175.00' RT

S 15° 32.8" W

S 23° 33' 58.4" W

S 27° 59' 53.8" W

S 29° 43' 05.6" W

S 30° 53' 33.0" W

S 31° 21' 41.9" W

S 49° 29' 38" W
1293.30'

MATCH LINE TO SHEET 7 STA 639+00.00 -LREV-

MATCH LINE TO SHEET 9 STA 653+00.00 -LREV-

PROP. 442.84' RW

NOTES:

1) SEE SHEET 21 FOR -LREV- PROFILE
2) SEE SHEET 27 AND 28 FOR -FRONT- PROFILE

-FRONT-

PI Sta 32+60.16
Δ = 21° 11' 44.0" (RT)
D = 1° 56' 25.5"
L = 1,092.32'
T = 552.47'
R = 2,952.75'
SE = 02
RO = SEE PLANS

-LREV-

PIs Sta 634+59.52	PI Sta 642+68.67	PIs Sta 650+51.51
θs = 2° 54' 38.3"	Δ = 27° 00' 37.6" (RT)	θs = 2° 54' 38.3"
Ls = 300.00'	D = 1° 56' 25.5"	Ls = 300.00'
LT = 200.03'	L = 1,391.99	LT = 200.03'
ST = 100.02'	T = 709.18'	ST = 100.02'
	R = 2,952.75'	
	SE = 08	
	RO = SEE PLANS	

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jmoyle
ec-psh08 ATI RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-34/CONST.9
BOWDOIN DESIGN ENGINEER	BW SHEET NO. / HYDRAULICS ENGINEER

Modified Silt Basin Type 'B' 35 x 30 x 3 (See Tiered Skimmer Basin Detail) ID 9.8CG

35 x 30 x 3 1.5 inch Skimmer with 0.875 inch Orifice Diameter 18 ft. weir (See Tiered Skimmer Basin Detail) ID 9.8CG

80 x 20 x 3 1.5 inch Skimmer with 1.125 inch Orifice Diameter 12 ft. weir ID 9.13 F

100 x 30 x 3 1.5 inch Skimmer with 1.5 inch Orifice Diameter 22 ft. weir ID 9.14 F

114 x 20 x 3 1.5 inch Skimmer with 1.25 inch Orifice Diameter 12 ft. weir ID 9.7 F

36 x 12 x 3 1.5 inch Skimmer with 0.5 inch Orifice Diameter 4 ft. weir ID 9.8 F

110 x 20 x 3 12 ft. weir ID 9.9 F

120 x 22 x 3 ID 9.1 F

120 x 22 x 3 ID 9.11 F

118 x 20 x 3 ID 9.4 F

88 x 20 x 3 ID 9.5 F

86 x 16 x 3 ID 9.6 F

72 x 12 x 3 ID 9.2 F

84 x 20 x 3 1.5 inch Skimmer with 1.125 inch Orifice Diameter 12 ft. weir ID 9.15 F

Modified Silt Basin Type 'B' 60 x 11 x 3 (See Tiered Skimmer Basin Detail) ID 9.3 F

60 x 11 x 3 1.5 inch Skimmer with 0.875 inch Orifice Diameter 4 ft. weir (See Tiered Skimmer Basin Detail) ID 9.3 F

Modified Silt Basin Type 'B' 60 x 14 x 3 (See Tiered Skimmer Basin Detail) ID 9.10 F

60 x 14 x 3 1.5 inch Skimmer with 1.0 inch Orifice Diameter 6 ft. weir (See Tiered Skimmer Basin Detail) ID 9.10 F

55 x 14 x 3 1.5 inch Skimmer with 0.75 inch Orifice Diameter 6 ft. weir ID 9.12 F

Place Matting for Erosion Control on Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.

-FRONT-
PI Sta 53+75.90
Δ = 19°56'29.0" (LT)
D = 4°46'28.7"
L = 406.40'
T = 180.32'
R = 1,200.00'
SE = 04
R0 = SEE PLANS

-LREV-
PI Sta 662+05.85
Δ = 43°49'21.0" (LT)
D = 1°36'25.5"
L = 2,256.64'
T = 1,187.88'
R = 3,562.75'
SE = 08
R0 = SEE PLANS

Pls Sta 656+39.20
Ge = 2°54'36.3"
Le = 300.00'
LT = 200.03'
ST = 100.02'

Pls Sta 680+97.61
Ge = 2°54'36.3"
Le = 300.00'
LT = 200.03'
ST = 100.02'

Sta.= -FRONT- 44+68 - 55+05 Lt
DA= 0.00 ac
i= 6.24 in/hr
Q= 3.1 cfs
V= 2.5 ft/sec
d= 0.7 ft
s= 0.07 ft/ft
n=0.073

-FRONT- PC Sta. 55+65.58

-FRONT- PT Sta. 55+81.99

-FRONT- POT Sta. 56+06.67

-FRONT- 65.08 80.00' LT

-FRONT- +06.67 80.00' LT

-FRONT- +81.99 80.00' LT

-LREV- +60.00 140.00' RT

-LREV- +76.99 140.00' RT

-LREV- +80.00 140.00' RT

-LREV- +80.00 175.00' RT

-LREV- +85.00 180.13' RT

-LREV- +177.59 150.00' RT

-LREV- +230.00 250.00' RT

-LREV- +50.00 210.00' RT

-LREV- +39.18 175.00' RT

-LREV- +39.18 175.00' RT

-LREV- +90.00 175.00' RT

-LREV- +10.00 175.00' RT

-LREV- +84.93 175.00' RT

-LREV- +13.76 175.00' RT

-LREV- +41.70 80.00' RT

-LREV- +22.06 104.94' LT

-LREV- +57.04 105.00' LT 120.00' LT

-LREV- +75.00 105.00' LT 110.00' LT

-LREV- +90.00 90.00' LT

-LREV- TSSta. 654+39.18

-LREV- SCSta. 657+39.18

-LREV- POCSta. 662+83.34 =
-19FLY- POCSta. 21+87.82

-19FLY- TSSta. 662+83.34

-19FLY- SCSta. 11+76.99

-19FLY- SRSSta. 9+76.99

-19FLY- CSSta. 7+76.99

-19FLY- CSSta. 9+82.56

-19FLY- SRSSta. 25+93.00

-19FLY- SCSta. 27+93.40

-19FLY- SRSSta. 11+82.56

-19FLY- CSSta. 13+82.56

-19RPD- CSSta. 9+82.56

-19RPD- SCSta. 6+00.00

-19RPD- SRSSta. 2+00.00

-19RPD- CS Sta. 0+00.00

-19RPD- STSta. 17+52.06

-19RPD- POTSta. 18+38.72
END CONSTRUCTION

-19FLY- CSSta. 42+41.88

-19RPD- SCSta. 13+82.56

-19RPD- CSSta. 15+52.06

-LREV- CSSta. 679+97.59

-LREV- POCSta. 665+35.34 =
-19FLY- POCSta. 21+87.82

Pls Sta 84+43.70
Ge = 4°46'28.7"
Le = 200.00'
LT = 133.39'
ST = 66.71'

Pls Sta 114+10.36
Ge = 4°16'32.9"
Le = 200.00'
LT = 133.37'
ST = 66.70'
SE = 06
R0 = SEE PLANS

Pls Sta 24+60.10
Ge = 4°16'32.9"
Le = 200.00'
LT = 133.37'
ST = 66.70'

Pls Sta 30+20.24
Δ = 27°24'33.2" (RT)
D = 4°46'28.7"
L = 446.59'
T = 226.84'
R = 1,200.00'
SE = 06
R0 = SEE PLANS

Pls Sta 13+98.51
Ge = 4°46'28.7"
Le = 200.00'
LT = 133.39'
ST = 66.71'

Pls Sta 27+06.78
Ge = 4°46'28.7"
Le = 200.00'
LT = 133.39'
ST = 66.71'

Pls Sta 18+30.72
Δ = 52°07'40.5" (LT)
D = 4°16'32.9"
L = 1,056.48'
T = 563.73'
R = 1,340.00'
SE = 06
R0 = SEE PLANS

Pls Sta 133+33.34
Ge = 1°54'10.7"
Le = 200.00'
LT = 133.34'
ST = 66.68'

Pls Sta 44+67.09
Ge = 9°55'45.8"
Le = 400.00'
LT = 132.00'
ST = 133.72'

Pls Sta 7+93.07
Δ = 15°09'19.7" (LT)
D = 4°59'22.8"
L = 380.66'
T = 191.07'
R = 1,148.29'
SE = 06
R0 = SEE PLANS

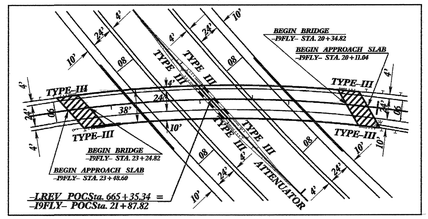
Pls Sta 101+49.28
Ge = 4°59'22.8"
Le = 200.00'
LT = 133.39'
ST = 66.71'

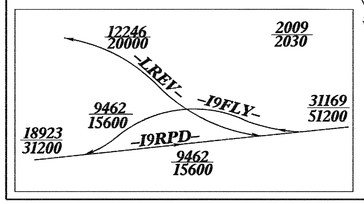
Pls Sta 134+58.5
Ge = 4°59'22.8"
Le = 200.00'
LT = 133.39'
ST = 66.71'

Pls Sta 144+67.41
Δ = 2°27'27.4" (RT)
D = 4°59'22.8"
L = 184.50'
T = 94.83'
R = 1,148.29'
SE = 06
R0 = SEE PLANS

Pls Sta 164+18.78
Ge = 4°59'22.8"
Le = 200.00'
LT = 133.39'
ST = 66.71'

DETAIL SHOWING PAVEMENT BRIDGE RELATIONSHIP
NOT TO SCALE





GRAPHIC SCALE
50 25 0 50 100
PLANS

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jenni.ferguson
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-35/CONST.JO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

40 x 16 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
8 ft. weir
ID 10.2 F

-I9FLY-
PI Sta 5+90.06
△ = 18° 00' 00.0" (RT)
D = 4° 46' 28.7"
L = 376.99'
T = 190.06'
R = 1,200.00'
SE = 06
RO = SEE PLANS

PIs Sta 3+33.38
Θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

-LREV- POTSta. 687+10.99
-I9FLY- POTSta. 0+00.00
(47° LT) △ = 2°18'00"

-I9FLY- SCSta. 4+00.00

38 x 12 x 3
ID 10.1 F

-I9FLY- TSSta. 2+00.00

TIE TO EXISTING
END GUARDRAIL LT. & RT.
END 2'-6" C&G -LREV- +10.99 LT.

END PROJECT R-2417C
-LREV- POTSta. 696+10.99

Temporary Rock
Sediment
Dam Type A
1.5 ft. weir height

41 ERNEST BAKER DB 37 PG 80

42 WILLARD BATCHELOR DB 94 PG 649

43 DORISE STILLWELL DB 103 PG 194

43A DORISE STILLWELL DB 369 PG 668

ELIZABETH STUTTS DB 592 PG 86

ELIZABETH STUTTS DB 462 PG 998

ELIZABETH STUTTS DB 604 PG 737

40 CLINTON BRYAN
DB 661 PG 228
DB 719 PG 664
PLAT SLIDE 9-15H
PLAT SLIDE 9-58B

CLINTON BRYAN
DB 661 PG 228
DB 719 PG 664
PLAT SLIDE 9-15H
PLAT SLIDE 9-58B

DB 627 PG 346
THUNDER CYCLES

300' TAPER
600' TAPER

TAIL DITCH
SEE DETAIL 24
EST 16cy DDE
CL "B" RR=38 TNS
FF=75sy

LATERAL BASE DITCH
SEE DETAIL 23
CL "B" RR=135 TNS
FF=300sy

CL "I" RR=55TNS
FF=16sy

-I9FLY- +00.00
140.00' RT

-I9FLY- +00.00
103.08' RT

-LREV- +50.00
150.00' LT
160.00' LT

-LREV- +50.00
150.00' LT
160.00' LT
END PROP.
48" WW FENCE

-LREV- +50.00
104.60' LT

BEGIN SBG
+66.00

ELBOW
Top 347.3
Inv 344.5
d=2.75'

GRAU-350'

-I9FLY-
N 15° 57' 56.5" W

S 14° 22' 37.2" E

S 18° 15' 56.5" E

END CABLE GUIDERAIL
-LREV- STA 684+25.00

FILL w/FLOWABLE FILL

-LREV-

-LREV- STSta. 692+97.59

MATCH LINE TO SHEET 9 STA 682+50.00 -LREV-

BERM DITCH
SEE DETAIL 10

STANDARD BERM DITCH

24"CSP
W/ELBOW

NCDOT BERM DITCH
DRAINAGE EASEMENT

BDO

BEGIN 2'-6"C&G
-LREV- +90.00

-LREV- +65.00
175.00' RT

-LREV- +97.59
175.00' RT
190.00' RT

P/L
175.00' RT
END PROP.
48" WW FENCE
190.00' RT

-LREV- +16.55

71.95' RT

BEGIN 2'-6" C&G
-LREV- +86.28

END 2'-6" C&G
-LREV- +39.49

END 2'-6" C&G
-LREV- +52.26

BEGIN 2'-6" C&G
-LREV- +94.64

END 2'-6" C&G
-LREV- +20.00

BEGIN SBG
+10.99 RETAIN

REMOVE

REMOVE MH

REMOVE U/G JUNCTION BOX

REMOVE CB

REMOVE

12" C-900 (DATUR)

15" CONC

18" CONC

24" CONC

42" CONC

30" CONC

EXISTING R/W

RIP RAP

SOIL & GR

ISFBUS

ISBKD

2SBKD

BST

HTR

EIP

TV

T FO

675' UNIFORM MEDIAN TRANSITION

900' UNIFORM MEDIAN TAPER

300' TRANSITION

120 x 22 x 3
ID 9.11 F

NAD 83

BL-345 PINC 210+74.34 =
-LREV- 692+35.25 42.27' RT.

NOTES:

1) SEE SHEET 22 AND 23 FOR -LREV- PROFILE
2) SEE SHEET 31 FOR -I9FLY- PROFILE
3) PAINT STRIPING

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rlenfert@ncdot.gov

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-36/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE TO SHEET 15

NAD 83

-Y- POTSta. 10+00.00
BEGIN CONSTRUCTION

-Y- PCSta. 15+47.94

58 x 12 x 3
ID 11.1 F

56 x 14 x 3
ID 11.2 F

58 x 10 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
4 ft. weir
ID 11.7 F

Temporary Rock
Sediment
Dam Type A
2 ft. weir height

DAVID JOHNSON
DB 625 PG 771

DESSIE WILLIAMS
DB 294 PG 626
DB 735 PG 381

LIZZIE COLE HEIRS
DB 54 PG 379

DALE MELLETTE
DB 757 PG 711

NC STATE HIGHWAY COMMISION
DB 242 PG 743

PEGGY GROCE
PLAT SLIDE 3-245
DB 521 PG 757

PEGGY GROCE
DB 389 PG 339
PLAT SLIDE 3-245

IFT PROPERTIES
DB 554 PG 328
PLAT SLIDE 3-245

234.20' N87°39'36"W
165.50' S56°10'24"W
165.48' S56°10'25"W
100.00' N.A.D.83 N
650' TRANSITION
EXISTING R/W
48" WW
REMOVE DI & 5' OF PIPE
SEE DETAIL 5
COLLAR AND EXTEND
10' R
4' BST
US 421 24' BST
EXIST
18" CONC
REMOVE
RETAIN
SPECIAL CUT DITCH
SEE DETAIL 7
BY-350 POT 5+00.00 =
-Y- 11,238.63 24.26' RT.
BERM DITCH
SEE DETAIL 10
BERM DITCH
SEE DETAIL 33
CL "B" RR=104 TNS
FF=231sy
+00.00
+84.03
925' UNIFORM MEDIAN TRANSITION
200' RT. TURN LANE
TRANSITION
FALSE CUT
SEE DETAIL 19A
CL "I" RR=7 TNS
FF=9sy
TOE PROTECTION
SEE DETAIL 17B
CL "I" RR=140 TN
FF=238 sy
EMBANKMENT
PROTECTION
SEE DETAIL 25
CL "I" RR=7 TNS
BOULDERS=8 TNS
FF=14.5sy
-Y- +25.24
150.10' LT
END PROP.
48" WW
FENCE
-Y- +30.00
150.32' LT
CL "I" RR=180 TNS
FF=388sy
42" CSP
DOUBLE 84"
SMOOTH STEEL
PIPES w/
TRENCHLESS INSTALLATION
CAT-I
8:1
BEGIN SBG
+97.57
GRAU 350
BEGIN SBG
+06.00
-Y- +90.00
152.19' LT
190.00' LT
-Y- +00.00
300' LT
-Y- +40.00
300' LT
EMBANKMENT PROTECTIO
SEE DETAIL 25
CL "I" RR=25 TNS
FF=40sy
3' BASE DITCH
SEE DETAIL 12
DDE=187cy
ROCK CROSS VANE
SEE DETAIL SHEET 2L
REMOVE
WW
-Y- +84.96
127.62' LT
END PROP 48"
WW FENCE
-Y- +07.61
150.82' LT
END PROP. 48"
WW FENCE
-Y- +37.28
156.31' LT
BEG. PROP. 48"
WW FENCE
MEDIAN DITCH
SEE DETAIL 9
RETAIN AND
EXTEND
DOUBLE 6' x 6'
RCBC
-Y- +10.60
164.80' RT
END PROP.
48" WW
FENCE
36" CSP
-Y- +00.00
EXIST R/W
205.00' RT
-Y- +74.11
155.70' RT
BEG. PROP. 48"
WW FENCE
CL "I" RR=23 TNS
FF=70sy
-Y- +96.27
192.35' RT
-YRPB- +56.45
115' LT
END C/A
-YRPB- +41.45
108.05' LT
END PROP. 48"
WW FENCE
-YRPB- +15.00
115.00' LT
130.00' LT
-YRPB- +21.77
115.00' LT
ROCK CROSS VANE
SEE DETAIL SHEET 2L
CL "I" RR=17 TNS
BOULDERS=6 TNS
FF=255sy
-Y- +03.30
EXIST R/W
BEG. PROP. 48"
WW FENCE
R2417C-2 -BY- PINC 13+17.00
GPS MONUMENT
-Y- 19+35.09 0.64' RT.
PROSPERITY DRIVE
SR 1571
MATCH LINE TO SHEET 6 STA 21+00.00 -Y-
30 x 10 x 3
ID 11.3 F
55 x 14 x 3
ID 11.4 F
48 x 12 x 3
ID 11.5 F
48 x 10 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 11.6 F
42 x 9 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 11.8 F

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-37/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

ROY MASHBURN
DB 310 PG 535
DB 366 PG 569
DB 691 PG 996
PLAT SLIDE 4-252

BY-352 PINC 43+79.41 = -Y- 49+88.11 61.24' LT.

6
ROY MASHBURN
DB 657 PG 213

JACKIE MORRISS HEIRS
DB 81 PG 549
PLAT SLIDE 2-765

CHARMETTA WILLIAMS
DB 77 PG 221
DB 121 PG 501
PLAT SLIDE 2-765

YVAIN DOWDY
DB 549 PG 748
PLAT SLIDE 2-765

FRED SUMPTER
DB 87 PG 670
PLAT SLIDE 2-765

SR 1554 MEADE ST 22' BST
SR 1555 JUNE RD 22' BST
SR 1556 BLUMONT RD 20' BST BLUMONT DRIVE SR 1556
SR 1553 TRUELOVE STREET
ISF&BLKD
ISFD
2SBKD
BLK WALL
15" CONC
96" CMP
414.53'
N67°29'22"W
231.08'
N67°29'22"W
W/LT
EIP
EXISTING R/W
50'
60'
48" WW
60" WW & ISBW
COOPER STREET EXTENTION
S05°45'45"W 94.18'
N05°45'45"E 97.28'
LATERAL BASE DITCH
SEE DETAIL "28"
CL "B" RR=22 TNS
FF=49sy
HW
153 A
14' CONC HW
18" CMP
RETAIN DIA PIPE
REMOVE CONC. DITCH
CONC
4' BST
US 421 23' BST
RETAIN
REMOVE
24'
2'
46'
40
02
N 81° 49' 13.8" W
N 79° 36' 40.0" W
45
50
15" CSP
W/2 Elbows
Top: 408.0
Inv1: 405.2
154
JB w/Solid Lid 385.3
Inv 60°: 385.3
Inv 60°: 385.3
2GI
30"
2GI-A
153 B
14' CONC HW
FILL WITH FLOWABLE FILL
BST (ABAND)
SR 1580 ASHBY RD 20' BST
ASHBY ROAD
SEE DETAIL 44
CL "1" RR=50 TNS
FF=56sy
153 C
NC STATE HIGHWAY COMMISION
DB 237 PG 447
189.30'
N85°27'45"W
W/LT
TRUELOVE STREET SR 1553
N04°32'15"E
210.78'
BARBARA JOHNSON
DB 380 PG 533
121.24'
N85°27'45"W
BRENDA JOHNSON
DB 703 PG 416
ISFD ABAND
COLE STREET EXTENSION (UNOPENED)
317.75'
S46°28'20"E
78.64'
N50°51'16"W
S04°14'40"W
95.67'
JERRY B. MADDOX, ET AL
JERRY MADDOX
DB 760 PG 005
-Y- +50.00
EXIST. R/W
BEG. C/A &
PROP. 60' WW
FENCE
VARIABLE R/W
PDE
-Y- +60.00
195.36' RT
245.00' RT
-Y- +10.00
195.27' RT
245.00' RT
80 x 20 x 3
ID 12.1 F
45 x 12 x 3
ID 12.2 F
76 x 20 x 3
ID 12.1 CG
48 x 10 x 3
ID 12.4 F
4
JACK E. CAPPS
PG 692 PG 613
PG 701 PG 988
PC 7 PG 16-F

MATCH LINE TO SHEET 6 STA 37+20.00 -Y-

MATCH LINE TO SHEET 13 STA 51+90.00 -Y-

NOTE:
1) SEE SHEET 24 FOR -Y- PROFILE

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-3B/CONST J3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

-Y-
PI Sta. 61+86.95
△ = 52° 23' 31.1" (LT)
D = 19° 05' 54.9"
L = 274.32'
T = 147.59'
R = 300.00'
SE = NC

MATCH LINE TO SHEET 18 STA. 28+00.00 -Y1-

MATCH LINE TO SHEET 17 STA. 12+25.00 -Y2-

MATCH LINE TO SHEET 12 STA. 51+90.00 -Y-

MATCH LINE TO SHEET 14 STA. 21+75.00 -Y1-

MATCH LINE TO SHEET 14

-Y3- POTSta. 10+00.00
-Y1- POTSta. 24+58.67

-Y- PCSta. 60+39.36

-Y- POTSta. 64+34.50 =
-Y1- POTSta. 24+66.39

-Y- PTSta. 63+13.68

6+84.60 = ? = ?

20 x 9 x 3
ID 13.1 F

30 x 9 x 3
ID 13.2 F

ROY MASHBURN
DB 310 PG 535
DB 366 PG 569
DB 691 PG 996
PLAT SLIDE 4-252

ROBY TUESDAY, INC.
DB 783 PG 104

TACOHEAD ENTERPRISES, LLC
DB 1129 PG 667
DB 1129 PG 665
PLAT SLIDE 4-400
PLAT SLIDE 2006-16

CALVIN HARDY JR.
DB 783 PG 232

VERNON THOMAS
DB 582 PG 960
DB 271 PG 572

JERRY B. MADDOX, ET AL
DB 524 PG 581

ISBK CHURCH

5" MONOLITHIC CONCRETE ISLAND

DO NOT DISTURB LT. POLES OR METAL POLES

DO NOT DISTURB SIGN, LT. POLES OR METAL POLES

SPECIAL DITCH SEE DETAIL 5

SPECIAL DITCH SEE DETAIL "5"

LATERAL BASE DITCH SEE DETAIL "7"

Temporary Rock Sediment Dam Type A 2 ft. weir height

FILL WITH FLOWABLE FILL

500' MEDIAN TRANSITION

200' RT. TURN TRANSITION

200' LT. TURN TRANSITION

EXISTING R/W

EXIST. R / W END C/A & PROP. 60" WW FENCE

SR 1580 ASHBY RD 20' BST

ASHBY ROAD

US 421 24' BST

4' BST

30" CONC

60" WW & ISBW

18" CONC

15" CONC

24" CONC

REMOVE PIPE & 2-CBS

REMOVE CB

REMOVE 30" CONC

REMOVE 24" CONC

REMOVE CURB & GUTTER

REMOVE SIDEWALK

REMOVE CONC ISL

REMOVE CONC PAD

REMOVE CONC WALK

RETAIN

RETAIN SIDEWALK

RETAIN CURB & GUTTER

RETAIN CONC ISL

RETAIN CONC WALK

PAVED PARKING

24" CONC C & G

2'-6" C&G

GREASE TRAP MH

IS BLK BUS

MTL GATE

ABANDN

S 36° 26' 26" E

S 47° 59' 48.9" W

S 45° 56' 07.6" E

N 81° 57' 43.3" W

N 79° 36' 40.0" W

S 03° 27' 29" E 342.21'

N 89° 30' 10" W 492.92'

S 38° 44' 20" E 227.27'

END 2'-6" C&G -Y- +16.83

END 2'-6" C&G -Y3- +15.53

BEGIN 2'-6" C&G -Y3- +10.66

END 2'-6" C&G -Y3- +51.75

BEGIN 2'-6" C&G -Y3- +80.85

END 2'-6" C&G -Y- +08.88

END 2'-6" C&G -Y1- +82.41

BEGIN 2'-6" C&G -Y1- +06.44

-Y1- +10.00 69.75' RT

-Y1- +75.00 75.00' RT

-Y3- +00.00 90.00' LT

-Y3- +92.64 60.00' LT

-Y1- +78.23 70.00' RT EXIST. R/W

57.00' RT

CL "I" RR=13 TNS FF=30sy

CL "B" RR=2 TNS FF=7sy

NOTES:
1) SEE SHEET 25 AND 26 FOR -Y- PROFILE
2) SEE SHEET 26 AND 27 FOR -Y1- PROFILE
3) SEE SHEET 27 FOR -Y3- PROFILE
4) DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

NC 87

22046 / 34000		
1392 / 2200	5646 / 9200	
8231 / 13400		9862 / 16000
US 421		SR 1136
6838 / 11200	4215 / 6800	
2009 / 2030	26062 / 40600	

US 421 / NC 87

★ PROPOSED SIGNAL

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jennifer.parish
AT RENV242003

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-39/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

–Y2–
PI Sta 10+79.51
△ = 80° 54' 47.1" (LT)
D = 143° 14' 22.0"
L = 56.49'
T = 34.11'
R = 40.00'
SE = 01
RO = SEE PLANS

BY–354 PINC 67+42.56 =
–Y1– 14+11.33 47.90' RT

–Y1– POTSta. 13+00.00
BEGIN CONSTRUCTION

BEGIN 30" C&G
–Y1– +00.00

MATCH LINE TO SHEET 13 STA 21+75.00 –Y1–

MATCH LINE TO SHEET 13

TACOHEAD ENTERPRISES, LLC
DB 1129 PG 667
DB 1129 PG 665
PLAT SLIDE 4-400
PLAT SLIDE 2006-16

DO NOT DISTURB LT. POLES OR METAL POLES

400' LEFT & RIGHT THRU LANE TAPER
300' LEFT LANE TAPER
150' RIGHT LANE TAPER

CAM-L PROPERTIES, INC.
DB 746 PG 688

LYNN D. BARKER
DB 423 PG 791
DB 1013 PG 883
PC 2006 PG 16

GLADYS COLVIN
DB 408 PG 511

PRIME REALTY
DB 390 PG 265

STEINWAY SANFORD HOTEL
DB 652 PG 150
DB 652 PG 154

CHARLES MARTIN
DB 719 PG 360

BILLY THOMAS
DB 806 PG 563

VERNON THOMAS
DB 582 PG 960
DB 271 PG 572

BILLY THOMAS
DB 86 PG 607
DB 271 PG 573
DB 582 PG 961

ASHBY ROAD SR 1580 ASHBY RD 20' BST

EXIST. R/W 60.00' RT 70.00' RT
–Y1– +80.00 55.74' RT 70.00' RT

REMOVE DI & PIPE
REMOVE CB
REMOVE CB AND 10" OF PIPE
REMOVE
RETAIN
75' TRANSITION LT. & RT.

POTSta. 15+95.00 –Y1–
POTSta. 11+96.98 –Y2–

BEGIN CONSTRUCTION
POTSta. 10+00.00 –Y2–

PCSta. 10+45.40 –Y2–

PTSta. 11+01.89 –Y2–

BEGIN 30" C&G
–Y1– +00.00

26062 / 40600	US 421 /NC 87	26300 / 41000
438 / 600		677 / 1000
2009 / 2030		1115 / 1600

ASHBY RD

NOTES:

1) SEE SHEET 25 FOR –Y1– PROFILE
2) SEE SHEET 33 FOR –Y2– PROFILE
3) DRIVEWAY RADII ARE 20' ULESS NOTED OTHERWISE

17-AUG-2009 12:11
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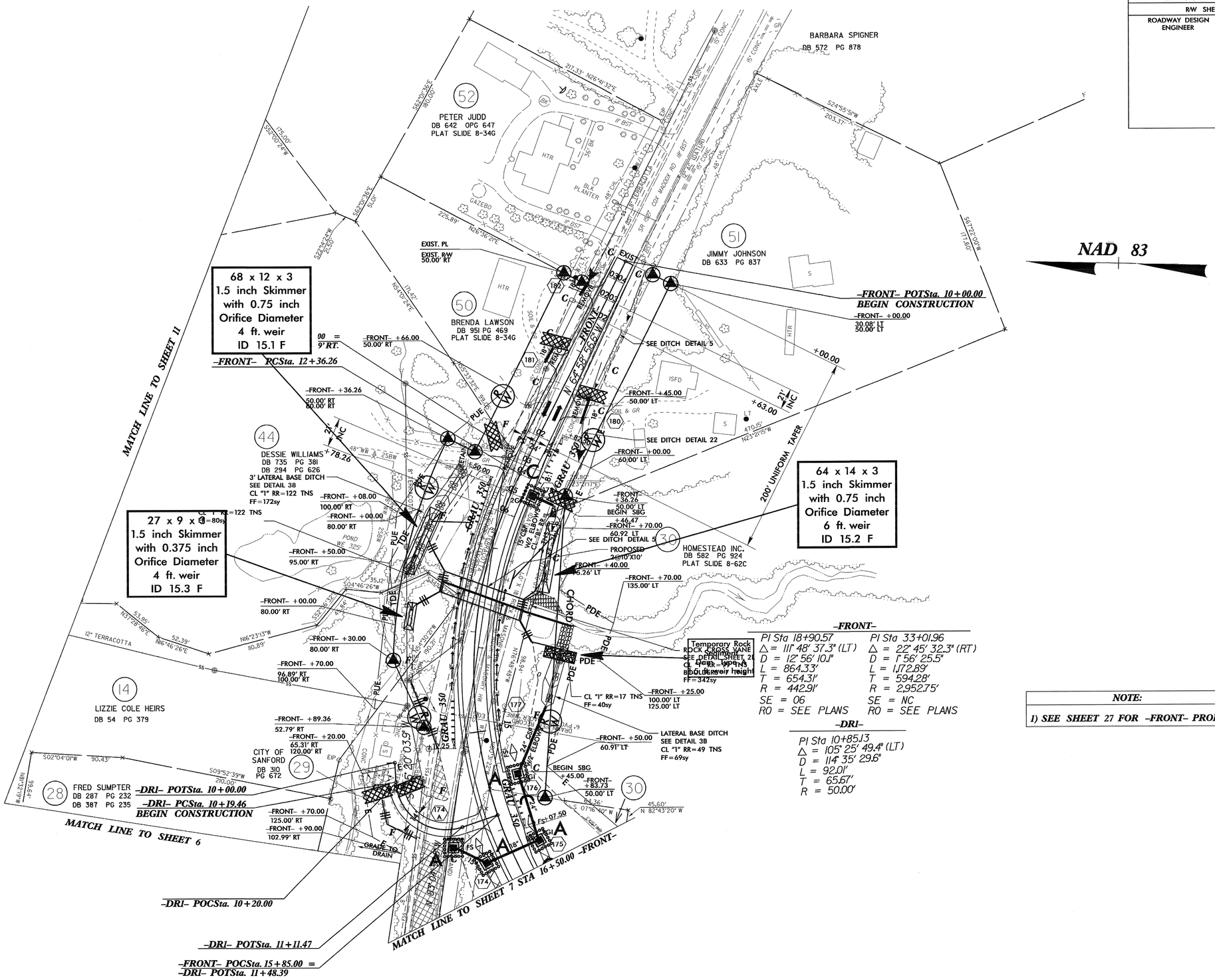
mgillespie30

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-40/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-FRONT-

PI Sta 18+90.57	PI Sta 33+01.96
Δ = 111° 48' 37.3" (LT)	Δ = 22° 45' 32.3" (RT)
D = 12° 56' 10.1"	D = 1° 56' 25.5"
L = 864.33'	L = 1,172.89'
T = 654.31'	T = 594.28'
R = 442.91'	R = 2,952.75'
SE = 06	SE = NC
RO = SEE PLANS	RO = SEE PLANS

-DRI-

PI Sta 10+85.13
Δ = 105° 25' 49.4" (LT)
D = 114° 35' 29.6"
L = 92.01'
T = 65.67'
R = 50.00'

NOTE:

1) SEE SHEET 27 FOR -FRONT- PROFILE

8/17/99

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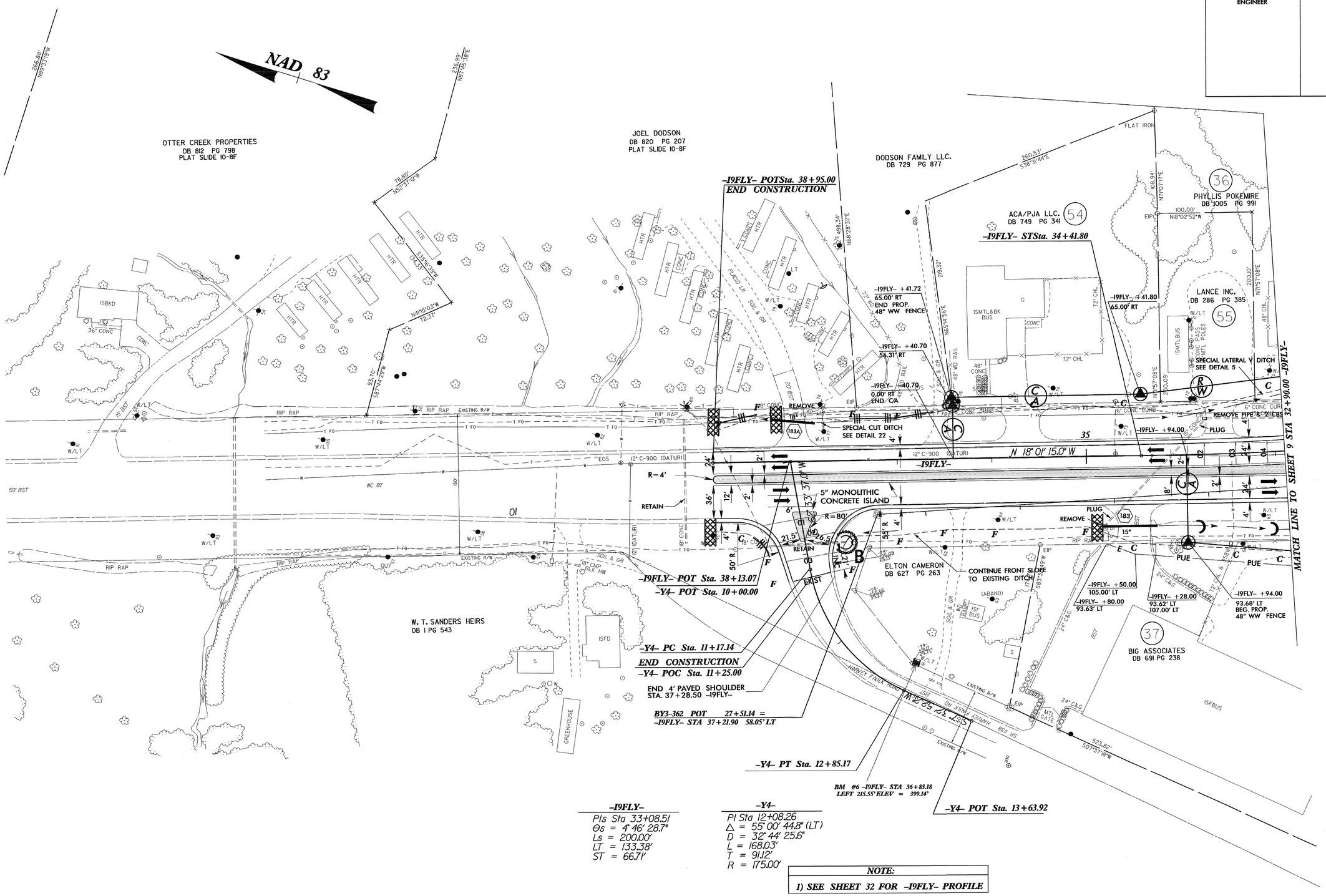
jennifer.parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-41/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-19FLY-

PIs Sta 33+08.51
Θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

-Y4-

PI Sta 12+08.26
Δ = 55° 00' 44.8" (LT)
D = 32° 44' 25.6"
L = 168.03'
T = 91.12'
R = 175.00'

NOTE:

1) SEE SHEET 32 FOR -19FLY- PROFILE

8/17/99

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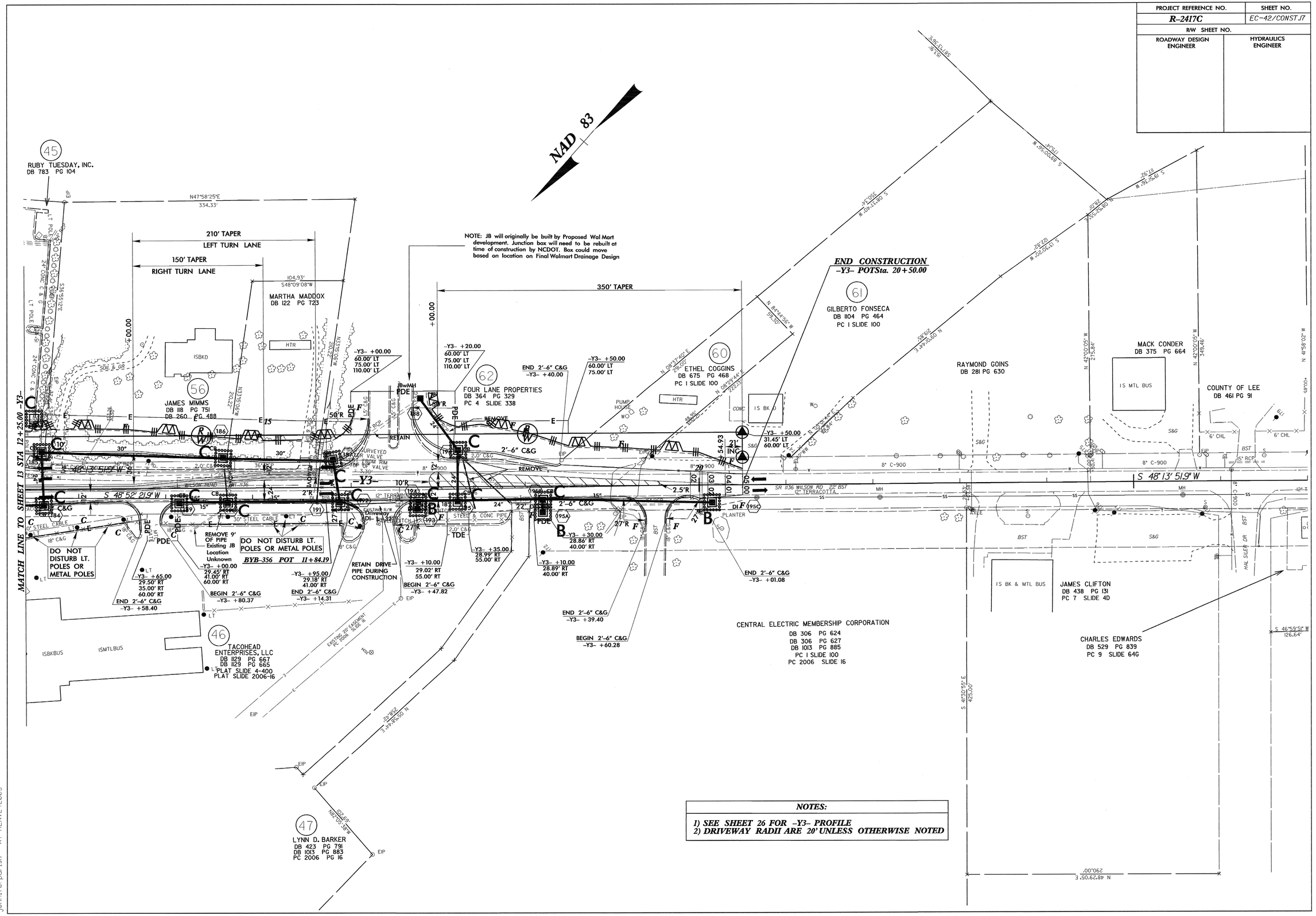
jenniferparish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-42/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:

1) SEE SHEET 26 FOR -Y3- PROFILE
2) DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

8/17/99

17-AUG-2009 12:21
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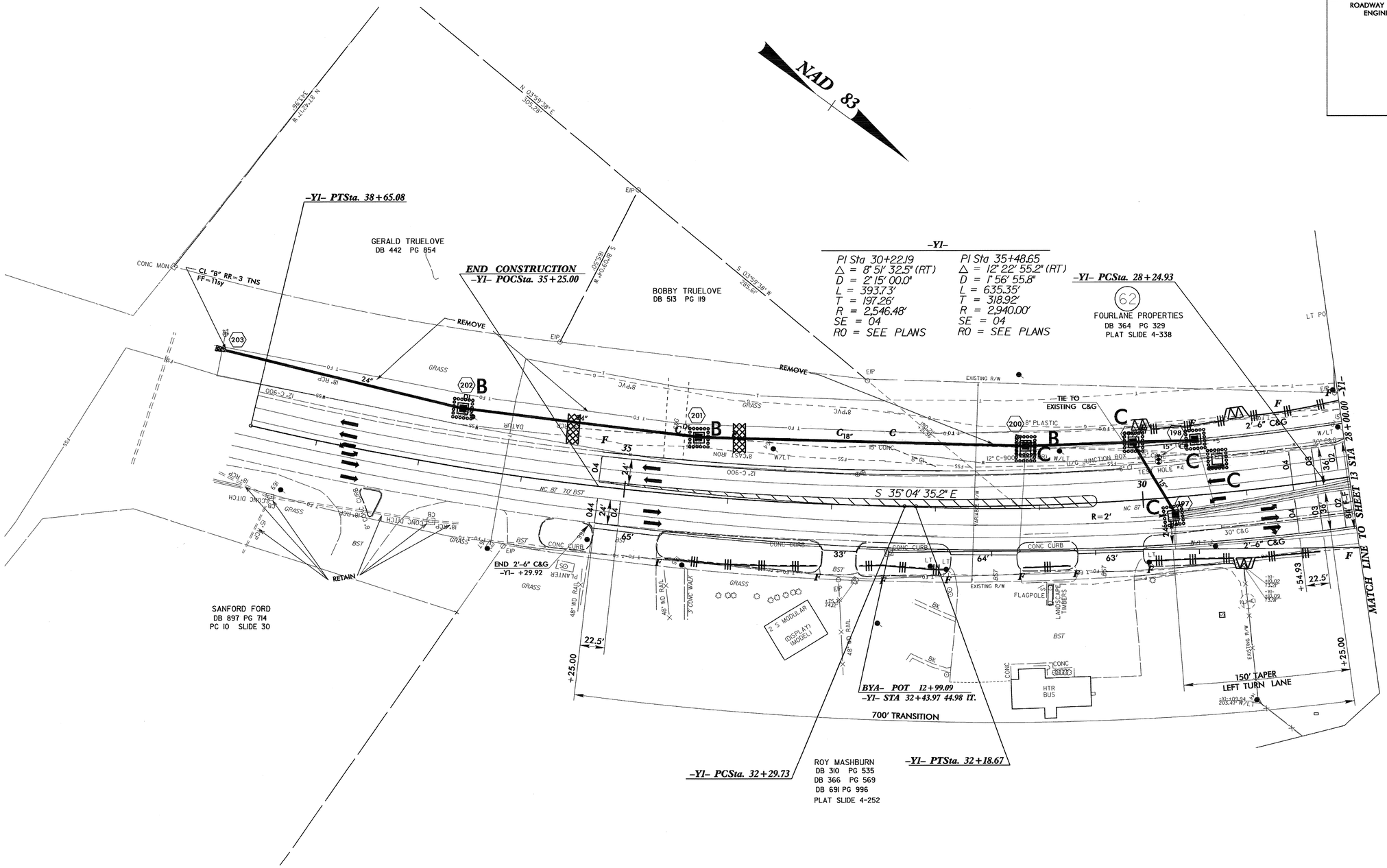
jennifer parish AT RENV242003

PROJECT REFERENCE NO.	SHEET NO.
R-2417C	EC-43/CONST.18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:

1) SEE SHEET 26 FOR -Y1- PROFILE

8/17/99

17-AUG-2009 12:22
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jennifer.parish AT RENV242003