TIP PROJECT: R-2809A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

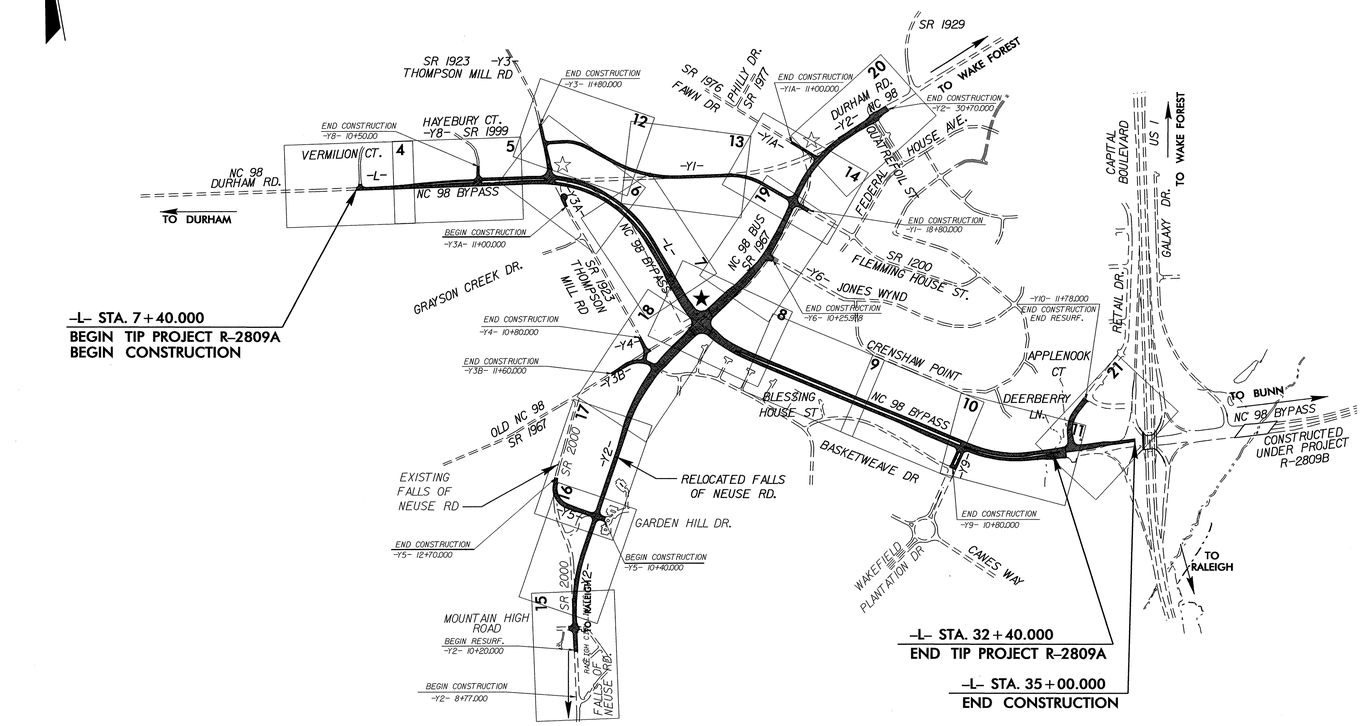
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WAKE COUNTY

LOCATION: NC 98 (WAKE FOREST BYPASS) FROM WEST OF SR 1923 (THOMPSON MILL ROAD) TO WEST OF US 1 (CAPITAL BLVD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, TRAFFIC SIGNALS, AND NOISE WALL

NAD 83



METRIC

ALL DIMENSIONS IN THESE PLANS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2809A	EC-1	

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

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
	Streambank Reforestation	
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	
1633.02	Temporary Rock Silt Check Type-B	
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	

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

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS

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

2002 STANDARD SPECIFICATIONS

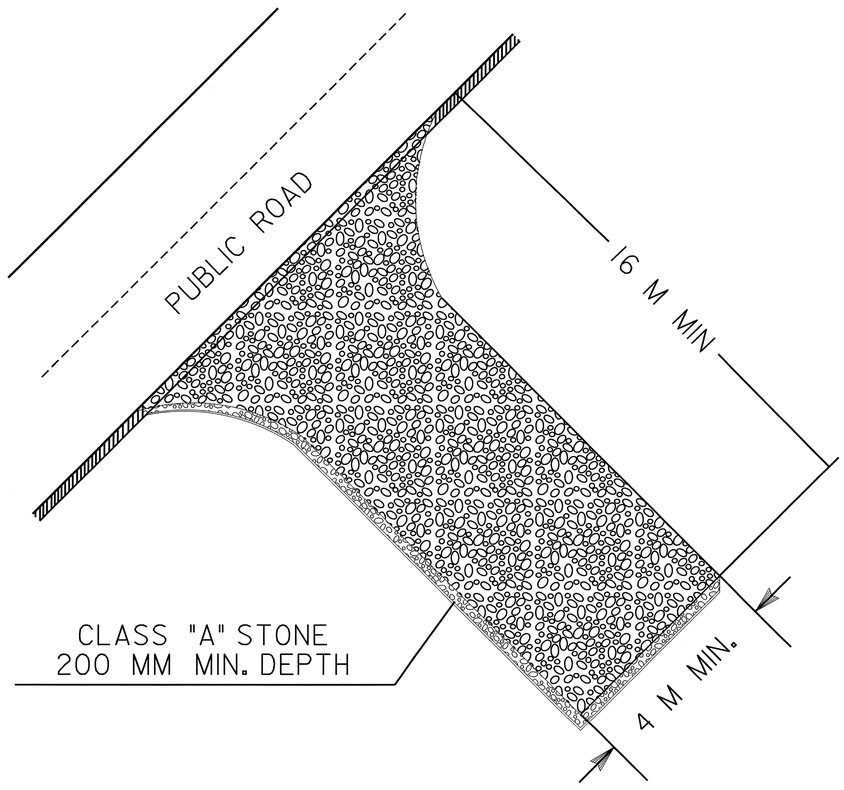
Roadway Standard Drawings

The following roadway metric standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 20, 2002 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	1632.03	Rock Inlet Sediment Trap Type C
1606.01	Special Sediment Control Fence	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.02	Silt Basin Type B	1634.01	Temporary Rock Sediment Dam Type A
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.05	Temporary Diversion	1635.01	Rock Pipe Inlet Sediment Trap Type A
1632.01	Rock Inlet Sediment Trap Type A	1635.02	Rock Pipe Inlet Sediment Trap Type B
1632.02	Rock Inlet Sediment Trap Type B		

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	R-2809A	EC-2
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE



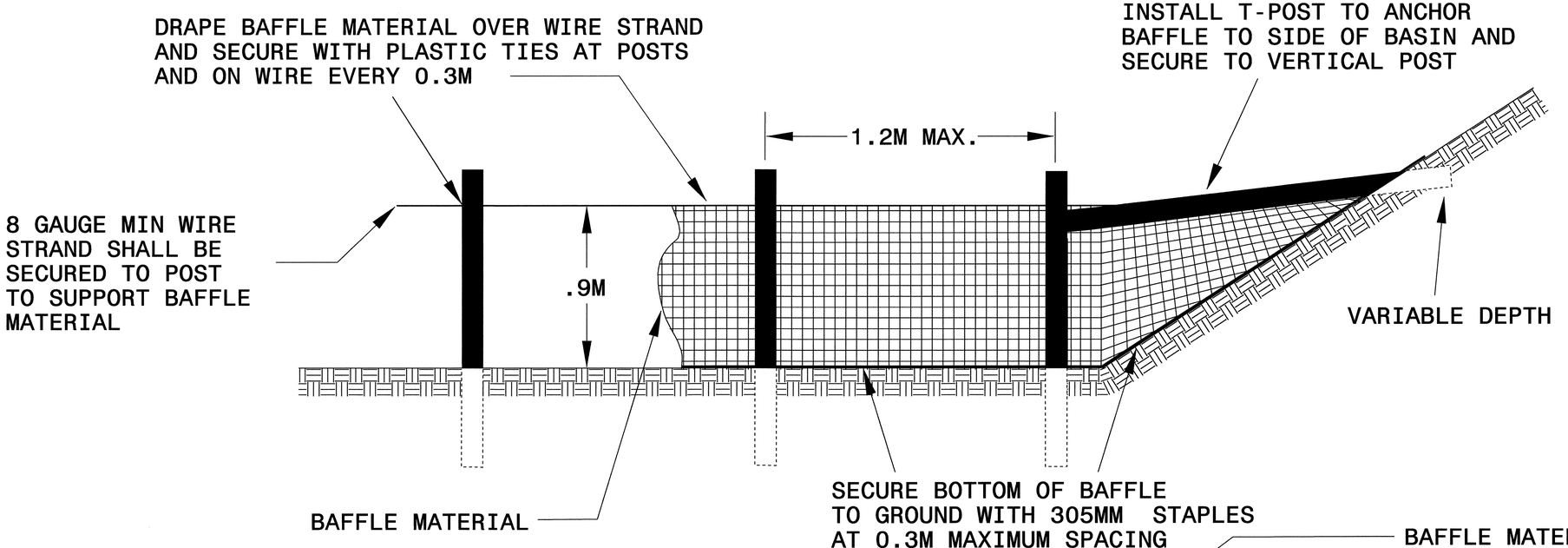
NOTES:

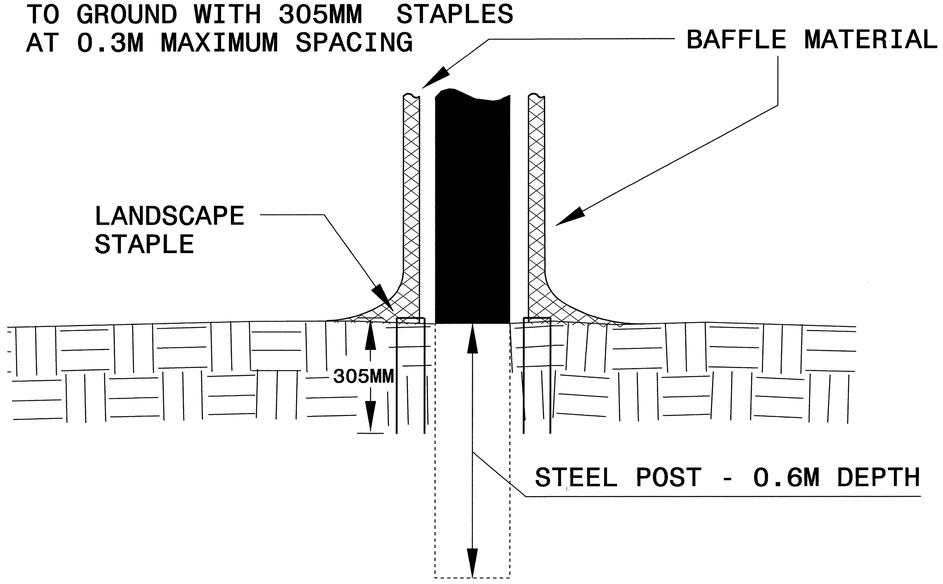
1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER

NOTE: FILTER FABRIC TO BE PLACED BENEATH STONE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-2A
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



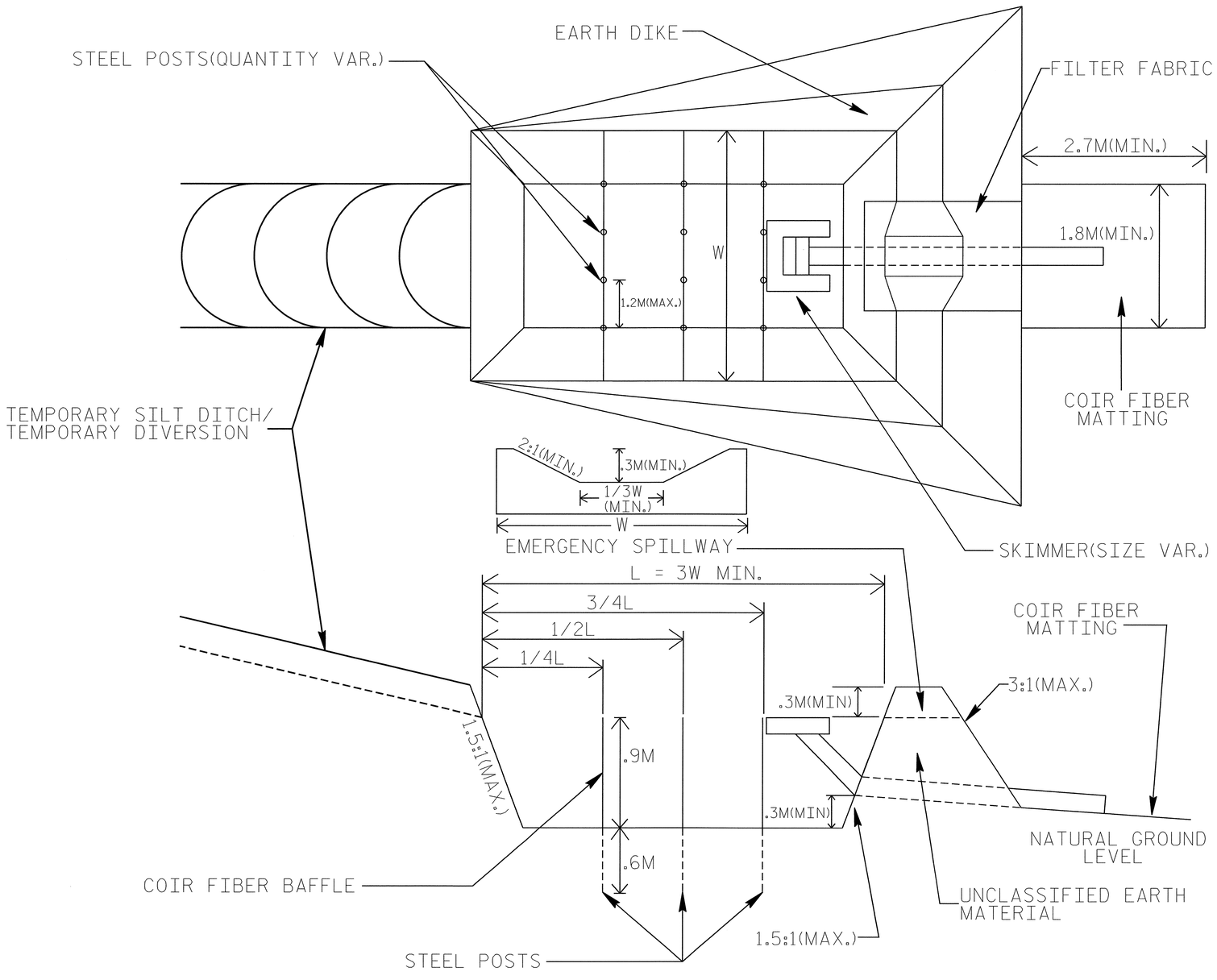


BAFFLE MATERIAL SHALL BE SECURED
TO THE BOTTOM AND SIDES OF BASIN
USING 305MM LANDSCAPE STAPLES

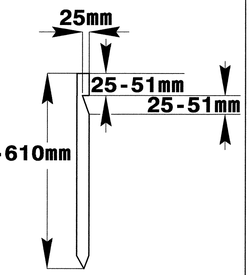
NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF ¼ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 6 M IN LENGTH WITH A SPACING OF 1/3 THE BASIN LENGTH.

SKIMMER BASIN WITH BAFFLES DETAIL

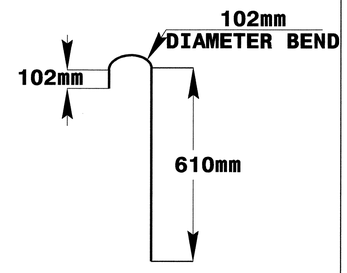
METRIC	PROJECT REFERENCE NO.	SHEET NO.
	R2809A	EC-2B
	R /W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



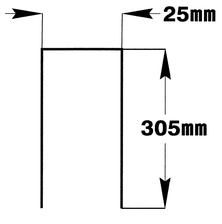
51mm x 51mm (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



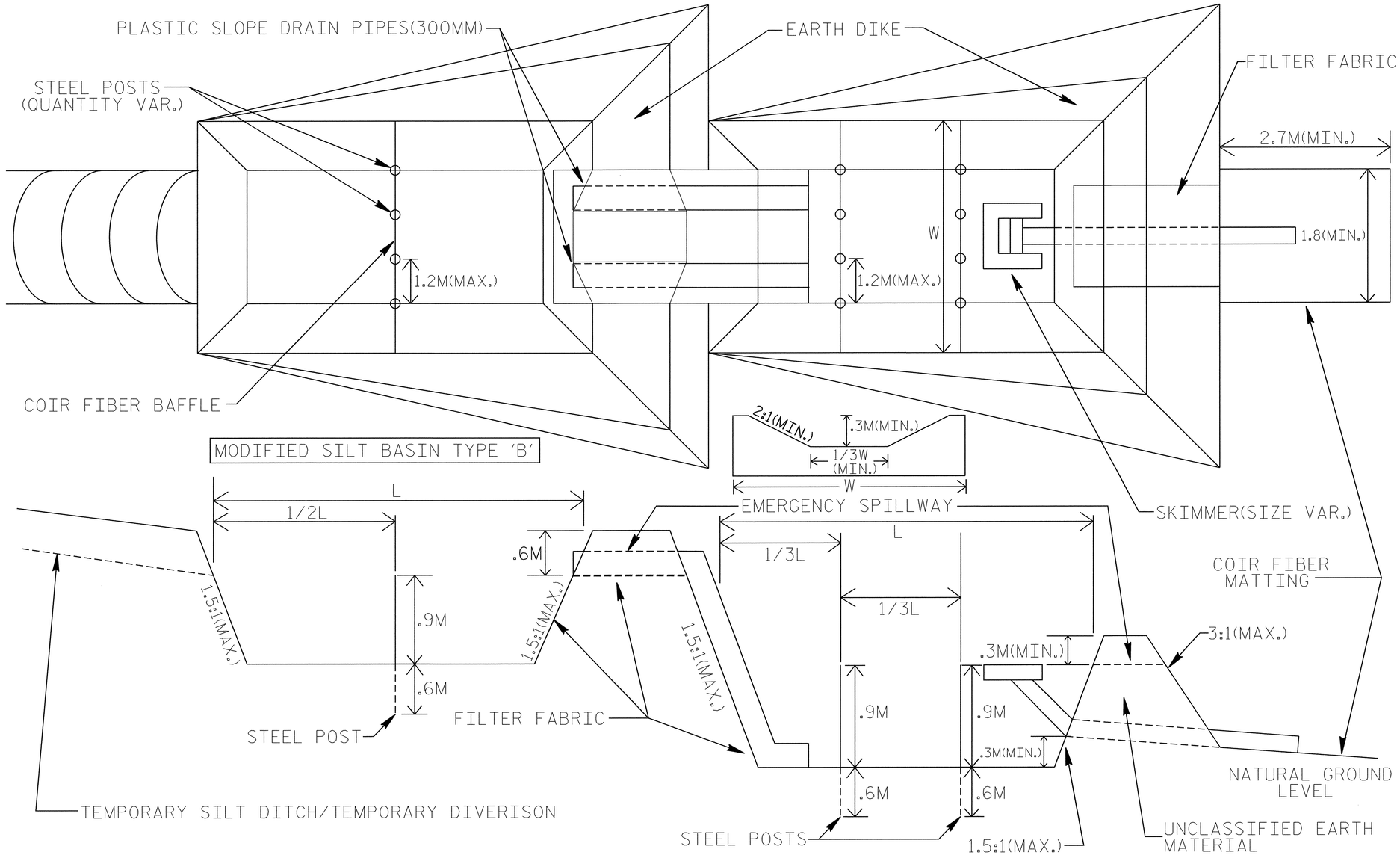
25mm (nominal) STAPLE

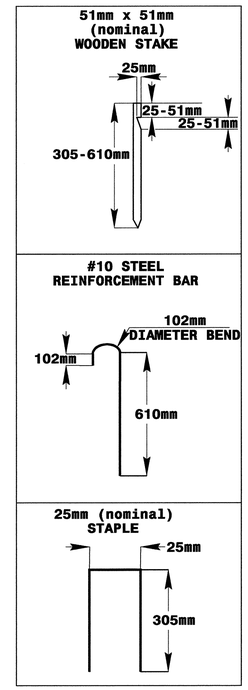


COIR FIBER MAT ANCHOR OPTIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TIERED SKIMMER BASIN DETAIL





COIR FIBER MAT ANCHOR OPTIONS

NOTE

ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.

METRIC

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-3
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SM)
8	-L-	20+80	22+60	LT	2190
8	-L-	21+80	22+60	RT	975
9	-L-	23+00	23+60	LT	410
9	-L-	24+20	24+40	RT	90
9	-L-	24+20	31+00	LT	5660
9	-L-	25+20	29+20	RT	4870
11	-L-	29+80	31+40	RT	1480
5	-Y8-	10+20	10+40	RT	85
17	-Y5-	10+80	12+20	LT	895
17	-Y5-	12+50	12+70	RT	65
18	-Y30-	10+20	11+40	RT	990
18	-Y30-	10+20	11+30	LT	910
17	-Y2-	16+00	19+20	LT	3270
18	-Y2-	19+00	20+40	RT	1165
8	-Y2-	21+00	21+20	RT	125
8	-Y2-	22+00	23+40	LT	1295
8	-Y2-	22+00	23+60	RT	1480
19	-Y2-	24+20	24+40	RT	115
19	-Y2-	24+60	24+80	LT	125
13	-Y1-	10+80	12+40	RT	1020
13	-Y1-	10+80	12+40	LT	1320
6	-L-	14+60	16+40	RT	1500
7	-L-	16+80	17+40	RT	300
7	-L-	18+60	19+40	RT	740
8	-L-	20+80	21+00	RT	205
			SUBTOTAL		31280
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					3750
				TOTAL	35030
				SAY	36000

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SM)
11	-Y9-	10+30	10+60	RT	195
11	-Y9-	10+30	10+50	LT	130
18	-Y4-	10+04	10+50	LT	380
6	-Y3A-	11+25	11+40	RT	85
6	-Y3-	10+80	11+60	LT	295
14	-Y1A-	10+60	10+80	LT	45
14	-Y1A-	10+60	10+80	RT	55
			SUBTOTAL		1185
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	1185
				SAY	1185

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 4

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-4/CONST.4
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-TRANS
PI = 8+44.939
△ = 4° 14' 30.2" (LT)
L = 170.274
T = 85.176
R = 2,300.000
SE = 0.02
$V_{DES.}$ = 100 KPH

NAD 83

-L- POT 7+40.000
-L-TRANS POT 7+40.000
(8.1m RT.)

-L-TRANS PC 7+59.763

-L- POT 6+20.000

-L- S 82° 02' 31.7" E

S 82° 02' 31.7" E

-L-TRANS

Modified Silt Basin Type 'B' 8 x 7 x 1 (See Tiered Skimmer Basin Detail) ID 4.1

8 x 7 x 1 64 mm Skimmer with 59 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 4.1

EXISTING R/W

LATERAL 0.6m BASE DITCH W/ 1.5m BERM W/ 28.0 MTN CLASS I RIP RAP & 53.5m² F.F. EST. DDE = 12m³ -L- 9+00 TO 9+18 LT SEE DETAIL 13

REMOVE CONC. DITCH

600 CSP

JB

REMOVE EXIST GUARDRAIL

GRAU-350

RETAIN

5.5 BST

0.9 BST

1.4 BST

1.3 BST

3.0 SOIL

COLLAR & EXTEND 600 CSP W/ HW

CONC. RETAIN CONC. DITCH

REMOVE EXISTING GUARDRAIL

REMOVE HW & 1.6m OF CONC DITCH

400 CSP W/ELBOWS W/ROD & LUG CONNECTORS W/SLEEVES

PSH SEE DETAIL SHEET 2-F

TOE PROTECTION 10.8 MTN CLASS B RIP RAP & 38.3m² F.F. STA 8+35 -L- RT. TO STA 8+50 -L- RT. SEE DETAIL 9

BELTED SILT FENCE SEE PROJECT SPECIAL PROVISIONS

MATCHLINE -L- STA. 9+00.000 SEE SHEET 5

BEGIN STATE PROJECT R-2809A

STA. 7+40.000 -L-
BEGIN CONSTRUCTION

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 22 FOR PROFILES

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 5

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-5/CONST.5
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

11 x 7 x 1
76 mm Skimmer
with 70 mm
Orifice Diameter
3 m weir
(See Tiered Skimmer
Basin Detail)
ID 8.3

Modified Silt Basin
Type 'B'
11 x 7 x 1
(See Tiered Skimmer
Basin Detail)
ID 8.3

6 x 3 x 1
1.5 m weir
ID 5.3

12 x 6 x 1
76 mm Skimmer
with 67 mm
Orifice Diameter
3 m weir
(See Tiered Skimmer
Basin Detail)
ID 5.2

Modified Silt Basin
Type 'B'
12 x 6 x 1
(See Tiered Skimmer
Basin Detail)
ID 5.2

15 x 5 x 1
51 mm Skimmer
with 41 mm
Orifice Diameter
2 m weir
ID 5.1

-L-TRANS PT 11+00.311
-L- POT 11+00.000
(4.500 LT.)

-Y8- PT 10+82.639

-Y8- PC 10+52.114

-L-TRANS PRC 9+30.037

-L-TRANS

-L-

-BL-100 POT 5+00.000 =
-L- POT 9+96.756 (14.135 RT.)

-Y8-

N 11° 45' 29.1" E

S 82° 02' 31.7" E

LATERAL 0.6m BASE DITCH W/ 1.5m BERM W/ 28.0 MTN CLASS I RIP RAP & 53.5m F.F. EST. DDE = 12m³ -L- 9+00 TO 9+12 LT SEE DETAIL 13

CLASS I RIP RAP 4.5 MTN & 39.4m² F.F. (ON BANKS ONLY) SEE DETAIL 12

PSH SEE DETAIL SHEET 2-F

TOE PROTECTION 43.3 MTN CLASS B RIP RAP & 153.1m² F.F. STA 9+20 -L- LT. TO STA 9+80 -L- LT. SEE DETAIL 9

END DITCH +80

LATERAL 0.6m BASE DITCH W/1.5m BERM 128.6 MTN CLASS B RIP RAP & 361.7m² F.F. EST. DDE = 220m³ -L- 9+80 TO 10+70 LT SEE DETAIL 14

EXISTING R/W (VARIABLE)

SPECIAL LATERAL V-DITCH W/ 64.1 MTN CLASS 'B' RIP RAP & 176.4m² F.F. -L- 10+70 TO 11+11 LT SEE DETAIL 1

REMOVE CONC. DITCH

400 CSP W/ELBOWS W/ROD & LUG CONNECTORS W/SLEEVES

400 CSP

RETAIN 1000 mm CMP

CLASS 'B' RIP RAP 0.9 MTN CLASS B RIPRAP 4.2m² F.F.

GRAU-350

REMOVE EXIST GUARDRAIL

REMOVE

2GI W/FLAT GRATE

PROPOSED G/R

EXISTING R/W (VARIABLE)

TIE TO EXISTING LATERAL DITCH

SPECIAL LATERAL V-DITCH W/ CLASS B RIP RAP 80.5mTN 210.0m F.F. -L- 11+20 TO 11+60 RT SEE DETAIL 1

CLASS B RIP RAP 1.8m MTN 5.9m² F.F.

STANDARD BERM DITCH -L- 11+60 TO 13+40 RT

-L- POT 11+21.529
-Y8- POT 10+00.000

CAT-1

2-GI

NC 98 SR 1923 DURHAM RD 7.3 BST 10 BST 14 BST

NAD 83

DONALD WINSTEAD & KAREN K.

SEE SHEET 4
MATCHLINE -L- STA. 9+00.000

MATCHLINE -L- STA. 12+40.000
SEE SHEET 6

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 22 FOR -L- PROFILES
SEE SHEET 26 FOR -L-TRANS & -Y8- PROFILES

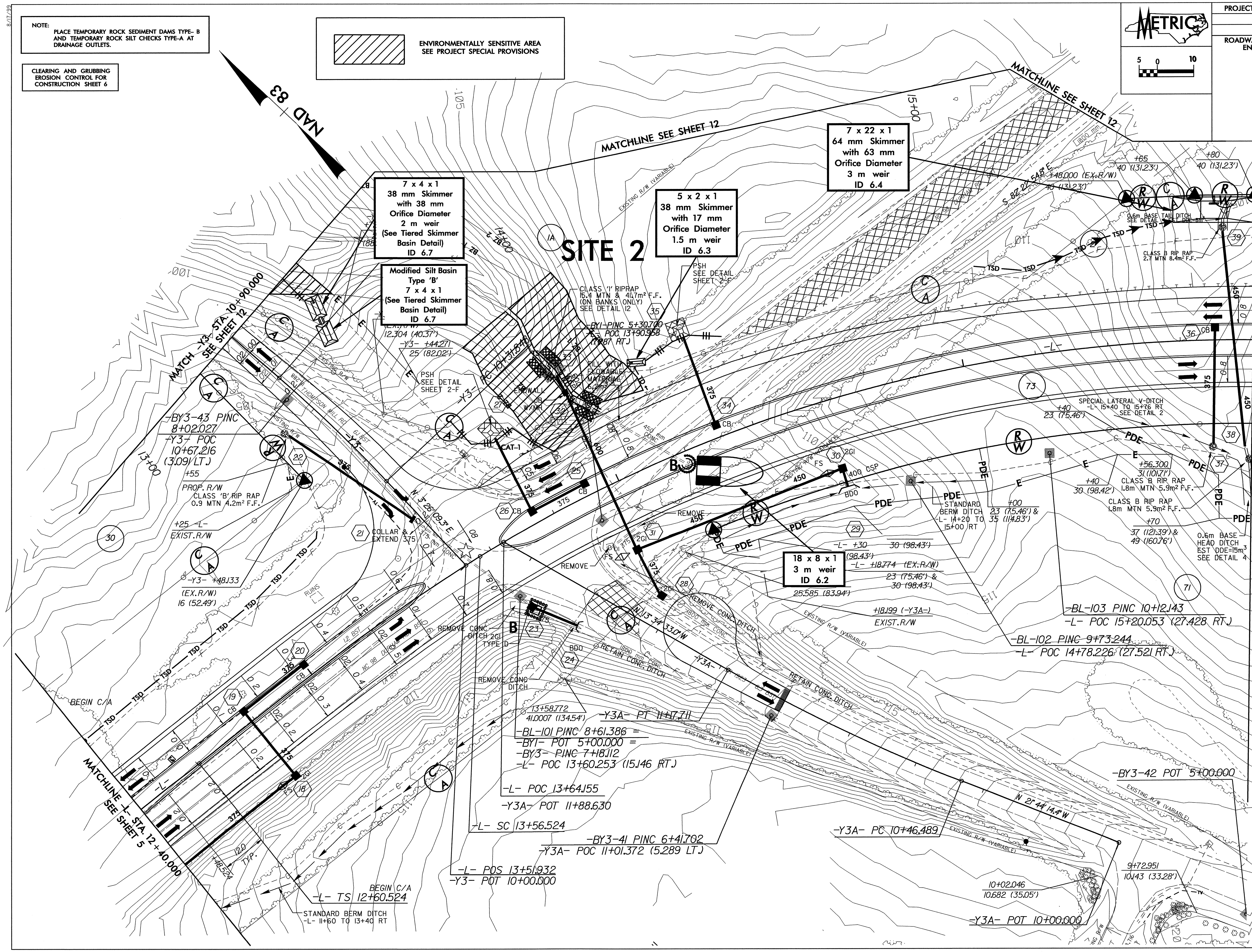
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC



NAD 83
MATCHLINE SEE SHEET 12
SITE 2
7 x 4 x 1
38 mm Skimmer
with 38 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer Basin Detail)
ID 6.7
Modified Silt Basin Type 'B'
7 x 4 x 1
(See Tiered Skimmer Basin Detail)
ID 6.7
5 x 2 x 1
38 mm Skimmer
with 17 mm
Orifice Diameter
1.5 m weir
ID 6.3
7 x 22 x 1
64 mm Skimmer
with 63 mm
Orifice Diameter
3 m weir
ID 6.4
18 x 8 x 1
3 m weir
ID 6.2
CLASS 'I' RIPRAP
15.4 MTN & 41.7m² F.F.
(ON BANKS ONLY)
SEE DETAIL 12
PSH
SEE DETAIL
SHEET 2-F
MATCH -Y3- STA. 10+90.000
SEE SHEET 12
MATCHLINE -L- STA. 15+80.000
SEE SHEET 7
MATCHLINE -L- STA. 12+40.000
SEE SHEET 5
-BY3-43 PINC 8+02.027
-Y3- POC 10+67.216 (3.091 LT.)
PROP. R/W
CLASS 'B' RIP RAP
0.9 MTN 4.2m² F.F.
+25 -L-
EXIST.R/W
-Y3- +48.133
(EX.R/W)
16 (52.49')
COLLAR & EXTEND 375
BEGIN C/A
-L- TS 12+60.524
STANDARD BERM DITCH
-L- 11+60 TO 13+40 RT
-L- POS 13+51.932
-Y3- POT 10+00.000
-L- SC 13+56.524
-BY3-41 PINC 6+41.702
-Y3A- POC 11+01.372 (5.289 LT.)
-L- POC 13+64.155
-Y3A- POT 11+88.630
-BL-101 PINC 8+61.386 =
-BY1- POT 5+00.000 =
-BY3- PINC 7+18.112
-L- POC 13+60.253 (15.146 RT.)
-Y3A- PT 11+17.711
-BY1- PINC 5+30.700
-L- POC 13+90.958
-BL-103 PINC 10+12.143
-L- POC 15+20.053 (27.428 RT.)
-BL-102 PINC 9+73.244
-L- POC 14+78.226 (27.521 RT.)
-BY3-42 POT 5+00.000
-Y3A- PC 10+46.489
-Y3A- POT 10+00.000
SPECIAL LATERAL V-DITCH
-L- 15+40 TO 15+76 RT
SEE DETAIL 2
CLASS B RIP RAP
1.8m MTN 5.9m² F.F.
0.6m BASE HEAD DITCH
EST DDE=15m³
SEE DETAIL 4
0.6m BASE TAIL DITCH
CLASS B RIP RAP
2.7 MTN 8.4m² F.F.
STANDARD BERM DITCH
-L- 14+20 TO 15+00 RT
REMOVE CONC DITCH 2GI TYPE D
REMOVE CONC DITCH
RETAIN CONC. DITCH
REMOVE
EXISTING R/W (VARIABLE)
S 82°22'54.8" E
N 21°44'14.4" W
N 13°34'33.0" W

DENOTES PAINT STRIPING

DENOTES PAVEMENT REMOVAL

☆ DENOTES UPGRADING EXIST. TRAFFIC SIGNAL

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 23, 26 & 27 FOR PROFILES

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 7

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R–2809A	EC–7/CONST.7
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

8 x 8 x 1 102 mm Skimmer with 80 mm Orifice Diameter 7 m weir (See Tiered Skimmer Basin Detail) ID 7.3F

Modified Silt Basin Type 'B' 8 x 8 x 1 (See Tiered Skimmer Basin Detail) ID 7.3F

MATCHLINE SEE SHEET 13

MATCHLINE SEE SHEET 13

-L- ST 17+68.318

-L- TS 19+02.549

LATERAL 0.9m BASE DITCH W/ 1.5m BERM W/ CLASS B RIP RAP 9M2M MTN 250.5m² F.F. EST. DDE= 553m³ -L- 16+42 TO 17+00 LT SEE DETAIL 1

LATERAL V DITCH W/ 1.5m BERM W/ CLASS B RIP RAP 9I.6 MTN 274.9m² F.F. EST. DDE= 362m³ -L- 17+00 TO 17+80 LT SEE DETAIL 5

CLASS B RIP RAP 7.3mTN 17.6m F.F

PROPOSED G/R

GRAU-350

CAT-1

2GI W/ FLAT GRATE

400 CSP W/ ELBOWS CHORD

750 CLASS IV W/ METHOD B INSTALLATION

12.0m TYP.

PROP.R/W

PL CORNER

PSH SEE DETAIL SHEET 2-F

SPECIAL DITCH -L- 18+80 TO 19+20 RT SEE PROFILE FOR GRADE SEE DETAIL 2

MATCHLINE -L- STA. 15+80.000 SEE SHEET 6

MATCHLINE -L- 19+20.000 SEE SHEET 8

Modified Silt Basin Type 'B' 9 x 4.5 x 1 (See Tiered Skimmer Basin Detail) ID 7.1

9 x 4.5 x 1 51 mm Skimmer with 40 mm Orifice Diameter 2.5 m weir (See Tiered Skimmer Basin Detail) ID 7.1

CLASS B RIP RAP 1.8mTN 5.9m² F.F.

0.6m BASE HEAD DITCH EST DDE=15m³ SEE DETAIL 4

CLASS B RIP RAP 2.7 MTN 8.4m² F.F.

LATERAL V DITCH W/ 1.5m BERM EST. DDE=170m³ -L- 16+70 TO 17+33 RT SEE DETAIL 6

CLASS 'B' RIP RAP EST +/-7 MTN 30.0m² F.F.

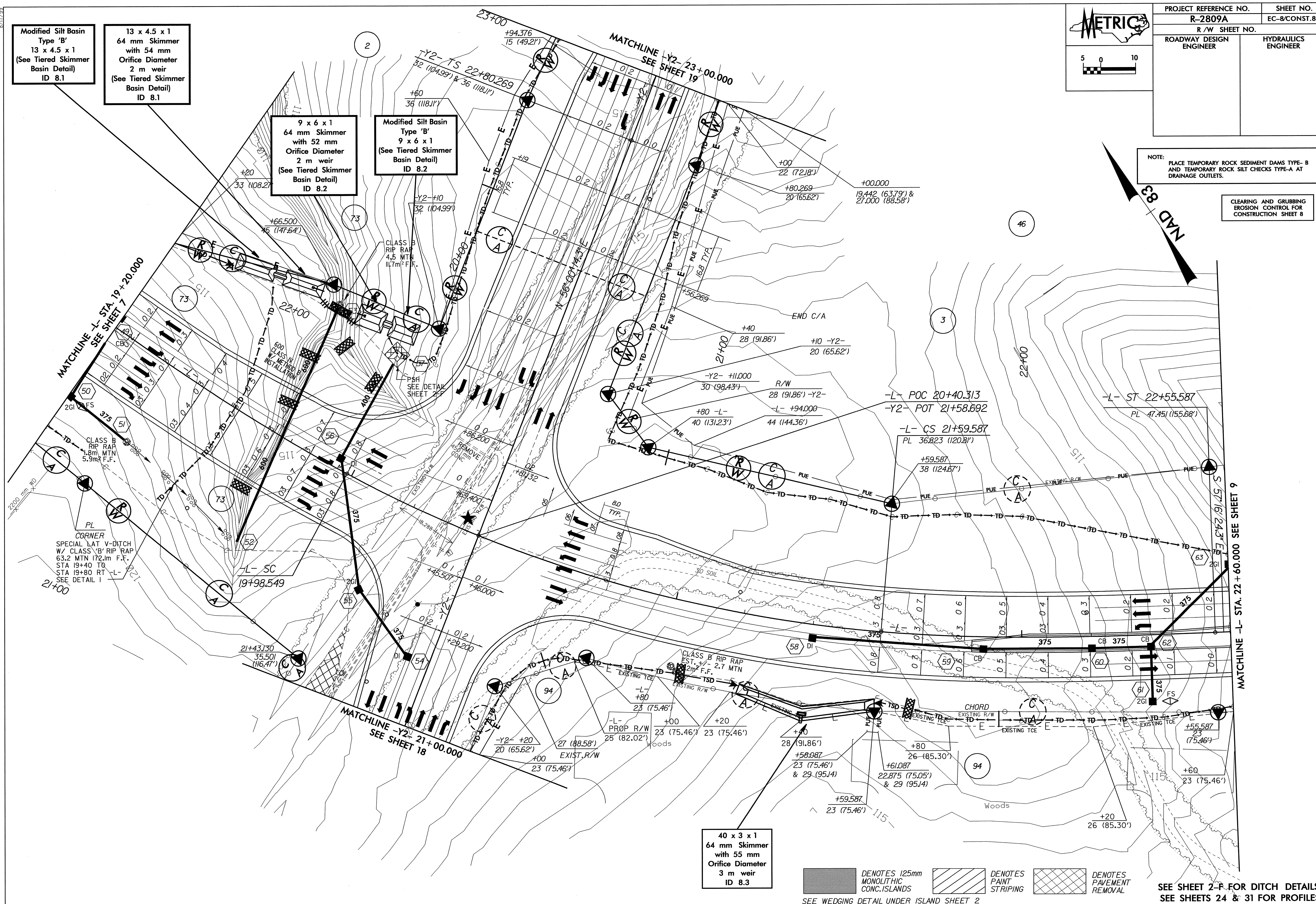
0.6m BASE HEAD DITCH-CLEANOUT SEE DETAIL 4 EST DDE= 39m³

SEE SHEET 2–F FOR DITCH DETAILS
SEE SHEET 23 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	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



METRIC
NAD 83
Modified Silt Basin Type 'B' 13 x 4.5 x 1 (See Tiered Skimmer Basin Detail) ID 8.1
13 x 4.5 x 1 64 mm Skimmer with 54 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 8.1
9 x 6 x 1 64 mm Skimmer with 52 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 8.2
Modified Silt Basin Type 'B' 9 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 8.2
40 x 3 x 1 64 mm Skimmer with 55 mm Orifice Diameter 3 m weir ID 8.3
MATCHLINE -Y2- 23+00.000 SEE SHEET 19
MATCHLINE -L- STA. 19+20.000 SEE SHEET 7
MATCHLINE -Y2- 21+00.000 SEE SHEET 18
MATCHLINE -L- STA. 22+60.000 SEE SHEET 9
-Y2- TS 22+80.269
-L- POC 20+40.313
-Y2- POT 21+58.692
-L- CS 21+59.587
-L- ST 22+55.587
-L- SC 19+98.549
N 56°00'14.3" E
S 57°16'24.3" E
CLASS B RIP RAP 4.5 MTN 11.7m² F.F.
CLASS B RIP RAP 1.8m MTN 5.9m² F.F.
CLASS B RIP RAP EST. +/- 2.7 MTN 7.2m² F.F.
600 CLASS IV W/ METHOD 'A' INSTALLATION
PSH SEE DETAIL SHEET 2-F
SPECIAL LAT V-DITCH W/ CLASS 'B' RIP RAP 63.2 MTN 172.1m F.F. STA 19+40 TO STA 19+80 RT -L- SEE DETAIL I
END C/A
REMOVE EXIST. CONC
CHORD
Woods

DENOTES 125mm MONOLITHIC CONC. ISLANDS

DENOTES PAINT STRIPING

DENOTES PAVEMENT REMOVAL

SEE WEDGING DETAIL UNDER ISLAND SHEET 2

SEE SHEET 2-F FOR DITCH DETAILS

SEE SHEETS 24 & 31 FOR PROFILES

8/17/93

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

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-9/CONST.9
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

MATCHLINE -L-STA. 22+60.000
SHEET 8

MATCHLINE -L-STA. 26+00.000
SHEET 10

23+00 24+00 25+00 26+00

LATERAL 0.9m BASE DITCH W/ CLASS B RIP RAP
120.6 MTN 311.7m² F.F.
-L- 23+00 TO 23+60 LT
SEE DETAIL 8

LATERAL V DITCH W/ CLASS B RIP RAP
47.4 MTN 129.1m² F.F
-L- 23+60 TO 23+90 LT
SEE DETAIL 1

0.6m BASE HEAD DITCH
SEE DETAIL 4
EST DDE=8m³

LATERAL V-DITCH W/ 1.5m BERM W/ CLASS B RIP RAP
68.7 MTN 206.2m² F.F.
EST. DDE= 13m³
-L- 24+50 TO 25+20 LT
SEE DETAIL 5

LATERAL V-DITCH W/ 1.5m BERM
-L- 25+80 TO 28+20 LT
SEE DETAIL 6

24+57.498
62.949 (206.53')

PL CORNER

EXISTING R/W

CLASS B RIP RAP
2.7 MTN
8.4m² F.F.

HEADWALL

S 57°16'24.3" E

GRAU-350

PROPOSED G/R

EXISTING TCE

EXISTING PDE

EXISTING PVE

400 CSP W/ 2 ELB.S

CAT-1

CLASS B RIP RAP
2.7MTN
9.2m² F.F.

CLASS B RIP RAP
13.6 MTN
25.1m² F.F.

CLASS B RIP RAP
1.8MTN 5.9m² F.F.

LATERAL V-DITCH W/ 1.5m BERM W/ CLASS B RIP R
22.9 MTN 68.7m² F
EST. DDE= 44m³
-L- 24+20 TO 24+40 RT
SEE DETAIL 5

TOE PROTECTION CLASS B RIP RAP
36.1MTN 127.6m² F.F.
-L- 23+60 TO 24+10 RT
SEE DETAIL 9

12.0 TYP
+79.587
CLASS B RIP RAP
EST +/- 2.7 MTN
8.4m² F.F.

+60 23 (75.46')
+30 23 (75.46')
+00 30 (98.42')
+10 23 (75.46')
+15 35 (114.83')
+80 27 (88.58')
+45 23 (75.46') & 25 (82.02') 35 (114.83')
+60 23 (75.46')
+70 23 (75.46')
+80 29 (95.14')
+05
+20

Modified Silt Basin Type 'B' 10 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 9.1

10 x 6 x 1 76 mm Skimmer with 71 mm Orifice Diameter 3 m weir (See Tiered Skimmer Basin Detail) ID 9.1

7.5 x 5 x 1 51 mm Skimmer with 44 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 9.2

Modified Silt Basin Type 'B' 7.5 x 5 x 1 (See Tiered Skimmer Basin Detail) ID 9.2

Modified Silt Basin Type 'B' 9 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 9.3

9 x 3.5 x 1 51 mm Skimmer with 40 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 9.3

9 x 3.5 x 1 51 mm Skimmer with 49 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 9.4

Modified Silt Basin Type 'B' 9 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 9.4

6 x 32 x 1 3 m weir ID 9.5

Woods
R/W VARIES
SOIL
BASKETWEAVE DR.
AREA UNDER CONSTRUCTION
CONSTRUCTION

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 24 FOR PROFILE

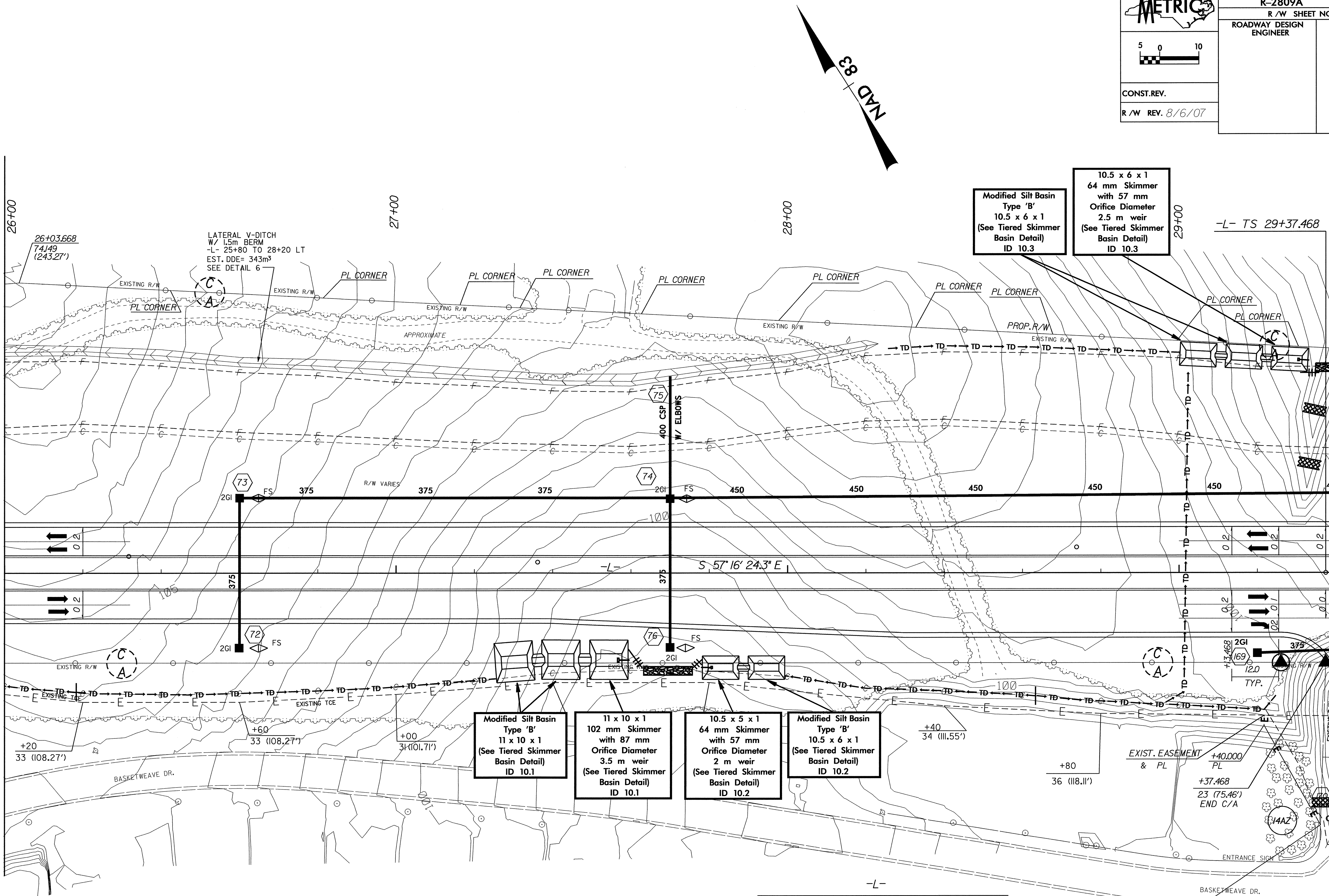
PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-10/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

5 0 10

CONST.REV.

R/W REV. 8/6/07



NAD 83
26+00
27+00
28+00
29+00
26+03.668
74.149
(243.27')
LATERAL V-DITCH
W/ 1.5m BERM
-L- 25+80 TO 28+20 LT
EST. DDE= 343m³
SEE DETAIL 6
PL CORNER
EXISTING R/W
PROP. R/W
APPROXIMATE
-L- TS 29+37.468
Modified Silt Basin Type 'B' 10.5 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 10.3
10.5 x 6 x 1 64 mm Skimmer with 57 mm Orifice Diameter 2.5 m weir (See Tiered Skimmer Basin Detail) ID 10.3
400 CSP W/ ELBOWS
375
450
R/W VARIES
2GI
FS
-L-
S 57° 16' 24.3" E
MATCHLINE -L- STA. 26+00.00 SHEET 9
MATCHLINE -L- STA. 29+40.00 SHEET 11
EXISTING TCE
+20
33 (108.27')
+60
33 (108.27')
+00
31 (101.71')
Modified Silt Basin Type 'B' 11 x 10 x 1 (See Tiered Skimmer Basin Detail) ID 10.1
11 x 10 x 1 102 mm Skimmer with 87 mm Orifice Diameter 3.5 m weir (See Tiered Skimmer Basin Detail) ID 10.1
10.5 x 5 x 1 64 mm Skimmer with 57 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 10.2
Modified Silt Basin Type 'B' 10.5 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 10.2
+40
34 (111.55')
+80
36 (118.11')
+3.468
12.0
TYP.
EXIST. EASEMENT & PL
+40.000 PL
+37.468
23 (75.46')
END C/A
BASKETWEAVE DR.
ENTRANCE SIGN
+65.000
EXIST. R/W
SIDEWALK

-L-

PIs = 29+80.149	PI = 30+72.330
Θs = 4° 38' 30.1"	Δ = 20° 20' 27.8" (LT)
Ls = 64.0	L = 140.2322
LT = 42.6813	T = 70.8619
ST = 21.3467	R = 395.000
	SE = 0.08
	VDES. = 100 KPH

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

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 25 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-11/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

PIs = 29+80.149	PI = 30+72.330	PIs = 31+63.047
θs = 4° 38' 30.1"	Δ = 20° 20' 27.8" (LT)	θs = 4° 38' 30.1"
Ls = 64.0	L = 140.2322	Ls = 64.0
LT = 42.6813	T = 70.8619	LT = 42.6813
ST = 21.3467	R = 395.000	ST = 21.3467
	SE = 0.08	
	VDES. = 100 KPH	

END STATE PROJECT R-2809A

STA. 32+40.00 -L-

DENOTES PAINT STRIPING

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 2-G FOR CHECK DAM DETAIL
SEE SHEET 25 & 32 FOR PROFILE

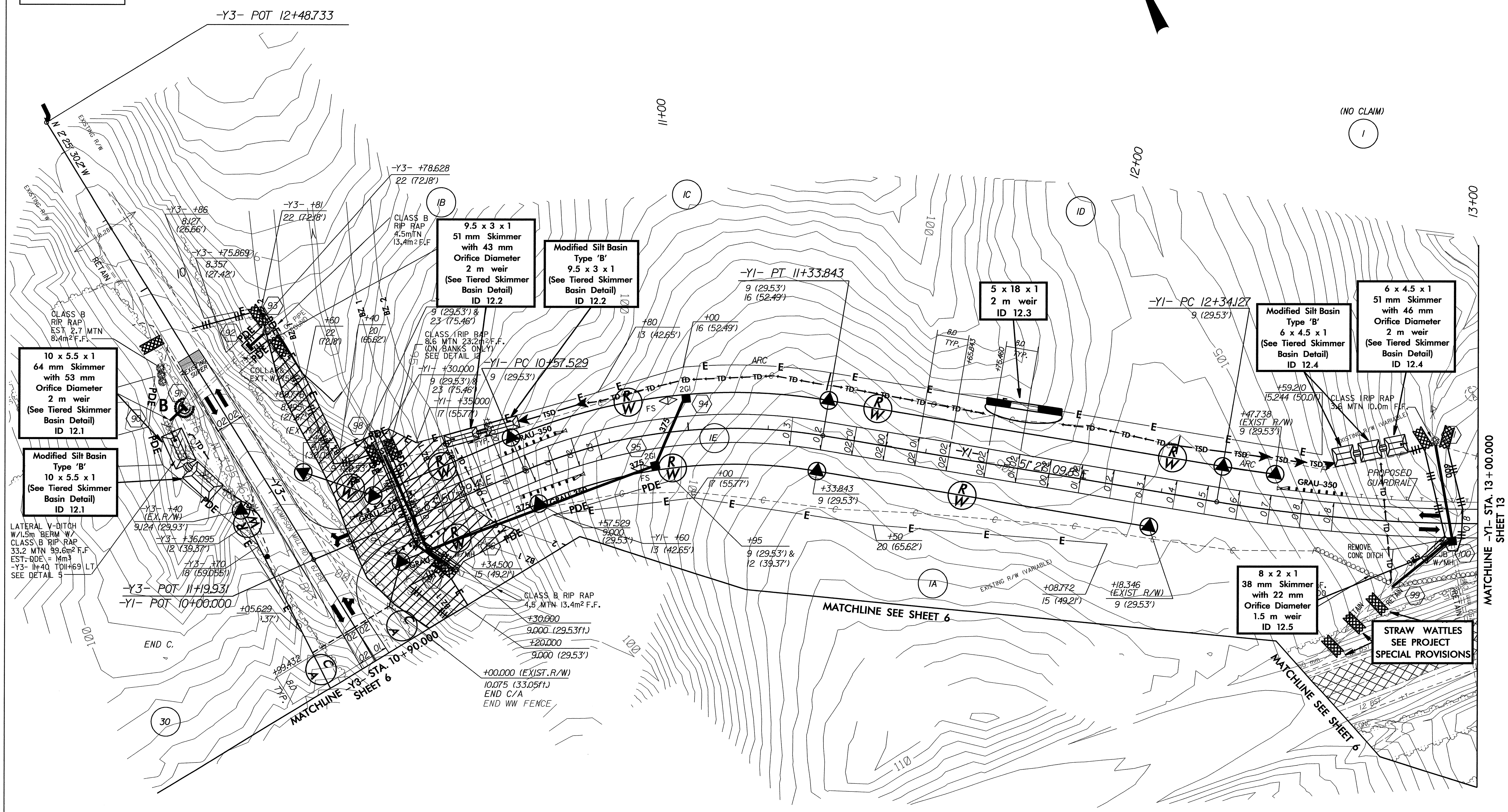
PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-12/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

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

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12



NAD 83
-Y3- POT 12+48.733
10 x 5.5 x 1
64 mm Skimmer
with 53 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer Basin Detail)
ID 12.1
Modified Silt Basin
Type 'B'
10 x 5.5 x 1
(See Tiered Skimmer Basin Detail)
ID 12.1
9.5 x 3 x 1
51 mm Skimmer
with 43 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer Basin Detail)
ID 12.2
Modified Silt Basin
Type 'B'
9.5 x 3 x 1
(See Tiered Skimmer Basin Detail)
ID 12.2
-Y1- PT 11+33.843
5 x 18 x 1
2 m weir
ID 12.3
-Y1- PC 12+34.127
Modified Silt Basin
Type 'B'
6 x 4.5 x 1
(See Tiered Skimmer Basin Detail)
ID 12.4
6 x 4.5 x 1
51 mm Skimmer
with 46 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer Basin Detail)
ID 12.4
8 x 2 x 1
38 mm Skimmer
with 22 mm
Orifice Diameter
1.5 m weir
ID 12.5
STRAW WATTLES
SEE PROJECT
SPECIAL PROVISIONS
-Y1- PC 10+57.529
-Y3- POT 11+19.931
-Y1- POT 10+00.000
LATERAL V-DITCH
W/1.5m BERM W/
CLASS B RIP RAP
33.2 MTN 99.6m² F.F
EST. DDE = 14m³
-Y3- 11+40 TO 11+69 LT
SEE DETAIL 5
MATCHLINE -Y3- STA. 10+90.000
SHEET 6
MATCHLINE SEE SHEET 6
MATCHLINE -Y1- STA. 13+00.000
SHEET 13
(NO CLAIM)
+00.000 (EXIST. R/W)
10.075 (33.05ft.)
END C/A
END WW FENCE

DENOTES PAVEMENT REMOVAL

SEE SHEET 2-F FOR DITCH DETAILS

SEE SHEET 27 FOR PROFILES

8/17/98

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-13/CONST.13
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

5 0 10

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

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NAD 83

STRAW WATTLES
SEE PROJECT SPECIAL PROVISIONS

(NO CLAIM)

6 x 3 x 1
38 mm Skimmer
with 33 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer
Basin Detail)
ID 13.1

Modified Silt Basin
Type 'B'
6 x 3 x 1
(See Tiered Skimmer
Basin Detail)
ID 13.1

12 x 4 x 1
2.5 m weir
ID 13.2

11 x 4 x 1
38 mm Skimmer
with 36 mm
Orifice Diameter
2 m weir
ID 13.3

-Y1- PT 14+47.453

-Y1- PC 16+03.603

-Y1- S 82° 00' 34.1" E

S 82° 25' 00.4" E

+85.947
57.56 (190.6')

+58.493
51.34 (168.46')

+58.242
30.44 (99.87')

EXISTING R/W (VARIABLE)

EXISTING GUARDRAIL TO BE REMOVED

PROPOSED G/R

CLASS I RIP RAP
6.4 MTN 14.2m WIDE

COLLAR & EXTEND 800 CSP W/ELBOWS

750 mm

TD

TSD

RETAIN

DURHAM RD SR 1003

1.8 HW

7.3 BST

1.4 BST

10 BST

GRAU 350

PROTECTION
16+30 TO 17+20
RT SEE DETAIL 9

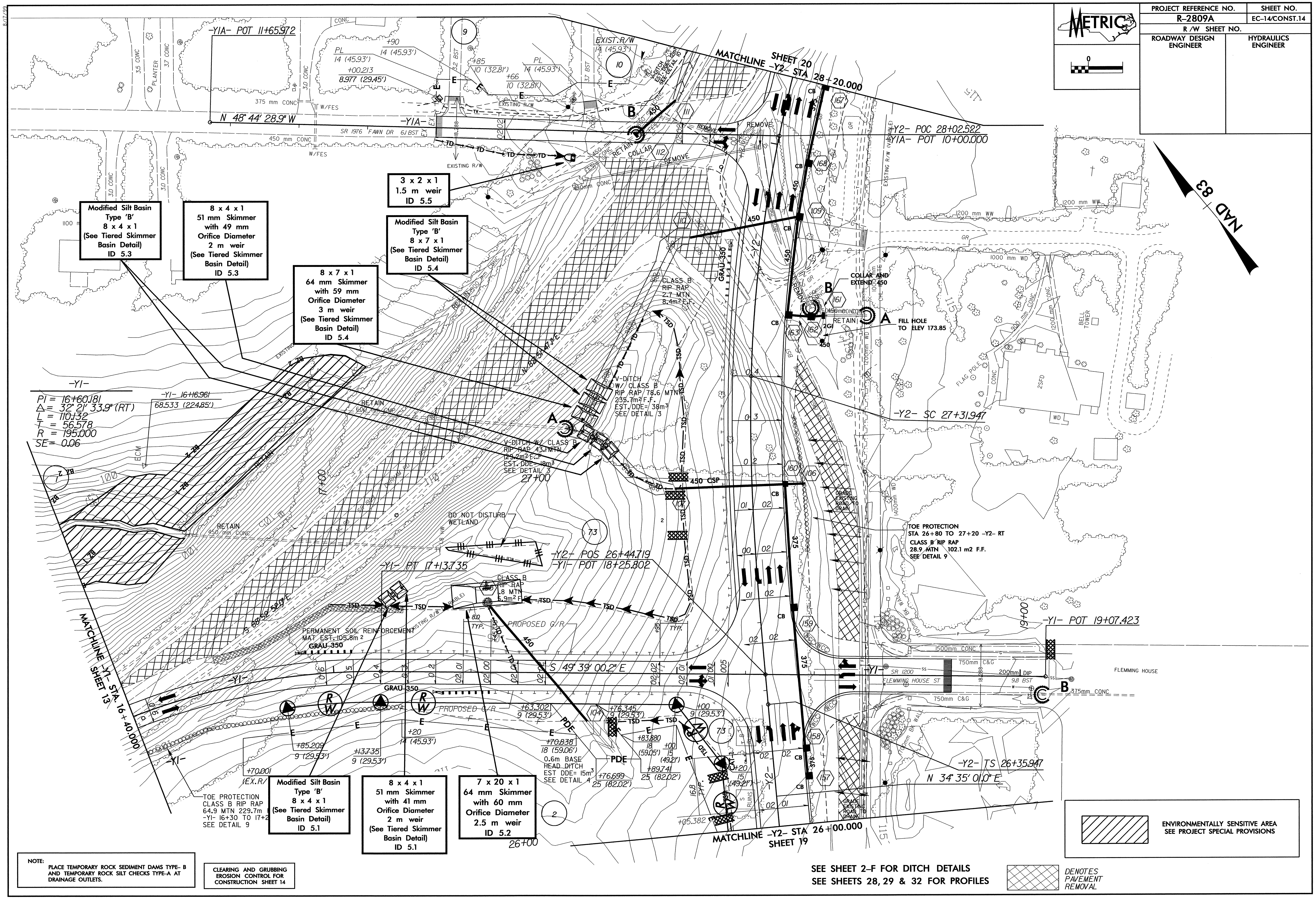
MATCHLINE -Y3- STA. 13+00.000
SHEET 12

MATCHLINE -Y1- STA. 16+40.000
SHEET 14

MATCHLINE SEE SHEET 7

DENOTES PAVEMENT REMOVAL

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 28 FOR PROFILE


PROJECT REFERENCE NO. R-2809A
SHEET NO. EC-14/CONST.14
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
NAD 83
MATCHLINE -Y2- STA 28+20.000 SHEET 20
MATCHLINE -Y2- STA 26+00.000 SHEET 19
MATCHLINE -Y1- STA. 16+40.000 SHEET 13
-Y1A- POT 11+65.972
N 48° 44' 28.9" W
SR 1976 FAWN DR 6J BST
-Y2- POC 28+02.522
-Y1A- POT 10+00.000
-Y2- SC 27+31.947
-Y2- POS 26+44.719
-Y1- POT 18+25.802
-Y1- PT 17+13.735
-Y1- POT 19+07.423
-Y2- TS 26+35.947
N 34° 35' 01.0" E
S 49° 39' 00.2" E
-Y1-
PI = 16+60.181
Δ = 32° 21' 33.9" (RT)
L = 110.132
T = 56.578
R = 195.000
SE = 0.06
-Y1- 16+16.961
68.533 (224.85')
3 x 2 x 1
1.5 m weir
ID 5.5
Modified Silt Basin Type 'B' 8 x 4 x 1 (See Tiered Skimmer Basin Detail) ID 5.3
8 x 4 x 1 51 mm Skimmer with 49 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 5.3
8 x 7 x 1 64 mm Skimmer with 59 mm Orifice Diameter 3 m weir (See Tiered Skimmer Basin Detail) ID 5.4
Modified Silt Basin Type 'B' 8 x 7 x 1 (See Tiered Skimmer Basin Detail) ID 5.4
Modified Silt Basin Type 'B' 8 x 4 x 1 (See Tiered Skimmer Basin Detail) ID 5.1
8 x 4 x 1 51 mm Skimmer with 41 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 5.1
7 x 20 x 1 64 mm Skimmer with 60 mm Orifice Diameter 2.5 m weir ID 5.2
CLASS B RIP RAP 2.7 MTN 8.4m2 F.F.
V-DITCH W/ CLASS B RIP RAP 78.6 MTN 235.7m2 F.F. EST. DDE= 38m3 SEE DETAIL 3
V-DITCH W/ CLASS B RIP RAP 43.1MTN 129.2m2 F.F. EST. DDE= 18m3 SEE DETAIL 3
COLLAR AND EXTEND 450
FILL HOLE TO ELEV 173.85
TOE PROTECTION STA 26+80 TO 27+20 -Y2- RT CLASS B RIP RAP 28.9 MTN 102.1 m2 F.F. SEE DETAIL 9
TOE PROTECTION CLASS B RIP RAP 64.9 MTN 229.7m -Y1- 16+30 TO 17+2 SEE DETAIL 9
DO NOT DISTURB WETLAND
PERMANENT SOIL REINFORCEMENT MAT EST. 105.8m 2
CLASS B RIP RAP 1.8 MTN 5.9m2 F.F.
0.6m BASE HEAD DITCH EST DDE= 15m3 SEE DETAIL 4
GRAU-350
PROPOSED G/R
RETAIN
REMOVE
450 CSP
FLEMMING HOUSE
SR 1200 FLEMMING HOUSE ST
BELL TOWER
FLAG POLE
2SFD
GRADE EXISTING ROAD TO DRAIN
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 14
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEETS 28, 29 & 32 FOR PROFILES
DENOTES PAVEMENT REMOVAL
ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

8/17/22

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

METRIC
5 0 10

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-15/CONST.15
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

5

6

9+00

10+00

11+00

-Y2- PI = 7+85.817
Δ = 19° 33' 11.0" (LT)
L = 102.380
T = 51.692
R = 300.000

-Y2- PT 8+36.504

-Y2- TS 10+95.222

-Y2- SC 11+51.222

-Y2- STA. 11+80.000
MATCHLINE -Y2- STA. 11+80.000
SHEET 16

FALLS OF NEUSE RD. | SR2000

N 7° 41' 07.4" E

EXISTING R/W

EXISTING ASPHALT TRAIL

RETAIN

REMOVE DI

REMOVE 2.4m OF 450

RETAIN SYSTEM

375mm CONC W/FES

EXISTING SUPER

TIE PROPOSED DITCH TO EXIST. DITCH

+00 10.772 (35.34') & 15 (49.21')

+83.696 18.435 (60.48')

+75 15 (49.21')

+03.790 18.350 (60.20')

+10 19 (62.34')

+10 15 (49.21')

+40 19 (62.34')

+51.222 15 (49.21')

LATERAL -Y-DITCH -Y2- 11+06 TO 11+50 LT SEE DETAIL 2

+00.281 11.859 (38.91') 13.500 (44.29')

+20 15 (49.21')

+78.000 13.500 (44.29')

+95.222 15 (49.21')

+91.358 13.500 (44.29') NO R/W MARKER

+05.000 13.706 (44.97')

+47.204 13.669 (44.85')

+51.222 16.500 (54.13')

UNDER CONSTRUCTION

SCRUB

115

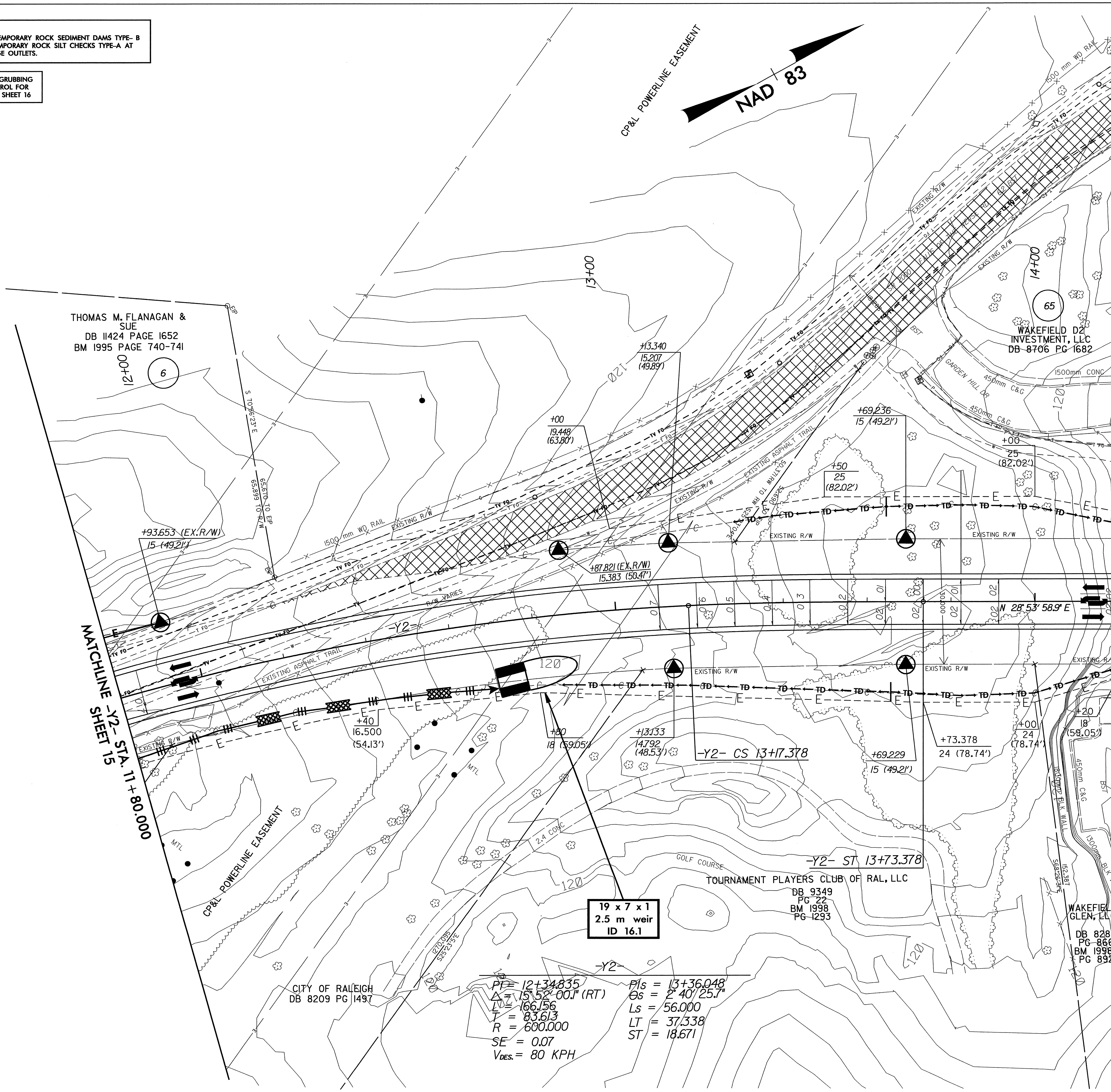
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 29 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-16/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

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 16



NAD 83
CP&L POWERLINE EASEMENT
THOMAS M. FLANAGAN & SUE
DB 11424 PAGE 1652
BM 1995 PAGE 740-741
WAKEFIELD D2 INVESTMENT, LLC
DB 8706 PG 1682
TOURNAMENT PLAYERS CLUB OF RAL, LLC
DB 9349
PG 22
BM 1998
PG 1293
WAKEFIELD GLEN, LLC
DB 8280
PG 866
BM 1998
PG 892
CITY OF RALEIGH
DB 8209 PG 1497
MATCHLINE -Y2- STA. 11+80.000
SHEET 15
MATCHLINE -Y2- STA. 14+20.000
SHEET 17
N 28° 53' 58.9" E
-Y2- CS 13+17.378
-Y2- ST 13+73.378
19 x 7 x 1
2.5 m weir
ID 16.1
EXISTING ASPHALT TRAIL
EXISTING R/W
GOLF COURSE
-Y2-
PI = 12+34.835
Δ = 15° 52' 00.1" (RT)
L = 166.156
T = 83.613
R = 600.000
SE = 0.07
VDES. = 80 KPH
PIs = 13+36.048
Θs = 2° 40' 25.7"
Ls = 56.000
LT = 37.338
ST = 18.671

DENOTES PAVEMENT REMOVAL

SEE SHEETS 29 & 30 FOR PROFILE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-17/CONST.17
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC 5 0 10

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 17

MATCHLINE -Y2- STA. 14+20.000 SHEET 16

MATCHLINE -Y2- STA. 17+60.000 SHEET 18

NAD 83

-Y5- PCC 12+42.852

-Y5- PT 12+98.386

-Y5- POT 13+68.236

N 26° 18' 34.2" E

SR 2000 FALLS OF THE

EXISTING R/W

0.6m BASE HEAD DITCH SEE DETAIL 4 DDE= 25m³

REMOVE

20 x 3 x 1 3 m weir ID 17.2

CLASS B RIP RAP 1.8mTN 5.9m F.F.

-Y5- PC 11+63.217

-Y2- POT 14+56.539

-Y5- POT 10+68.545

N 61° 06' 01" W

-Y5- POT 10+13.545

5 x 16 x 1 2 m weir ID 17.1

LATERAL V-DITCH W/ 1.5m BERM W/ CLASS B RIP RAP 68.7 MTN 206.2m² F.F. EST. DDE= 72m³ -Y2- 16+20 TO 16+80 LT SEE DETAIL 5

LATERAL V-DITCH W/ 1.5m BERM W/ CLASS B RIP RAP 91.6 MTN 274.9m² F.F. EST. DDE = 253m³ -Y2- 15+20 TO 16+00 LT SEE DETAIL 5

CLASS B RIP RAP 1.8mTN 5.9m² F.F.

-Y2- TS 17+27.224

N 28° 53' 58.9" E

PROPOSED G/R

EXISTING G/R

Modified Silt Basin Type 'B' 9.5 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 17.3

9.5 x 3.5 x 1 51 mm Skimmer with 41 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 17.3

8.5 x 3.5 x 1 51 mm Skimmer with 39 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 17.5

Modified Silt Basin Type 'B' 8.5 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 17.5

Modified Silt Basin Type 'B' 6 x 2.5 x 1 (See Tiered Skimmer Basin Detail) ID 17.6

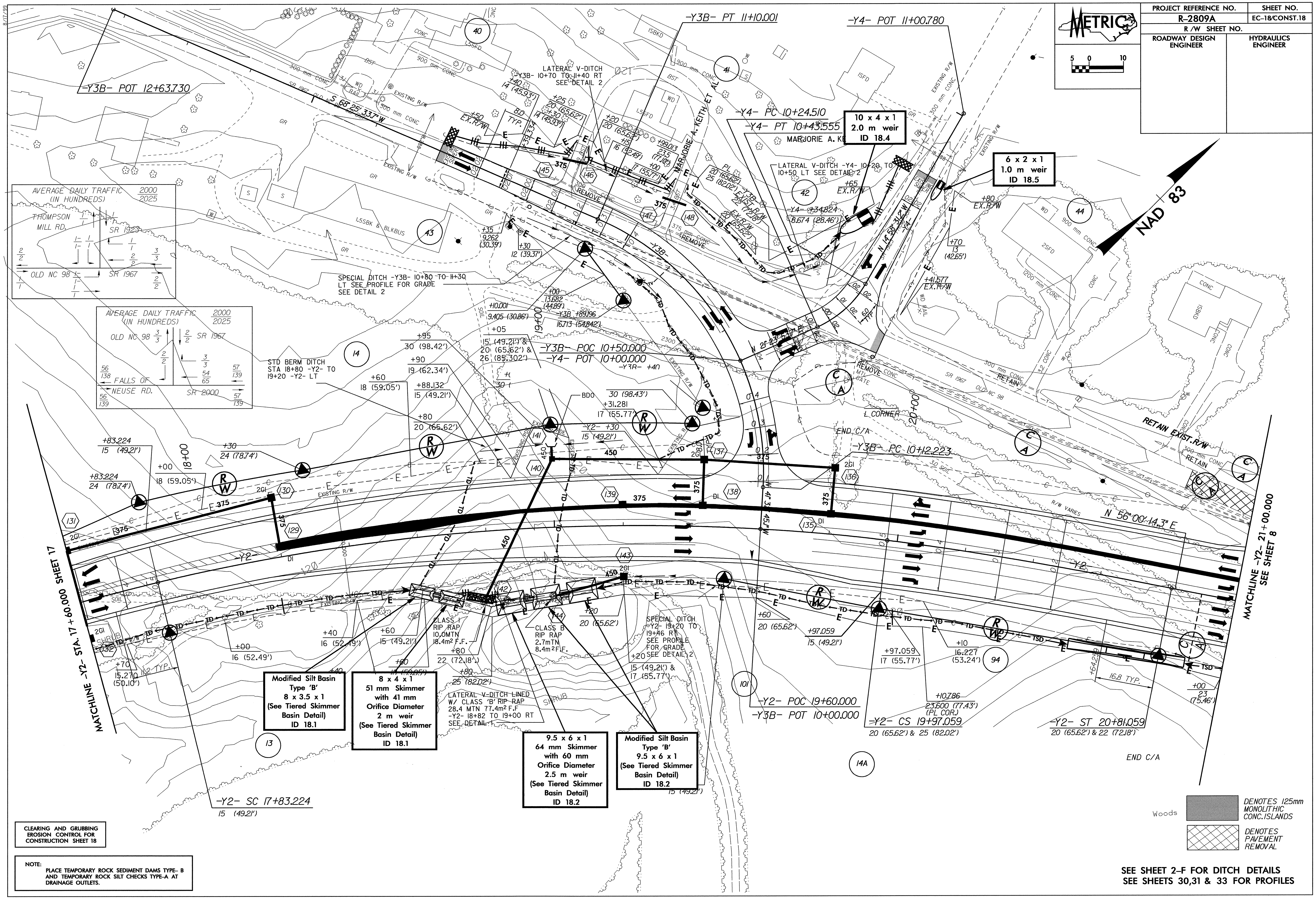
6 x 2.5 x 1 38 mm Skimmer with 30 mm Orifice Diameter 1.5 m weir (See Tiered Skimmer Basin Detail) ID 17.6

11 x 2 x 1 51 mm Skimmer with 48 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 17.7

Modified Silt Basin Type 'B' 11 x 2 x 1 (See Tiered Skimmer Basin Detail) ID 17.7

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEETS 30 & 33 FOR PROFILES

DENOTES PAVEMENT REMOVAL



PROJECT REFERENCE NO. R-2809A
SHEET NO. EC-18/CONST.18
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
NAD 83
-Y3B- POT 12+63.730
-Y3B- PT 11+10.001
-Y4- POT 11+00.780
-Y4- PC 10+24.510
-Y4- PT 10+43.555
MARJORIE A. KEITH ET AL
10 x 4 x 1
2.0 m weir
ID 18.4
6 x 2 x 1
1.0 m weir
ID 18.5
LATERAL V-DITCH -Y3B- 10+70 TO 11+40 RT SEE DETAIL 2
LATERAL V-DITCH -Y4- 10+20 TO 10+50 LT SEE DETAIL 2
SPECIAL DITCH -Y3B- 10+80 TO 11+30 LT SEE PROFILE FOR GRADE SEE DETAIL 2
STD BERM DITCH STA 18+80 -Y2- TO 19+20 -Y2- LT
-Y3B- POC 10+50.000
-Y4- POT 10+00.000
-Y3B- PC 10+12.223
RETAIN EXIST. R/W
N 56°00'14.3" E
AVERAGE DAILY TRAFFIC (IN HUNDREDS) 2000 2025
THOMPSON MILL RD.
SR 1923
OLD NC 98
SR 1967
AVERAGE DAILY TRAFFIC (IN HUNDREDS) 2000 2025
FALLS OF NEUSE RD.
SR 2000
MATCHLINE -Y2- STA. 17+60.000 SHEET 17
MATCHLINE -Y2- 21+00.000 SEE SHEET 8
Modified Silt Basin Type 'B' 8 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 18.1
8 x 4 x 1 51 mm Skimmer with 41 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 18.1
9.5 x 6 x 1 64 mm Skimmer with 60 mm Orifice Diameter 2.5 m weir (See Tiered Skimmer Basin Detail) ID 18.2
Modified Silt Basin Type 'B' 9.5 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 18.2
CLASS I RIP RAP 10.0MTN 18.4m² F.F.
CLASS B RIP RAP 2.7mTN 8.4m² F.F.
LATERAL V-DITCH LINED W/ CLASS 'B' RIP RAP 28.4 MTN 77.4m² F.F -Y2- 18+82 TO 19+00 RT SEE DETAIL 1
SPECIAL DITCH -Y2- 19+20 TO 19+46 RT SEE PROFILE FOR GRADE SEE DETAIL 2
-Y2- SC 17+83.224
-Y2- POC 19+60.000
-Y3B- POT 10+00.000
-Y2- CS 19+97.059
-Y2- ST 20+81.059
END C/A
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.
Woods
DENOTES 125mm MONOLITHIC CONC. ISLANDS
DENOTES PAVEMENT REMOVAL
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEETS 30,31 & 33 FOR PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-19/CONST.19
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

0

NAD 83

Modified Silt Basin Type 'B' 8 x 5.5 x 1 (See Tiered Skimmer Basin Detail) ID 19.1

8 x 5.5 x 1 64 mm Skimmer with 58 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.1

11 x 3 x 1 51 mm Skimmer with 42 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.3

Modified Silt Basin Type 'B' 11 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 19.3

Modified Silt Basin Type 'B' 6.5 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 19.4

6.5 x 3 x 1 38 mm Skimmer with 34 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.4

7 x 3 x 1 38 mm Skimmer with 36 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.5

Modified Silt Basin Type 'B' 7 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 19.5

13 x 4.5 x 1 51 mm Skimmer with 39 mm Orifice Diameter 2 m weir ID 19.2

10 x 4.5 x 1 2 m weir ID 19.1F

-Y2- SC 23+64.269
25 (82.02')

-Y2- CS 25+04.582
15 (49.21')

-Y2- POC 24+53.099
-Y6- POT 10+00.000

-Y2- ST 25+88.582
15 (49.21')

N 34° 35' 01.0" E

S 49° 55' 47.4" E

-Y6- POT 11+00.000

MATCHLINE -Y2- 23+00.000 SEE SHEET 8

MATCHLINE -Y2- STA 26+00.000 SHEET 14

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 19

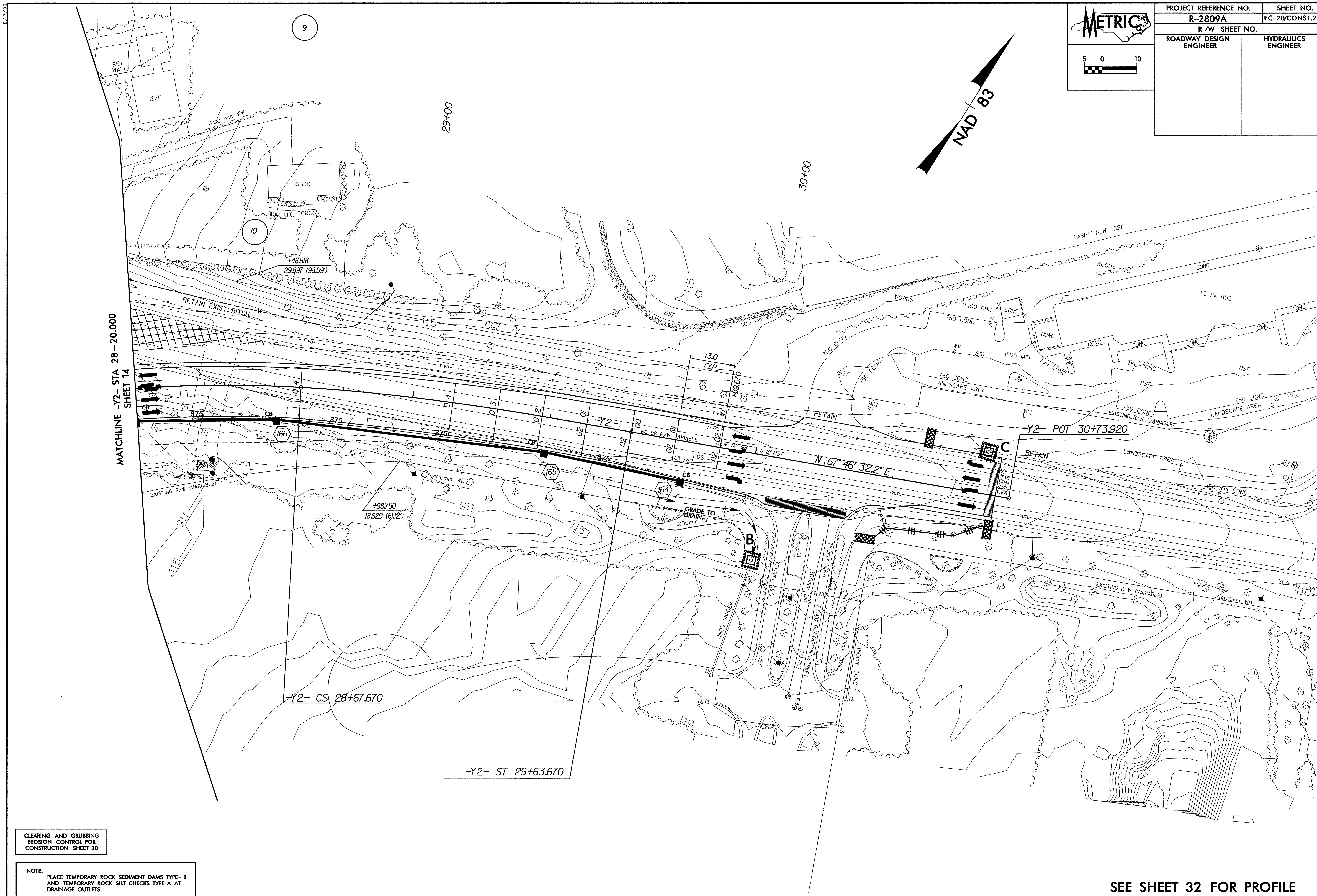
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.

DENOTES PAVEMENT REMOVAL

SEE SHEET 2-F FOR DITCH DETAILS

SEE SHEETS 31 & 32 FOR PROFILE

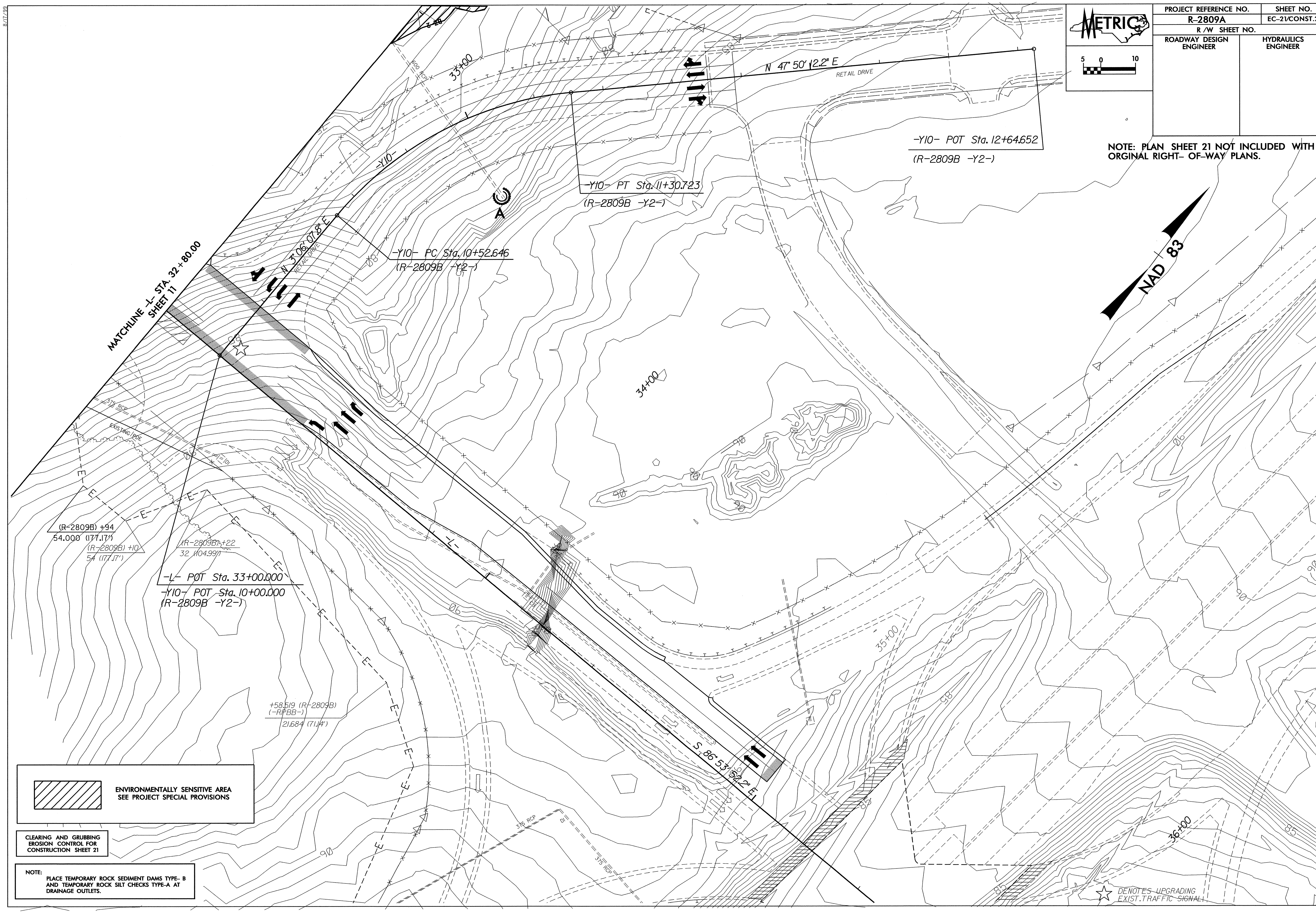
PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-20/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 20

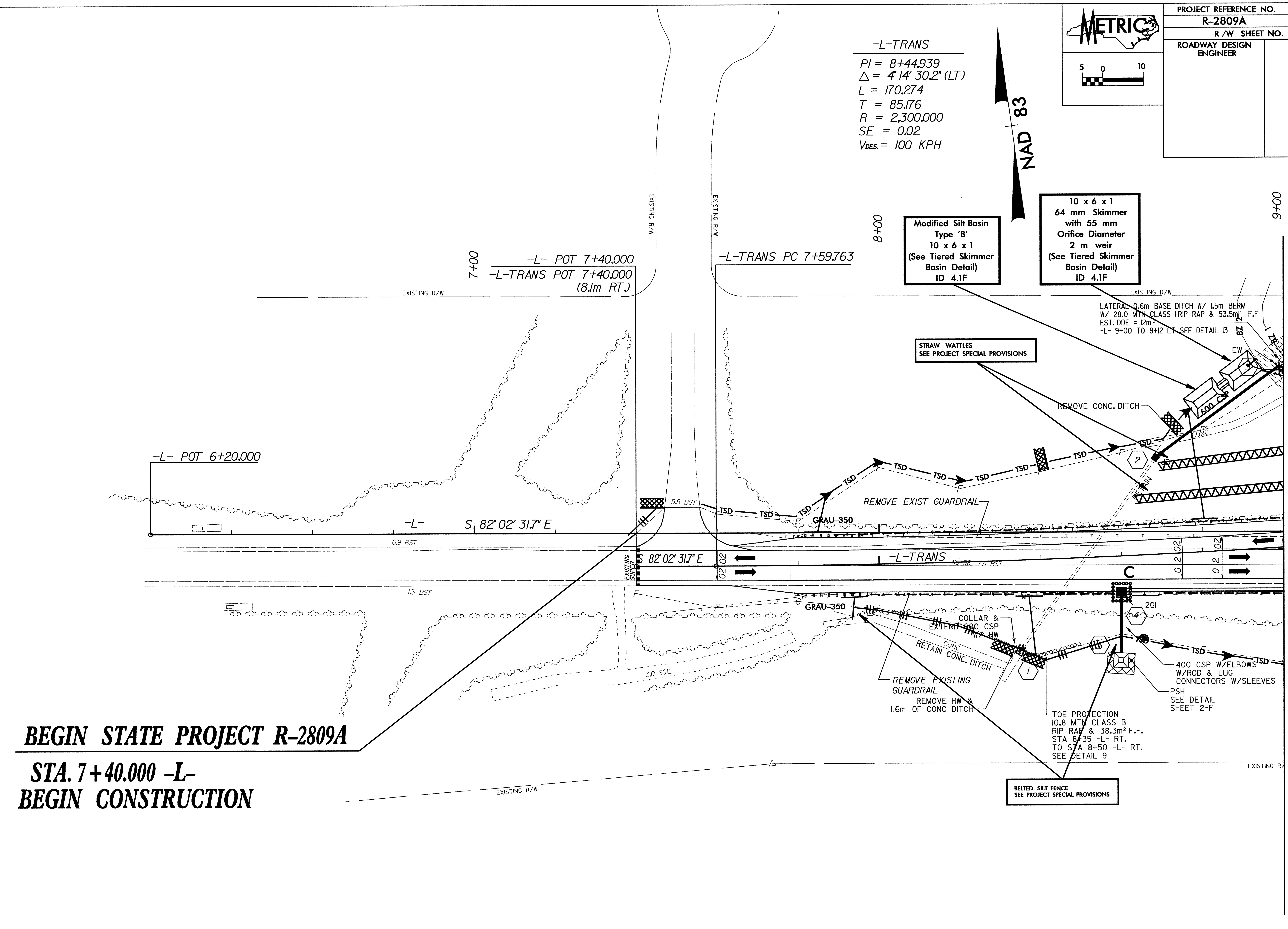
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.

SEE SHEET 32 FOR PROFILE



PROJECT REFERENCE NO.
R-2809A
SHEET NO.
EC-21/CONST.21
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
5 0 10
NOTE: PLAN SHEET 21 NOT INCLUDED WITH ORGINAL RIGHT- OF-WAY PLANS.
NAD 83
N 47° 50' 12.2" E
RETAIL DRIVE
-Y10- POT Sta. 12+64.652
(R-2809B -Y2-)
-Y10- PT Sta. 11+30.723
(R-2809B -Y2-)
-Y10- PC Sta. 10+52.646
(R-2809B -Y2-)
N 3°06' 07.8" E
-Y10-
33+00
34+00
35+00
36+00
MATCHLINE -L- STA. 32+80.00
SHEET 11
-L- POT Sta. 33+00.000
-Y10- POT Sta. 10+00.000
(R-2809B -Y2-)
(R-2809B) +94
54.000 (177.17')
(R-2809B) +10
54 (177.17')
(R-2809B) +22
32 (104.99')
+58.519 (R-2809B)
(-RPBB-)
21.684 (71.14')
-L-
S 86° 53' 52.2" E
EXISTING POLE
375 RCP
90
85
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 21
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B
AND TEMPORARY ROCK SILT CHECKS TYPE-A AT
DRAINAGE OUTLETS.
DENOTES UPGRADING
EXIST. TRAFFIC SIGNAL

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-22/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



METRIC
5 0 10
-L-TRANS
PI = 8+44.939
△ = 4° 14' 30.2" (LT)
L = 170.274
T = 85.176
R = 2,300.000
SE = 0.02
VDES. = 100 KPH
NAD 83
-L- POT 7+40.000
-L-TRANS POT 7+40.000 (8.1m RT.)
-L-TRANS PC 7+59.763
-L- POT 6+20.000
-L- S 82° 02' 31.7" E
EXISTING R/W
7+00
8+00
9+00
Modified Silt Basin Type 'B' 10 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 4.1F
10 x 6 x 1 64 mm Skimmer with 55 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 4.1F
LATERAL 0.6m BASE DITCH W/ 1.5m BERM W/ 28.0 MTN CLASS I RIP RAP & 53.5m² F.F EST. DDE = 12m³ -L- 9+00 TO 9+12 LT SEE DETAIL 13
STRAW WATTLES SEE PROJECT SPECIAL PROVISIONS
REMOVE CONC. DITCH
REMOVE EXIST GUARDRAIL
GRAU-350
TSD
-L-TRANS
MATCHLINE -L- STA. 9+00.000 SEE SHEET 5
COLLAR & EXTEND 600 CSP W/ HW
RETAIN CONC. DITCH
REMOVE EXISTING GUARDRAIL
REMOVE HW & 1.6m OF CONC DITCH
TOE PROTECTION 10.8 MTN CLASS B RIP RAP & 38.3m² F.F. STA 8+35 -L- RT. TO STA 8+50 -L- RT. SEE DETAIL 9
400 CSP W/ELBOWS W/ROD & LUG CONNECTORS W/SLEEVES
PSH SEE DETAIL SHEET 2-F
2GI
BELTED SILT FENCE SEE PROJECT SPECIAL PROVISIONS
BEGIN STATE PROJECT R-2809A
STA. 7+40.000 -L-
BEGIN CONSTRUCTION

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 22 FOR PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-23/CONST.5
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

5 0 10

8/17/23

TEMPORARY EARTH BERM

(Not to Scale)

B

Natural Ground — 1H / 1H — D

D = 0.3 m
B = 0.3 m

STABILIZE EARTH BERM

17 x 8 x 1
102 mm Skimmer
with 90 mm
Orifice Diameter
3.5 m weir
(See Tiered Skimmer
Basin Detail)
ID 5.3F

Modified Silt Basin
Type 'B'
17 x 8 x 1
(See Tiered Skimmer
Basin Detail)
ID 5.3F

STRAW WATTLES
SEE PROJECT SPECIAL PROVISIONS

6 x 3 x 1
1.5 m weir
ID 5.3

12 x 6 x 1
76 mm Skimmer
with 67 mm
Orifice Diameter
3 m weir
(See Tiered Skimmer
Basin Detail)
ID 5.2

Modified Silt Basin
Type 'B'
12 x 6 x 1
(See Tiered Skimmer
Basin Detail)
ID 5.2

15 x 5 x 1
51 mm Skimmer
with 41 mm
Orifice Diameter
2 m weir
ID 5.1

SEE SHEET 4
MATCHLINE -L- STA. 9+00.000

MATCHLINE -L- STA. 12+40.000
SEE SHEET 6

NAD 83

9+00

11+00

12+00

-L-TRANS PT 11+00.311
-L- POT 11+00.000
(4.500 LT)

-Y8- PT 10+82.639

-Y8- PC 10+52.114

-L-TRANS PRC 9+30.037

-L-TRANS

S 82° 02' 31.7" E

N 11° 45' 29.1" E

-L- POT 11+21.529
-Y8- POT 10+00.000

-BL-100 POT 5+00.000 =
-L- POT 9+96.756 (14.135 RT)

LATERAL 0.6m BASE DITCH W/ 1.5m BERM
W/ 28.0 MTN CLASS I RIP RAP & 53.5m² F.F
EST. DDE = 12m³
-L- 9+00 TO 9+12 LT SEE DETAIL 13

CLASS "I" RIP RAP 14.5 MTN
& 39.4m² F.F. (ON BANKS
ONLY) SEE DETAIL 12

TOE PROTECTION 43.3 MTN
CLASS B RIP RAP & 153.1m² F.F.
STA 9+20 -L- LT. TO STA 9+80
-L- LT. SEE DETAIL 9

LATERAL 0.6m BASE DITCH
W/1.5m BERM 128.6 MTN
CLASS B RIP RAP & 361.7m² F.F.
EST. DDE = 220m³
-L- 9+80 TO 10+70 LT
SEE DETAIL 14

SPECIAL LATERAL V-DITCH W/ 64.7 MTN
CLASS 'B' RIP RAP & 176.4m² F.F
-L- 10+70 TO 11+11 LT SEE DETAIL 1

PSH
SEE DETAIL
SHEET 2-F

END DITCH
+80

BDO

JB W/MH

400 CSP
W/ELBOWS
W/ROD & LUG
CONNECTORS
W/SLEEVES

REMOVE EXIST DITCH

PROPOSED G/R

CLASS 'B'RIP RAP
0.9 MTN CLASS B
RIPRAP 4.2m² F.F.

GRAU-350

REMOVE EXIST CONC

REMOVE EXIST GUARDRAIL

2GI W/FLAT GRATE

400 CSP

1650 mm CMP

1800 mm CONC

2250 mm RIPRAP

1350 mm CONC

NC 98 SR 1923 DURHAM RD 7.3 BST

1.0 BST

1.4 BST

MTL

EXISTING R/W

EXISTING R/W (VARIABLE)

TSD

BZ 1

BZ 2

4.5 HW

CAT-1

FS

2-GI

CLASS B
RIP RAP
1.8m MTN
5.9m² F.F.

STANDARD BERM DITCH
-L- 11+60 TO 13+40 RT

TIE TO EXISTING
LATERAL DITCH

SPECIAL LATERAL V-DITCH
W/ CLASS B RIP RAP
80.5mTN 210.0m F.F.
-L- 11+20 TO 11+60 RT
SEE DETAIL 1

DONALD WINSTEAD &
KAREN K.

136.524

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 22 FOR -L- PROFILES
SEE SHEET 26 FOR -L-TRANS & -Y8- PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-24/CONST.6
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

5 0 10

NAD 83

SITE 2

MATCHLINE SEE SHEET 12

MATCH -Y3- STA. 10+90.000 SEE SHEET 12

MATCHLINE SEE SHEET 12

MATCHLINE -L- STA. 15+80.000 SEE SHEET 7

MATCHLINE -L- STA. 12+40.000 SEE SHEET 5

7 x 2.5 x 1
38 mm Skimmer
with 38 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer
Basin Detail)
ID 6.6F

Modified Silt Basin
Type 'B'
7 x 2.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 6.6F

5 x 2 x 1
38 mm Skimmer
with 17 mm
Orifice Diameter
1.5 m weir
ID 6.3

7 x 22 x 1
64 mm Skimmer
with 63 mm
Orifice Diameter
3 m weir
ID 6.4

13 x 4 x 1
ID 6.3F

12 x 3 x 1
ID 6.2F

6 x 2 x 1
ID 6.4F

-BY3-43 PINC
8+02.027
-Y3- POC
10+67.216
(3.091 LT.)

-Y3- PC 10+31.848

-BY1-PINC 5+30.700
-L- POC 13+90.958
(19.87 RT.)

-BY3-41 PINC 6+41.702
-Y3A- POC 11+01.372 (5.289 LT.)

-BL-101 PINC 8+61.386 =
-BY1- POT 5+00.000 =
-BY3- PINC 7+18.112
-L- POC 13+60.253 (15.146 RT.)

-BL-102 PINC 9+73.244
-L- POC 14+78.226 (27.521 RT.)

-BL-103 PINC 10+12.143
-L- POC 15+20.053 (27.428 RT.)

-BY3-42 POT 5+00.000

-L- TS 12+60.524

-L- SC 13+56.524

-L- POS 13+51.932
-Y3- POT 10+00.000

-Y3A- PC 10+46.489

-Y3A- POT 10+00.000

-Y3A- PT 11+17.711

-L- POC 13+64.155
-Y3A- POT 11+88.630

BEGIN C/A

CLASS 'I' RIPRAP
15.4 MTN & 41.7m² F.F.
(ON BANKS ONLY)
SEE DETAIL 12

PSH
SEE DETAIL
SHEET 2-F

FILL WITH
SUITABLE
MATERIAL
6.2m

CAT-1

PROP. R/W
CLASS 'B' RIP RAP
0.9 MTN 4.2m² F.F.

+25 -L-
EXIST.R/W

-Y3- +48.133
(EX.R/W)
16 (52.49')

COLLAR
EXTEND 375

REMOVE
450

REMOVE CONC
DITCH 2GI
TYPE D

REMOVE CONC DITCH

RETAIN CONC. DITCH

1800 mm CONC

EXISTING R/W (VARIABLE)

EXISTING R/W

-Y3A-

-L-

-Y3-

-BY1-

-BY3-

-BL-

-BY3-

-Y3A-

-TV-

-L- +48.000 (EX.R/W)

S 82° 24' 54" E
12.304 (40.37')

-Y3- +44.271
25 (82.02')

N 3° 26' 09.3" E
37.5 (123.03')

N 13° 34' 13.0" W
25.585 (83.94')

+18.199 (-Y3A-)
EXIST.R/W

-L- +18.774 (EX.R/W)
23 (75.46') &
30 (98.43')

-L- +30
(98.43')

N 21° 44' 14.4" W

13+58.772
41.0007 (134.54')

9+72.951
10.143 (33.28')

10+02.046
10.682 (35.05')

+48.524

+65
40 (131.23')

+80
40 (131.23')

+40
30 (98.42')

+56.300
31 (101.71')

+70
37 (121.39') &
49 (160.76')

+00
23 (75.46') &
35 (114.83')

0.6m BASE TAIL DITCH
SEE DETAIL
EST DDE=8m³

CLASS B RIP RAP
2.7 MTN 8.4m² F.F.

SPECIAL LATERAL V-DITCH
-L- 15+40 TO 15+76 RT
SEE DETAIL 2

CLASS B RIP RAP
1.8m MTN 5.9m² F.F.

0.6m BASE
HEAD DITCH
EST DDE=15m³
SEE DETAIL 4

STANDARD
BERM DITCH
-L- 14+20 TO
15+00 RT

STANDARD BERM DITCH
-L- 11+60 TO 13+40 RT

DENOTES
PAINT
STRIPING

DENOTES
PAVEMENT
REMOVAL

DENOTES UPGRADING EXIST.
TRAFFIC SIGNAL

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 23, 26 & 27 FOR PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-25/CONST.7
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

5 0 10

NAD 83

8 x 8 x 1
102 mm Skimmer
with 80 mm
Orifice Diameter
7 m weir
(See Tiered Skimmer
Basin Detail)
ID 7.3F

Modified Silt Basin
Type 'B'
8 x 8 x 1
(See Tiered Skimmer
Basin Detail)
ID 7.3F

MATCHLINE SEE SHEET 13

MATCHLINE SEE SHEET 13

+00
48 (157.48')

17+00

CS 17+04.318

LATERAL 0.9m BASE DITCH W/ 1.5m BERM
W/ CLASS B RIP RAP 91.2m MTN 250.5m² F.F
EST. DDE= 553m³ -L- 16+12 TO 17+00 LT
SEE DETAIL 1

+40
50 (164.04')

+00
30 (98.42')

+80
40 (131.23')

16+00

CLASS B RIP RAP
7.3mTN 17.8m F.F

LATERAL V DITCH W/ 1.5m BERM
W/ CLASS B RIP RAP 91.6 MTN
274.9m² F.F. EST. DDE= 362m³
-L- 17+00 TO 17+80 LT
SEE DETAIL 5

-L- ST 17+68.318

18+00

+90
23 (75.46') &
32 (104.99')

+60
25 (82.02')

+40
25 (82.02')

+69
23 (75.46') &
28 (91.86')

+69
26 (85.30')

+ 69.000
19.500 (63.98') &
23.000 (75.46')

-L- TS 19+02.549
23 (75.46')

+77
23 (75.46') &
28 (91.86')

PSH
SEE DETAIL
SHEET 2-F +77

27 (88.58')

+20
33
(108.27')

19+00

+ 77.000
19.500 (63.98') &
23.000 (75.46')

PROPOSED G/R

GRAU-350

750

375

-L- S 19° 59' 21.8" E

2GIW/ FLAT GRADE

CAT-1

MATCHLINE -L- STA. 15+80.000
SEE SHEET 6

MATCHLINE -L- 19+20.000
SEE SHEET 8

600 CSP
W/ ELBOWS
CHORD

750 CLASS IV
W/ METHOD B
INSTALLATION

12.0m
TYP.

+92.349

+78.549

12.0
TYP.

PROP.R/W

PDE

CLASS B
RIP RAP
2.7 MTN
8.4m² F.F.

+65
23 (75.46') &
30 (98.42')

+40
25
(82.02')

+20
35
(114.83')

LATERAL
V DITCH
W/ 1.5m BERM
EST. DDE=170m3
-L- 16+70 TO
17+33 RT
SEE DETAIL 6

16+96.488
21.989 (72.14')

+40
40
(131.23')

CLASS 'B' RIP RAP
EST +/-7 MTN
30.0m² F.F

0.6m BASE HEAD
DITCH-CLEANOUT
SEE DETAIL 4
EST DDE= 39m³

+60
PL R/W &
40 (131.23')

PL CORNER

PL CORNER

PL CORNER

SPECIAL DITCH
-L- 18+80 TO 19+20 RT
SEE PROFILE FOR GRADE
SEE DETAIL 2

2300 mm WD

Woods

Woods

Woods

Modified Silt Basin
Type 'B'
9 x 4.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 7.1

9 x 4.5 x 1
51 mm Skimmer
with 40 mm
Orifice Diameter
2.5 m weir
(See Tiered Skimmer
Basin Detail)
ID 7.1

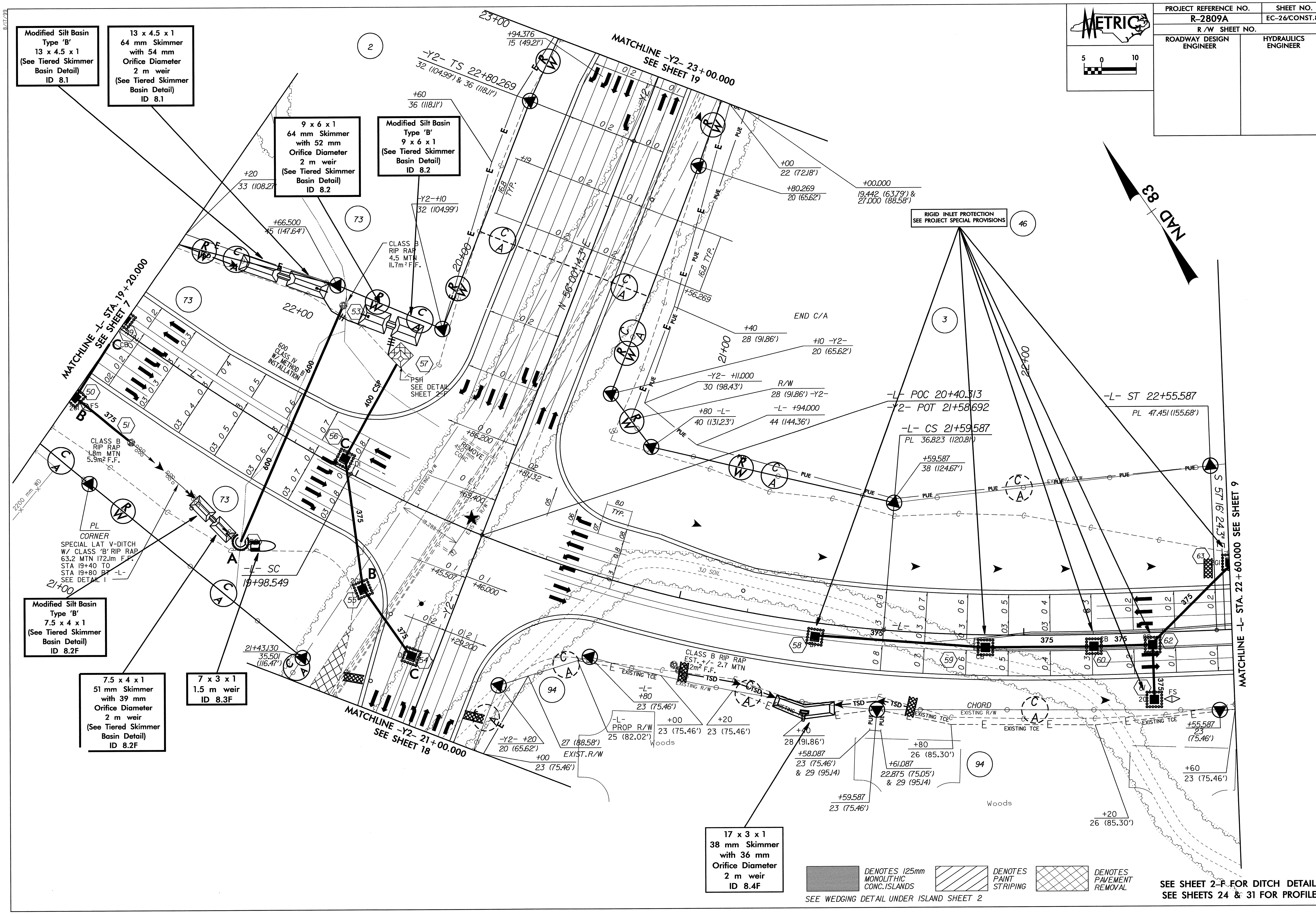
FS 38m³

CLASS B
RIP RAP
1.8mTN
5.9m² F.F.

0.6m BASE
HEAD DITCH
EST DDE=15m³
SEE DETAIL 4

+85
38 (124.67') &
49 (160.76')

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 23 FOR PROFILE



PROJECT REFERENCE NO. R-2809A
SHEET NO. EC-26/CONST.8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
NAD 83
Modified Silt Basin Type 'B' 13 x 4.5 x 1 (See Tiered Skimmer Basin Detail) ID 8.1
13 x 4.5 x 1 64 mm Skimmer with 54 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 8.1
9 x 6 x 1 64 mm Skimmer with 52 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 8.2
Modified Silt Basin Type 'B' 9 x 6 x 1 (See Tiered Skimmer Basin Detail) ID 8.2
Modified Silt Basin Type 'B' 7.5 x 4 x 1 (See Tiered Skimmer Basin Detail) ID 8.2F
7.5 x 4 x 1 51 mm Skimmer with 39 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 8.2F
7 x 3 x 1 1.5 m weir ID 8.3F
17 x 3 x 1 38 mm Skimmer with 36 mm Orifice Diameter 2 m weir ID 8.4F
RIGID INLET PROTECTION SEE PROJECT SPECIAL PROVISIONS
MATCHLINE -Y2- 23+00.000 SEE SHEET 19
MATCHLINE -L- STA. 19+20.000 SEE SHEET 7
MATCHLINE -Y2- 21+00.000 SEE SHEET 18
MATCHLINE -L- STA. 22+60.000 SEE SHEET 9
-Y2- TS 22+80.269 32 (104.99') & 36 (118.11')
-L- POC 20+40.313
-Y2- POT 21+58.692
-L- CS 21+59.587 PL 36.823 (120.81')
-L- ST 22+55.587 PL 47.451 (155.68')
-L- SC 19+98.549
N 56°00'14.3" E
S 57°16'24.3" E
CLASS B RIP RAP 4.5 MTN 11.7m² F.F.
CLASS B RIP RAP 1.8m MTN 5.9m² F.F.
CLASS B RIP RAP EST. +/- 2.7 MTN 12m² F.F.
600 CLASS IV W/ METHOD 'B' INSTALLATION
400 CSP
PSH SEE DETAIL SHEET 2-F
SPECIAL LAT V-DITCH W/ CLASS 'B' RIP RAP 63.2 MTN 172.1m F.F. STA 19+40 TO STA 19+80 RT -L- SEE DETAIL I
PL CORNER
REMOVE 450 mm CONC
EXISTING R/W
EXISTING TCE
EXIST. R/W
-L- PROP R/W 25 (82.02')
END C/A
CHORD
Woods
DENOTES 125mm MONOLITHIC CONC. ISLANDS
DENOTES PAINT STRIPING
DENOTES PAVEMENT REMOVAL
SEE WEDGING DETAIL UNDER ISLAND SHEET 2
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEETS 24 & 31 FOR PROFILES

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-27/CONST.9
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC
5 0 10

NAD 83

MATCHLINE -L-STA. 22+60.000
SHEET 8

MATCHLINE -L-STA. 26+00.000
SHEET 10

Modified Silt Basin Type 'B' 20 x 5 x 1 (See Tiered Skimmer Basin Detail) ID 9.3F

20 x 5 x 1 76 mm Skimmer with 65 mm Orifice Diameter 3 m weir (See Tiered Skimmer Basin Detail) ID 9.3F

7 x 3.5 x 1 38 mm Skimmer with 36 mm Orifice Diameter 1.5 m weir (See Tiered Skimmer Basin Detail) ID 9.4F

Modified Silt Basin Type 'B' 7 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 9.4F

STRAW WATTLES SEE PROJECT SPECIAL PROVISIONS

BELTED SILT FENCE SEE PROJECT SPECIAL PROVISIONS

23+00 24+00 25+00 26+00

24+57.498
62.949 (206.53')

PL CORNER

EXISTING R/W

LATERAL 0.9m BASE DITCH W/ CLASS B RIP RAP
120.6 MTN 311.7m² F.F.
-L- 23+00 TO 23+60 LT
SEE DETAIL 8

LATERAL V DITCH W/ CLASS B RIP RAP
47.4 MTN 129.1m² F.F
-L- 23+60 TO 23+90 LT
SEE DETAIL 1

LATERAL V-DITCH W/ 1.5m BERM W/ CLASS B RIP RAP
68.7 MTN 206.2m² F.F.
EST. DDE= 13m³
-L- 24+60 TO 25+20 LT
SEE DETAIL 5

LATERAL V-DITCH W/ 1.5m BERM
-L- 25+80 TO 28+20 LT
SEE DETAIL 6

0.6m BASE HEAD DITCH
SEE DETAIL 4
EST DDE= 8m³

CLASS B RIP RAP
2.7 MTN
8.4m² F.F.

Woods

HEADWALL

15 x 5 x 1
ID 9.7F

600

900

R/W VARIES

-L- S 57°16'24.3" E

GRAU-350

PROPOSED G/R

1200 CSP W/ 2 ELB.S

CAT-1

EXISTING TCE

EXISTING PDE

CLASS B RIP RAP
EST +/- 2.7 MTN
8.4m² F.F.

12.0 TYP

+79.587

+60
23 (75.46')

+30
23 (75.46')

+80
27 (88.58')

+10
23 (75.46')

+00
30 (98.42')

+15
35 (114.83')

TOE PROTECTION CLASS B RIP RAP
36.1MTN 127.6m² F.F.
-L- 23+60 TO 24+10 RT
SEE DETAIL 9

CLASS B RIP RAP
13.6 MTN
25.1m² F.F.

+45
23 (75.46') &
25 (82.02')
35 (114.83')

+60
23 (75.46')

+70
23 (75.46')

+05

+20

+80
29 (95.14')

CLASS B RIP RAP
1.8MTN 5.9m² F.F

LATERAL V-DITCH
W/ 1.5m BERM
W/ CLASS B RIP R
22.9 MTN 68.7m² F
EST. DDE= 44m³
-L- 24+20 TO 24+40 RT
SEE DETAIL 5

9 x 3.5 x 1
38 mm Skimmer
with 31 mm
Orifice Diameter
1.5 m weir
ID 9.5F

9 x 3.5 x 1
38 mm Skimmer
with 31 mm
Orifice Diameter
2 m weir
ID 9.6F

CONSTRUCTION

BASKETWEAVE DR.

AREA UNDER CONSTRUCTION

SOIL

Modified Silt Basin Type 'B' 9 x 2 x 1 (See Tiered Skimmer Basin Detail) ID 9.1F

Modified Silt Basin Type 'B' 9 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 9.1F

9 x 5 x 1 51 mm Skimmer with 48 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 9.1F

7.5 x 5 x 1 51 mm Skimmer with 44 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 9.2

Modified Silt Basin Type 'B' 7.5 x 5 x 1 (See Tiered Skimmer Basin Detail) ID 9.2

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 24 FOR PROFILE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-28/CONST.10
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC
5 0 10

CONST.REV.

R /W REV. 8/6/07

NAD 83

RIGID INLET PROTECTION
SEE PROJECT SPECIAL PROVISIONS

26+00 27+00 28+00 29+00

-L- TS 29+37.468

26+03.668
74.149
(243.27')

LATERAL V-DITCH
W/ 1.5m BERM
-L- 25+80 TO 28+20 LT
EST. DDE= 343m³
SEE DETAIL 6

EXISTING R/W
PL CORNER
APPROXIMATE
PROP.R/W

16 x 3 x 1
ID 10.2F

16 x 3 x 1
ID 10.3F

1 400 CSP W/ ELBOWS

73 FS 375 R/W VARIES 375 375 74 FS 450 450 450 450 450 450

MATCHLINE -L- STA. 26+00.00
SHEET 9

-L-

S 57° 16' 24.3" E

375

72 FS 76 FS

EXISTING TCE

13 x 3 x 1
ID 10.1F

+20
33 (108.27')

+60
33 (108.27')

+00
31 (101.71')

13 x 3 x 1
ID 10.4F

+40
34 (111.55')

+80
36 (118.11')

19 x 3 x 1
ID 10.5F

EXIST. EASEMENT & PL

+40.000
PL

+37.468
23 (75.46')
END C/A

+65.000
EXIST. R/W

12.0 TYP.

BASKETWEAVE DR.

ENTRANCE SIGN

SIDEWALK

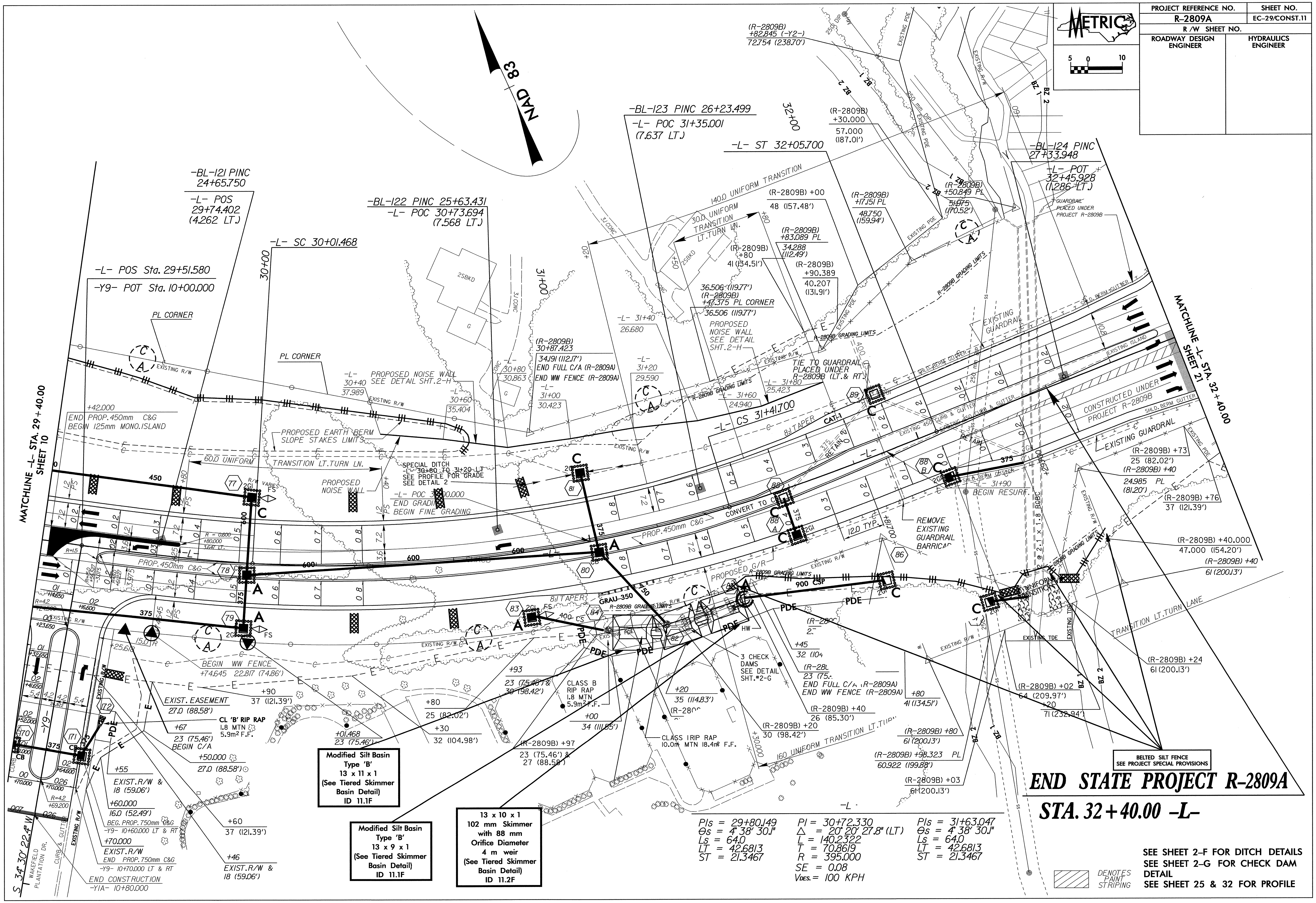
MATCHLINE -L- STA. 29+40.00
SHEET 11

-L-

Pls = 29+80.149
Θs = 4° 38' 30.1"
Ls = 64.0
LT = 42.6813
ST = 21.3467

PI = 30+72.330
Δ = 20° 20' 27.8" (LT)
L = 140.2322
T = 70.8619
R = 395.000
SE = 0.08
VDES. = 100 KPH

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 25 FOR PROFILE



PROJECT REFERENCE NO. R-2809A
SHEET NO. EC-29/CONST.11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
METRIC
NAD 83
MATCHLINE -L- STA. 29+40.00 SHEET 10
MATCHLINE -L- STA. 32+40.00 SHEET 21
-BL-121 PINC 24+65.750
-L- POS 29+74.402 (4.262 LT.)
-BL-122 PINC 25+63.431
-L- POC 30+73.694 (7.568 LT.)
-L- SC 30+01.468
-L- POS Sta. 29+51.580
-Y9- POT Sta. 10+00.000
-BL-123 PINC 26+23.499
-L- POC 31+35.001 (7.637 LT.)
-L- ST 32+05.700
-BL-124 PINC 27+33.948
-L- POT 32+45.928 (1.286 LT.)
-L- CS 31+41.700
PROPOSED NOISE WALL SEE DETAIL SHT.2-H
PROPOSED EARTH BERM SLOPE STAKES LIMITS
SPECIAL DITCH -L- 30+80 TO 31+20 LT SEE PROFILE FOR GRADE SEE DETAIL 2
END GRADING BEGIN FINE GRADING
TIE TO GUARDRAIL PLACED UNDER R-2809B (LT. & RT.)
CONSTRUCTED UNDER PROJECT R-2809B
EXISTING GUARDRAIL
REMOVE EXISTING GUARDRAIL BARRICADE
BEGIN RESURF.
BEGIN WW FENCE
EXIST. EASEMENT
CL 'B' RIP RAP 1.8 MTN 5.9m² F.F.
CLASS B RIP RAP 1.8 MTN 5.9m² F.F.
CLASS I RIP RAP 10.0m MTN 18.4m² F.F.
3 CHECK DAMS SEE DETAIL SHT.#2-G
END FULL C/A (R-2809A) END WW FENCE (R-2809A)
BELTED SILT FENCE SEE PROJECT SPECIAL PROVISIONS
Modified Silt Basin Type 'B' 13 x 11 x 1 (See Tiered Skimmer Basin Detail) ID 11.1F
Modified Silt Basin Type 'B' 13 x 9 x 1 (See Tiered Skimmer Basin Detail) ID 11.1F
13 x 10 x 1 102 mm Skimmer with 88 mm Orifice Diameter 4 m weir (See Tiered Skimmer Basin Detail) ID 11.2F
END CONSTRUCTION -Y1A- 10+80.000
WAKEFIELD PLANTATION DR.
END STATE PROJECT R-2809A
STA. 32+40.00 -L-
PIs = 29+80.149 Θs = 4°38' 30.1" Ls = 64.0 LT = 42.6813 ST = 21.3467
PI = 30+72.330 Δ = 20°20' 27.8" (LT) L = 140.2322 T = 70.8619 R = 395.000 SE = 0.08 VDES. = 100 KPH
PIs = 31+63.047 Θs = 4°38' 30.1" Ls = 64.0 LT = 42.6813 ST = 21.3467
DENOTES PAINT STRIPING
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 2-G FOR CHECK DAM DETAIL
SEE SHEET 25 & 32 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-30/CONST.12
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC 5 0 10

NAD 83

-Y3- POT 12+48.733

N 2° 25' 30"W

EXISTING R/W

EXISTING R/W

-Y3- +86
8.127
(26.66')

-Y3- +75.869
8.357
(27.42')

-Y3- +78.628
22 (72.18')

-Y3- +81
22 (72.18')

IB

CLASS B RIP RAP
4.5mTN
13.4m² F.F

8 x 2.5 x 1
38 mm Skimmer
with 33 mm
Orifice Diameter
X2 m weir
ID 12.1F

CLASS B RIP RAP
EST 2.7 MTN
8.4m² F.F.

10 x 5.5 x 1
64 mm Skimmer
with 53 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer
Basin Detail)
ID 12.1

Modified Silt Basin
Type 'B'
10 x 5.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 12.1

LATERAL V-DITCH
W/1.5m BERM W/
CLASS B RIP RAP
33.2 MTN 99.6m² F.F
EST. DDE = 14m³
-Y3- 11+40 TOII+69 LT
SEE DETAIL 5

-Y3- +40
(EX.R/W)
9.124 (29.93')

-Y3- +36.095
12 (39.37')

-Y3- +70
18 (59.055')

-Y3- POT 11+19.931
-Y1- POT 10+00.000

+05.629
(37')

8 x 3 x 1
38 mm Skimmer
with 27 mm
Orifice Diameter
2 m weir
ID 12.2F

END C

+99.432
8.0
TYP.

30

MATCHLINE -Y3- STA. 10+90.000
SHEET 6

9 (29.53') &
23 (75.46')

CLASS I RIP RAP
8.6 MTN 23.2m² F.F.
(ON BANKS ONLY)
SEE DETAIL 12

-Y1- +30.000
9 (29.53') &
23 (75.46')

-Y1- +35.000
17 (55.77')

-Y1- PC 10+57.529
9 (29.53')

+69.776
8.495
(27.87')
(EX R/W)

+40
9.165
(30.08')

+20
9 (29.53')

+60
22
(72.18')

+40
20
(65.62')

+80
13 (42.65')

-Y1- PT 11+33.843
9 (29.53')
16 (52.49')

6 x 2 x 1
ID 12.4.F

+80
16 (52.49')

6 x 2 x 1
ID 12.3F

+57.529
9.000
(29.53')

-Y1-
13 (42.65')

+95
9 (29.53') &
12 (39.37')

+50
20 (65.62')

+00
17 (55.77')

+33.843
9 (29.53')

+34.500
15 (49.21')

CLASS B RIP RAP
4.5 MTN 13.4m² F.F.

+30.000
9.000 (29.53ft)

+20.000
9.000 (29.53')

+00.000 (EXIST.R/W)
10.075 (33.05ft)
END C/A
END WW FENCE

IC

IE

IA

ID

(NO CLAIM)
I

11+00

12+00

13+00

8.0
TYP.

+65.845

+75.460

-Y1- PC 12+34.127
9 (29.53')

Modified Silt Basin
Type 'B'
6 x 4.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 12.4

6 x 4.5 x 1
51 mm Skimmer
with 46 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer
Basin Detail)
ID 12.4

6 x 2 x 1
38 mm Skimmer
with 19 mm
Orifice Diameter
1.5 m weir
ID 12.6F

+59.210
15.244 (50.0')

CLASS I RIP RAP
3.6 MTN 10.0m F.F.

+47.738
(EXIST R/W)
9 (29.53')

EXISTING R/W (VARIABLE)

PROPOSED
GUARDRAIL

-Y1- S2° 51' 28" 09.85" E

REMOVE
CONC DITCH

JB
W/MH

7 x 2.5 x 1
38 mm Skimmer
with 33 mm
Orifice Diameter
2 m weir
ID 12.5F

STRAW WATTLES
SEE PROJECT
SPECIAL PROVISIONS

+08.772
15 (49.21')

+18.346
(EXIST R/W)
9 (29.53')

EXISTING R/W (VARIABLE)

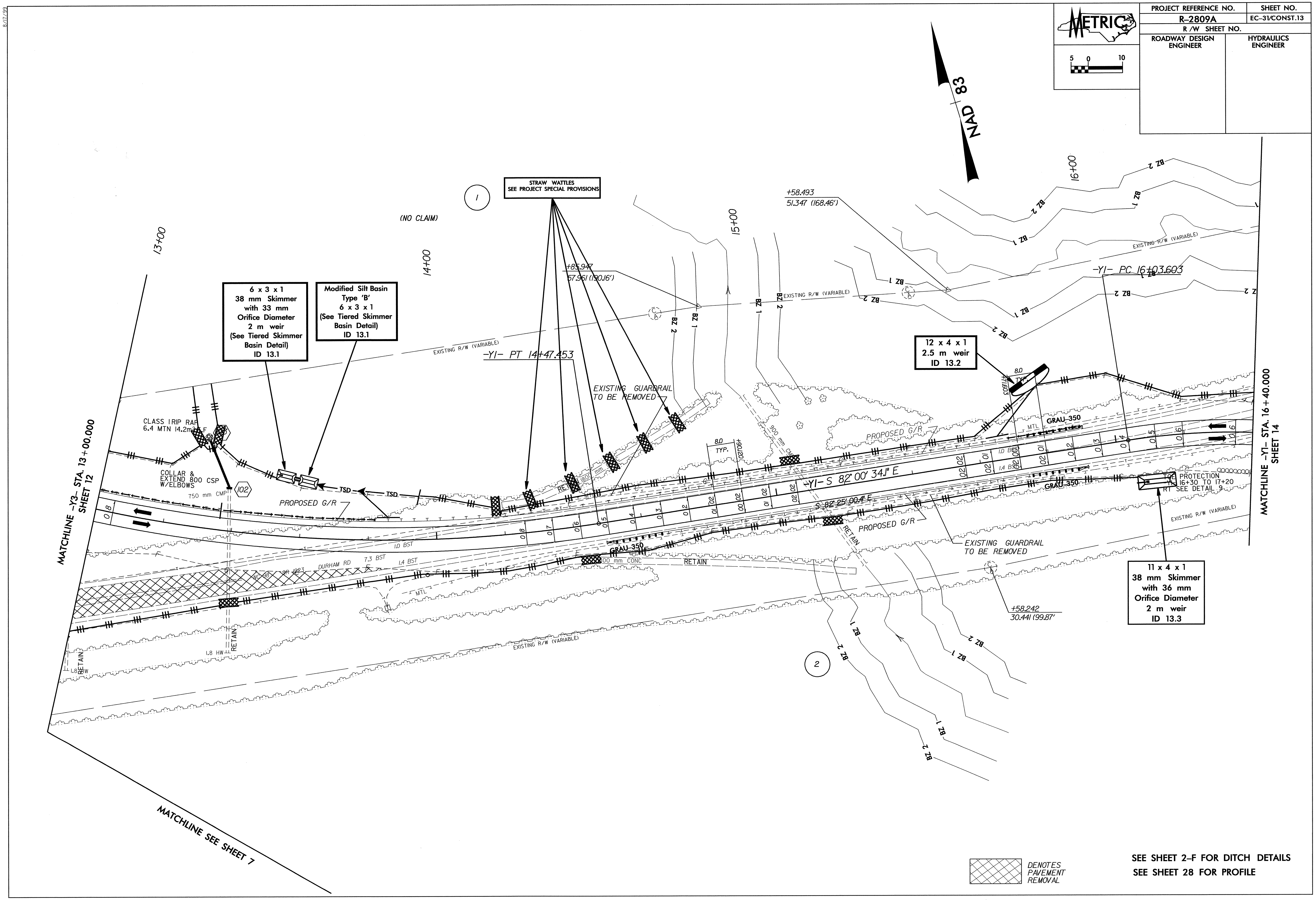
MATCHLINE SEE SHEET 6

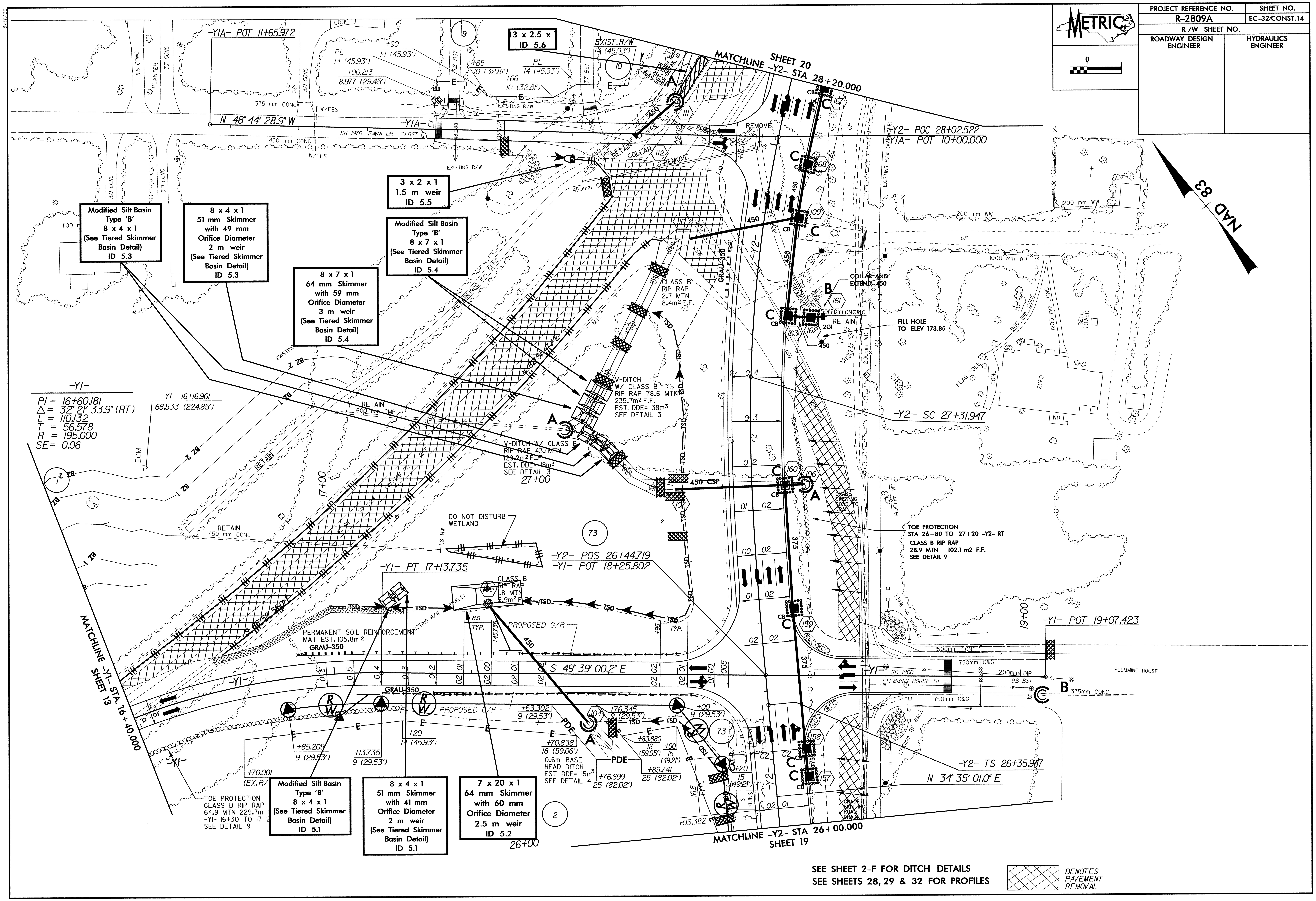
MATCHLINE SEE SHEET 6

MATCHLINE -Y1- STA. 13+00.000
SHEET 13

DENOTES
PAVEMENT
REMOVAL

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 27 FOR PROFILES


METRIC
PROJECT REFERENCE NO.
R-2809A
SHEET NO.
EC-31/CONST.13
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
5 0 10
NAD 83
STRAW WATTLES
SEE PROJECT SPECIAL PROVISIONS
(NO CLAIM)
13+00
14+00
15+00
16+00
6 x 3 x 1
38 mm Skimmer
with 33 mm
Orifice Diameter
2 m weir
(See Tiered Skimmer
Basin Detail)
ID 13.1
Modified Silt Basin
Type 'B'
6 x 3 x 1
(See Tiered Skimmer
Basin Detail)
ID 13.1
+85.947
57.961 (190.16')
+58.493
51.347 (168.46')
-Y1- PT 14+47.453
-Y1- PC 16+03.603
EXISTING R/W (VARIABLE)
EXISTING GUARDRAIL
TO BE REMOVED
12 x 4 x 1
2.5 m weir
ID 13.2
CLASS I RIP RAP
6.4 MTN 14.2m²
COLLAR &
EXTEND 800 CSP
W/ELBOWS
750 mm CMP
102
PROPOSED G/R
TSD
GRAU-350
-Y1- S 82° 00' 34.1" E
S 82° 25' 00.4" E
DURHAM RD
7.3 BST
1.4 BST
1.0 BST
RETAIN
MTL
1.8 HW
PROTECTION
16+30 TO 17+20
RT SEE DETAIL 9
EXISTING GUARDRAIL
TO BE REMOVED
11 x 4 x 1
38 mm Skimmer
with 36 mm
Orifice Diameter
2 m weir
ID 13.3
+58.242
30.441 (99.87')
BZ 1
BZ 2
MATCHLINE -Y3- STA. 13+00.000
SHEET 12
MATCHLINE -Y1- STA. 16+40.000
SHEET 14
MATCHLINE SEE SHEET 7
DENOTES
PAVEMENT
REMOVAL
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 28 FOR PROFILE


METRIC
PROJECT REFERENCE NO. R-2809A
SHEET NO. EC-32/CONST.14
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NAD 83
MATCHLINE SHEET 20 -Y2- STA 28+20.000
MATCHLINE -Y2- STA 26+00.000 SHEET 19
MATCHLINE -Y1- STA. 16+40.000 SHEET 13
-Y1A- POT 11+65.972
N 48° 44' 28.9" W
-Y2- POC 28+02.522
-Y1A- POT 10+00.000
13 x 2.5 x 1 ID 5.6
3 x 2 x 1 1.5 m weir ID 5.5
Modified Silt Basin Type 'B' 8 x 4 x 1 (See Tiered Skimmer Basin Detail) ID 5.3
8 x 4 x 1 51 mm Skimmer with 49 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 5.3
8 x 7 x 1 64 mm Skimmer with 59 mm Orifice Diameter 3 m weir (See Tiered Skimmer Basin Detail) ID 5.4
Modified Silt Basin Type 'B' 8 x 7 x 1 (See Tiered Skimmer Basin Detail) ID 5.4
-Y1-
PI = 16+60.181
Δ = 32° 21' 33.9" (RT)
L = 110.132
T = 56.578
R = 195.000
SE = 0.06
-Y1- 16+16.961 68.533 (224.85')
CLASS B RIP RAP 2.7 MTN 8.4m² F.F.
V-DITCH W/ CLASS B RIP RAP 78.6 MTN 235.7m² F.F. EST. DDE= 38m³ SEE DETAIL 3
V-DITCH W/ CLASS B RIP RAP 43.1MTN 129.2m² F.F. EST. DDE= 18m³ SEE DETAIL 3
COLLAR AND EXTEND 450
FILL HOLE TO ELEV 173.85
-Y2- SC 27+31.947
TOE PROTECTION STA 26+80 TO 27+20 -Y2- RT CLASS B RIP RAP 28.9 MTN 102.1 m2 F.F. SEE DETAIL 9
DO NOT DISTURB WETLAND
-Y2- POS 26+44.719
-Y1- POT 18+25.802
-Y1- PT 17+13.735
CLASS B RIP RAP .8 MTN 5.9m²
PERMANENT SOIL REINFORCEMENT MAT EST. 105.8m² GRAU-350
PROPOSED G/R
-Y1- POT 19+07.423
S 49° 39' 00.2" E
SR 1200 FLEMMING HOUSE ST
FLEMMING HOUSE
-Y2- TS 26+35.947
N 34° 35' 01.0" E
0.6m BASE HEAD DITCH EST DDE= 15m³ SEE DETAIL 4
TOE PROTECTION CLASS B RIP RAP 64.9 MTN 229.7m -Y1- 16+30 TO 17+2 SEE DETAIL 9
Modified Silt Basin Type 'B' 8 x 4 x 1 (See Tiered Skimmer Basin Detail) ID 5.1
8 x 4 x 1 51 mm Skimmer with 41 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 5.1
7 x 20 x 1 64 mm Skimmer with 60 mm Orifice Diameter 2.5 m weir ID 5.2
SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEETS 28, 29 & 32 FOR PROFILES
DENOTES PAVEMENT REMOVAL

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-33/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEET 29 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-34/CONST.16
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

5 0 10

8/17/22

NAD 83

CP&L POWERLINE EASEMENT

THOMAS M. FLANAGAN & SUE
DB 11424 PAGE 1652
BM 1995 PAGE 740-741

WAKEFIELD D2 INVESTMENT, LLC
DB 8706 PG 1682

GARDEN HILL DR

CITY OF RALEIGH
DB 8209 PG 1497

TOURNAMENT PLAYERS CLUB OF RAL, LLC
DB 9349
PG 22
BM 1998
PG 1293

WAKEFIELD GLEN, LLC
DB 8280
PG 866
BM 1998
PG 892

MATCHLINE -Y2- STA. 11+80.000
SHEET 15

MATCHLINE -Y2- STA. 14+20.000
SHEET 17

-Y2- CS 13+17.378

-Y2- ST 13+73.378

-Y2-

PI = 12+34.835
Δ = 15° 52' 00.1" (RT)
L = 166.156
T = 83.613
R = 600.000
SE = 0.07
$V_{DES.}$ = 80 KPH

PIs = 13+36.048
Θs = 2° 40' 25.7"
Ls = 56.000
LT = 37.338
ST = 18.671

DENOTES PAVEMENT REMOVAL

SEE SHEETS 29 & 30 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-35/CONST.17
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC 5 0 10

8/17/99

-Y5- PCC 12+42.852

0.6m BASE HEAD DITCH SEE DETAIL 4 DDE= 25m³

REMOVE

N 26° 18' 34.2" E

EXISTING R/W

-Y5- POT 13+68.236

SR 2000 FALLS OF THE

-Y5- PT 12+98.386

TEMPORARY EARTH BERM

(Not to Scale)

Natural Ground

D = 0.3 m
B = 0.3 m

STABILIZE EARTH BERM

NAD 83

20 x 3 x 1
3 m weir
ID 17.2

8 x 2.5 x 1
38 mm Skimmer
with 25 mm
Orifice Diameter
1.5 m weir
ID 17.6F

9 x 6 x 1
64 mm Skimmer
with 52 mm
Orifice Diameter
2.5 m weir
(See Tiered Skimmer
Basin Detail)
ID 17.7F

Modified Silt Basin
Type 'B'
9 x 6 x 1
(See Tiered Skimmer
Basin Detail)
ID 17.7F

243 M2 Surface Area
1 M Depth
76 mm Skimmer
with 71 mm
Orifice Diameter
4 m weir
ID 17.3F

-Y5- PC 11+63.217

-Y5- POT 14+56.539

-Y5- POT 10+68.545

-Y5- TS 17+27.224

N 6° 06' 01" W

N 28° 53' 58.9" E

LATERAL V-DITCH
W/ 1.5m BERM
W/ CLASS B RIP RAP
68.7 MTN 206.2m² F.F.
EST. DDE= 72m³
-Y2- 16+20 TO 16+80 LT
SEE DETAIL 5

LATERAL V-DITCH
W/ 1.5m BERM
W/ CLASS B RIP RAP
91.6 MTN 274.9m² F.F.
EST. DDE = 253m³
-Y2- 15+20 TO 16+00 LT
SEE DETAIL 5

CLASS B RIP RAP
1.8mTN
5.9m² F.F.

CLASS B RIP RAP
1.8m TN
5.9m F.F.

CLASS I 19 RIP RAP
10.0mTN
18.4m² F.F.

1.0m BASE TAIL DITCH (114.83')
SEE DETAIL "
DDE= 40m³

6 x 2 x 1
ID 17.8F

Modified Silt Basin
Type 'B'
7 x 2.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 17.1F

7 x 2.5 x 1
38 mm Skimmer
with 33 mm
Orifice Diameter
1.5 m weir
(See Tiered Skimmer
Basin Detail)
ID 17.1F

6 x 2.5 x 1
38 mm Skimmer
with 30 mm
Orifice Diameter
1.5 m weir
(See Tiered Skimmer
Basin Detail)
ID 17.2F

Modified Silt Basin
Type 'B'
6 x 2.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 17.2F

6 x 2 x 1
38 mm Skimmer
with 19 mm
Orifice Diameter
1.5 m weir
ID 17.4F

9 x 1.5 x 1
38 mm Skimmer
with 29 mm
Orifice Diameter
1 m weir
(See Tiered Skimmer
Basin Detail)
ID 17.5F

Modified Silt Basin
Type 'B'
9 x 1.5 x 1
(See Tiered Skimmer
Basin Detail)
ID 17.5F

SEE SHEET 2-F FOR DITCH DETAILS
SEE SHEETS 30 & 33 FOR PROFLIES

DENOTES PAVEMENT REMOVAL

MATCHLINE -Y2- STA. 14+20.000
SHEET 16

MATCHLINE -Y2- STA. 17+60.000
SHEET 18

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-36/CONST.18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC 5 0 10

-Y3B- POT 12+63.730

S 68° 25' 33" W

-Y3B- PT 11+10.001

-Y4- POT 11+00.780

-Y4- PC 10+24.510

-Y4- PT 10+43.555

MARJORIE A. KEITH ET AL

LATERAL V-DITCH -Y3B- 10+70 TO 11+40 RT SEE DETAIL 2

LATERAL V-DITCH -Y4- 10+20 TO 10+50 LT SEE DETAIL 2

SPECIAL DITCH -Y3B- 10+80 TO 11+30 LT SEE PROFILE FOR GRADE SEE DETAIL 2

-Y3B- POC 10+50.000

-Y4- POT 10+00.000

-Y3B- PC 10+12.223

-Y2- SC 17+83.224

-Y2- POC 19+60.000

-Y3B- POT 10+00.000

-Y2- CS 19+97.059

-Y2- ST 20+81.059

END C/A

10 x 4 x 1 2.0 m weir ID 18.4

6 x 2 x 1 1.0 m weir ID 18.5

9 x 2 x 1 ID 18.5

7 x 2.5 x 1 ID 18.1F

6 x 2 x 1 ID 18.2

10 x 2.5 x 1 ID 18.4

Modified Silt Basin Type 'B' 8 x 3.5 x 1 (See Tiered Skimmer Basin Detail) ID 18.1

8 x 4 x 1 51 mm Skimmer with 41 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 18.1

8 x 5 x 1 51 mm Skimmer with 45 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 18.3F

Modified Silt Basin Type 'B' 8 x 5 x 1 (See Tiered Skimmer Basin Detail) ID 18.3F

CLASS I RIP RAP 10.0MTN 18.4m² F.F.

CLASS II RIP RAP 2.7mTN 8.4m² F.F.

LATERAL V-DITCH LINED W/ CLASS 'B' RIP RAP 28.4 MTN 77.4m² F.F -Y2- 18+82 TO 19+00 RT SEE DETAIL 1

STD BERM DITCH STA 18+80 -Y2- TO 19+20 -Y2- LT

AVERAGE DAILY TRAFFIC (IN HUNDREDS) 2000 2025

THOMPSON MILL RD. SR 1923

OLD NC 98 SR 1967

AVERAGE DAILY TRAFFIC (IN HUNDREDS) 2000 2025

OLD NC 98 SR 1967

FALLS OF NEUSE RD. SR 2000

NAD 83

MATCHLINE -Y2- STA. 17+60.000 SHEET 17

MATCHLINE -Y2- 21+00.000 SEE SHEET 8

RETAIN EXIST. R/W

REMOVE CONC MTN GATE

Woods

DENOTES 125mm MONOLITHIC CONC. ISLANDS

DENOTES PAVEMENT REMOVAL

SEE SHEET 2-F FOR DITCH DETAILS

SEE SHEETS 30,31 & 33 FOR PROFILES

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-37/CONST.19
R /W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

0

NAD 83

23+00

25+00

26+00

Modified Silt Basin Type 'B' 8 x 5.5 x 1 (See Tiered Skimmer Basin Detail) ID 19.1

8 x 5.5 x 1 64 mm Skimmer with 58 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.1

11 x 3 x 1 51 mm Skimmer with 42 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.3

Modified Silt Basin Type 'B' 11 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 19.3

Modified Silt Basin Type 'B' 6.5 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 19.4

6.5 x 3 x 1 38 mm Skimmer with 34 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.4

7 x 3 x 1 38 mm Skimmer with 36 mm Orifice Diameter 2 m weir (See Tiered Skimmer Basin Detail) ID 19.5

Modified Silt Basin Type 'B' 7 x 3 x 1 (See Tiered Skimmer Basin Detail) ID 19.5

10 x 4.5 x 1 2 m weir ID 19.1F

-Y2- SC 23+64.269
25 (82.02')

-Y2- CS 25+04.582
15 (49.21')

-Y2- POC 24+53.099
-Y6- POT 10+00.000

-Y2- ST 25+88.582
15 (49.21')

N 34° 35' 01.0" E

+10 R/W

+40 R/W

+47.469

+55 R/W & 30 (98.43')

+90 35 (114.83')

+00 R/W & 33 108.27')

+40 15 (49.21')

+00 20 (65.62')

+40 20 (65.62')

+40 31 (101.71')

16.8 TYP.

16.8 TYP. CS TO ST

+47.782

CLASS B RIP RAP 0.9 MTN 4.2m² F.F.

CLASS B RIP RAP 2.7 MTN 9.2m² F.F.

PDE

TSD

SR 1967 OLD NC 98 7.3 BST

EXISTING R/W

MATCHLINE -Y2- STA 23+00.000 SEE SHEET 8

MATCHLINE -Y2- STA 26+00.000 SEE SHEET 14

+20 19.030 (62.43')

+00 22 (72.18')

+00.000 19.442 (63.79') & 27.000 (88.58')

+60 21 (68.90')

+75 EX.R/W & 25 (82.02')

PL EXIST. R/W 25 (82.02')

+00 EX.R/W

+35 EX.R/W

+40.014 21.127 (69.31')

+27.795 EX.R/W

+69.941 21.408 (70.24')

COLLAR & EXTEND 600

REMOVE

450 mm CONC FES

600 mm C&G

1200 mm CONC

1500mm WD

1800mm WD

1400mm WD

2SFD

WD

1½SBK&FD

1200 mm BRICK

3.0 CONC

3.2 CONC

3.3 CONC

S 49° 55' 41.4" E

-Y6- POT 11+00.000

73

46

47

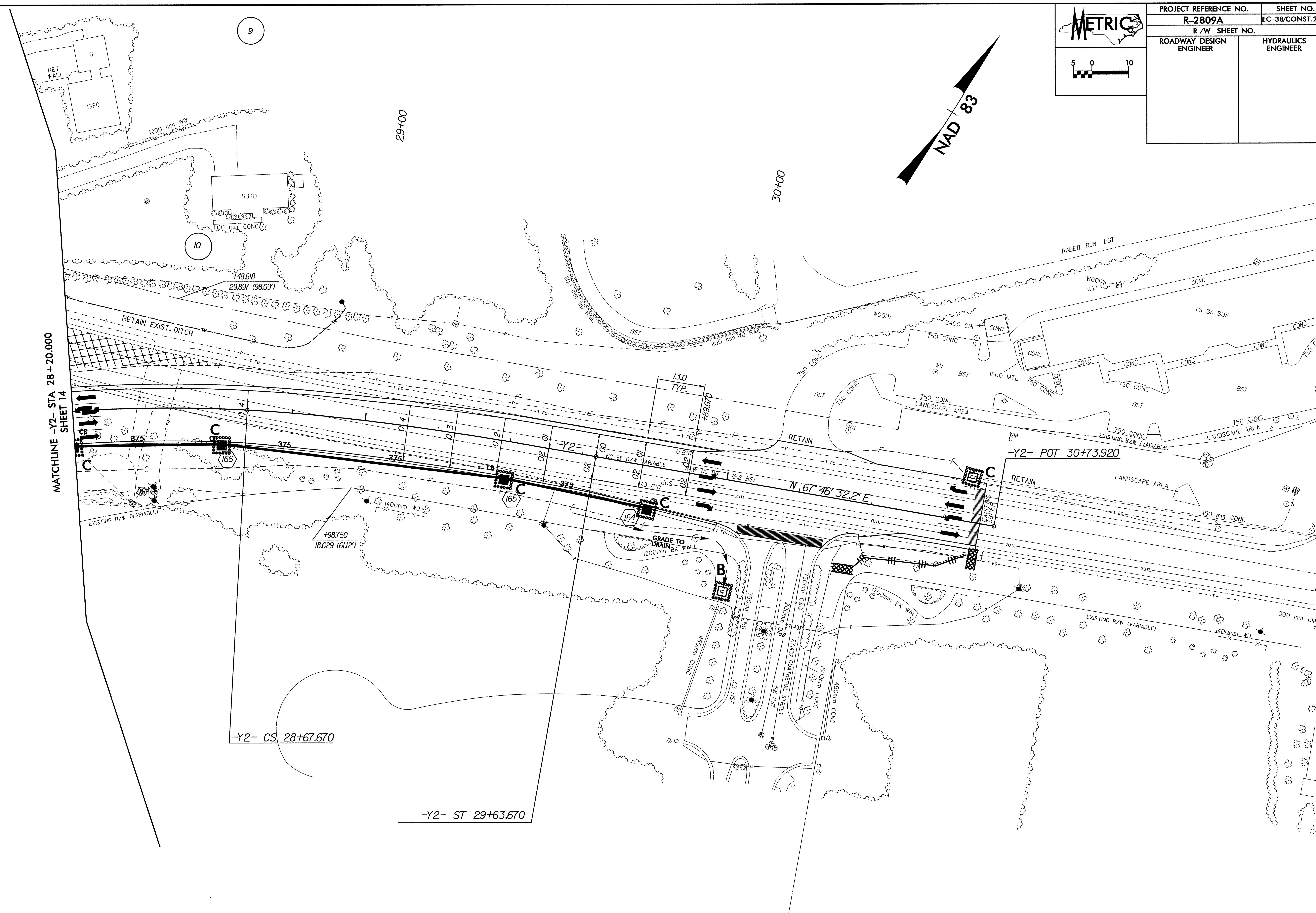
DENOTES PAVEMENT REMOVAL

SEE SHEET 2-F FOR DITCH DETAILS

SEE SHEETS 31 & 32 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-38/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC



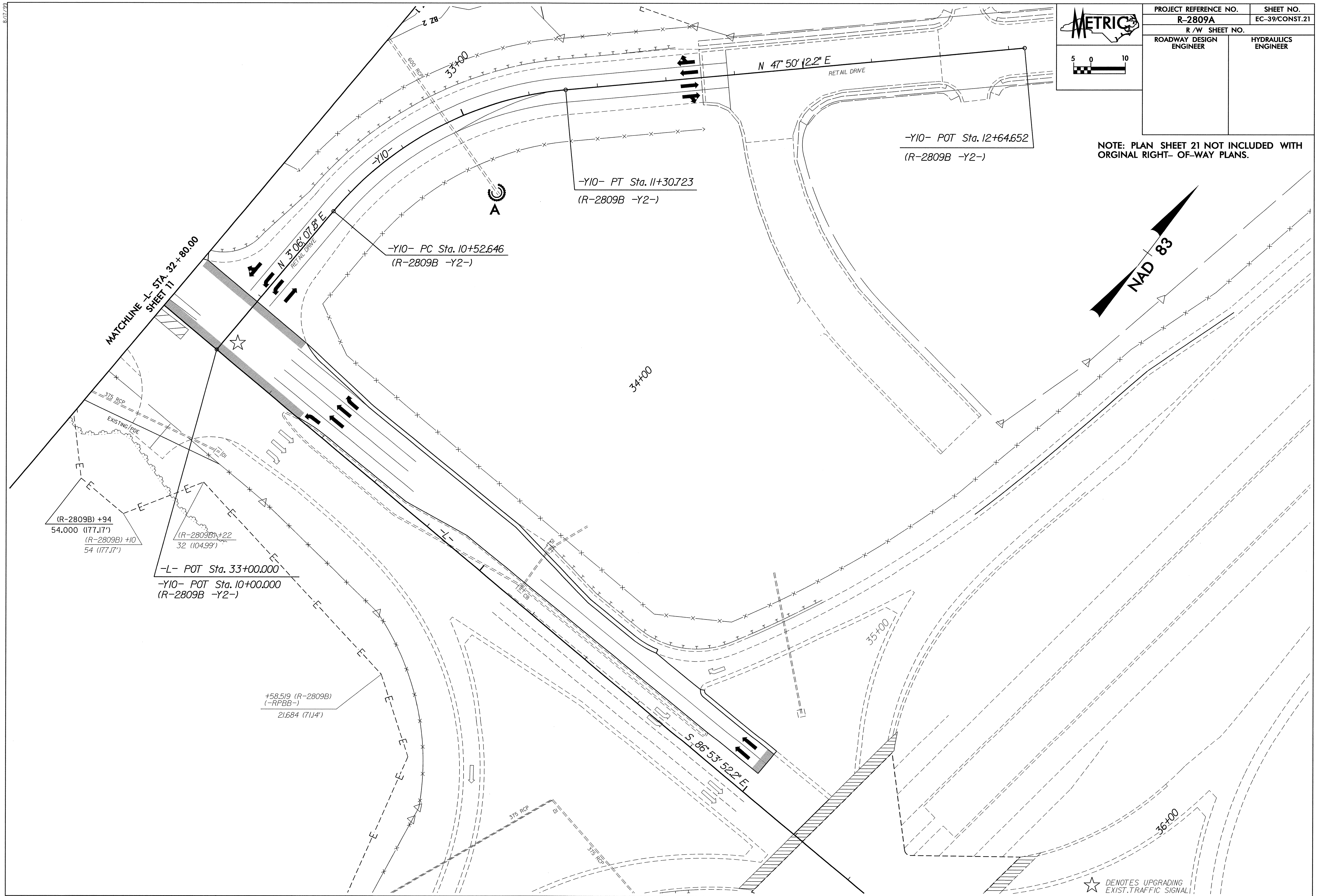
NAD 83
5 0 10
MATCHLINE -Y2- STA 28+20.000 SHEET 14
29+00
30+00
RET WALL
ISFD
ISBKD
1200 mm WW
1100 mm CONC
+48.618
29.897 (98.09')
RETAIN EXIST. DITCH
13.0 TYP.
+89.670
-Y2-
NC 98 R/W VARIABLE
NEW NC 98
N 67° 46' 32.2" E
-Y2- POT 30+73.920
RETAIN
RABBIT RUN BST
WOODS
IS BK BUS
2400 CHL
750 CONC
1800 MTL
LANDSCAPE AREA
EXISTING R/W (VARIABLE)
450 mm CONC
300 mm CMP
1400mm WD
+98.750
18.629 (61.12')
GRADE TO DRAIN
1200mm BK WALL
1100mm BK WALL
1100 mm WD RAIL
27.432 QUATREFOIL STREET
6.6 BST
3.3 BST
200mm DIP
750mm C&G
1500mm CONC
450mm CONC
-Y2- CS 28+67.670
-Y2- ST 29+63.670
375
164
165
166

SEE SHEET 32 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-39/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

NOTE: PLAN SHEET 21 NOT INCLUDED WITH ORGINAL RIGHT- OF-WAY PLANS.



MATCHLINE -L- STA. 32+80.00
SHEET 11
N 47° 50' 12.2" E
RETAIL DRIVE
-Y10- POT Sta. 12+64.652
(R-2809B -Y2-)
-Y10- PT Sta. 11+30.723
(R-2809B -Y2-)
-Y10- PC Sta. 10+52.646
(R-2809B -Y2-)
N 3° 06' 07.8" E
RETAIL DRIVE
-Y10-
33+00
34+00
35+00
36+00
A
NAD 83
(R-2809B) +94
54.000 (177.17')
(R-2809B) +10
54 (177.17')
(R-2809B) +22
32 (104.99')
-L- POT Sta. 33+00.000
-Y10- POT Sta. 10+00.000
(R-2809B -Y2-)
+58.519 (R-2809B)
(-RPBB-)
21.684 (71.14')
S 86° 53' 52.2" E
-L-
EXISTING PDE
375 RCP
600 RCP
DENOTES UPGRADING EXIST. TRAFFIC SIGNAL

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-40/CONST.2-0
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

CONST.REV.

R/W REV.

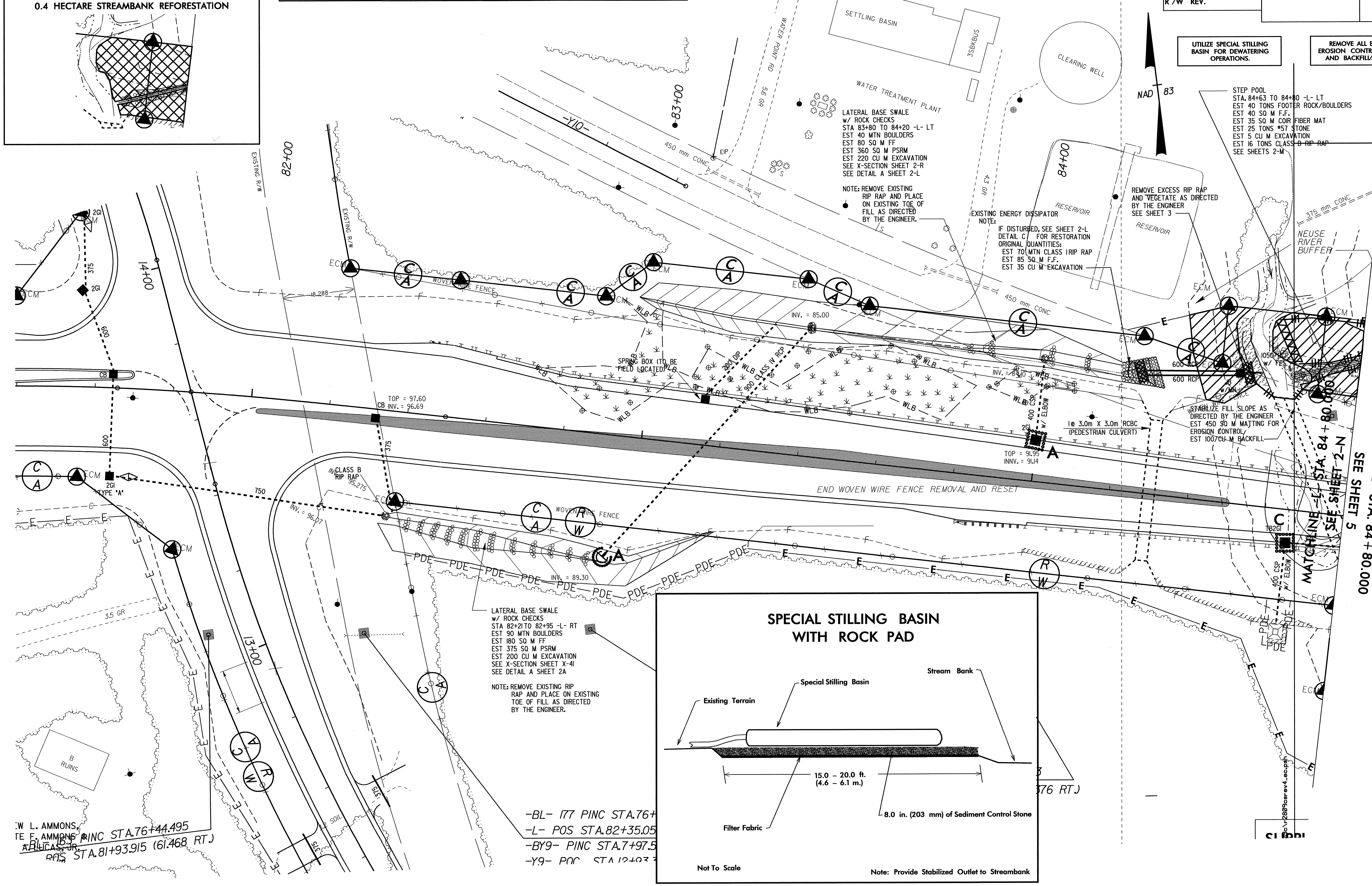
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
1. CONSTRUCTION OF LATERAL SWALE/DITCH WITH ROCK CHECKS AT STA. 83+80 TO 84+20 -L- LEFT, AND INSTALLATION OF CROSS VANES AND STEP POOL AT STA. 84+63 TO 84+80 -L- LT WILL REQUIRE THE DIVERSION OF THE STREAM FLOW (AS NEEDED) DURING CONSTRUCTIONAND MAINTENANCE ACTIVITIES. FOLLOW PUMPING AND BYPASS BMP'S FOR CONSTRUCTION AND MAINTENANCE ACTIVITIESGUIDELINES AS DIRECTED BY THE ENGINEER.
2. NO CLEARING SHALL BE CONDUCTED IN THE ESA UNTIL AN ON-SITE MEETING IS HELD WITH THE ENGINEER.

SEE RF-2, RF-3 AND PROJECT SPECIAL PROVISIONS
0.4 HECTARE STREAMBANK REFORESTATION

UTILIZE SPECIAL STILLING BASIN FOR DEWATERING OPERATIONS.

REMOVE ALL EXISTING EROSION CONTROL DEVICES AND BACKFILL/STABILIZE.



SETTLING BASIN
WATER TREATMENT PLANT
CLEARING WELL
NAD 83
-Y10-
83+00
84+00
82+00
14+00
13+00
RESERVOIR
450 mm CONC
375 mm CONC
NEUSE RIVER BUFFER
LATERAL BASE SWALE w/ ROCK CHECKS
STA 83+80 TO 84+20 -L- LT
EST 40 MTN BOULDERS
EST 80 SQ M FF
EST 360 SQ M PSRM
EST 220 CU M EXCAVATION
SEE X-SECTION SHEET 2-R
SEE DETAIL A SHEET 2-L
NOTE: REMOVE EXISTING RIP RAP AND PLACE ON EXISTING TOE OF FILL AS DIRECTED BY THE ENGINEER.
EXISTING ENERGY DISSIPATOR
NOTE: IF DISTURBED, SEE SHEET 2-L DETAIL C FOR RESTORATION
ORIGINAL QUANTITIES:
EST 70 MTN CLASS I RIP RAP
EST 85 SQ M F.F.
EST 35 CU M EXCAVATION
REMOVE EXCESS RIP RAP AND VEGETATE AS DIRECTED BY THE ENGINEER
SEE SHEET 3
STEP POOL
STA. 84+63 TO 84+80 -L- LT
EST 40 TONS FOOTER ROCK/BOULDERS
EST 40 SQ M F.F.
EST 35 SQ M COIR FIBER MAT
EST 25 TONS #57 STONE
EST 5 CU M EXCAVATION
EST 16 TONS CLASS B RIP RAP
SEE SHEETS 2-M
SPRING BOX (TO BE FIELD LOCATED)
INV. = 85.00
TOP = 97.60
CB INV. = 96.69
CLASS B RIP RAP
1@ 3.0m X 3.0m RCBC (PEDESTRIAN CULVERT)
TOP = 91.95
INNV. = 91.14
STABILIZE FILL SLOPE AS DIRECTED BY THE ENGINEER
EST 450 SQ M MATTING FOR EROSION CONTROL
EST 1007CU M BACKFILL
END WOVEN WIRE FENCE REMOVAL AND RESET
WOVEN WIRE FENCE
INV. = 89.30
LATERAL BASE SWALE w/ ROCK CHECKS
STA 82+21TO 82+95 -L- RT
EST 90 MTN BOULDERS
EST 180 SQ M FF
EST 375 SQ M PSRM
EST 200 CU M EXCAVATION
SEE X-SECTION SHEET X-41
SEE DETAIL A SHEET 2A
NOTE: REMOVE EXISTING RIP RAP AND PLACE ON EXISTING TOE OF FILL AS DIRECTED BY THE ENGINEER.
MATCHLINE -L- STA. 84+80.000
SEE SHEET 5
MATCHLINE -L- STA. 84+80.000 SEE SHEET 2-N
B RUINS
-BL- 177 PINC STA.76+
-L- POS STA.82+35.05
-BY9- PINC STA.7+97.5
-Y9- POC STA.12+93
PINC STA.76+44.495
POS STA.81+93.915 (61.468 RT)

SPECIAL STILLING BASIN WITH ROCK PAD

Special Stilling Basin
Stream Bank
Existing Terrain
15.0 - 20.0 ft. (4.6 - 6.1 m.)
8.0 in. (203 mm) of Sediment Control Stone
Filter Fabric

Not To Scale

Note: Provide Stabilized Outlet to Streambank

PROJECT REFERENCE NO.	SHEET NO.
R-2809A	EC-41/CONST.2-P
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC

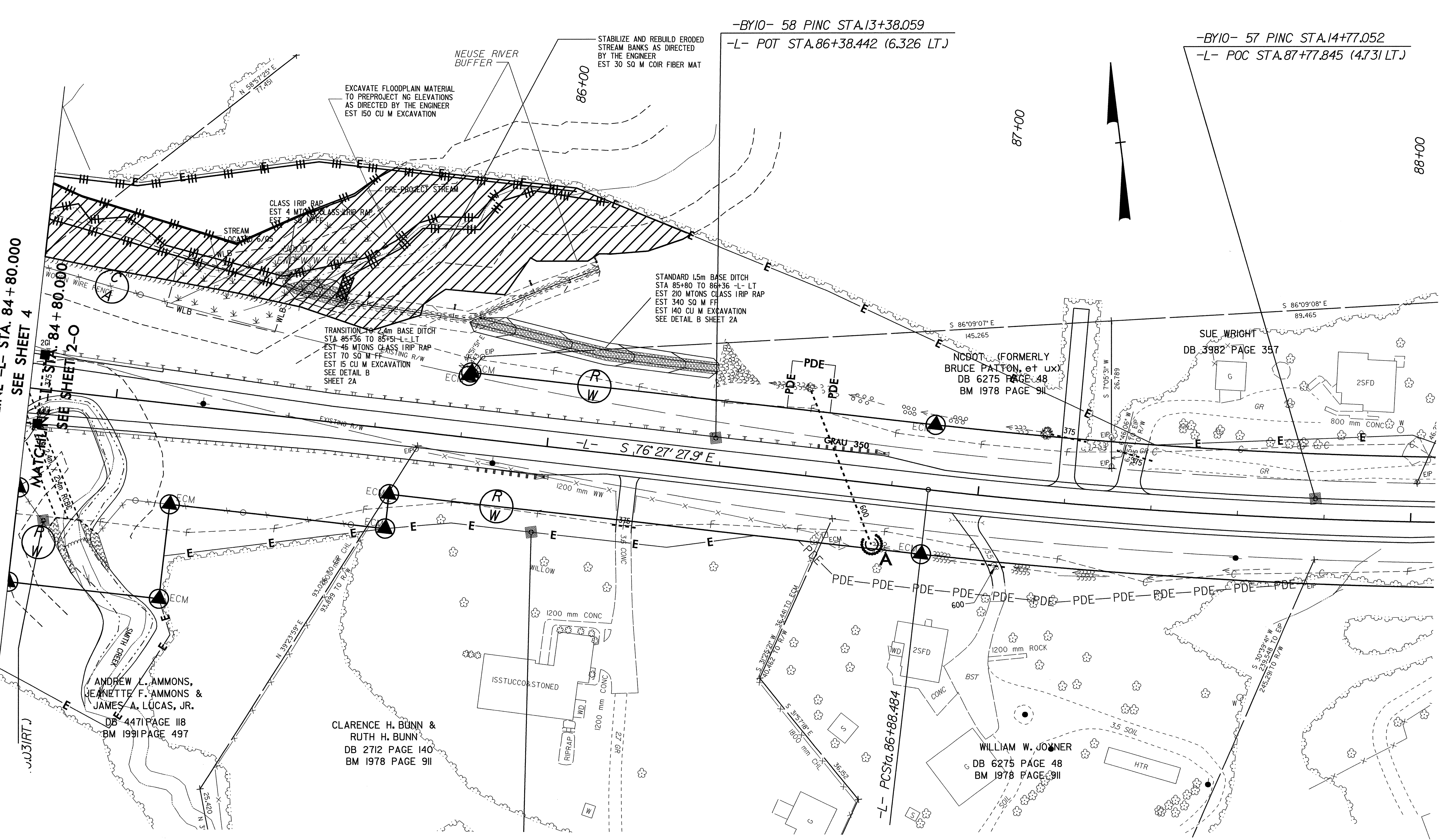
CONST. REV.

R/W REV.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
1. CONSTRUCTION OF LATERAL SWALE/DITCH WITH ROCK CHECKS AT STA. 83+80 TO 84+20 -L- LEFT, AND INSTALLATION OF CROSS VANES AND STEP POOL AT STA. 84+63 TO 84+80 -L- LT WILL REQUIRE THE DIVERSION OF THE STREAM FLOW (AS NEEDED) DURING CONSTRUCTIONAND MAINTENANCE ACTIVITIES. FOLLOW PUMPING AND BYPASS BMP'S FOR CONSTRUCTION AND MAINTENANCE ACTIVITIESGUIDELINES AS DIRECTED BY THE ENGINEER.
2. NO CLEARING SHALL BE CONDUCTED IN THE ESA UNTIL AN ON-SITE MEETING IS HELD WITH THE ENGINEER.

REMOVE ALL EXISTING EROSION CONTROL DEVICES AND BACKFILL/STABILIZE.



-BY10- 58 PINC STA.13+38.059
-L- POT STA.86+38.442 (6.326 LT.)
-BY10- 57 PINC STA.14+77.052
-L- POC STA.87+77.845 (4.731 LT.)
NEUSE RIVER BUFFER
STABILIZE AND REBUILD ERODED STREAM BANKS AS DIRECTED BY THE ENGINEER EST 30 SQ M COIR FIBER MAT
EXCAVATE FLOODPLAIN MATERIAL TO PREPROJECT NG ELEVATIONS AS DIRECTED BY THE ENGINEER EST 150 CU M EXCAVATION
PRE-PROJECT STREAM
STREAM LOCATED 6/05
STANDARD 1.5m BASE DITCH STA 85+80 TO 86+36 -L- LT EST 210 MTONS CLASS I RIP RAP EST 340 SQ M FF EST 140 CU M EXCAVATION SEE DETAIL B SHEET 2A
TRANSITION TO 2.4m BASE DITCH STA 85+36 TO 85+51 -L- LT EST 45 MTONS CLASS I RIP RAP EST 70 SQ M FF EST 15 CU M EXCAVATION SEE DETAIL B SHEET 2A
MATCHLINE -L- STA. 84+80.000 SEE SHEET 4
MATCHLINE -L- STA. 84+80.000 SEE SHEET 2-O
-L- S 76° 27' 27.9" E
86+00
87+00
88+00
SUE WRIGHT DB 3982 PAGE 357
NCDOT (FORMERLY BRUCE PATTON, et ux) DB 6275 PAGE 48 BM 1978 PAGE 911
ANDREW L. AMMONS, JEANETTE F. AMMONS & JAMES A. LUCAS, JR. DB 4471 PAGE 118 BM 1991 PAGE 497
CLARENCE H. BUNN & RUTH H. BUNN DB 2712 PAGE 140 BM 1978 PAGE 911
WILLIAM W. JOYNER DB 6275 PAGE 48 BM 1978 PAGE 911
-L- PCSta.86+88.484
SMITH CREEK
1200 mm CONC
800 mm CONC
1200 mm ROCK

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