TIP PROJECT: R-2502B

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2502B	EC-1	

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

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

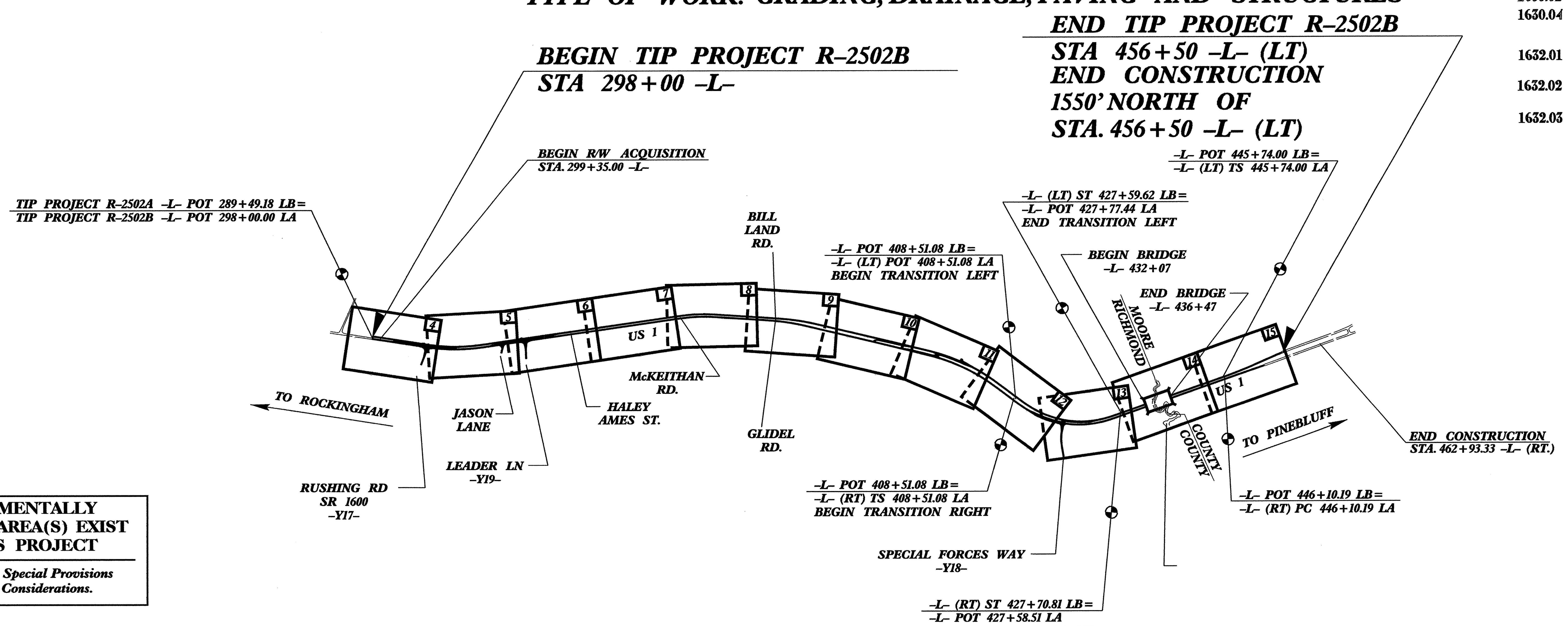
PLAN FOR PROPOSED

HIGHWAY EROSION CONTROL

RICHMOND & MOORE COUNTIES

LOCATION: US 1 FROM NORTH OF SR 1528 JUST NORTH OF HOFFMAN TO THE EXISTING DIVIDED FACILITY NORTH OF THE RICHMOND/MOORE COUNTY LINE

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES



ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

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	
1630.02	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	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT

High Quality Water Zone(s) Exist
From Sta. 298+00 -L-
to Sta. 456+50 -L-
Refer To E. C. Special Provisions for Special Considerations.

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

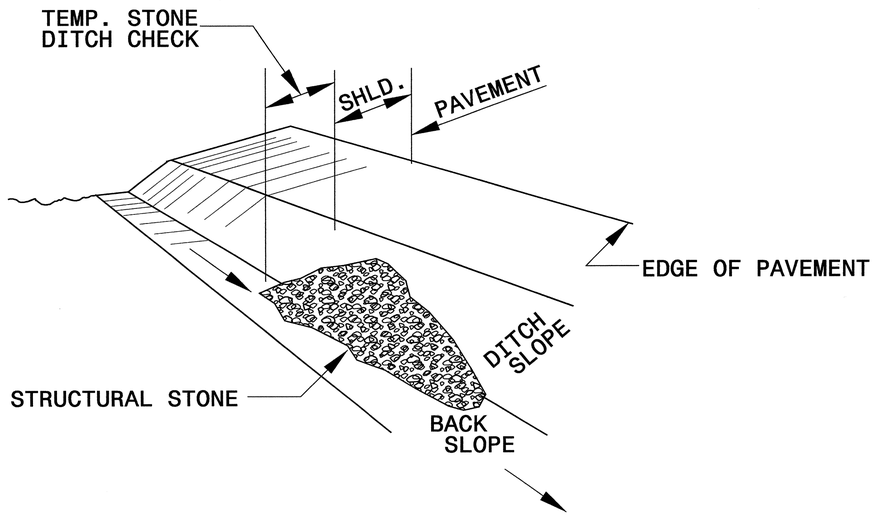
Roadway Standard Drawings

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.

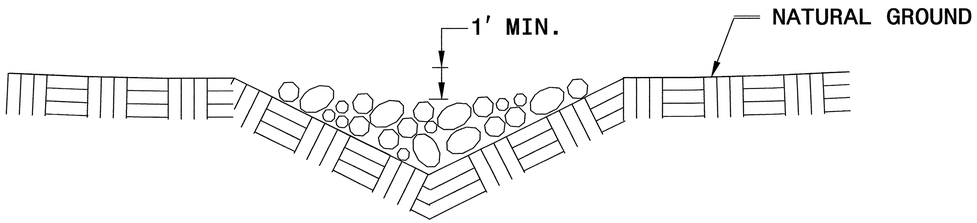
1605.01 Temporary Silt Fence
1606.01 Special Sediment Control Fence
1607.01 Gravel Construction Entrance
1622.01 Temporary Berms and Slope Drains
1630.02 Silt Basin Type B
1630.03 Temporary Silt Ditch
1630.05 Temporary Diversion
1630.06 Special Stilling Basin
1632.02 Rock Inlet Sediment Trap Type B
1632.03 Rock Inlet Sediment Trap Type C
1633.01 Temporary Rock Silt Check 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

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

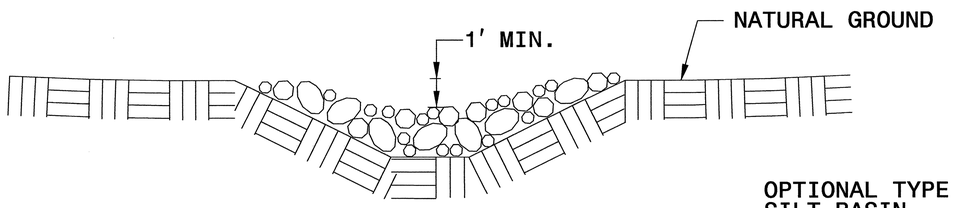
TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH

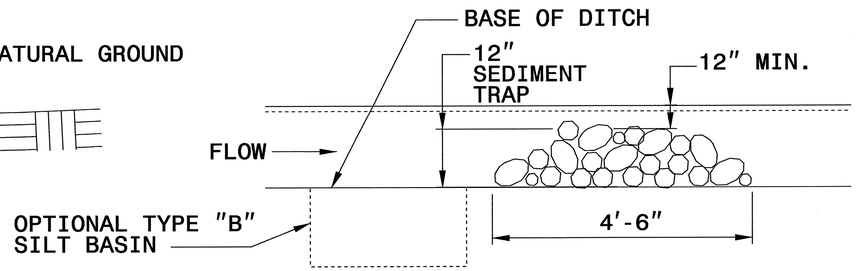


CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

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

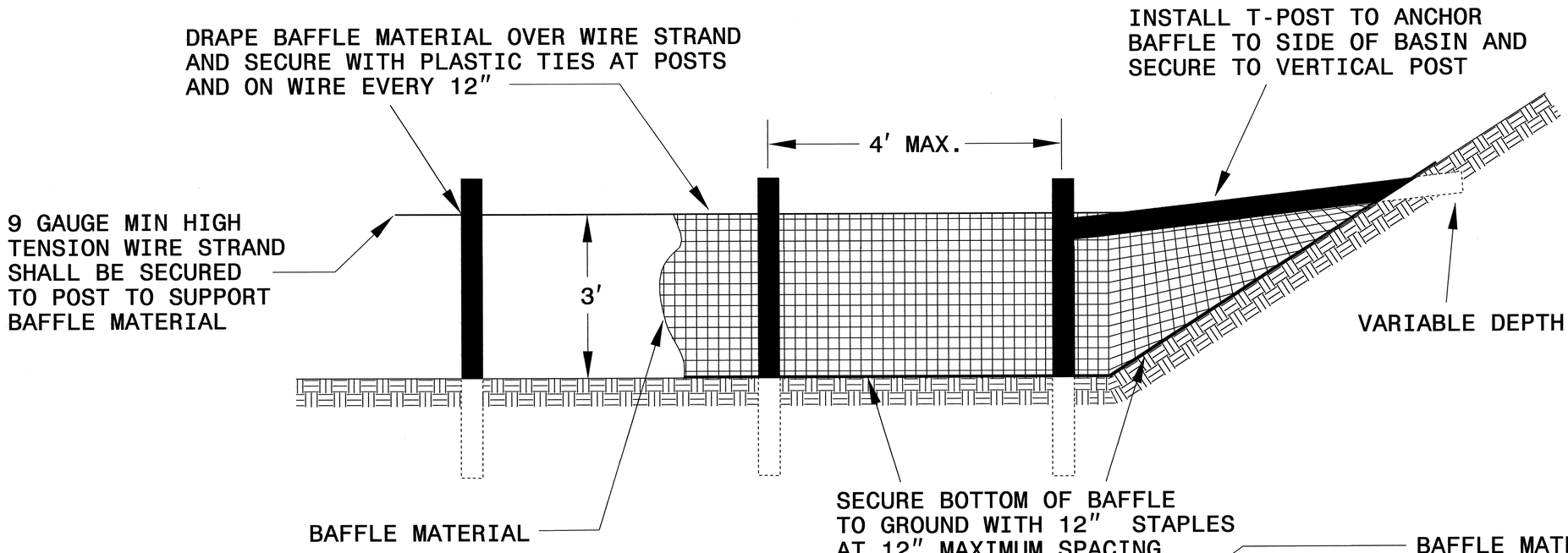
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.

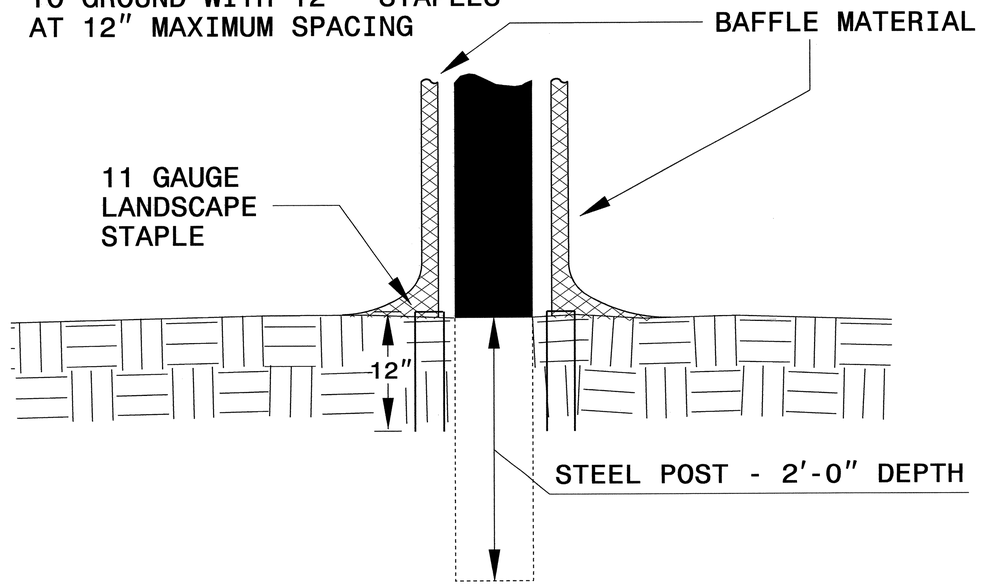


ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



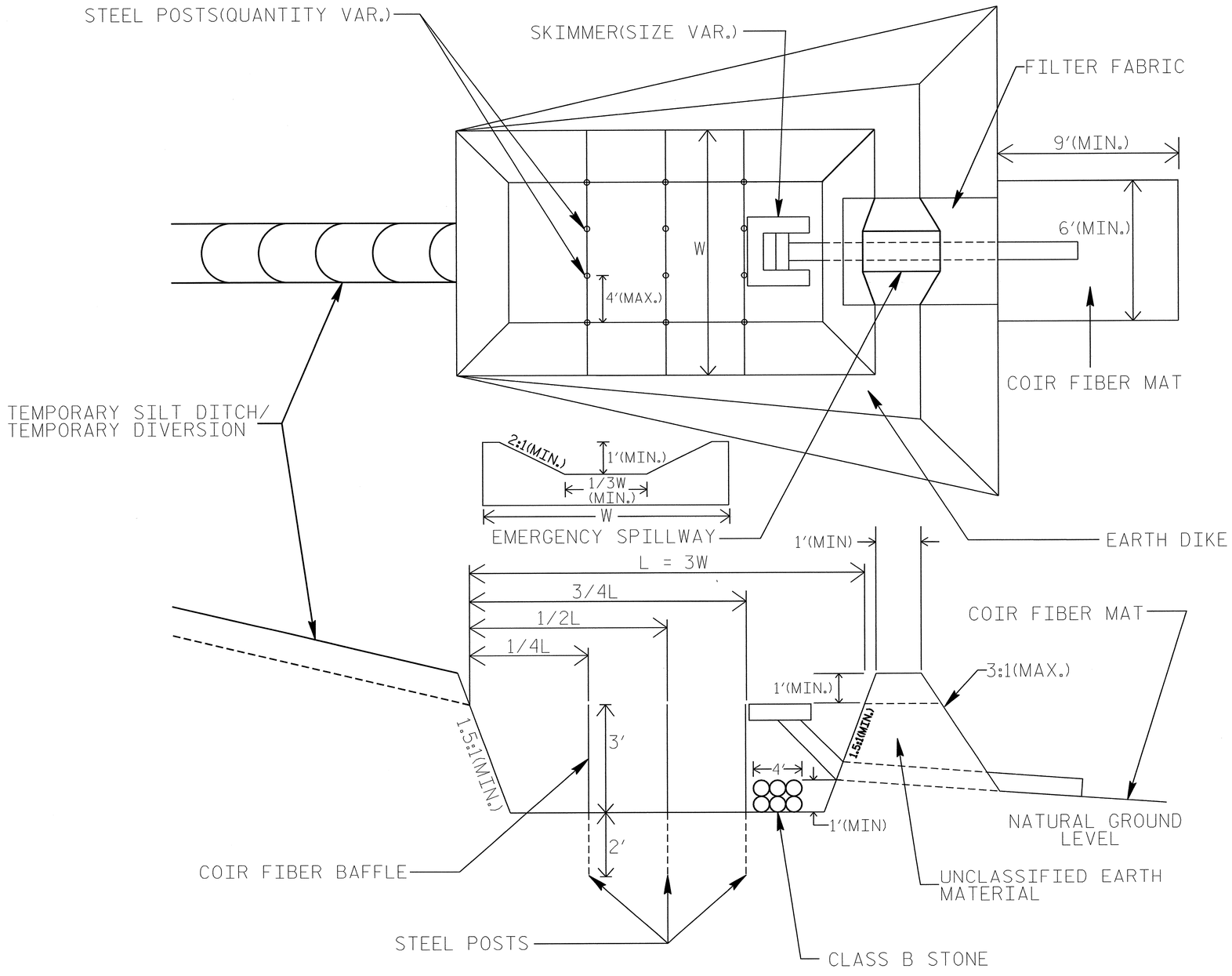


BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12″ LANDSCAPE STAPLES

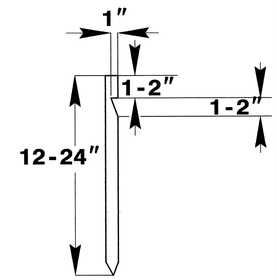
NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

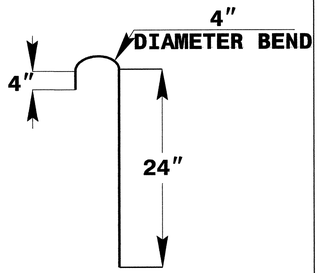
SKIMMER BASIN WITH BAFFLES DETAIL



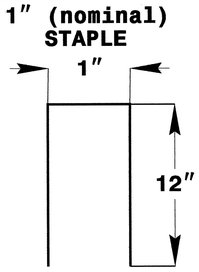
2" x 2" (nominal)
WOODEN STAKE



#10 STEEL
REINFORCEMENT BAR



1" (nominal)
STAPLE



COIR FIBER MAT ANCHOR OPTIONS

NOTES:
1. SEED AND PLACE MATTING FOR EROSION CONTROL ON SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	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)
4	L	300+00	300+80	RT	115
5	L	318+00	321+50	RT	940
5	L	320+50	321+50	LT	205
6	L	331+80	333+70	RT	200
7	L	346+50	347+70	LT	195
8	L	360+00	361+25	RT	175
8	L	352+00	358+50	LT	1325
9	L	362+00	365+85	LT	775
9	L	365+85	367+30	LT	205
9	L	368+35	370+00	LT	230
9	L	365+50	367+00	RT	245
9	L	371+00	375+00	RT	815
9	L	373+00	374+50	LT	305
10	L	375+00	388+50	RT	4120
10	L	380+00	381+50	RT	365
10	L	385+50	388+00	LT	670
10	L	382+50	385+00	LT	505
11	L	388+50	392+00	LT	490
11	L	388+50	390+00	RT	405
11	L	390+00	392+00	RT	420
11	L	400+00	401+60	RT	160
12	L	413+95	415+10	RT	245
12	L	410+00	415+00	LT	1340
			SUBTOTAL		14450
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					55560
				TOTAL	70010
				SAY	70100

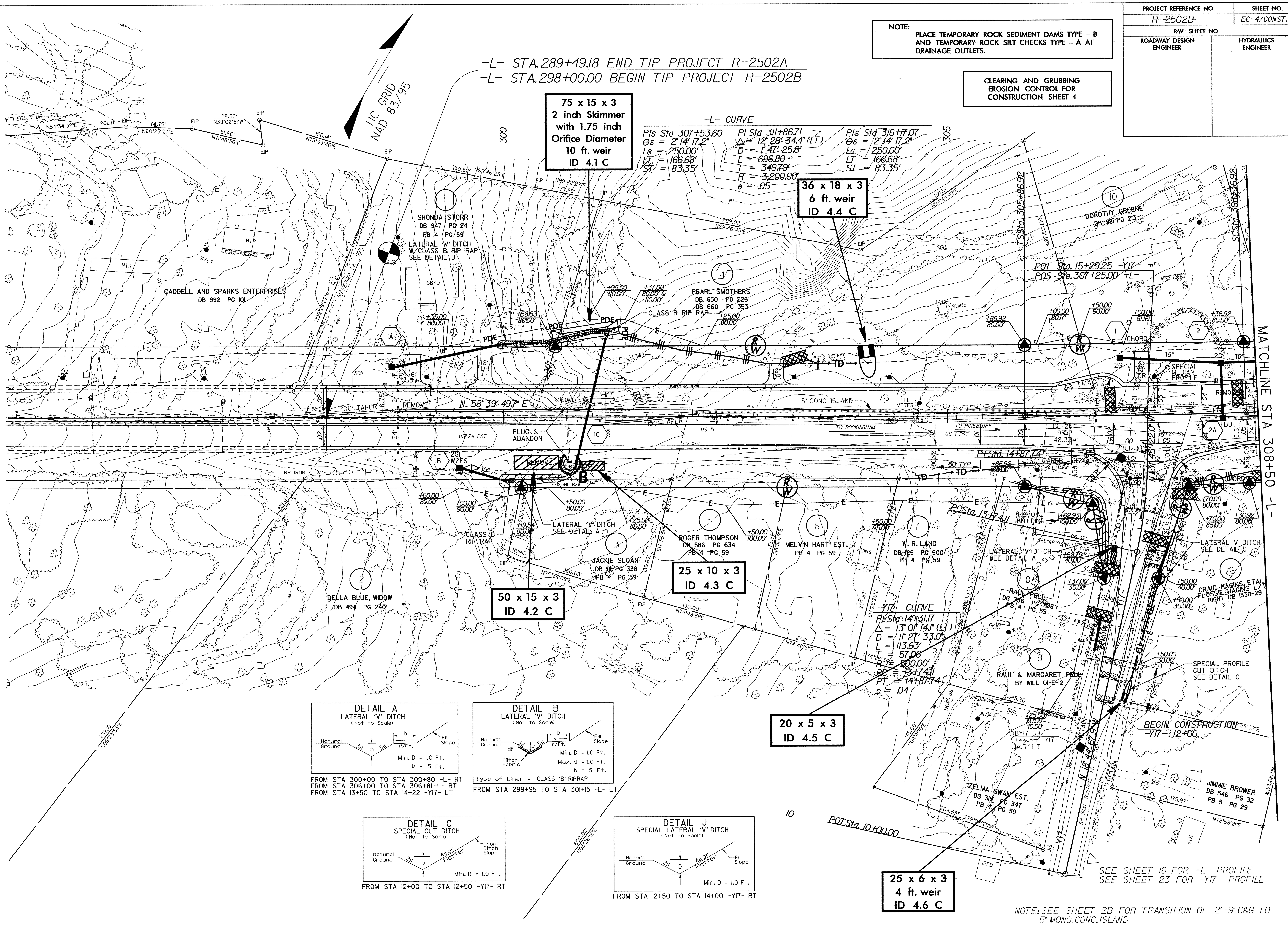
PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
15	L	456+50	451+50	LT	920
			SUBTOTAL		920
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	920
				SAY	950

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4



-L- STA.289+49.18 END TIP PROJECT R-2502A
-L- STA.298+00.00 BEGIN TIP PROJECT R-2502B
NC GRID NAD 83/95
75 x 15 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
10 ft. weir
ID 4.1 C
36 x 18 x 3
6 ft. weir
ID 4.4 C
50 x 15 x 3
ID 4.2 C
25 x 10 x 3
ID 4.3 C
20 x 5 x 3
ID 4.5 C
25 x 6 x 3
4 ft. weir
ID 4.6 C
-L- CURVE
PIs Sta 307+53.60 Θs = 2° 14' 17.2" Ls = 250.00' LT = 166.68' ST = 83.35'
PI Sta 311+86.71 Δ = 12° 28' 34.4" (LT) D = 1° 47' 25.8" L = 696.80' T = 349.79' R = 3,200.00' e = .05
PIs Sta 316+17.07 Θs = 2° 14' 17.2" Ls = 250.00' LT = 166.68' ST = 83.35'
-Y17- CURVE
PI Sta 14+31.17 Δ = 13° 01' 14.1" (LT) D = 11° 27' 33.0" L = 113.63' T = 57.06' R = 500.00' PC = 13+74.11 PT = 14+87.74 e = .04
MATCHLINE STA 308+50 -L-
SHONDA STORR DB 947 PG 24 PB 4 PG 59
CADDELL AND SPARKS ENTERPRISES DB 992 PG 101
PEARL SMOTHERS DB 650 PG 226 DB 660 PG 353
DOROTHY GREENE DB 981 PG 213
DELLA BLUE, WIDOW DB 494 PG 240
JACKIE SLOAN DB 911 PG 338 PB 4 PG 59
ROGER THOMPSON DB 586 PG 634 PB 4 PG 59
MELVIN HART EST. PB 4 PG 59
W. R. LAND DB 125 PG 500 PB 4 PG 59
RAUL & MARGARET PELL BY WILL 01-E-12
ZELMA SWAN EST. DB 319 PG 347 PB 4 PG 59
JIMMIE BROWER DB 546 PG 32 PB 5 PG 29
CRAIG HAGINS ETAL FLOSSIE HAGINS L/T RIGHT DB 1330-29
LATERAL 'V' DITCH W/CLASS B RIP RAP SEE DETAIL B
CLASS B RIP RAP
LATERAL 'V' DITCH SEE DETAIL A
SPECIAL PROFILE CUT DITCH SEE DETAIL C
BEGIN CONSTRUCTION -Y17- 12+00
POT Sta. 15+29.25 -Y17- = POS Sta. 307+25.00 -L-
POT Sta. 10+00.00
N 58° 39' 49.7" E
TO ROCKINGHAM
TO PINEBLUFF
PLUG & ABANDON
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
FROM STA 300+00 TO STA 300+80 -L- RT
FROM STA 306+00 TO STA 306+81 -L- RT
FROM STA 13+50 TO STA 14+22 -Y17- LT
DETAIL B
LATERAL 'V' DITCH
(Not to Scale)
Type of Liner = CLASS 'B' RIPRAP
FROM STA 299+95 TO STA 301+15 -L- LT
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
FROM STA 12+00 TO STA 12+50 -Y17- RT
DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
FROM STA 12+50 TO STA 14+00 -Y17- RT

SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 23 FOR -Y17- PROFILE

NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO.CONC.ISLAND

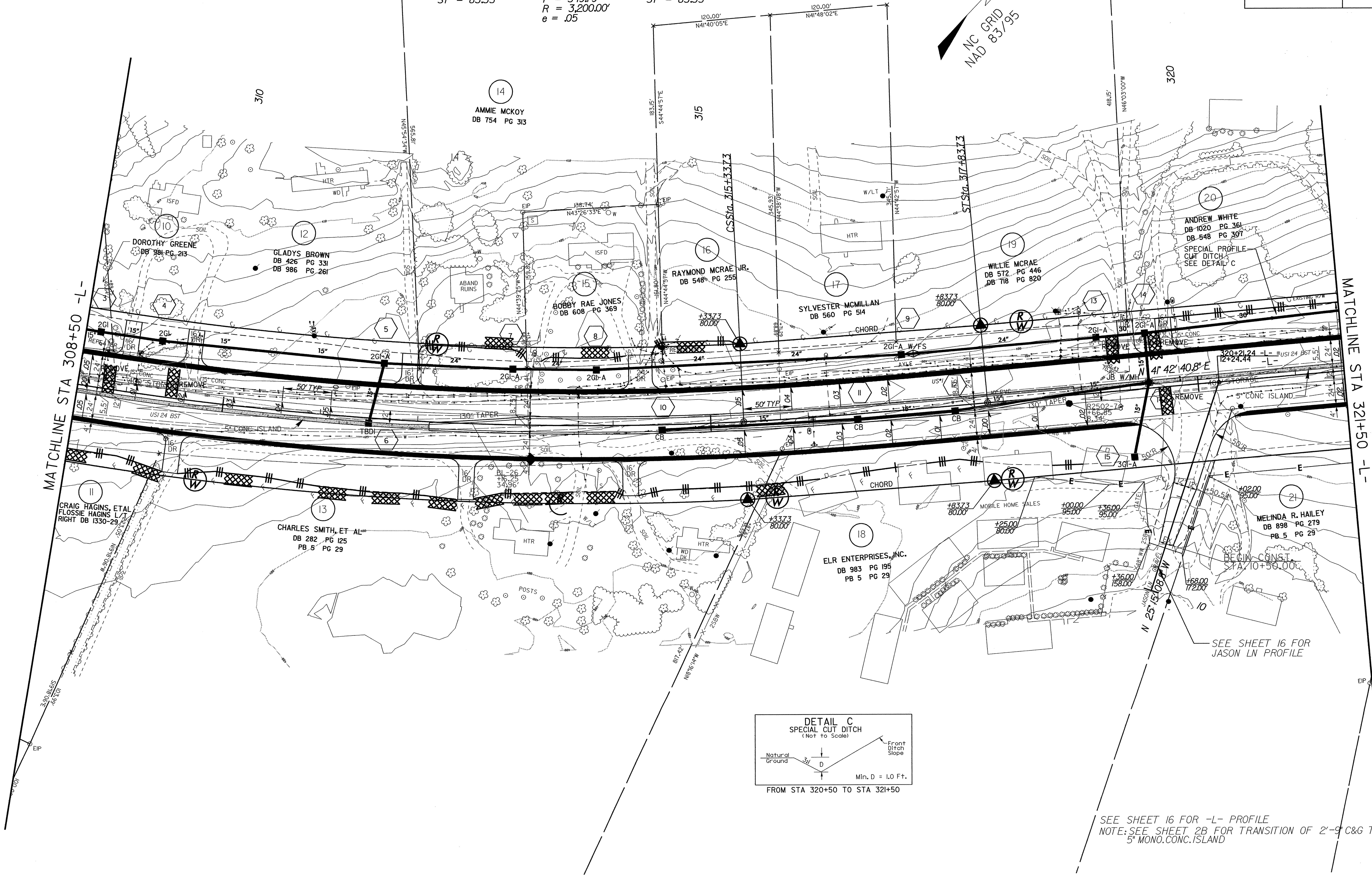
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

-L- CURVE

PIs Sta 307+53.60	PI Sta 311+86.71	PIs Sta 316+17.07
Θs = 2° 14' 17.2"	Δ = 12° 28' 34.4" (LT)	Θs = 2° 14' 17.2"
Ls = 250.00'	D = 1° 47' 25.8"	Ls = 250.00'
LT = 166.68'	L = 696.80	LT = 166.68'
ST = 83.35'	T = 349.79'	ST = 83.35'
	R = 3,200.00'	
	e = .05	



DETAIL C
SPECIAL CUT DITCH
(Not to Scale)

FROM STA 320+50 TO STA 321+50

SEE SHEET 16 FOR -L- PROFILE
NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO.CONC.ISLAND

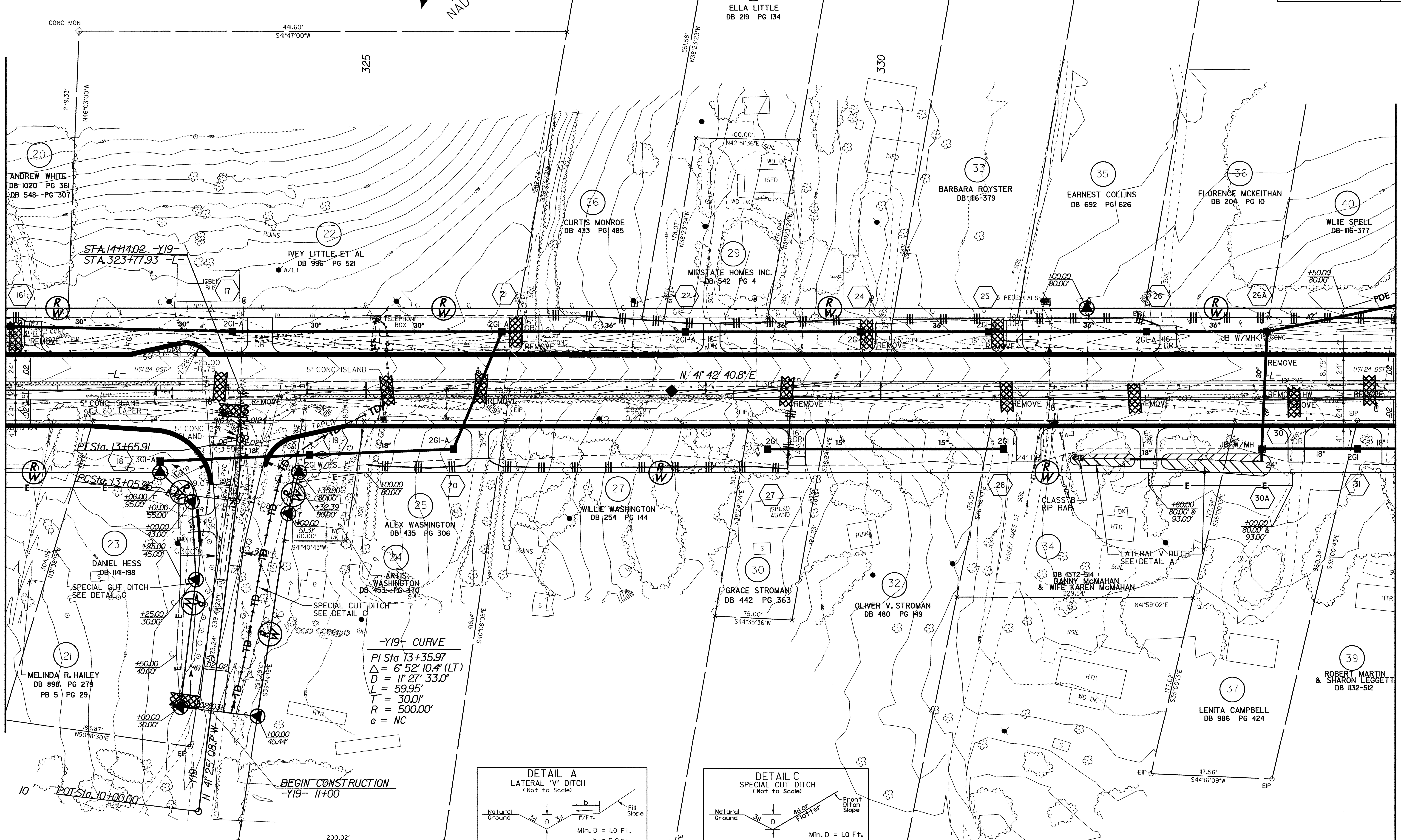
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

NC GRID NAD 83/95



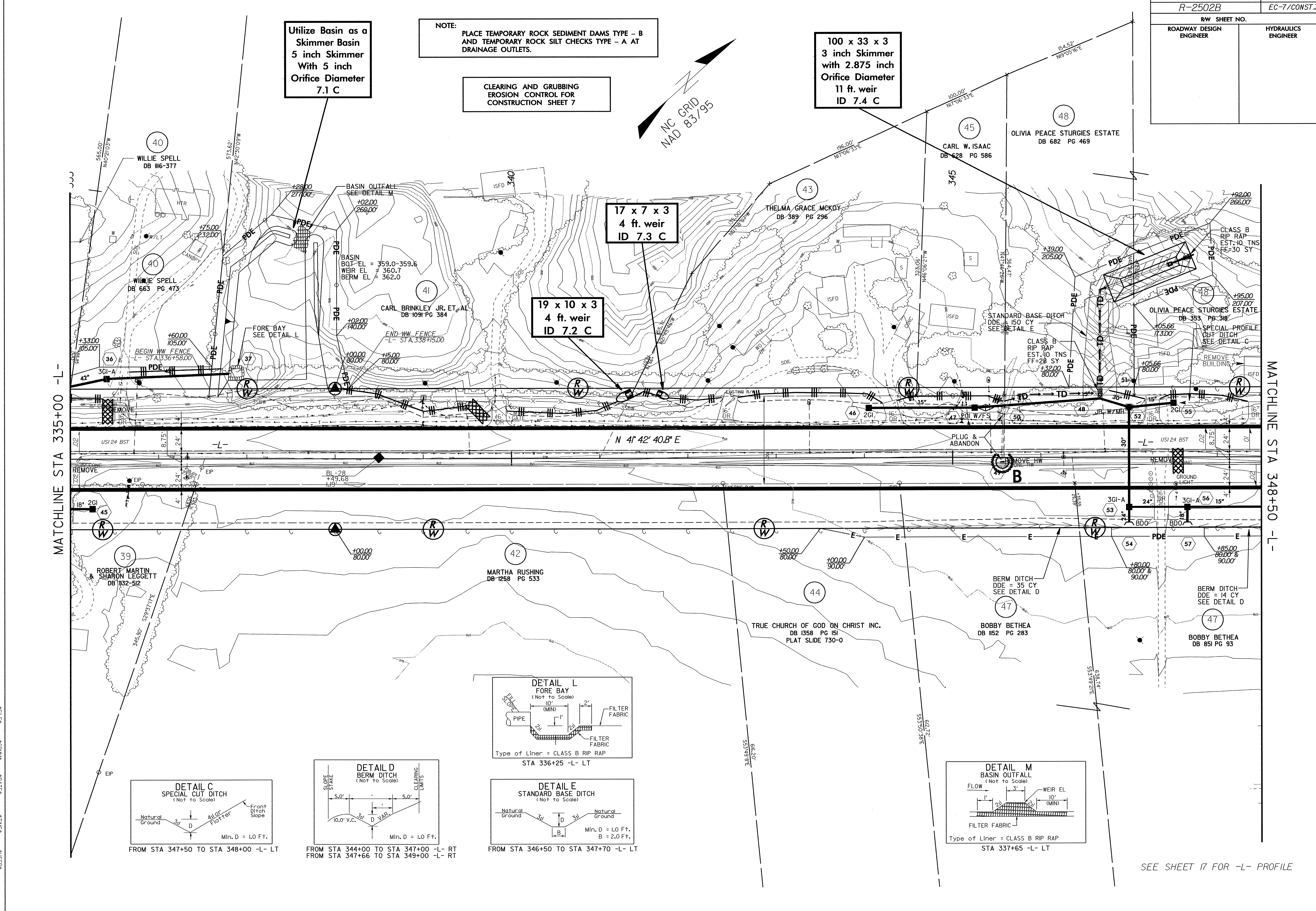
MATCHLINE STA 321+50 -L-
MATCHLINE STA 335+00 -L-
325
330
N 41° 42' 40.8" E
STA.14+14.02 -Y19-
STA.323+77.93 -L-
PT Sta. 13+65.91
PC Sta. 13+05.96
POT Sta. 10+00.00
BEGIN CONSTRUCTION -Y19- 11+00
N 41° 25' 08.7" W
-Y19- CURVE
PI Sta 13+35.97
Δ = 6° 52' 10.4" (LT)
D = 11° 27' 33.0"
L = 59.95'
T = 30.01'
R = 500.00'
e = NC
ANDREW WHITE DB 1020 PG 361 DB 548 PG 307
IVEY LITTLE, ET AL DB 996 PG 521
CURTIS MONROE DB 433 PG 485
ELLA LITTLE DB 219 PG 134
MIDSTATE HOMES INC. DB 542 PG 4
HUNTER V. EASTERLING DB 534 PG 268
BARBARA ROYSTER DB 1116-379
EARNEST COLLINS DB 692 PG 626
FLORENCE MCKEITHAN DB 204 PG 10
WLIIE SPELL DB 1116-377
DANIEL HESS DB 1141-198
MELINDA R. HAILEY DB 898 PG 279 PB 5 PG 29
ALEX WASHINGTON DB 435 PG 306
ARTIS WASHINGTON DB 453 PG 410
WILLIE WASHINGTON DB 254 PG 144
GRACE STROMAN DB 442 PG 363
OLIVER V. STROMAN DB 480 PG 149
DB 1372-514 DANNY McMAHAN & WIFE KAREN McMAHAN
LENITA CAMPBELL DB 986 PG 424
ROBERT MARTIN & SHARON LEGGETT DB 1132-512
SPECIAL CUT DITCH SEE DETAIL C
LATERAL V DITCH SEE DETAIL A
CLASS B RIP RAP
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
b = 5.0 Ft.
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 1.0 Ft.

FROM STA 331+80 TO STA 333+70 -L- RT

FROM STA 11+00 TO STA 13+42 -Y19- LT
FROM STA 11+00 TO STA 13+50 -Y19- RT

SEE SHEET 17 FOR -L- PROFILE
SEE SHEET 24 FOR -Y19- PROFILE
NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO.CONC.ISLAND

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SEE SHEET 17 FOR -L- PROFILE

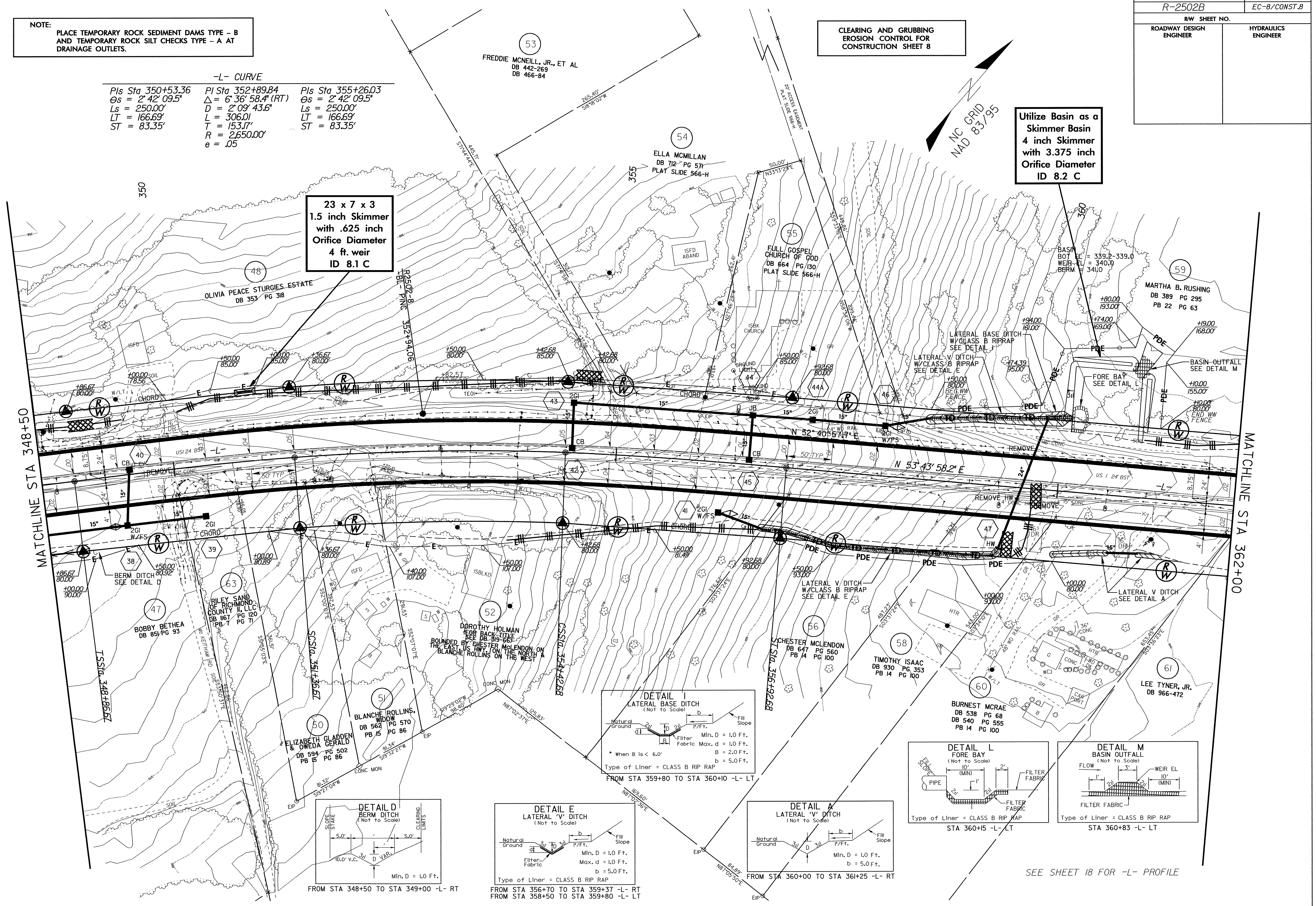
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-8/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

-L- CURVE

PIs Sta 350+53.36	PI Sta 352+89.84	PIs Sta 355+26.03
Θs = 2° 42' 09.5"	Δ = 6° 36' 58.4" (RT)	Θs = 2° 42' 09.5"
Ls = 250.00'	D = 2° 09' 43.6"	Ls = 250.00'
LT = 166.69'	L = 306.01	LT = 166.69'
ST = 83.35'	T = 153.17'	ST = 83.35'
	R = 2,650.00'	
	e = .05	



NC GRID NAD 83/95
23 x 7 x 3
1.5 inch Skimmer
with .625 inch
Orifice Diameter
4 ft. weir
ID 8.1 C
Utilize Basin as a
Skimmer Basin
4 inch Skimmer
with 3.375 inch
Orifice Diameter
ID 8.2 C
FREDDIE MCNEILL, JR., ET AL
DB 442-269
DB 466-84
ELLA MCMILLAN
DB 712 PG 571
PLAT SLIDE 566-H
OLIVIA PEACE STURGIES ESTATE
DB 353 PG 318
FULL GOSPEL CHURCH OF GOD
DB 664 PG 130
PLAT SLIDE 566-H
MARTHA B. RUSHING
DB 389 PG 295
PB 22 PG 63
BASIN
BOT EL = 339.2-339.0
WEIR EL = 340.0
BERM = 341.0
LATERAL BASE DITCH W/CLASS B RIPRAP SEE DETAIL I
LATERAL V DITCH W/CLASS B RIPRAP SEE DETAIL E
FORE BAY SEE DETAIL L
BASIN OUTFALL SEE DETAIL M
MATCHLINE STA 348+50
MATCHLINE STA 362+00
N 52° 40' 57.7" E
N 53° 43' 58.2" E
BERM DITCH SEE DETAIL D
LATERAL V DITCH SEE DETAIL A
BOBBY BETHEA
DB 851 PG 93
RILEY SAND OF RICHMOND COUNTY II, LLC
DB 1167 PG 120
PB 7 PG 71
DOROTHY HOLMAN
(FOR BACK TITLE SEE DB 319-66)
BOUNDED BY CHESTER McLENDON ON THE EAST US HWY 1 ON THE NORTH & BLANCHE ROLLINS ON THE WEST
BLANCHE ROLLINS, WIDOW
DB 562 PG 570
PB 15 PG 86
ELIZABETH GLADDEN & OWEDA GERALD
DB 594 PG 502
PB 15 PG 86
CHESTER MCLENDON
DB 647 PG 560
PB 14 PG 100
TIMOTHY ISAAC
DB 930 PG 353
PB 14 PG 100
BURNEST MCRAE
DB 538 PG 68
DB 540 PG 555
PB 14 PG 100
LEE TYNER, JR.
DB 966-472
TSSta 348+86.67
SCSta 351+36.67
CSSta 354+42.68
STSta 356+92.68
DETAIL D
BERM DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM STA 348+50 TO STA 349+00 -L- RT
DETAIL E
LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = CLASS B RIP RAP
FROM STA 356+70 TO STA 359+37 -L- RT
FROM STA 358+50 TO STA 359+80 -L- LT
DETAIL I
LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
* When B is < 6.0'
Type of Liner = CLASS B RIP RAP
FROM STA 359+80 TO STA 360+10 -L- LT
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
b = 5.0 Ft.
FROM STA 360+00 TO STA 361+25 -L- RT
DETAIL L
FORE BAY
(Not to Scale)
Type of Liner = CLASS B RIP RAP
STA 360+15 -L- LT
DETAIL M
BASIN OUTFALL
(Not to Scale)
Type of Liner = CLASS B RIP RAP
STA 360+83 -L- LT

SEE SHEET 18 FOR -L- PROFILE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-9/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 9

Ulilize Basin as a Skimmer Basin 4 inch Skimmer with 3.75 inch Orifice Diameter ID 9.1 C

-L- (LT) CURVE

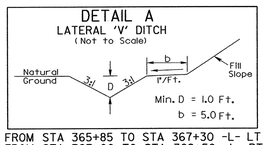
PIs Sta 367+03.88	PI Sta 369+73.09	PIs Sta 372+41.98
Θs = 1° 53' 34.6"	Δ = 5° 57' 53.0" (RT)	Θs = 1° 53' 34.6"
Ls = 239.99'	D = 1° 34' 39.1"	Ls = 239.99'
LT = 160.00'	L = 378.11	LT = 160.00'
ST = 80.00'	T = 189.22'	ST = 80.00'
	R = 3,632.00'	
	e = .04	

-L- (RT) CURVE

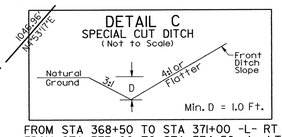
PIs Sta 365+36.84	PI Sta 368+03.33	PIs Sta 370+69.50
Θs = 1° 54' 35.2"	Δ = 5° 55' 51.8" (RT)	Θs = 1° 54' 35.2"
Ls = 239.99'	D = 1° 35' 29.6"	Ls = 239.99'
LT = 160.00'	L = 372.66	LT = 160.00'
ST = 80.01'	T = 186.50'	ST = 80.01'
	R = 3,600.00'	
	e = .04	

-L- CURVE

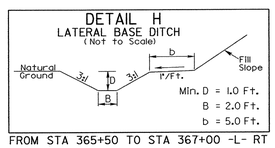
PI Sta 368+88.85
Δ = 9° 45' 03.1" (RT)
D = 1° 30' 39.5"
L = 645.34'
T = 323.45'
R = 3,792.00'



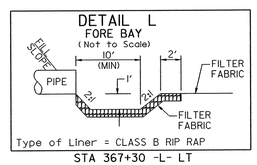
FROM STA 365+85 TO STA 367+30 -L- LT
FROM STA 367+00 TO STA 368+50 -L- RT
FROM STA 368+35 TO STA 370+00 -L- LT



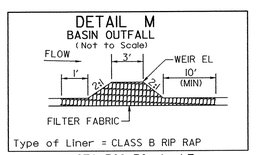
FROM STA 368+50 TO STA 371+00 -L- RT
FROM STA 373+00 TO STA 374+50 -L- LT



FROM STA 365+50 TO STA 367+00 -L- RT



STA 367+30 -L- LT



STA 368+30 -L- LT

SEE SHEET 18 FOR -L- PROFILE

$FILE$ $COMM$ $DATE$ $TIME$ $USER$ R

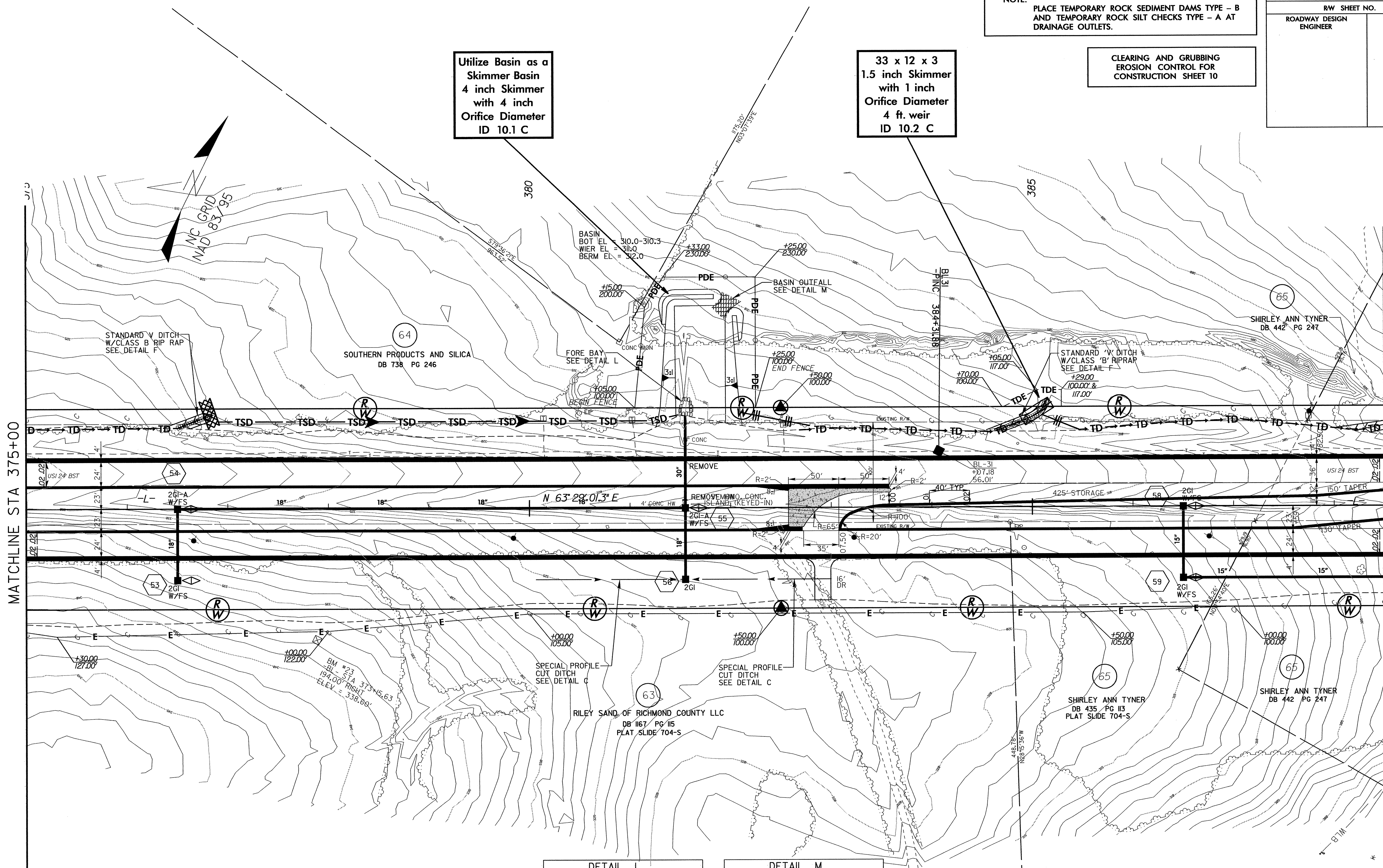
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-10/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

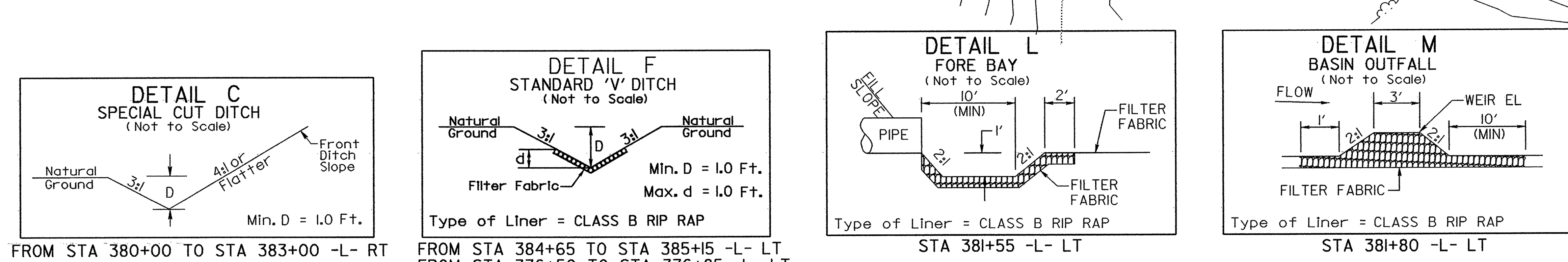
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

Utilize Basin as a Skimmer Basin
4 inch Skimmer
with 4 inch
Orifice Diameter
ID 10.1 C

33 x 12 x 3
1.5 inch Skimmer
with 1 inch
Orifice Diameter
4 ft. weir
ID 10.2 C



NC GRID NAD 83/95
380
385
MATCHLINE STA 375+00
MATCHLINE STA 388+50
BASIN
BOT EL = 310.0-310.3
WIER EL = 311.0
BERM EL = 312.0
BASIN OUTFALL
SEE DETAIL M
FORE BAY
SEE DETAIL L
STANDARD V DITCH
W/CLASS B RIP RAP
SEE DETAIL F
STANDARD 'V' DITCH
W/CLASS 'B' RIPRAP
SEE DETAIL F
SOUTHERN PRODUCTS AND SILICA
DB 738 PG 246
SHIRLEY ANN TYNER
DB 442 PG 247
RILEY SAND OF RICHMOND COUNTY LLC
DB 1167 PG 115
PLAT SLIDE 704-S
SHIRLEY ANN TYNER
DB 435 PG 113
PLAT SLIDE 704-S
SPECIAL PROFILE
CUT DITCH
SEE DETAIL C
N 63° 29' 01.3" E
425' STORAGE
150' TAPER
130' TAPER
END FENCE
BEGIN FENCE
REMOVE
BL-31
-PINC- 384+31.88
BM #23
-BL- STA 373+15.63
194.00' RIGHT
ELEV = 338.60'



DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
4:1 or Flatter
Min. D = 1.0 Ft.
FROM STA 380+00 TO STA 383+00 -L- RT
DETAIL F
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CLASS B RIP RAP
FROM STA 384+65 TO STA 385+15 -L- LT
FROM STA 376+50 TO STA 376+85 -L- LT
DETAIL L
FORE BAY
(Not to Scale)
PIPE
FILTER FABRIC
Type of Liner = CLASS B RIP RAP
STA 381+55 -L- LT
DETAIL M
BASIN OUTFALL
(Not to Scale)
FLOW
WEIR EL
10' (MIN)
FILTER FABRIC
Type of Liner = CLASS B RIP RAP
STA 381+80 -L- LT

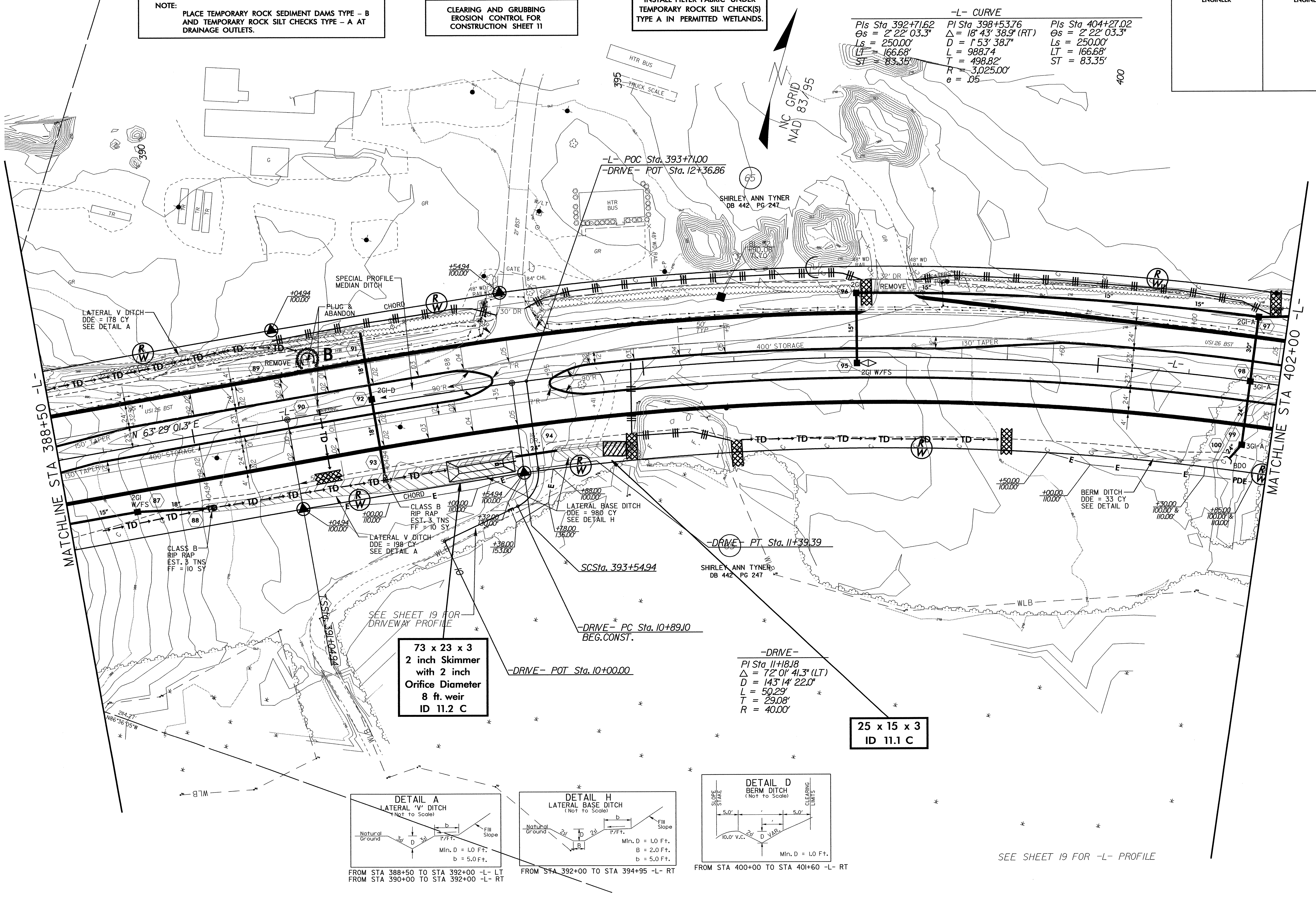
SEE SHEET 19 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-11/CONST.11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

INSTALL FILTER FABRIC UNDER TEMPORARY ROCK SILT CHECK(S) TYPE A IN PERMITTED WETLANDS.



-L- CURVE
PIs Sta 392+71.62
Θs = 2° 22' 03.3"
Ls = 250.00'
LT = 166.68'
ST = 83.35'
PI Sta 398+53.76
Δ = 18° 43' 38.9" (RT)
D = 1° 53' 38.7"
L = 988.74
T = 498.82'
R = 3,025.00'
e = .05
PIs Sta 404+27.02
Θs = 2° 22' 03.3"
Ls = 250.00'
LT = 166.68'
ST = 83.35'
NC GRID NAD 83/95
HTR BUS
TRUCK SCALE
395
400
390
-L- POC Sta. 393+71.00
-DRIVE- POT Sta. 12+36.86
SHIRLEY ANN TYNER DB 442 PG 247
SPECIAL PROFILE MEDIAN DITCH
LATERAL V DITCH DDE = 178 CY SEE DETAIL A
PLUG & ABANDON
CHORD
REMOVE
400' STORAGE
130' TAPER
150' TAPER
N 63° 29' 01.3" E
USI 26 BST
MATCHLINE STA 388+50 -L-
MATCHLINE STA 402+00 -L-
CLASS B RIP RAP EST. 3 TNS FF = 10 SY
LATERAL V DITCH DDE = 198 CY SEE DETAIL A
LATERAL BASE DITCH DDE = 980 CY SEE DETAIL H
SCSta. 393+54.94
-DRIVE- PT. Sta. 11+39.39
BERM DITCH DDE = 33 CY SEE DETAIL D
SEE SHEET 19 FOR DRIVEWAY PROFILE
-DRIVE- PC Sta. 10+89.10 BEG.CONST.
-DRIVE- POT Sta. 10+00.00
73 x 23 x 3
2 inch Skimmer
with 2 inch
Orifice Diameter
8 ft. weir
ID 11.2 C
-DRIVE-
PI Sta 11+18.18
Δ = 72° 01' 41.3" (LT)
D = 143° 14' 22.0"
L = 50.29'
T = 29.08'
R = 40.00'
25 x 15 x 3
ID 11.1 C
WLB
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D = 1.0 Ft.
b = 5.0 Ft.
FROM STA 388+50 TO STA 392+00 -L- LT
FROM STA 390+00 TO STA 392+00 -L- RT
DETAIL H
LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
FROM STA 392+00 TO STA 394+95 -L- RT
DETAIL D
BERM DITCH
(Not to Scale)
SLOPE STAKE
CLEARING LIMITS
Min. D = 1.0 Ft.
FROM STA 400+00 TO STA 401+60 -L- RT
SEE SHEET 19 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-12/CONST 12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

100 x 33 x 3
3 inch Skimmer
with 2.875 inch
Orifice Diameter
11 ft. weir
ID 12.1 C

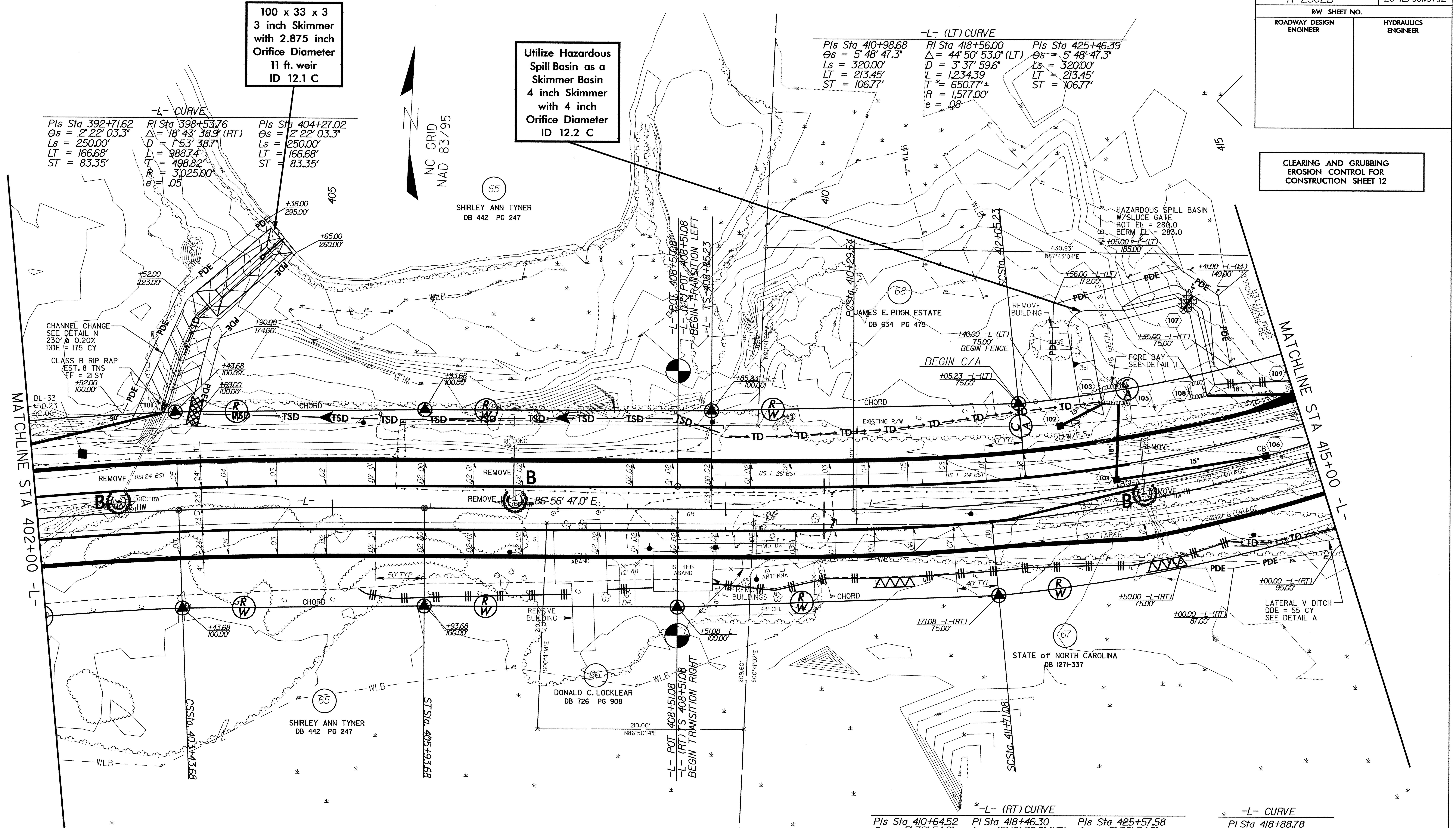
Utilize Hazardous
Spill Basin as a
Skimmer Basin
4 inch Skimmer
with 4 inch
Orifice Diameter
ID 12.2 C

-L- CURVE

PIs Sta 392+71.62	PI Sta 398+53.76	PIs Sta 404+27.02
Θs = 2° 22' 03.3"	Δ = 18° 43' 38.9" (RT)	Θs = 2° 22' 03.3"
Ls = 250.00'	D = 1° 53' 38.7"	Ls = 250.00'
LT = 166.68'	L = 988.74'	LT = 166.68'
ST = 83.35'	T = 498.82'	ST = 83.35'
	R = 3,025.00'	
	e = .05	

-L- (LT) CURVE

PIs Sta 410+98.68	PI Sta 418+56.00	PIs Sta 425+46.39
Θs = 5° 48' 47.3"	Δ = 44° 50' 53.0" (LT)	Θs = 5° 48' 47.3"
Ls = 320.00'	D = 3° 37' 59.6"	Ls = 320.00'
LT = 213.45'	L = 1,234.39	LT = 213.45'
ST = 106.77'	T = 650.77'	ST = 106.77'
	R = 1,577.00'	
	e = .08	



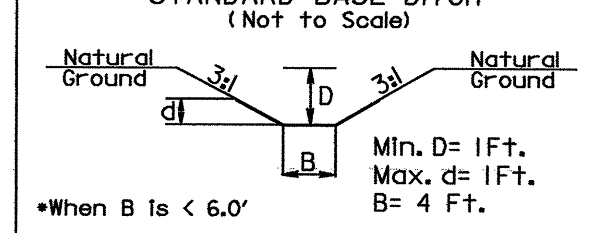
-L- (RT) CURVE

PIs Sta 410+64.52	PI Sta 418+46.30	PIs Sta 425+57.58
Θs = 5° 38' 54.2"	Δ = 45° 10' 39.2" (LT)	Θs = 5° 38' 54.2"
Ls = 320.00'	D = 3° 31' 48.9"	Ls = 320.00'
LT = 213.44'	L = 1,279.73	LT = 213.44'
ST = 106.77'	T = 675.22'	ST = 106.77'
	R = 1,623.00'	
	e = .08	

-L- CURVE

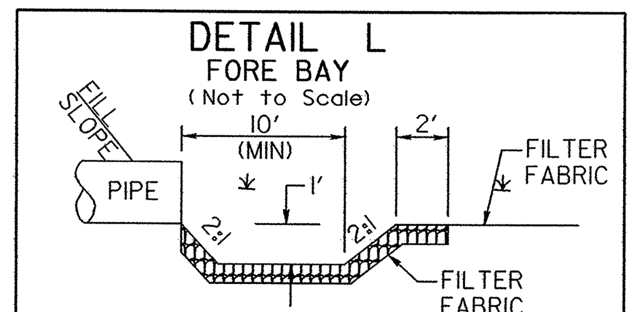
PI Sta 418+88.78
Δ = 56° 28' 27.5" (LT)
D = 3° 34' 51.6"
L = 1,577.06'
T = 859.25'
R = 1,600.00'

DETAIL N
STANDARD BASE DITCH
(Not to Scale)



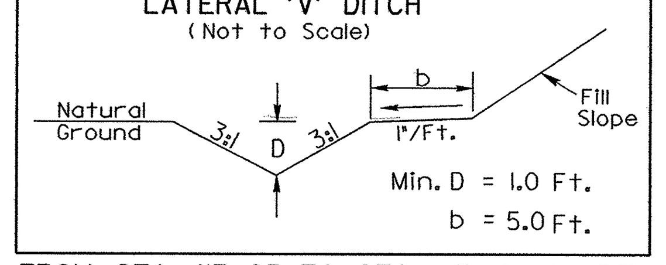
-L- STA. 403+25 LT.

DETAIL L
FORE BAY
(Not to Scale)



Type of Liner = CLASS B RIP RAP
STA 413+07 -L- LT
STA 414+02 -L- LT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



FROM STA 413+95 TO STA 415+10 -L- RT

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

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-13/CONSTJ3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 13

Utilize Hazardous Spill Basin as a Skimmer Basin 5 inch Skimmer with 5 inch Orifice Diameter ID 13.6 C

NC GRID NAD 83/95

MATCHLINE STA 415+00

MATCHLINE STA 428+50

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, T/Ft., Fill Slope
Min. D = 1.0 Ft.
b = 5.0 Ft.
FROM STA 423+50 TO STA 426+50 -L- RT
FROM STA 12+50 TO STA 15+00 -Y18- RT
FROM STA 413+95 TO STA 415+10 -L- RT

DETAIL L
FORE BAY
(Not to Scale)
FILL SLOPE, PIPE, 10' (MIN), 1', 2', 2:1, FILTER FABRIC, FILTER FABRIC
Type of Liner = CLASS B RIP RAP
STA 424+60 -L- LT

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope
Min. D = 1.0 Ft.
FROM STA 10+50 TO STA 12+00 -Y18- RT

DETAIL G
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Natural Ground
Min. D = 1.0 Ft.
STA 14+50 -Y18- LT

DETAIL K
TOE PROTECTION
(Not to Scale)
Fill Slope, d, d = 1.0 Ft., Filter Fabric
Type of Liner = CLASS B RIP RAP
FROM STA 418+35 TO STA 423+50 -L- RT

-L- CURVE
PI Sta 418+88.78
Δ = 56° 28' 27.5" (LT)
D = 3° 34' 51.6"
L = 1,577.06'
T = 859.25'
R = 1,600.00'

PIs Sta 410+98.68
Θs = 5° 48' 47.3"
Ls = 320.00'
LT = 213.45'
ST = 106.77'

-L- (LT) CURVE
PI Sta 418+56.00
Δ = 44° 50' 53.0" (LT)
D = 3° 37' 59.6"
L = 1,234.39'
T = 650.77'
R = 1,577.00'
e = .08

PIs Sta 425+46.39
Θs = 5° 48' 47.3"
Ls = 320.00'
LT = 213.45'
ST = 106.77'

-Y18- CURVE
PI Sta 13+02.36
Δ = 19° 34' 39.7" (RT)
D = 6° 51' 42.4"
L = 285.32'
T = 144.06'
R = 835.00'
e = .06

-L- (RT) CURVE
PIs Sta 410+64.52
Θs = 5° 38' 54.2"
Ls = 320.00'
LT = 213.44'
ST = 106.77'

PI Sta 418+46.30
Δ = 45° 10' 39.2" (LT)
D = 3° 31' 48.9"
L = 1,279.73'
T = 675.22'
R = 1,623.00'
e = .08

PIs Sta 425+57.58
Θs = 5° 38' 54.2"
Ls = 320.00'
LT = 213.44'
ST = 106.77'

68 JAMES E. PUGH ESTATE DB 634 PG 475

67 STATE of NORTH CAROLINA DB 1271-337

70 REAVES LANDSCAPING AND DESIGN INC. DB 866 PG 225

69 UNITED STATES OF AMERICA DB 258 PG 337 DB 258 PG 190

CLASS B RIP RAP EST. 2 TNS FF = 7 SY

CONFLICT BOX NOTE: CROSS PIPE TO EXTEND THRU BOX

STA 15+84.11 -Y18- = STA 417+78.02 -L-

SHOULDER BERM GUTTER

HAZARDOUS SPILL BASIN W/SLUCE GATE
BOT. EL = NATURAL GROUND
WEIR EL = 283.0
BERM EL = 283.0

CSSta 424+39.62

PTSta 426+00.60

-L- POT 427+77.44
-L- (LT) ST 427+59.62
END TRANSITION LEFT

SHOULDER BERM GUTTER

FORE BAY SEE DETAIL L

PTSta 14+43.62

CLASS B RIP RAP EST. 3 TNS FF = 11 SY

LATERAL V DITCH DDE = 122 CY SEE DETAIL A

TOE PROTECTION SEE DETAIL K EST. 200 TNS FF = 620 SY

STANDARD V DITCH DDE = 20 CY SEE DETAIL G

LATERAL 'V' DITCH DDE = 107 CY SEE DETAIL

12" PLASTIC

CSSta 424+50.81

POT Sta. 10+00.00

PCSta. 11+58.30

BEGIN CONSTRUCTION -Y18- 10+00

BEGIN FENCE

BEGIN C/A

-L- POT 427+58.51
-L- (RT) ST 427+70.81
END TRANSITION RIGHT

BEGIN SHOULDER BERM GUTTER

36 x 13 x 3
ID 13.1 C

17 x 6 x 3
ID 13.4 C

PAVEMENT REMOVAL

48 x 16 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
5 ft. weir
ID 13.2 C

23 x 12 x 3
4 ft. weir
ID 13.3

50 x 16 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
6 ft. weir
ID 13.5 C

SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 24 FOR -Y18- PROFILE

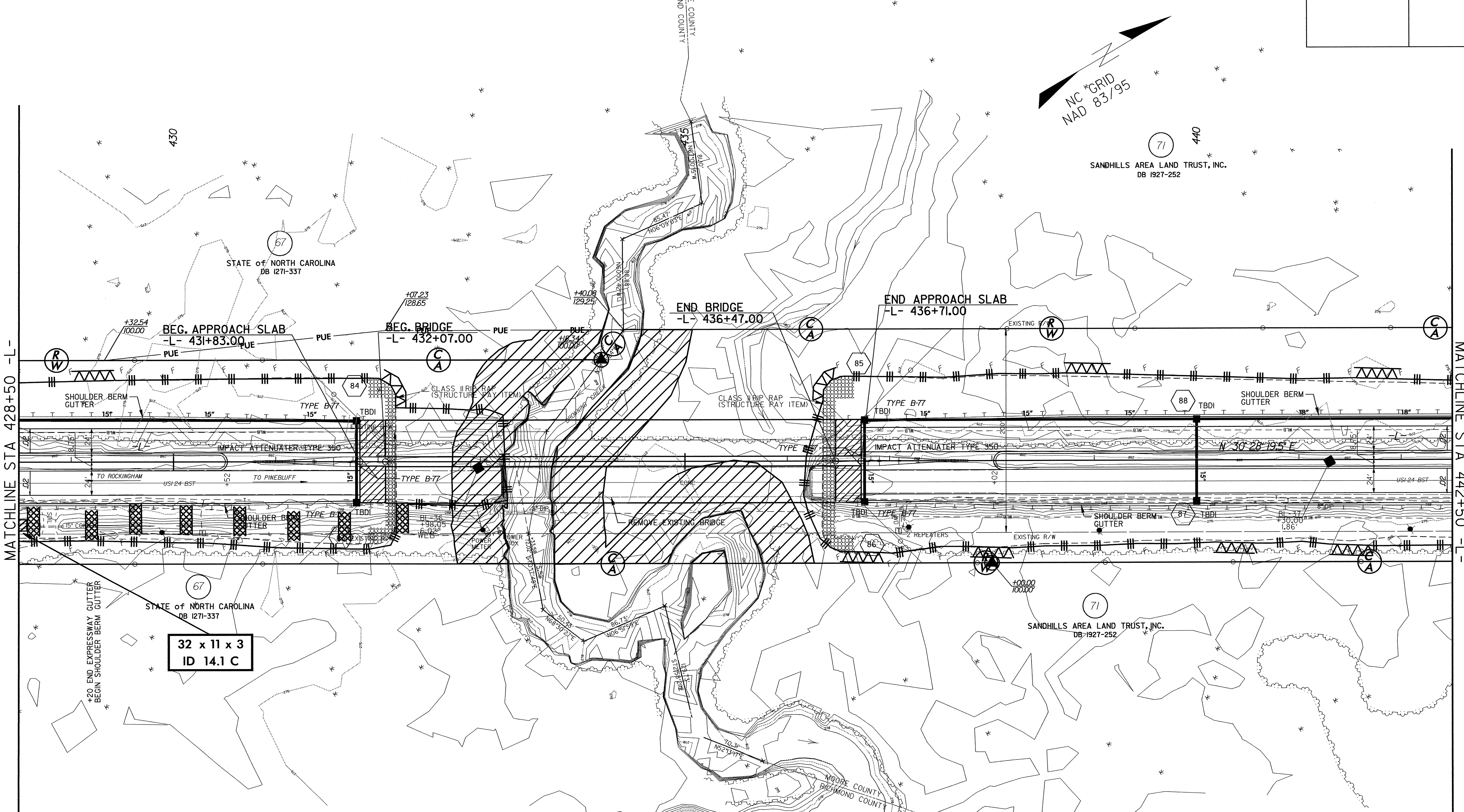
$FILE$ $CONDAT$ $DATE$ $TIME$ $USER$ RHS

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-14/CONST14
RW 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.

NOTE:
UTILIZE SPECIAL STILLING BASIN AND/OR TEMPORARY ROCK SILT CHECK TYPE-A AS STILLING BASIN WHERE APPLICABLE.



(hatched)	**ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS**

SEE SHEET 22 FOR -L- PROFILE

$FILE$ $COMM$ $DATE$ $TIME$ $USER$ RIS

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-15/CONST15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 15

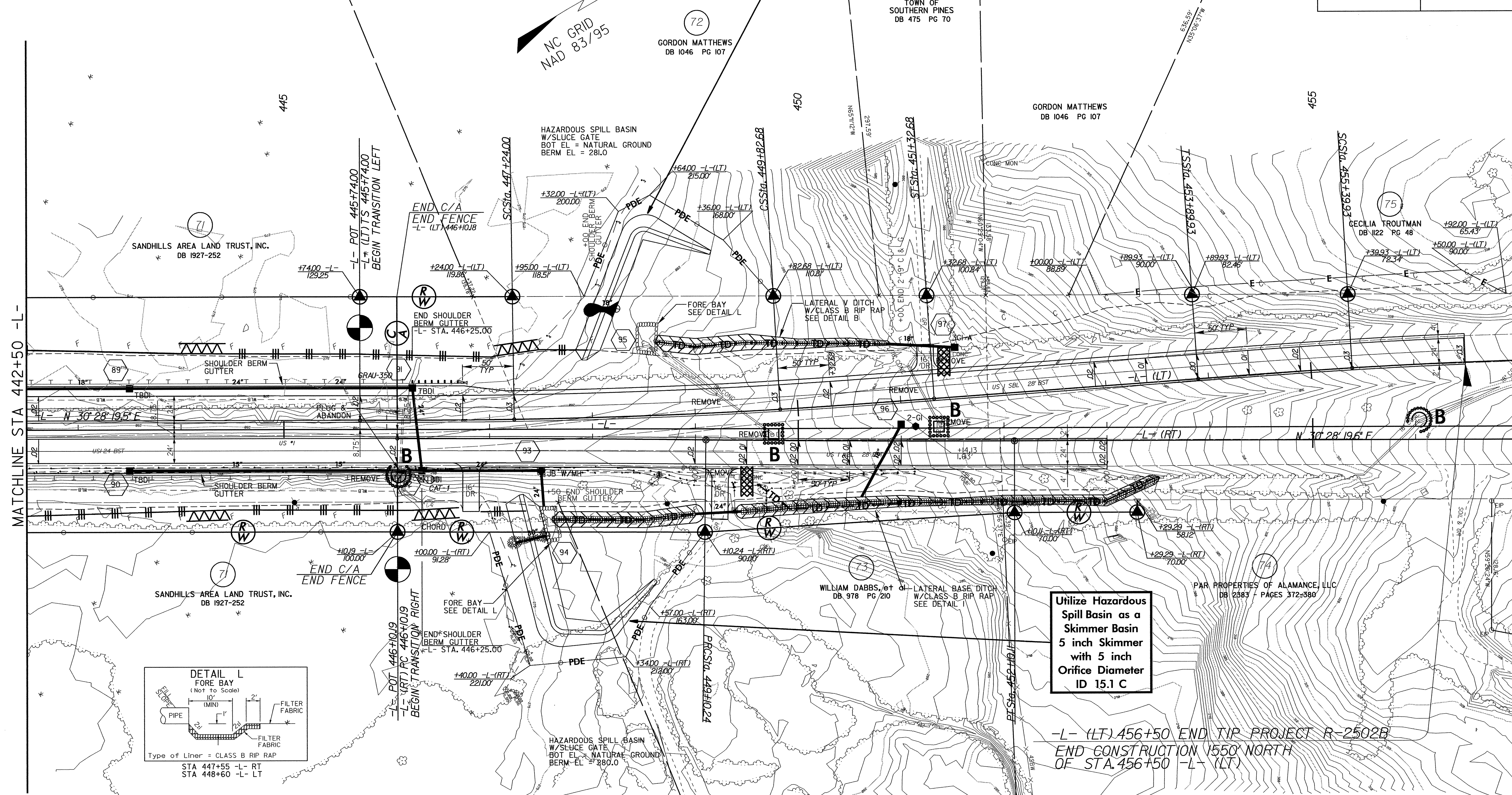
-L- (LT) CURVE

PIs Sta 446+74.00	PI Sta 448+53.36	PIs Sta 450+32.68
Θs = 0° 45' 00.0"	Δ = 2° 35' 12.5" (LT)	Θs = 0° 45' 00.0"
Ls = 150.00'	D = 1° 00' 00.0"	Ls = 150.00'
LT = 100.00'	L = 258.68	LT = 100.00'
ST = 50.00'	T = 129.36'	ST = 50.00'
	R = 5,729.58'	
	e = .03	

Utilize Hazardous Spill Basin as a Skimmer Basin 4 inch Skimmer with 4 inch Orifice Diameter ID 15.2 C

-L- (LT) TRANSITION

PIs Sta 454+89.93	PI Sta 456+87.70
Θs = 0° 45' 09.3"	Δ = 2° 57' 53.2" (RT)
Ls = 150.00'	D = 1° 00' 12.3"
LT = 100.00'	L = 295.47
ST = 50.00'	T = 147.77'
	R = 5,710.00'
	e = .03



NC GRID NAD 83/95
MATCHLINE STA 442+50 -L-
GORDON MATTHEWS DB 1046 PG 107
TOWN OF SOUTHERN PINES DB 475 PG 70
SANDHILLS AREA LAND TRUST, INC. DB 1927-252
CECILIA TROUTMAN DB 1122 PG 48
WILLIAM DABBS, et al DB 978 PG 210
PAR PROPERTIES OF ALAMANCE, LLC DB 2383 - PAGES 372-380
HAZARDOUS SPILL BASIN W/SLUICE GATE BOT EL = NATURAL GROUND BERM EL = 281.0
HAZARDOUS SPILL BASIN W/SLUICE GATE BOT EL = NATURAL GROUND BERM EL = 280.0
END C/A END FENCE
END SHOULDER BERM GUTTER -L- STA. 446+25.00
SHOULDER BERM GUTTER
FORE BAY SEE DETAIL L
LATERAL V DITCH W/CLASS B RIP RAP SEE DETAIL B
LATERAL BASE DITCH W/CLASS B RIP RAP SEE DETAIL I
-L- POT 445+74.00 -L- (LT) TS 445+74.00 BEGIN TRANSITION LEFT
-L- POT 446+10.19 -L- (RT) PC 446+10.19 BEGIN TRANSITION RIGHT
SCSta 447+24.00
CSSta 449+82.68
ST Sta 451+32.68
TSSta 453+89.93
SCSta 455+39.93
PRCSta 449+10.24
PI Sta 452+10.11
-L- N 30° 28' 19.5" E
-L- (RT) N 30° 28' 19.6" E
-L- (LT)
PDE
REMOVE
PLUG & ABANDON

Utilize Hazardous Spill Basin as a Skimmer Basin 5 inch Skimmer with 5 inch Orifice Diameter ID 15.1 C

-L- (LT) 456+50 END TIP PROJECT R-2502B
END CONSTRUCTION 1550' NORTH OF STA. 456+50 -L- (LT)

DETAIL L
FORE BAY
(Not to Scale)
Type of Liner = CLASS B RIP RAP
STA 447+55 -L- RT
STA 448+60 -L- LT

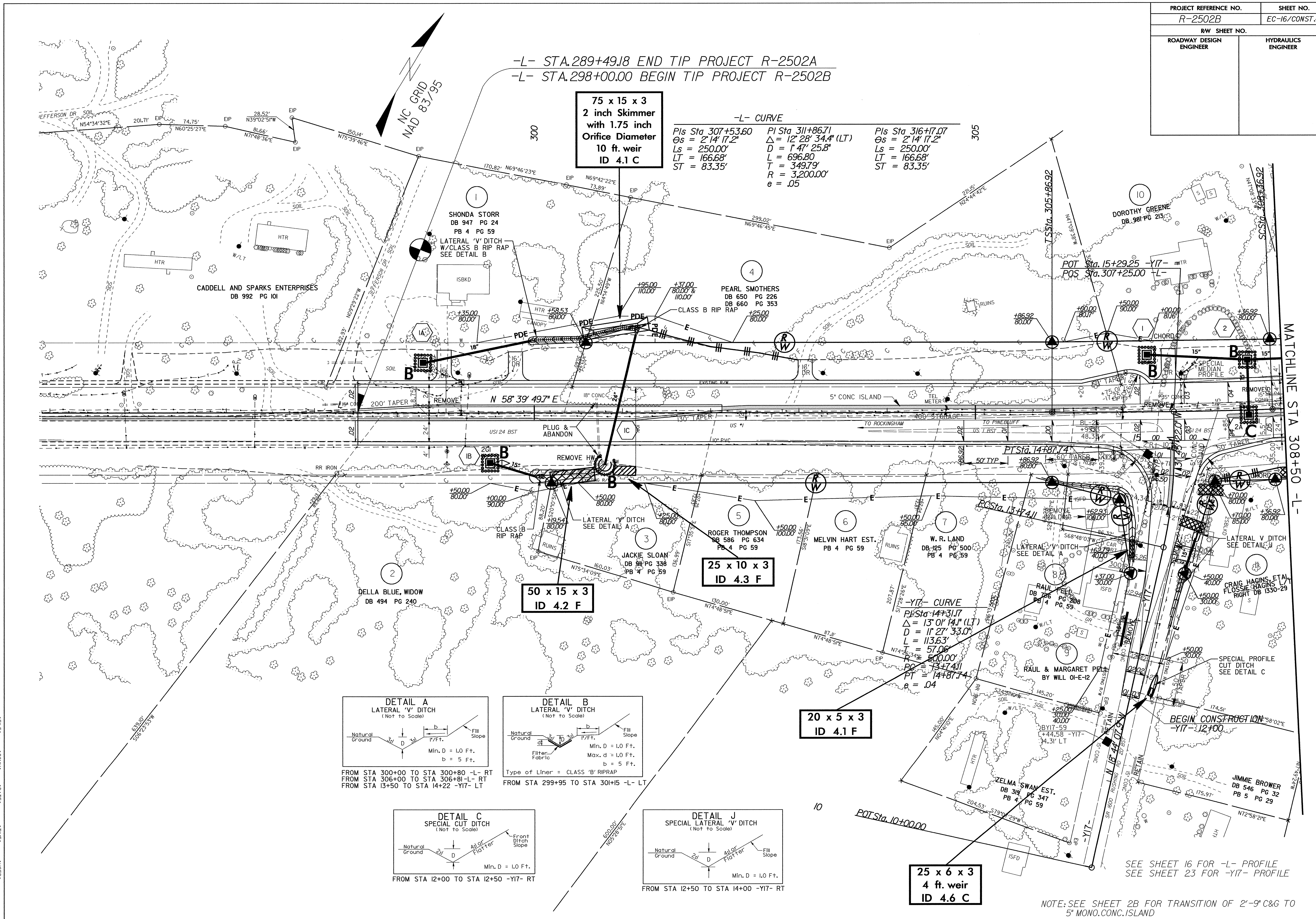
DETAIL E
LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = CLASS B RIP RAP
FROM STA 448+60 TO STA 450+90 -L- LT

DETAIL I
LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
* When B is < 6.0'
Type of Liner = CLASS B RIP RAP
FROM STA 447+55 TO STA 453+50 -L- RT

-L- (RT) TRANSITION
PI Sta 447+60.22
Δ = 0° 44' 28.7" (RT)
D = 0° 14' 49.4"
L = 300.05'
T = 150.03'
R = 23,190.83'
e = .02

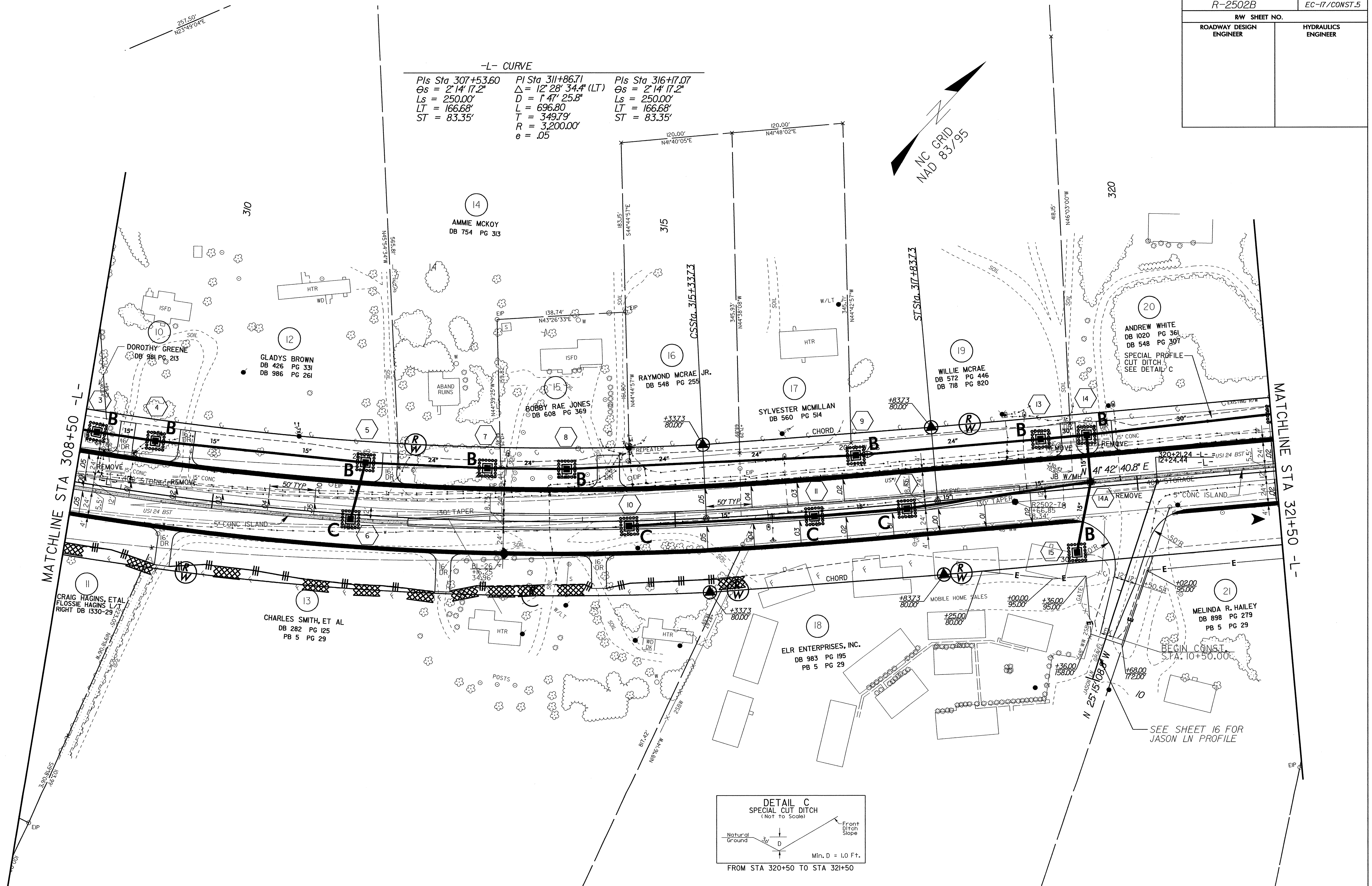
-L- (RT) TRANSITION
PI Sta 450+60.18
Δ = 0° 44' 28.5" (LT)
D = 0° 14' 49.9"
L = 299.87'
T = 149.94'
R = 23,178.53'
e = NC

SEE SHEET 22 & 23 FOR -L- PROFILE



PROJECT REFERENCE NO.
R-2502B
SHEET NO.
EC-16/CONST.4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NC GRID NAD 83/95
-L- STA.289+49.18 END TIP PROJECT R-2502A
-L- STA.298+00.00 BEGIN TIP PROJECT R-2502B
75 x 15 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
10 ft. weir
ID 4.1 C
-L- CURVE
PIs Sta 307+53.60
Θs = 2°14' 17.2"
Ls = 250.00'
LT = 166.68'
ST = 83.35'
PI Sta 311+86.71
Δ = 12° 28' 34.4" (LT)
D = 1° 47' 25.8"
L = 696.80
T = 349.79'
R = 3,200.00'
e = .05
PIs Sta 316+17.07
Θs = 2°14' 17.2"
Ls = 250.00'
LT = 166.68'
ST = 83.35'
SHONDA STORR
DB 947 PG 24
PB 4 PG 59
LATERAL 'V' DITCH
W/CLASS B RIP RAP
SEE DETAIL B
CADDELL AND SPARKS ENTERPRISES
DB 992 PG 101
PEARL SMOTHERS
DB 650 PG 226
DB 660 PG 353
CLASS B RIP RAP
DOROTHY GREENE
DB 981 PG 213
POT Sta. 15+29.25 -Y17-
POS Sta. 307+25.00 -L-
N 58° 39' 49.7" E
200' TAPER
130' TAPER
5" CONC ISLAND
400' STORAGE
TO ROCKINGHAM
TO PINEBLUFF
PLUG & ABANDON
REMOVE HW
MATCHLINE STA 308+50 -L-
SPECIAL MEDIAN PROFILE
PT Sta. 14+87.74
PC Sta. 13+74.11
CLASS B RIP RAP
LATERAL 'V' DITCH
SEE DETAIL A
ROGER THOMPSON
DB 586 PG 634
PB 4 PG 59
JACKIE SLOAN
DB 911 PG 338
PB 4 PG 59
MELVIN HART EST.
PB 4 PG 59
W. R. LAND
DB 125 PG 500
PB 4 PG 59
LATERAL 'V' DITCH
SEE DETAIL A
LATERAL V DITCH
SEE DETAIL J
CRAIG HAGINS, ETAL
FLOSSIE HAGINS L/T
RIGHT DB 1330-29
25 x 10 x 3
ID 4.3 F
DELLA BLUE, WIDOW
DB 494 PG 240
50 x 15 x 3
ID 4.2 F
RAUL PELL
DB 736 PG 208
PB 4 PG 59
-Y17- CURVE
PI Sta 14+31.17
Δ = 13° 01' 14.1" (LT)
D = 11° 27' 33.0"
L = 113.63'
T = 57.06'
R = 500.00'
PC = 13+74.11
PT = 14+87.74
e = .04
RAUL & MARGARET PELL
BY WILL 01-E-12
SPECIAL PROFILE
CUT DITCH
SEE DETAIL C
20 x 5 x 3
ID 4.1 F
BEGIN CONSTRUCTION
-Y17- 12+00
ZELMA SWAN EST.
DB 319 PG 347
PB 4 PG 59
JIMMIE BROWER
DB 546 PG 32
PB 5 PG 29
POT Sta. 10+00.00
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D = 1.0 Ft.
b = 5 Ft.
FROM STA 300+00 TO STA 300+80 -L- RT
FROM STA 306+00 TO STA 306+81 -L- RT
FROM STA 13+50 TO STA 14+22 -Y17- LT
DETAIL B
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Filter Fabric
Fill Slope
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5 Ft.
Type of Liner = CLASS 'B' RIPRAP
FROM STA 299+95 TO STA 301+15 -L- LT
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
4:1 or Flatter
Front Ditch Slope
Min. D = 1.0 Ft.
FROM STA 12+00 TO STA 12+50 -Y17- RT
DETAIL J
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
4:1 or Flatter
Fill Slope
Min. D = 1.0 Ft.
FROM STA 12+50 TO STA 14+00 -Y17- RT
25 x 6 x 3
4 ft. weir
ID 4.6 C
SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 23 FOR -Y17- PROFILE
NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO. CONC. ISLAND

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-17/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

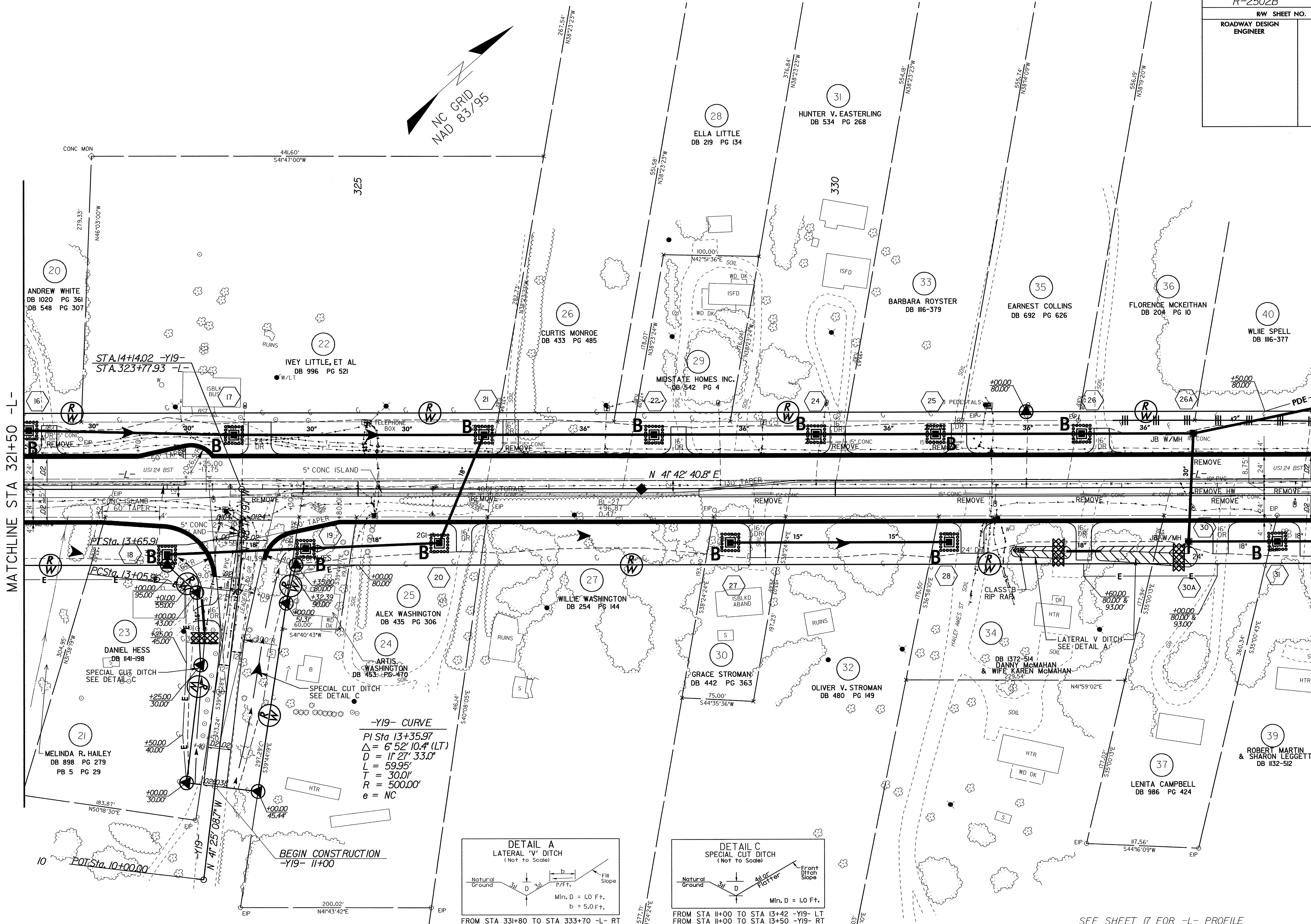


-L- CURVE
PIs Sta 307+53.60
θs = 2° 14' 17.2"
Ls = 250.00'
LT = 166.68'
ST = 83.35'
PI Sta 311+86.71
Δ = 12° 28' 34.4" (LT)
D = 1° 47' 25.8"
L = 696.80
T = 349.79'
R = 3,200.00'
e = .05
PIs Sta 316+17.07
θs = 2° 14' 17.2"
Ls = 250.00'
LT = 166.68'
ST = 83.35'
NC GRID NAD 83/95
MATCHLINE STA 308+50 -L-
MATCHLINE STA 321+50 -L-
DOROTHY GREENE DB 981 PG 213
GLADYS BROWN DB 426 PG 331 DB 986 PG 261
AMMIE MCKOY DB 754 PG 313
BOBBY RAE JONES DB 608 PG 369
RAYMOND MCRAE JR. DB 548 PG 255
SYLVESTER MCMILLAN DB 560 PG 514
WILLIE MCRAE DB 572 PG 446 DB 718 PG 820
ANDREW WHITE DB 1020 PG 361 DB 548 PG 307
SPECIAL PROFILE CUT DITCH SEE DETAIL C
CRAIG HAGINS, ETAL FLOSSIE HAGINS L/T RIGHT DB 1330-29
CHARLES SMITH, ET AL DB 282 PG 125 PB 5 PG 29
ELR ENTERPRISES, INC. DB 983 PG 195 PB 5 PG 29
MELINDA R. HAILEY DB 898 PG 279 PB 5 PG 29
CS Sta. 315+33.73
ST Sta. 317+83.73
BEGIN CONST. STA. 10+50.00
SEE SHEET 16 FOR JASON LN PROFILE
MOBILE HOME SALES
CHORD
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = 1.0 Ft.
FROM STA 320+50 TO STA 321+50

SEE SHEET 16 FOR -L- PROFILE

NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO.CONC.ISLAND

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-18/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NC GRID
NAD 83/95
MATCHLINE STA 321+50 -L-
MATCHLINE STA 335+00 -L-
CONC MON
441.60'
S41°47'00"W
325
330
ANDREW WHITE
DB 1020 PG 361
DB 548 PG 307
IVEY LITTLE, ET AL
DB 996 PG 521
CURTIS MONROE
DB 433 PG 485
ELLA LITTLE
DB 219 PG 134
HUNTER V. EASTERLING
DB 534 PG 268
MIDSTATE HOMES INC.
DB 542 PG 4
BARBARA ROYSTER
DB 1116-379
EARNEST COLLINS
DB 692 PG 626
FLORENCE MCKEITHAN
DB 204 PG 10
WLIIE SPELL
DB 1116-377
STA.14+14.02 -Y19-
STA.323+77.93 -L-
N 41° 42' 40.8" E
REMOVE
5' CONC ISLAND
PT Sta. 13+65.91
PC Sta. 13+05.96
DANIEL HESS
DB 1141-198
SPECIAL CUT DITCH
SEE DETAIL C
MELINDA R. HAILEY
DB 898 PG 279
PB 5 PG 29
ALEX WASHINGTON
DB 435 PG 306
ARTIS WASHINGTON
DB 453 PG 470
WILLIE WASHINGTON
DB 254 PG 144
GRACE STROMAN
DB 442 PG 363
OLIVER V. STROMAN
DB 480 PG 149
DB 1372-514
DANNY McMAHAN
& WIFE KAREN McMAHAN
LATERAL V DITCH
SEE DETAIL A
CLASS B RIP RAP
ROBERT MARTIN
& SHARON LEGGETT
DB 1132-512
LENITA CAMPBELL
DB 986 PG 424
JB W/MH
PDE
-Y19- CURVE
PI Sta 13+35.97
△ = 6° 52' 10.4" (LT)
D = 11° 27' 33.0"
L = 59.95'
T = 30.01'
R = 500.00'
e = NC
BEGIN CONSTRUCTION
-Y19- 11+00
POT Sta. 10+00.00
N 41° 25' 08.7" W
200.02'
N41°43'42"E
DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D = 1.0 Ft.
b = 5.0 Ft.
FROM STA 331+80 TO STA 333+70 -L- RT
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
4:1 or Flatter
Front Ditch Slope
Min. D = 1.0 Ft.
FROM STA 11+00 TO STA 13+42 -Y19- LT
FROM STA 11+00 TO STA 13+50 -Y19- RT

SEE SHEET 17 FOR -L- PROFILE
SEE SHEET 24 FOR -Y19- PROFILE
NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO.CONC.ISLAND

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-19/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Utilize Basin as a Skimmer Basin 5 inch Skimmer With 5 inch Orifice Diameter 7.1 C

100 x 33 x 3 3 inch Skimmer with 2.875 inch Orifice Diameter 11 ft. weir ID 7.4 C

17 x 7 x 3 4 ft. weir ID 7.3 C

19 x 10 x 3 4 ft. weir ID 7.2 C

NC GRID NAD 83/95

MATCHLINE STA 335+00 -L-

MATCHLINE STA 348+50 -L-

40 WILLIE SPELL DB 1116-377

40 WILLIE SPELL DB 663 PG 473

41 CARL BRINKLEY JR. ET AL DB 1091 PG 384

43 THELMA GRACE MCKOY DB 389 PG 296

45 CARL W. ISAAC DB 628 PG 586

48 OLIVIA PEACE STURGIES ESTATE DB 682 PG 469

48 OLIVIA PEACE STURGIES ESTATE DB 353 PG 318

39 ROBERT MARTIN & SHARON LEGGETT DB 1132-512

42 MARTHA RUSHING DB 1258 PG 533

44 TRUE CHURCH OF GOD ON CHRIST INC. DB 1358 PG 151 PLAT SLIDE 730-0

47 BOBBY BETHEA DB 1152 PG 283

47 BOBBY BETHEA DB 851 PG 93

BASIN OUTFALL SEE DETAIL M

BASIN BOT EL = 359.0-359.6 WEIR EL = 360.7 BERM EL = 362.0

FORE BAY SEE DETAIL L

BEGIN WW FENCE -L- STA.336+58.00

END WW FENCE -L- STA.338+15.00

STANDARD BASE DITCH DDE = 150 CY SEE DETAIL E

CLASS B RIP RAP EST.10 TNS FF=28 SY

CLASS B RIP RAP EST.10 TNS FF=30 SY

SPECIAL PROFILE OUT DITCH SEE DETAIL C

REMOVE BUILDING

REMOVE 15" CONC

PLUG & ABANDON

REMOVE HW 4' CONC. HW

BERM DITCH DDE = 35 CY SEE DETAIL D

BERM DITCH DDE = 14 CY SEE DETAIL D

N 41° 42' 40.8" E

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 3:1, D, 4:1 or Flatter, Front ditch Slope
Min. D = 1.0 Ft.
FROM STA 347+50 TO STA 348+00 -L- LT

DETAIL D
BERM DITCH
(Not to Scale)
SLOPE STAKE, CLEARING LIMITS, 5.0', 5.0', 10.0' V.C., 3:1, D VAR.
Min. D = 1.0 Ft.
FROM STA 344+00 TO STA 347+00 -L- RT
FROM STA 347+66 TO STA 349+00 -L- RT

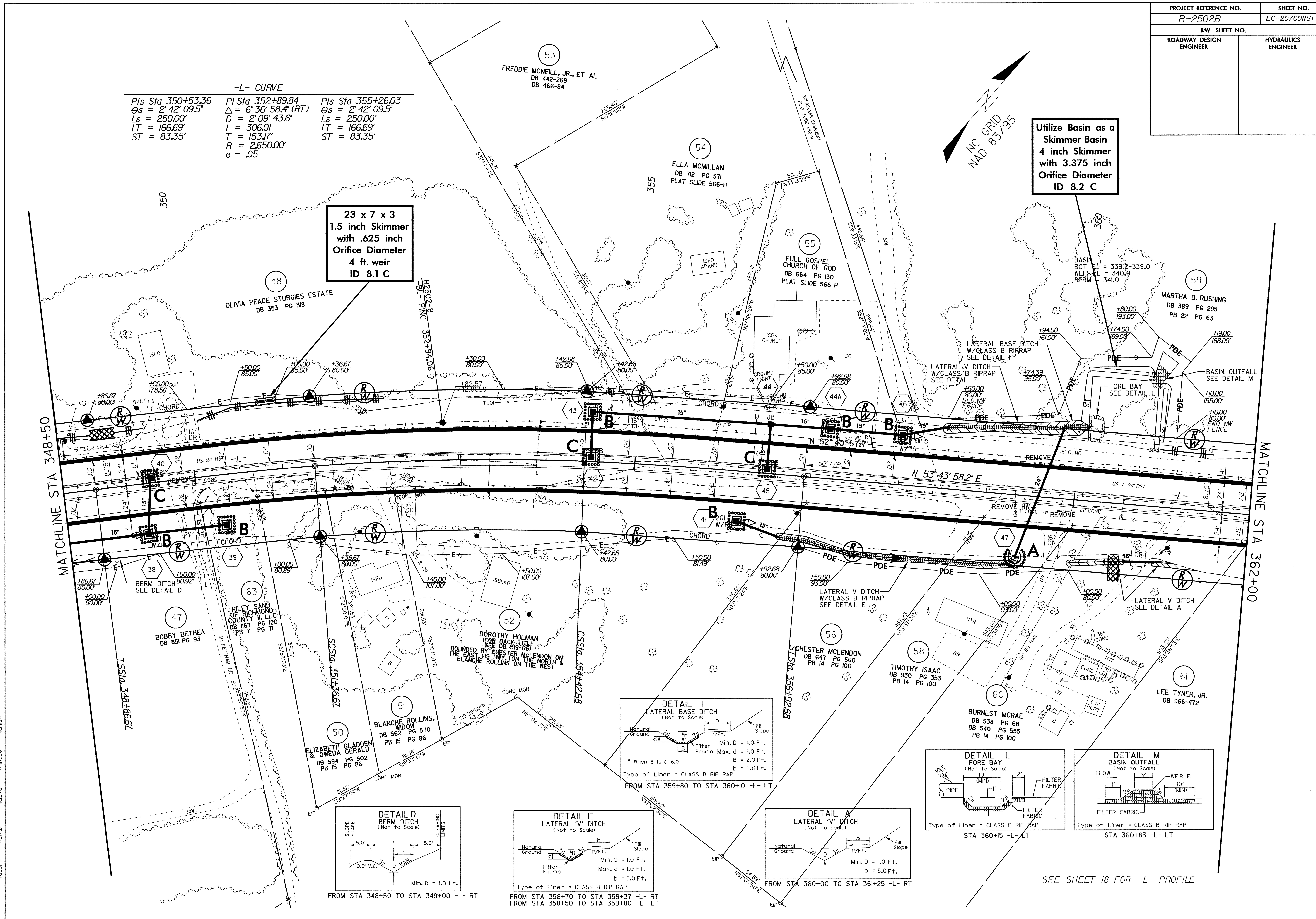
DETAIL L
FORE BAY
(Not to Scale)
Fill Slope, 10' (MIN), 2', PIPE, 1', 2:1, 2:1, FILTER FABRIC, FILTER FABRIC
Type of Liner = CLASS B RIP RAP
STA 336+25 -L- LT

DETAIL E
STANDARD BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, Natural Ground, B
Min. D = 1.0 Ft.
B = 2.0 Ft.
FROM STA 346+50 TO STA 347+70 -L- LT

DETAIL M
BASIN OUTFALL
(Not to Scale)
FLOW, 1', 3', WEIR EL, 10' (MIN), 2:1, 2:1, FILTER FABRIC
Type of Liner = CLASS B RIP RAP
STA 337+65 -L- LT

SEE SHEET 17 FOR -L- PROFILE

$FILE$ $COMMS$ $DATE$ $TIME$ $USER$ RI



PROJECT REFERENCE NO.
R-2502B
SHEET NO.
EC-20/CONST.8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
-L- CURVE
PIs Sta 350+53.36
Θs = 2° 42' 09.5"
Ls = 250.00'
LT = 166.69'
ST = 83.35'
PI Sta 352+89.84
△ = 6° 36' 58.4" (RT)
D = 2° 09' 43.6"
L = 306.01
T = 153.17'
R = 2,650.00'
e = .05
PIs Sta 355+26.03
Θs = 2° 42' 09.5"
Ls = 250.00'
LT = 166.69'
ST = 83.35'
NC GRID NAD 83/95
Utilize Basin as a Skimmer Basin
4 inch Skimmer with 3.375 inch Orifice Diameter
ID 8.2 C
23 x 7 x 3
1.5 inch Skimmer with .625 inch Orifice Diameter
4 ft. weir
ID 8.1 C
FREDDIE MCNEILL, JR., ET AL
DB 442-269
DB 466-84
ELLA MCMILLAN
DB 712 PG 571
PLAT SLIDE 566-H
FULL GOSPEL CHURCH OF GOD
DB 664 PG 130
PLAT SLIDE 566-H
OLIVIA PEACE STURGIES ESTATE
DB 353 PG 318
MARTHA B. RUSHING
DB 389 PG 295
PB 22 PG 63
BASIN
BOT EL = 339.2-339.0
WEIR EL = 340.0
BERM = 341.0
LATERAL BASE DITCH W/CLASS B RIPRAP SEE DETAIL I
LATERAL V DITCH W/CLASS B RIPRAP SEE DETAIL E
FORE BAY SEE DETAIL L
BASIN OUTFALL SEE DETAIL M
N 52° 40' 57.7" E
N 53° 43' 58.2" E
US 1 24' BST
MATCHLINE STA 348+50
MATCHLINE STA 362+00
BERM DITCH SEE DETAIL D
LATERAL V DITCH W/CLASS B RIPRAP SEE DETAIL E
LATERAL V DITCH SEE DETAIL A
BOBBY BETHEA
DB 851 PG 93
RILEY SAND OF RICHMOND COUNTY II, LLC
DB 1167 PG 120
PB 7 PG 71
DOROTHY HOLMAN (FOR BACK TITLE SEE DB 319-66)
BOUNDED BY CHESTER McLENDON ON THE EAST, US HWY 1 ON THE NORTH & BLANCHE ROLLINS ON THE WEST
CHESTER MCLENDON
DB 647 PG 560
PB 14 PG 100
TIMOTHY ISAAC
DB 930 PG 353
PB 14 PG 100
BURNEST MCRAE
DB 538 PG 68
DB 540 PG 555
PB 14 PG 100
LEE TYNER, JR.
DB 966-472
BLANCHE ROLLINS, WIDOW
DB 562 PG 570
PB 15 PG 86
ELIZABETH GLADDEN & OWEDA GERALD
DB 594 PG 502
PB 15 PG 86
TS Sta 348+86.67
SCS Sta 351+36.67
CSS Sta 354+42.68
ST Sta 356+92.68
-BL- PINC 352+94.06
DETAIL I
LATERAL BASE DITCH (Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
* When B is < 6.0'
Type of Liner = CLASS B RIP RAP
FROM STA 359+80 TO STA 360+10 -L- LT
DETAIL D
BERM DITCH (Not to Scale)
Min. D = 1.0 Ft.
FROM STA 348+50 TO STA 349+00 -L- RT
DETAIL E
LATERAL 'V' DITCH (Not to Scale)
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = CLASS B RIP RAP
FROM STA 356+70 TO STA 359+37 -L- RT
FROM STA 358+50 TO STA 359+80 -L- LT
DETAIL A
LATERAL 'V' DITCH (Not to Scale)
Min. D = 1.0 Ft.
b = 5.0 Ft.
FROM STA 360+00 TO STA 361+25 -L- RT
DETAIL L
FORE BAY (Not to Scale)
Type of Liner = CLASS B RIP RAP
STA 360+15 -L- LT
DETAIL M
BASIN OUTFALL (Not to Scale)
FILTER FABRIC
Type of Liner = CLASS B RIP RAP
STA 360+83 -L- LT
SEE SHEET 18 FOR -L- PROFILE

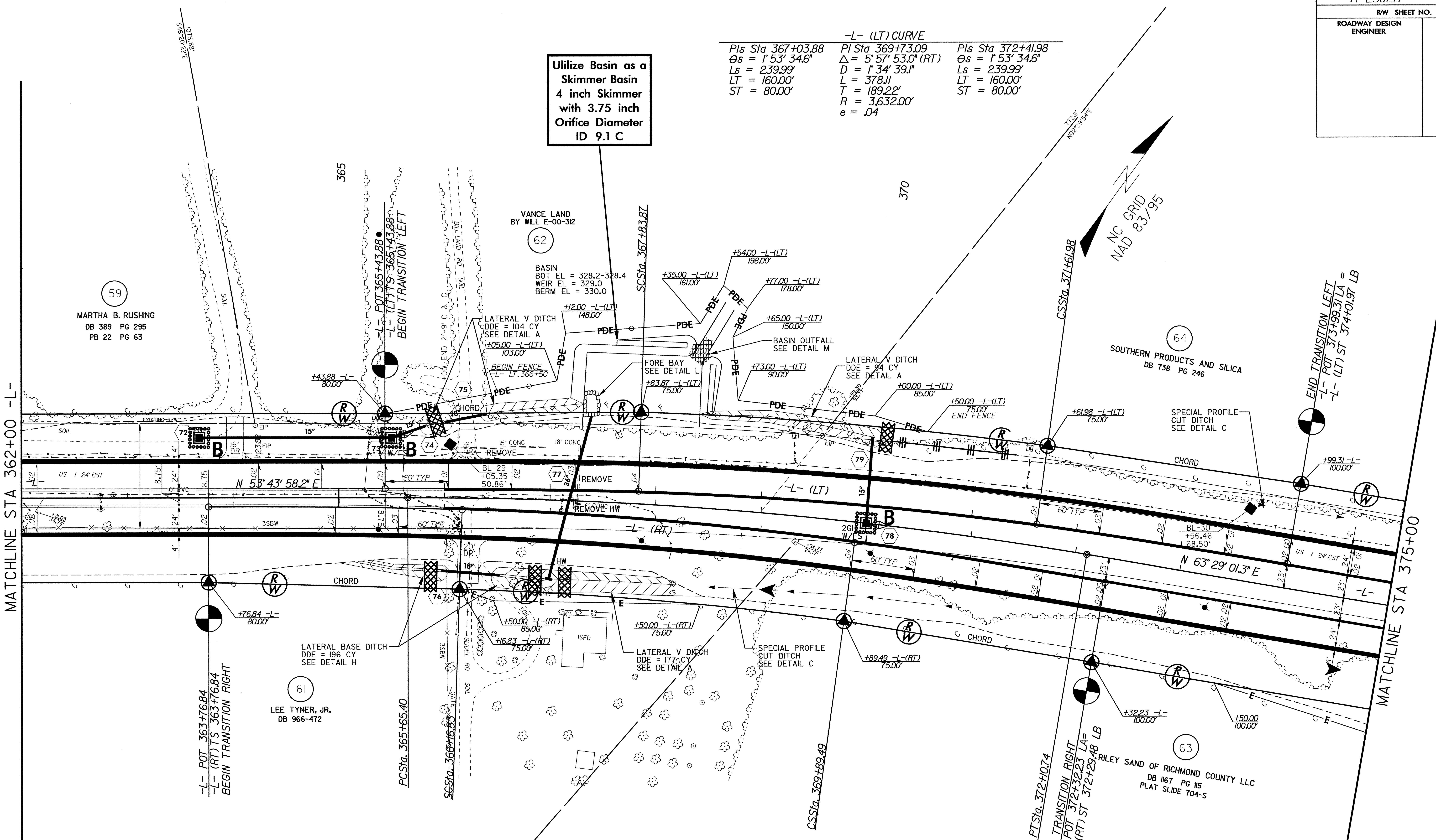
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-21/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

-L- (LT) CURVE

PIs Sta 367+03.88	PI Sta 369+73.09	PIs Sta 372+41.98
Θs = 1° 53' 34.6"	Δ = 5° 57' 53.0" (RT)	Θs = 1° 53' 34.6"
Ls = 239.99'	D = 1° 34' 39.1"	Ls = 239.99'
LT = 160.00'	L = 378.11	LT = 160.00'
ST = 80.00'	T = 189.22'	ST = 80.00'
	R = 3,632.00'	
	e = .04	

Ulilize Basin as a Skimmer Basin 4 inch Skimmer with 3.75 inch Orifice Diameter ID 9.1 C



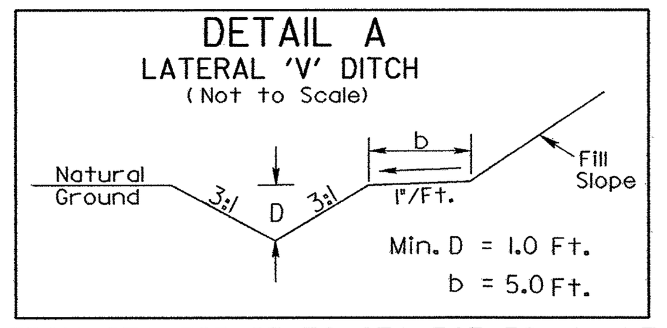
-L- (RT) CURVE

PIs Sta 365+36.84	PI Sta 368+03.33	PIs Sta 370+69.50
Θs = 1° 54' 35.2"	Δ = 5° 55' 51.8" (RT)	Θs = 1° 54' 35.2"
Ls = 239.99'	D = 1° 35' 29.6"	Ls = 239.99'
LT = 160.00'	L = 372.68	LT = 160.00'
ST = 80.01'	T = 186.50'	ST = 80.01'
	R = 3,600.00'	
	e = .04	

-L- CURVE

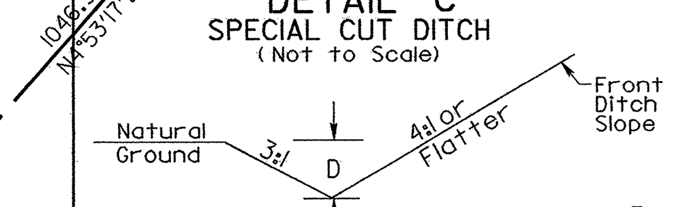
PI Sta 368+88.85
Δ = 9° 45' 03.1" (RT)
D = 1° 30' 39.5"
L = 645.34'
T = 323.45'
R = 3,792.00'

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)



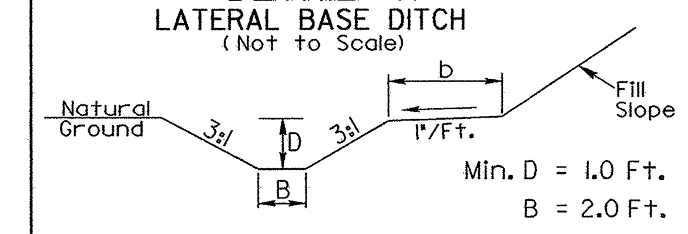
FROM STA 365+85 TO STA 367+30 -L- LT
FROM STA 367+00 TO STA 368+50 -L- RT
FROM STA 368+35 TO STA 370+00 -L- LT

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



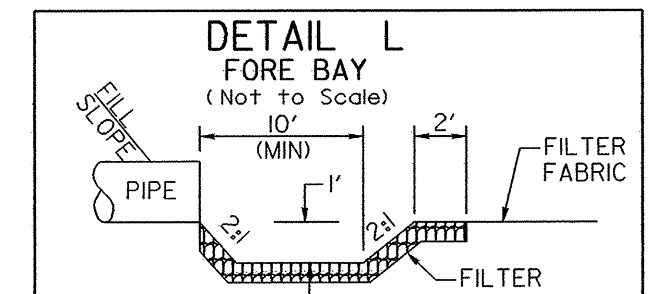
FROM STA 368+50 TO STA 371+00 -L- RT
FROM STA 373+00 TO STA 374+50 -L- LT

DETAIL H
LATERAL BASE DITCH
(Not to Scale)



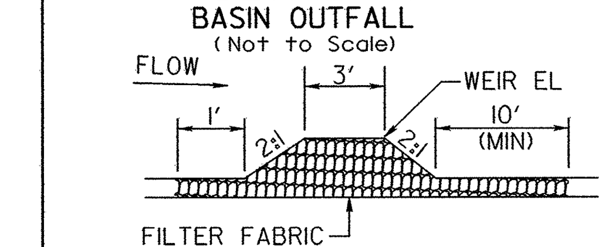
FROM STA 365+50 TO STA 367+00 -L- RT

DETAIL L
FORE BAY
(Not to Scale)



Type of Liner = CLASS B RIP RAP
STA 367+30 -L- LT

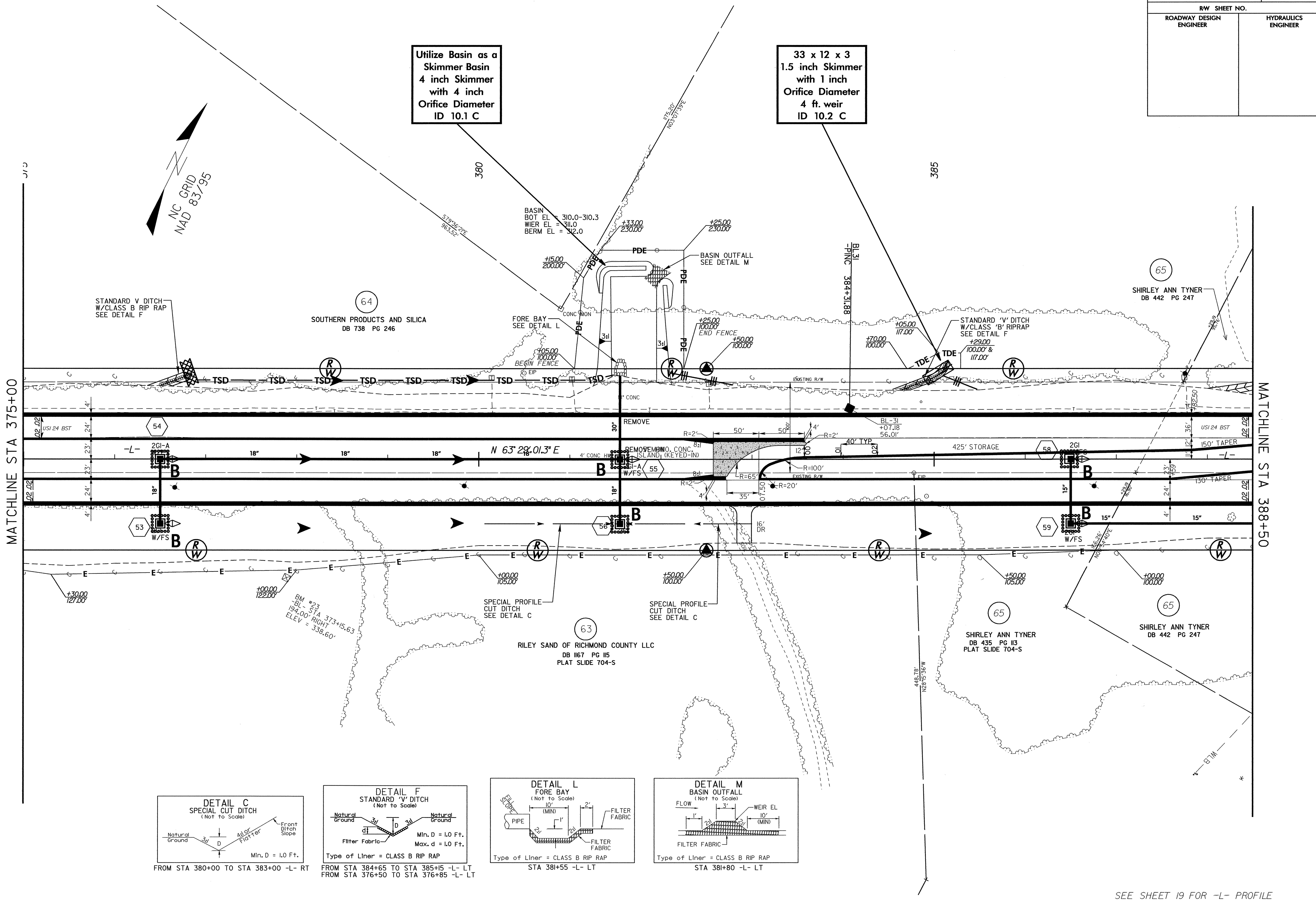
DETAIL M
BASIN OUTFALL
(Not to Scale)



Type of Liner = CLASS B RIP RAP
STA 368+30 -L- LT

SEE SHEET 18 FOR -L- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-22/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-23/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL FILTER FABRIC UNDER TEMPORARY ROCK SILT CHECK(S) TYPE A IN PERMITTED WETLANDS.

NC GRID NAD 83/95

-L- CURVE

PIs Sta 392+71.62	PI Sta 398+53.76	PIs Sta 404+27.02
Θs = 2° 22' 03.3"	Δ = 18° 43' 38.9" (RT)	Θs = 2° 22' 03.3"
Ls = 250.00'	D = 1° 53' 38.7"	Ls = 250.00'
LT = 166.68'	L = 988.74	LT = 166.68'
ST = 83.35'	T = 498.82'	ST = 83.35'
	R = 3,025.00'	
	e = .05	

-L- POC Sta. 393+71.00
-DRIVE- POT Sta. 12+36.86

SHIRLEY ANN TYNER
DB 442 PG 247

MATCHLINE STA 388+50 -L-

MATCHLINE STA 402+00 -L-

LATERAL V DITCH
DDE = 178 CY
SEE DETAIL A

PLUG & ABANDON

SPECIAL PROFILE MEDIAN DITCH

REMOVE HW

REMOVE

REPEATERS

400' STORAGE

150' TAPER

130' TAPER

N 63° 29' 01.3" E

CLASS B RIP RAP
EST. 3 TNS
FF = 10 SY

LATERAL V DITCH
DDE = 198 CY
SEE DETAIL A

CLASS B RIP RAP
EST. 3 TNS
FF = 10 SY

LATERAL BASE DITCH
DDE = 980 CY
SEE DETAIL H

BERM DITCH
DDE = 33 CY
SEE DETAIL D

-DRIVE- PT Sta. 11+39.39

SCSta. 393+54.94

TSSta. 391+04.94

SEE SHEET 19 FOR DRIVEWAY PROFILE

-DRIVE- PC Sta. 10+89.10
BEG. CONST.

-DRIVE- POT Sta. 10+00.00

**73 x 23 x 3
2 inch Skimmer
with 2 inch
Orifice Diameter
8 ft. weir
ID 11.2 C**

**25 x 15 x 3
ID 11.1 C**

-DRIVE-
PI Sta 11+18.18
Δ = 7.2° 01' 41.3" (LT)
D = 143° 14' 22.0"
L = 50.29'
T = 29.08'
R = 40.00'

2114.27'
N86°36'05"W

WLB

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground — 3:1 — D — 3:1 — b — Fill Slope — 1':1'

Min. D = 1.0 Ft.
b = 5.0 Ft.

FROM STA 388+50 TO STA 392+00 -L- LT
FROM STA 390+00 TO STA 392+00 -L- RT

DETAIL H
LATERAL BASE DITCH
(Not to Scale)

Natural Ground — 2:1 — D — 2:1 — b — Fill Slope — 1':1' — B

Min. D = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

FROM STA 392+00 TO STA 394+95 -L- RT

DETAIL D
BERM DITCH
(Not to Scale)

SLOPE STAKE — 5.0' — 10.0' V.C. — 2:1 — D VAR. — 5.0' — CLEARING LIMITS

Min. D = 1.0 Ft.

FROM STA 400+00 TO STA 401+60 -L- RT

SEE SHEET 19 FOR -L- PROFILE

$FILE$ $COMM$ $DATE$ $TIME$ $USER$ $R#$

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-24/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

100 x 33 x 3 3 inch Skimmer with 2.875 inch Orifice Diameter 11 ft. weir ID 12.1 C

Utilize Hazardous Spill Basin as a Skimmer Basin 4 inch Skimmer with 4 inch Orifice Diameter ID 12.2 C

NC GRID NAD 83/95

-L- CURVE

Pls Sta 392+71.62	PI Sta 398+53.76	Pls Sta 404+27.02
Θs = 2° 22' 03.3"	Δ = 18° 43' 38.9" (RT)	Θs = 2° 22' 03.3"
Ls = 250.00'	D = 1° 53' 38.7"	Ls = 250.00'
LT = 166.68'	L = 988.74	LT = 166.68'
ST = 83.35'	T = 498.82'	ST = 83.35'
	R = 3,025.00'	
	e = .05	

-L- (LT) CURVE

Pls Sta 410+98.68	PI Sta 418+56.00	Pls Sta 425+46.39
Θs = 5° 48' 47.3"	Δ = 44° 50' 53.0" (LT)	Θs = 5° 48' 47.3"
Ls = 320.00'	D = 3° 37' 59.6"	Ls = 320.00'
LT = 213.45'	L = 1,234.39	LT = 213.45'
ST = 106.77'	T = 650.77'	ST = 106.77'
	R = 1,577.00'	
	e = .08	

65 SHIRLEY ANN TYNER DB 442 PG 247

66 DONALD C. LOCKLEAR DB 726 PG 908

67 STATE of NORTH CAROLINA DB 1271-337

68 JAMES E. PUGH ESTATE DB 634 PG 475

HAZARDOUS SPILL BASIN W/SLUCE GATE BOT EL = 280.0 BERM EL = 283.0

REMOVE BUILDING

BEGIN C/A

BEGIN FENCE

FORE BAY SEE DETAIL L

CHANNEL CHANGE SEE DETAIL N 230' @ 0.20% DDE = 175 CY

CLASS B RIP RAP EST. 8 TNS FF = 21 SY

LATERAL V DITCH DDE = 55 CY SEE DETAIL A

MATCHLINE STA 402+00 -L-

MATCHLINE STA 415+00 -L-

CSSta. 403+43.68

SCSta. 405+93.68

PCSta. 410+29.54

SCSta. 412+05.23

SCSta. 411+71.08

-L- POT 408+51.08 -L- (LT) POT 408+51.08 BEGIN TRANSITION LEFT

-L- (RT) TS 408+85.23 BEGIN TRANSITION RIGHT

-L- (RT) CURVE

Pls Sta 410+64.52	PI Sta 418+46.30	Pls Sta 425+57.58
Θs = 5° 38' 54.2"	Δ = 45° 10' 39.2" (LT)	Θs = 5° 38' 54.2"
Ls = 320.00'	D = 3° 31' 48.9"	Ls = 320.00'
LT = 213.44'	L = 1,279.73	LT = 213.44'
ST = 106.77'	T = 675.22'	ST = 106.77'
	R = 1,623.00'	
	e = .08	

-L- CURVE

PI Sta 418+88.78
Δ = 56° 28' 27.5" (LT)
D = 3° 34' 51.6"
L = 1,577.06'
T = 859.25'
R = 1,600.00'

DETAIL N
STANDARD BASE DITCH
(Not to Scale)

Min. D= 1Ft.
Max. d= 1Ft.
B= 4 Ft.
*When B Is < 6.0'

-L- STA. 403+25 LT.

DETAIL L
FORE BAY
(Not to Scale)

Type of Liner = CLASS B RIP RAP

STA 413+07 -L- LT
STA 414+02 -L- LT

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)

Min. D = 1.0 Ft.
b = 5.0 Ft.

FROM STA 413+95 TO STA 415+10 -L- RT

$FILE$ $COMMA$ $DATE$ $TIME$ $USER$ RP

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-25/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Utilize Hazardous Spill Basin as a Skimmer Basin 5 inch Skimmer with 5 inch Orifice Diameter ID 13.6 C

DETAIL A
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground, 3:1, D, 3:1, b, 1'/Ft., Fill Slope
Min. D = 1.0 Ft.
b = 5.0 Ft.

FROM STA 423+50 TO STA 426+50 -L- RT
FROM STA 12+50 TO STA 15+00 -Y18- RT
FROM STA 413+95 TO STA 415+10 -L- RT

DETAIL L
FORE BAY
(Not to Scale)
Fill Slope, PIPE, 2:1, 10' (MIN), 2', 1', 2:1, FILTER FABRIC, FILTER FABRIC
Type of Liner = CLASS B RIP RAP

STA 424+60 -L- LT

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground, 2:1, D, Ditch Flatter, Front Ditch Slope
Min. D = 1.0 Ft.

FROM STA 10+50 TO STA 12+00 -Y18- RT

DETAIL G
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground, 2:1, D, 2:1, Natural Ground
Min. D = 1.0 Ft.

STA 14+50 -Y18- LT

DETAIL K
TOE PROTECTION
(Not to Scale)
Fill Slope, d, Filter Fabric
d = 1.0 Ft.
Type of Liner = CLASS B RIP RAP

FROM STA 418+35 TO STA 423+50 -L- RT

-L- CURVE
PI Sta 418+88.78
Δ = 56° 28' 27.5" (LT)
D = 3° 34' 51.6"
L = 1,577.06'
T = 859.25'
R = 1,600.00'

-L- (LT) CURVE

PIs Sta 410+98.68	PI Sta 418+56.00	PIs Sta 425+46.39
θs = 5° 48' 47.3"	Δ = 44° 50' 53.0" (LT)	θs = 5° 48' 47.3"
Ls = 320.00'	D = 3° 37' 59.6"	Ls = 320.00'
LT = 213.45'	L = 1,234.39	LT = 213.45'
ST = 106.77'	T = 650.77'	ST = 106.77'
	R = 1,577.00'	
	e = .08	

NC GRID
NAD 83/95

MATCHLINE STA 415+00

MATCHLINE STA 428+50

CLASS B RIP RAP EST. 2 TNS FF = 7 SY

68 JAMES E. PUGH ESTATE DB 634 PG 475

111 CONFLICT BOX NOTE: CROSS PIPE TO EXTEND THRU BOX

67 STATE of NORTH CAROLINA DB 1271-337

STA 15+84.11 -Y18- = STA 417+78.02 -L-

70 REAVES LANDSCAPING AND DESIGN INC. DB 866 PG 225

SHOULDER BERM GUTTER

HAZARDOUS SPILL BASIN
W/SLUICE GATE
BOT. EL = NATURAL GROUND
WEIR EL = 283.0
BERM El. = 283.0

CSSta. 424+13.62

PTSta. 426+00.60

+95.00 -L-(LT) 214.00

+93.00 -L-(LT) 214.00

+00.00 -L-(RT) 75.00

+50.00 -L-(RT) 75.00

FORE BAY SEE DETAIL L

+39.62 -L-(LT) 75.00

+30.00 -L-(LT) 88.15

SHOULDER BERM GUTTER

-L- POT 427+17.44
-L- (LT) ST 427+59.62
-L- TRANSITION LEFT
END

+77.44 -L- 100.00

67 STATE of NORTH CAROLINA DB 1271-337

69 UNITED STATES OF AMERICA DB 258 PG 337 DB 258 PG 190

100.00' S40°09'40"W

STANDARD V DITCH DDE = 20 CY SEE DETAIL G

+50.00 -Y18- 100.00

REMOVE

CLASS B RIP RAP EST. 3 TNS FF = 11 SY

+70.00 -L-(RT) 75.00

+00.00 -L-(RT) 90.00

+50.00 -L-(RT) 90.00

+50.00 -L-(RT) 75.00

+50.81 -L-(RT) 90.00

+51.68 -Y18- 69.11

PTSta. 14+43.62

LATERAL V DITCH DDE = 122 CY SEE DETAIL A

TOE PROTECTION SEE DETAIL K EST. 200 TNS FF = 620 SY

REAVES LANDSCAPING AND DESIGN INC. DB 866 PG 225

WLB

36 x 13 x 3 ID 13.1 C

17 x 6 x 3 ID 13.4 C

PAVEMENT REMOVAL

48 x 16 x 3 1.5 inch Skimmer with 1.375 inch Orifice Diameter 5 ft. weir ID 13.2 C

23 x 12 x 3 4 ft. weir ID 13.3

50 x 16 x 3 1.5 inch Skimmer with 1.5 inch Orifice Diameter 6 ft. weir ID 13.5 C

-Y18- CURVE
PI Sta 13+02.36
Δ = 19° 34' 39.7" (RT)
D = 6° 51' 42.4"
L = 285.32'
T = 144.06'
R = 835.00'
e = .06

-L- (RT) CURVE

PIs Sta 410+64.52	PI Sta 418+46.30	PIs Sta 425+57.58
θs = 5° 38' 54.2"	Δ = 45° 10' 39.2" (RT)	θs = 5° 38' 54.2"
Ls = 320.00'	D = 3° 31' 48.9"	Ls = 320.00'
LT = 213.44'	L = 1,279.73	LT = 213.44'
ST = 106.77'	T = 675.22'	ST = 106.77'
	R = 1,623.00'	
	e = .08	

BEGIN CONSTRUCTION -Y18- 10+00

POT Sta. 10+00.00

PCSta. 11+58.30

+00.00 45.55

+83.32 -Y18- 22.54

+80.00 40.00

+80.00 46.00

BEGIN FENCE

BEGIN C/A

LATERAL 'V' DITCH DDE = 107 CY SEE DETAIL

67 STATE of NORTH CAROLINA DB 1271-337

-L- POT 427+58.51
-L- (RT) ST 427+10.81
-L- TRANSITION RIGHT
END

+00 BEGIN SHOULDER BERM GUTTER

12" PLASTIC

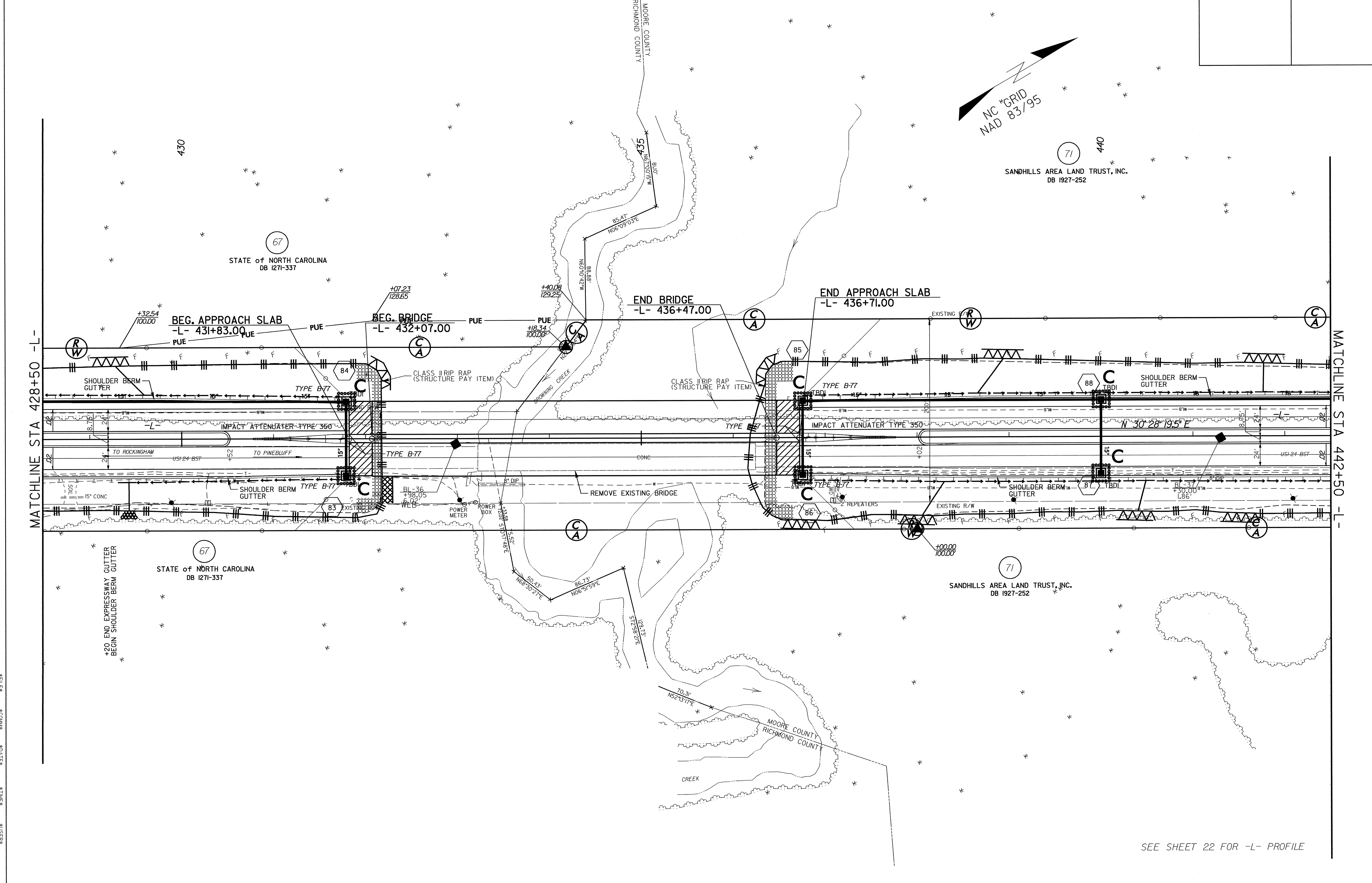
POND

SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 24 FOR -Y18- PROFILE

$FILE$ $COMMA$ $DATE$ $TIME$ $USER$ R

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-26/CONSTJ4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SPECIAL STILLING BASIN AND/OR TEMPORARY ROCK SILT CHECK TYPE-A AS STILLING BASIN WHERE APPLICABLE.



SEE SHEET 22 FOR -L- PROFILE

$FILE$ $COMM$ $DATE$ $TIME$ $USER$ RI

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	EC-27/CONSTJ5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER