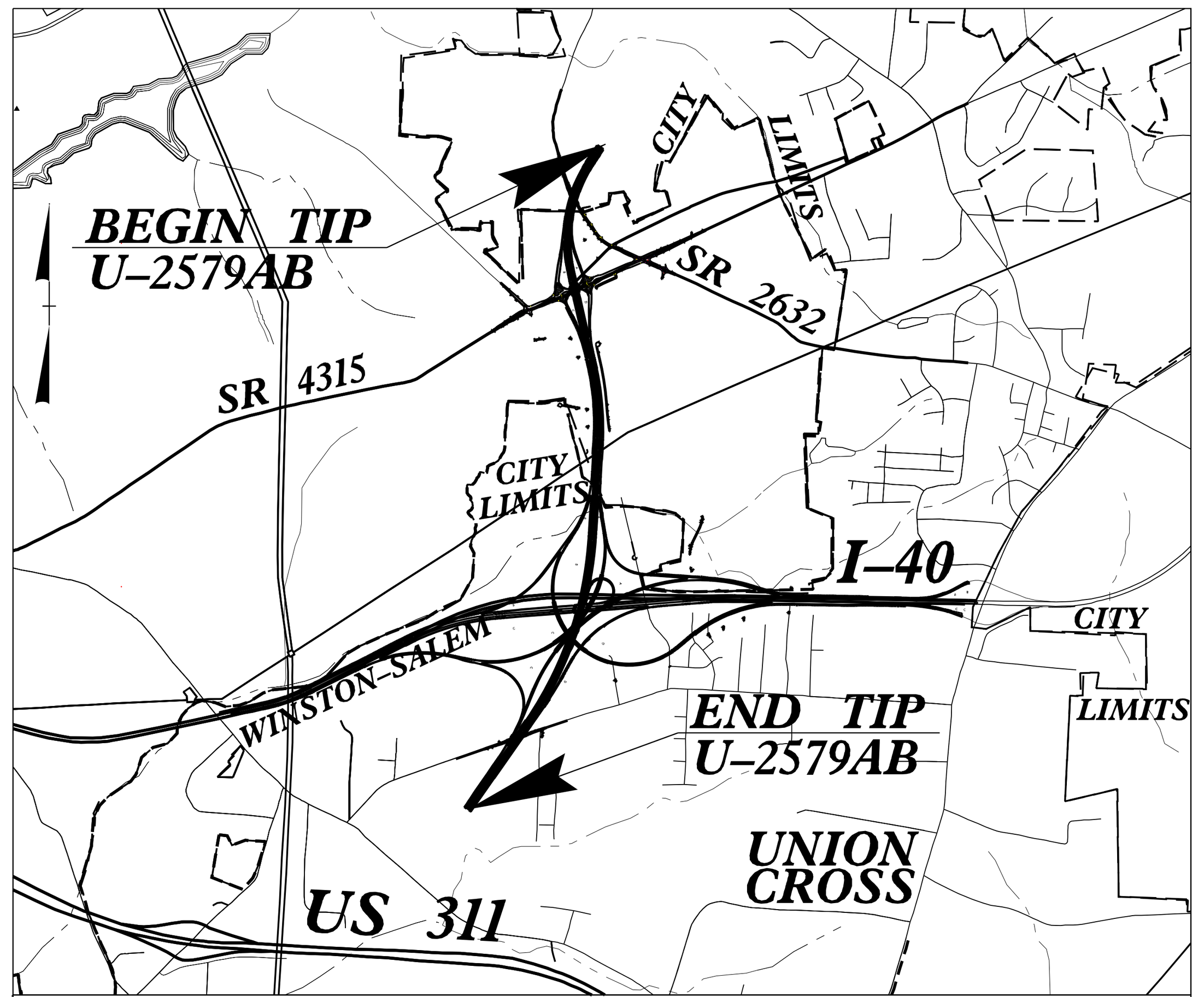
TIP PROJECT: U-2579AB

See Sheet 1-A For Index of Sheets



VICINITY MAP
(NOT TO SCALE)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2579AB	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
35869.3.1	IMSNHS-0440(10)	

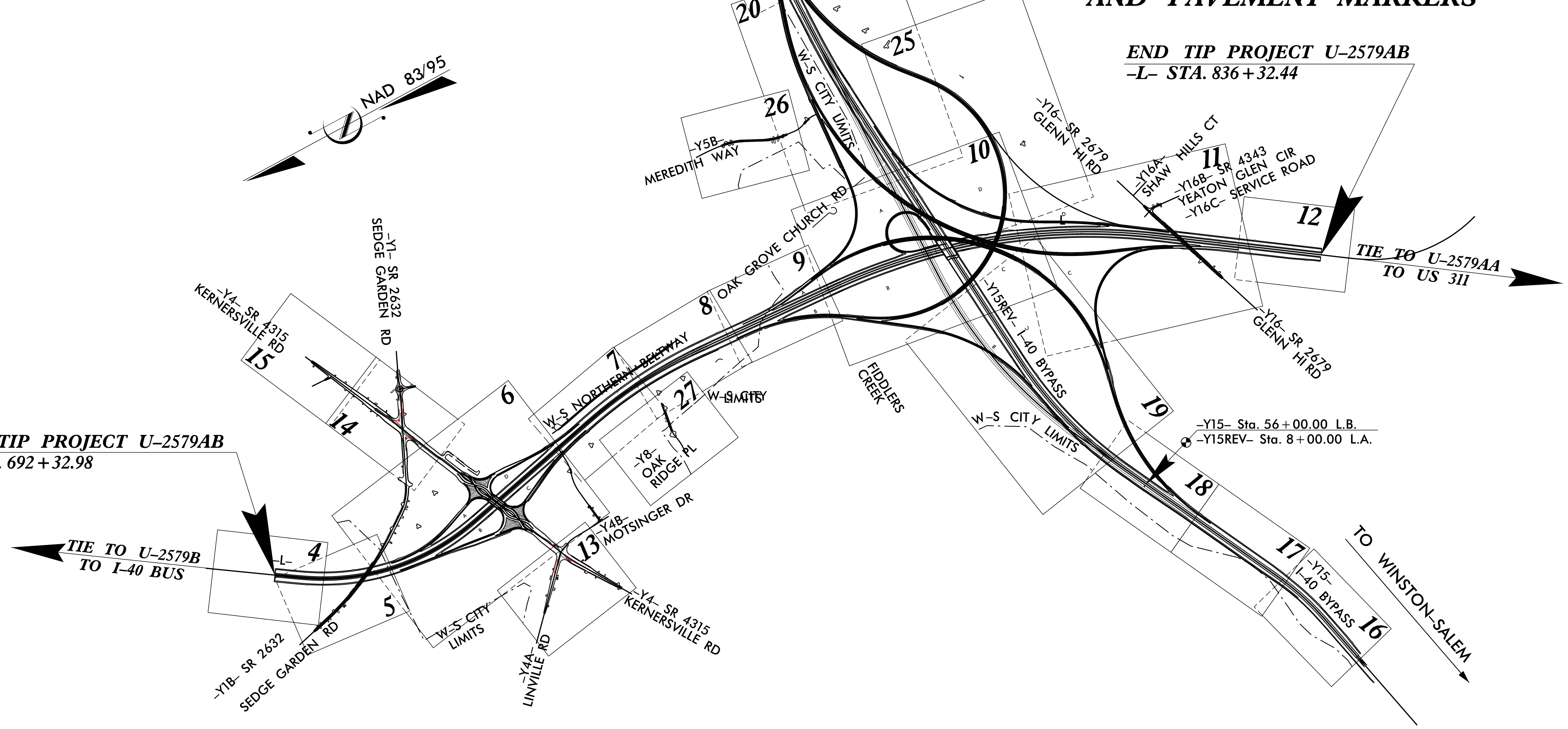
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

FORSYTH COUNTY

LOCATION: WINSTON-SALEM – NORTHERN BELTWAY (EASTERN SECTION OF FUTURE I-74) FROM I-40 BUS /US 421 TO I-40

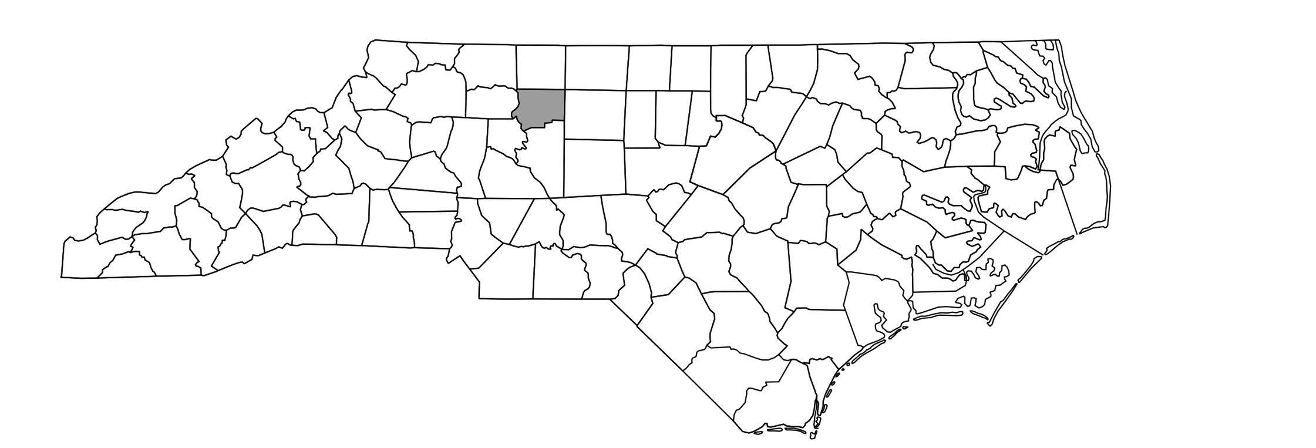
TYPE OF WORK: GRADING, PAVING DRAINAGE, STRUCTURES, SIGNALS, SIGNING AND PAVEMENT MARKERS



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle/ Coir Fiber Wattle	
	Wattle/ Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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



GRAPHIC SCALE

0 50

PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

Prepared In the Office of:

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

2018 STANDARD SPECIFICATIONS

Designed by:

Wyatt D. Yelverton, PE, CPESC — 3609

NAME — LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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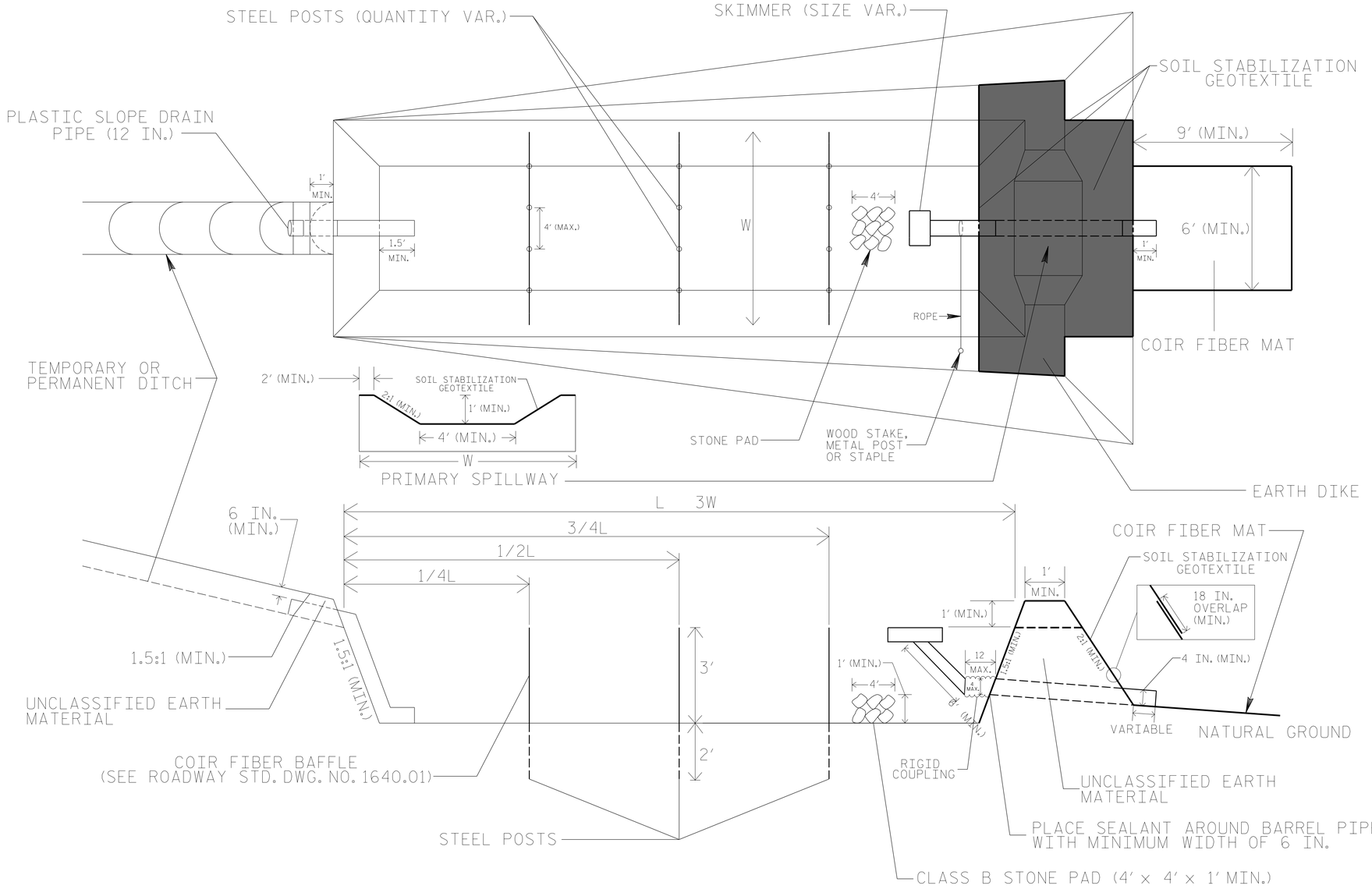
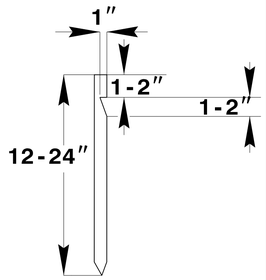
PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

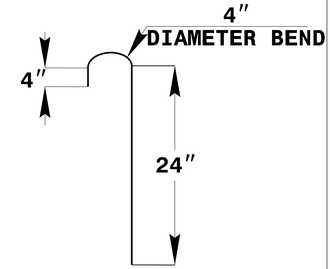
SKIMMER BASIN WITH BAFFLES DETAIL



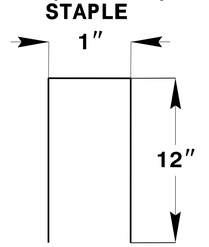
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

TIERED SKIMMER BASIN DETAIL

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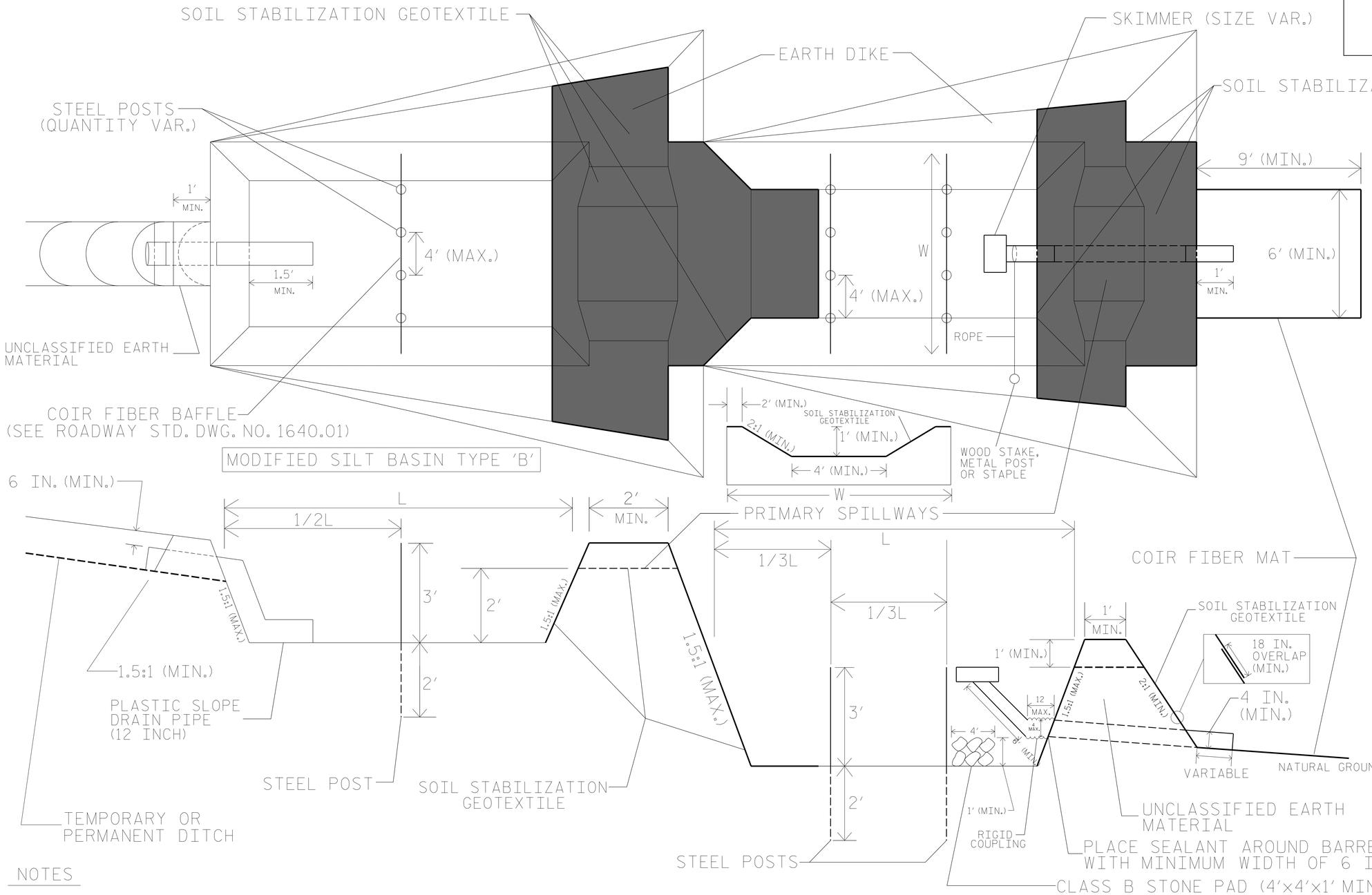
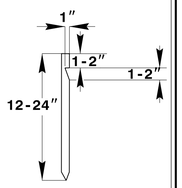
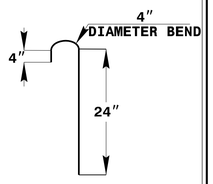
PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



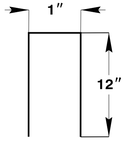
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

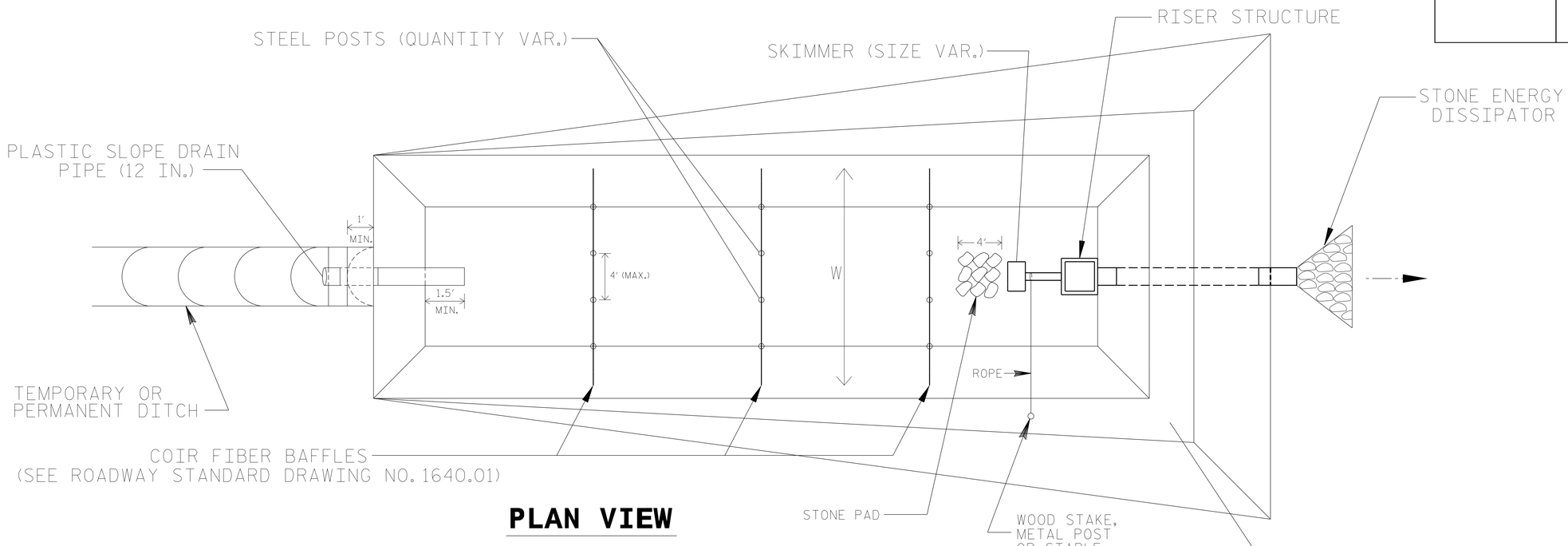
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE PRIMARY SPILLWAY WEIR LENGTHS (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

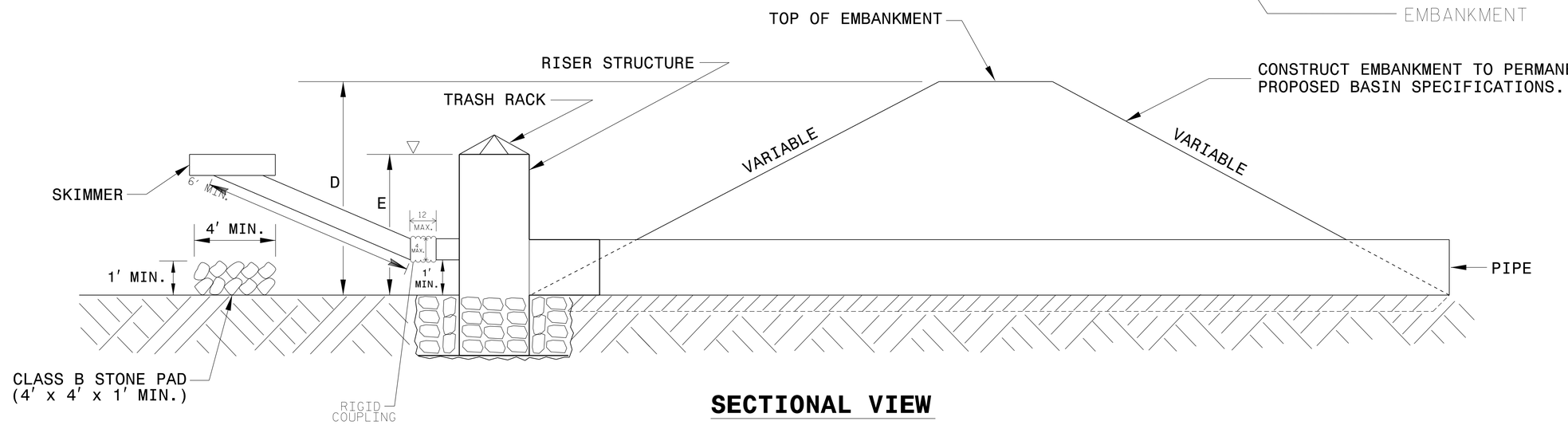
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STORMWATER BASIN WITH SKIMMER



PLAN VIEW



SECTIONAL VIEW

NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. INSTALL A MINIMUM OF 3 COIR FIBER BAFFLES IN ACCORDANCE WITH ROADWAY STD. DRAWING 1640.01.
3. INSTALL SKIMMER AND COUPLING TO RISER STRUCTURE OR DIRECTLY INTO EMBANKMENT 1 FT. FROM BOTTOM OF BASIN.
4. THE ARM PIPE SHALL HAVE A MINIMUM LENGTH OF 6 FT. BETWEEN THE SKIMMER AND COUPLING.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE AS DIRECTED.
6. THE DIFFERENCE BETWEEN LENGTHS "D" AND "E" REPRESENT THE FREEBOARD AND SHOULD BE 1 FT. MINIMUM.

NOT TO SCALE

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

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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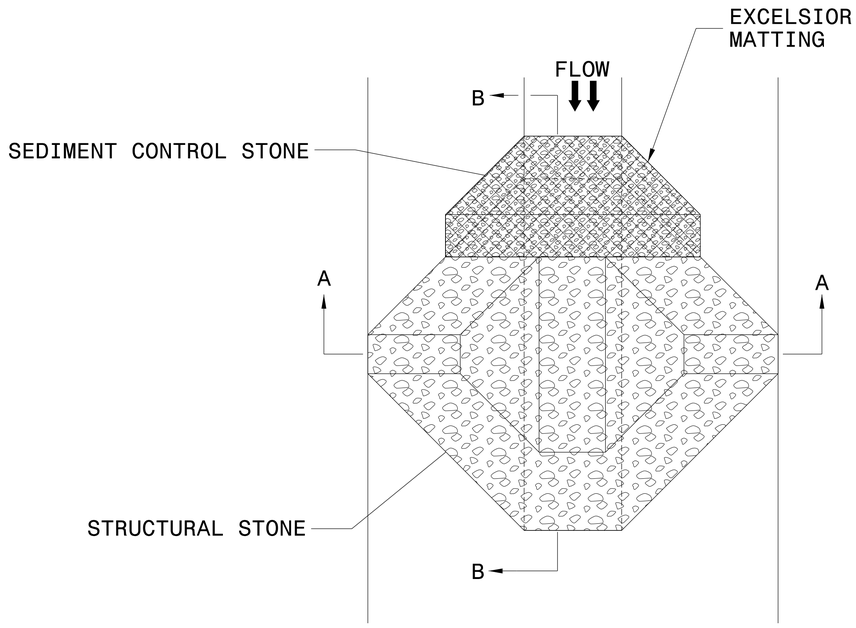


PLAN

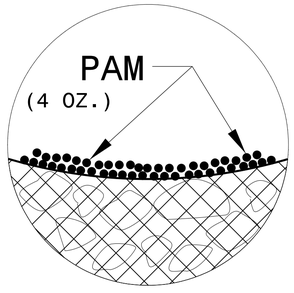
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

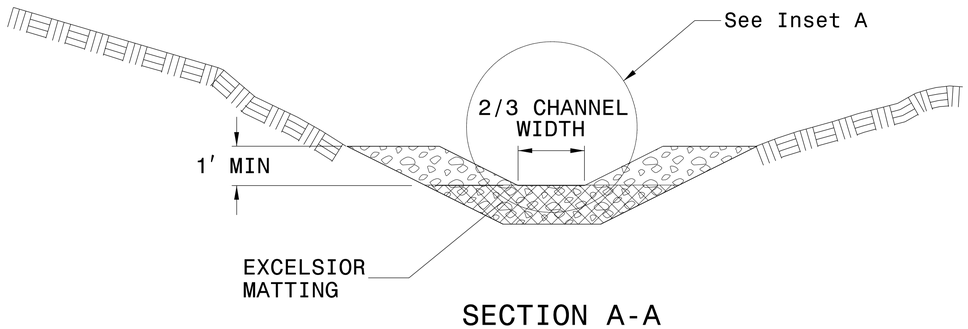
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

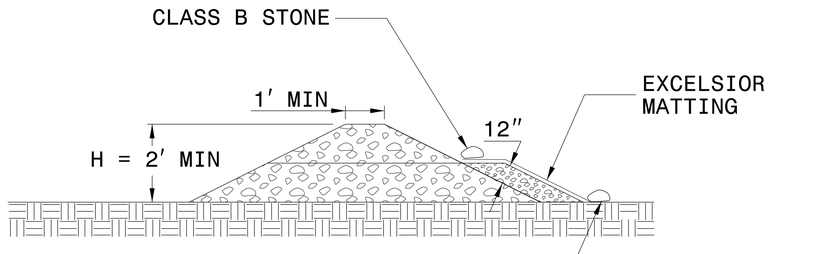
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

PLOT DRIVER: NCDOT
USER: DWAGNER
FILE: NCDOT NCDOT U25 9AB 6.0 CAD BIM 6.2 W I P U 25 9AB E C U25 9 EC DETAILS
100. PENTABLE: NCDOT TSH.
DATE: 6/10/2021 TIME: 4:39:29 PM

WATTLE BARRIER DETAIL

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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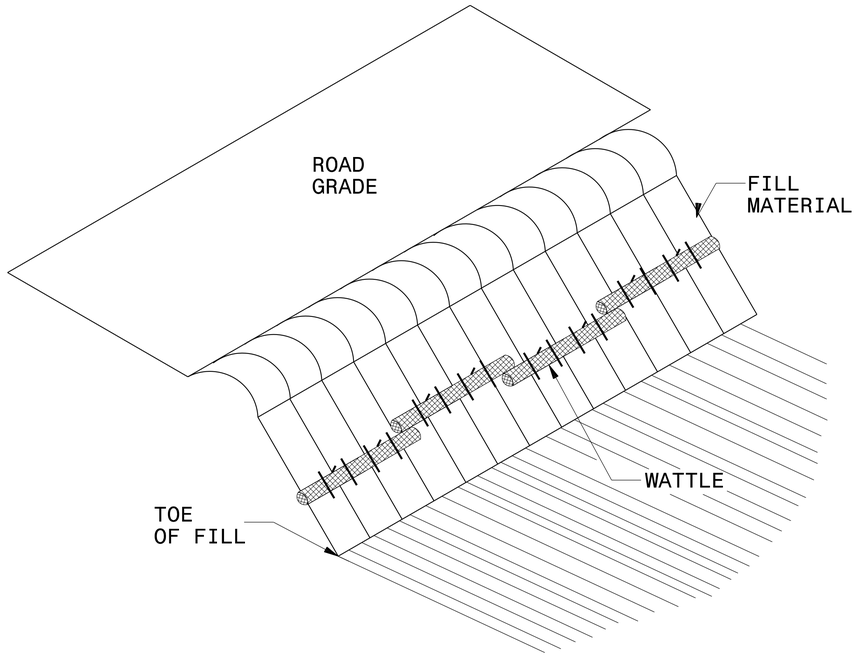
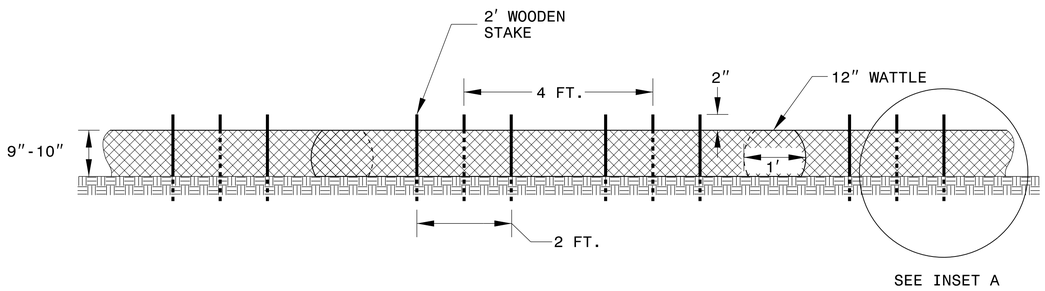


ISOMETRIC VIEW



FRONT VIEW

NOTES:

USE MINIMUM 12 IN. NOMINAL DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLES ON TOE OF SLOPE.

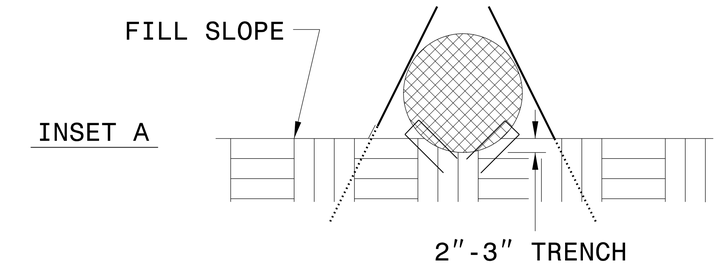
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

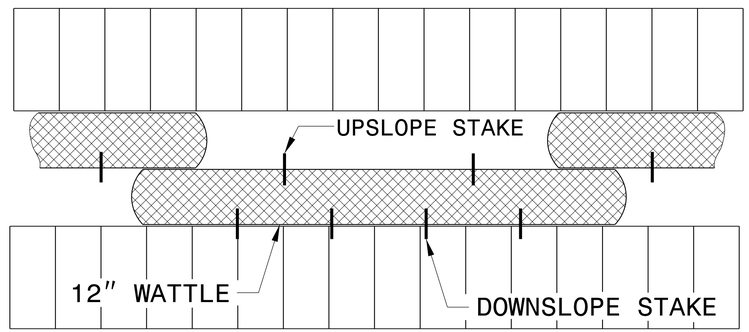
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

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

FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.





TOP VIEW

PLOT DRIVER: NCDOT
USER: DWAGNER
FILE: NCDOT U25 9AB 6.0 CAD BIM 6.2 W
DATE: 6/10/2021
100.
PENTABLE: NCDOT TSH.
TIME: 4:39:44 PM
I P U 25 9AB E C U25 9 EC DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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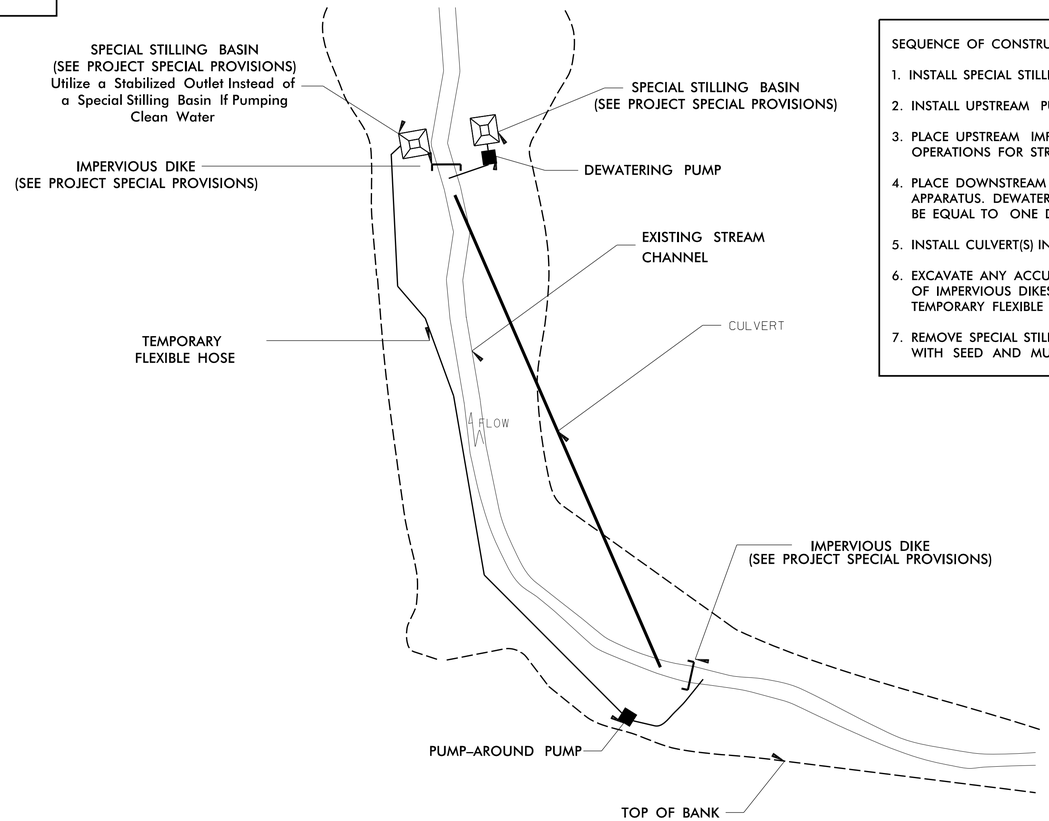
N.C.B.E.L.S. License Number: F-0116

PUMP–AROUND OPERATION

NOTES:
1) All excavation shall be performed in only dry or isolated areas of the work zone.
2) Impervious dikes are to be used to isolate work from stream flow when necessary.
3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
4) Pumps and hoses shall be of sufficient size to dewater the work area.



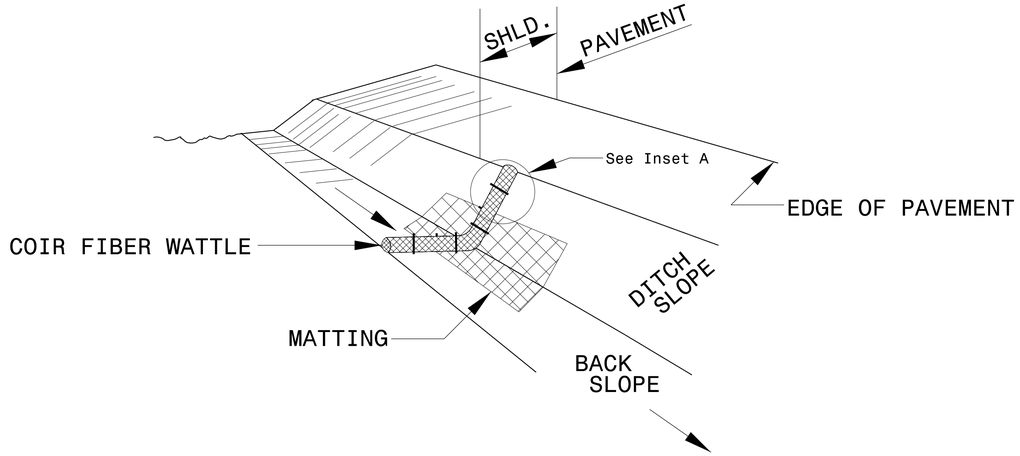
SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

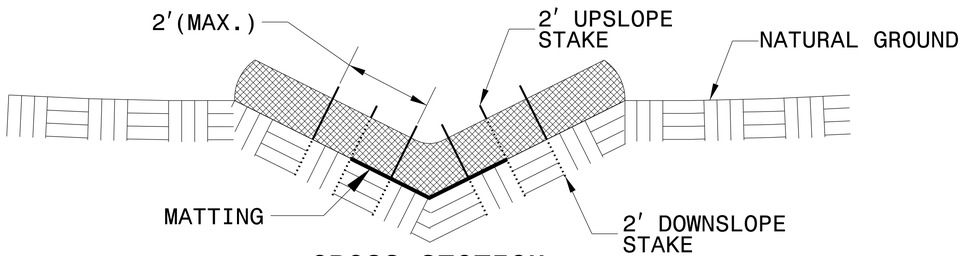
PLOT DRIVER: NCDOT 100. PENTABLE: NCDOT TSH.
USER: DWAGNER DATE: 6/10/2021 TIME: 4:40:04 PM
FILE: NCDOT U25 9AB 6.0 CAD BIM 6.2 W I P U 25 9AB E C U25 9 EC DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

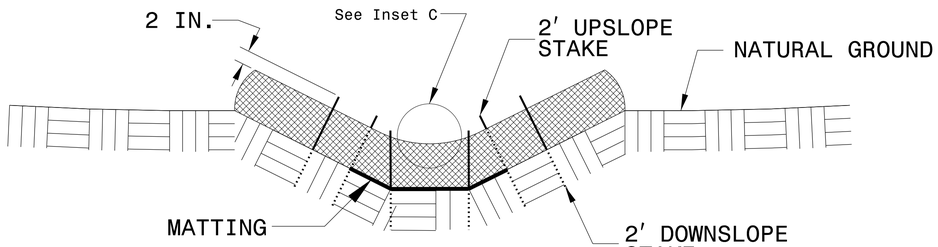
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

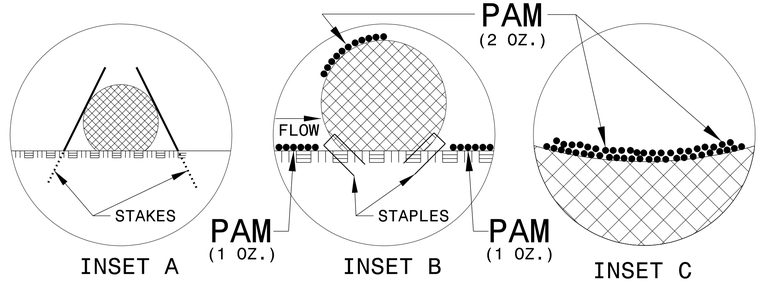
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

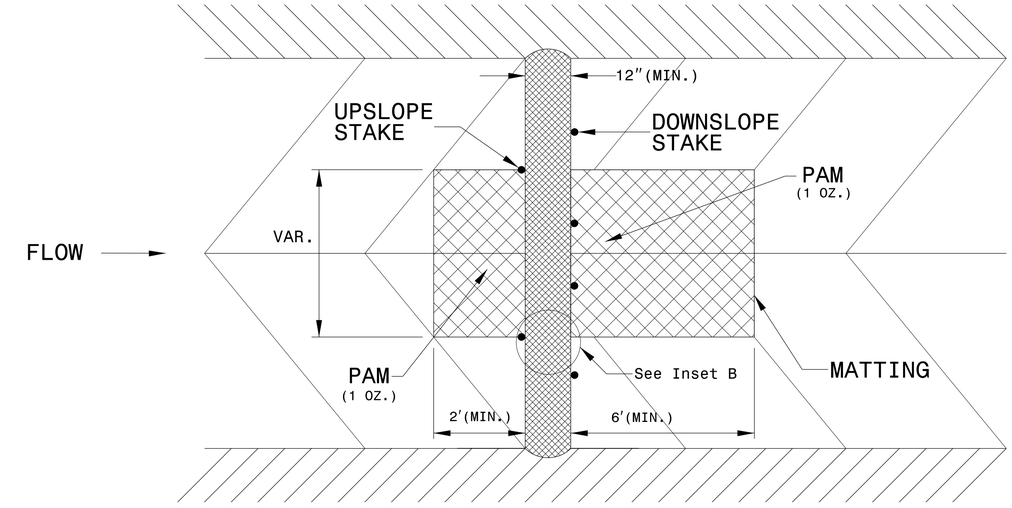
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

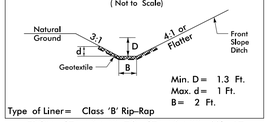




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-26/CONST.2D-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DETAIL A
SPECIAL CUT BASE DITCH
(Not to Scale)

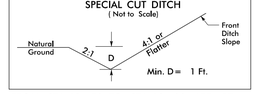


Min. D= 1.3 Ft.
Max. d= 1 Ft.
B= 2 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA. 10+40 TO STA. 12+00 –Y6– LT

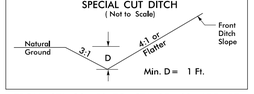
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 12+50 TO STA. 18+00 –Y1B– RT
FROM STA. 12+50 TO STA. 18+00 –Y1B– LT
FROM STA. 36+00 TO STA. 37+50 –Y1B– LT
FROM STA. 40+00 TO STA. 40+50 –Y1B– LT
FROM STA. 40+50 TO STA. 41+17 –Y1B– LT
FROM STA. 45+50 TO STA. 46+50 –Y4– LT
FROM STA. 47+50 TO STA. 54+50 –Y4– RT
FROM STA. 11+75 –Y1– LT TO STA. 47+50 –Y4– RT
FROM STA. 60+00 TO STA. 60+50 –Y4– RT
FROM STA. 57+70 TO STA. 60+50 –Y4– LT
FROM STA. 15+00 TO STA. 17+50 –Y4A– LT
FROM STA. 16+10 TO STA. 17+30 –Y4– RT
FROM STA. 12+30 TO STA. 12+50 –Y4– RT
FROM STA. 12+46 TO STA. 13+00 –Y4– LT
FROM STA. 12+00 TO STA. 13+25 –Y16B– RT
FROM STA. 12+50 TO STA. 13+91 –Y16B– LT
FROM STA. 13+25 TO STA. 13+87 –Y16B– RT
FROM STA. 16+00 TO STA. 17+50 –Y16– RT
FROM STA. 26+74 TO STA. 28+05 –Y16– RT
FROM STA. 28+81 TO STA. 29+60 –Y16– RT
FROM STA. 17+00 TO STA. 17+50 –Y5B– LT
FROM STA. 59+00 TO STA. 60+50 –Y15REV– LT
FROM STA. 61+50 TO STA. 66+00 –Y15REV– LT
FROM STA. 19+50 TO STA. 22+50 –Y15– LT

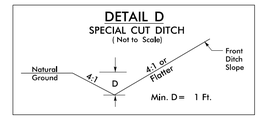
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 23+50 TO STA. 25+02 –Y15– RT

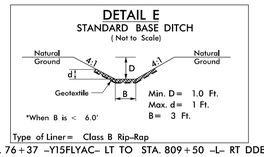
DETAIL D
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 704+50 TO STA. 706+00 –L– RT
FROM STA. 14+50 TO STA. 15+00 –Y8– RT
FROM STA. 25+02 TO STA. 26+00 –Y15– RT
FROM STA. 31+25 TO STA. 31+96 –Y15FLYAC– LT
FROM STA. 35+50 TO STA. 26+88 –Y15– RT
FROM STA. 36+88 TO STA. 39+36 –Y15– RT
FROM STA. 697+00 TO STA. 700+00 –L– RT
FROM STA. 706+00 TO STA. 712+50 –L– RT
FROM STA. 699+00 TO STA. 702+00 –L– LT
FROM STA. 708+00 TO STA. 712+50 –L– LT
FROM STA. 714+00 TO STA. 715+00 –L– RT
FROM STA. 713+50 TO STA. 715+00 –L– LT
FROM STA. 724+50 TO STA. 726+50 –L– RT
FROM STA. 742+50 TO STA. 743+50 –L– RT
FROM STA. 13+91 TO STA. 16+40 –Y4RPC– LT
FROM STA. 12+52 TO STA. 16+72 –Y15FLYCA– RT
FROM STA. 16+72 TO STA. 19+50 –Y15FLYCA– RT
FROM STA. 39+36 TO STA. 40+00 –Y15– RT
FROM STA. 75+00 TO STA. 76+50 –Y15REV– RT
FROM STA. 162+50 TO STA. 163+50 –Y15– RT

DETAIL E
STANDARD BASE DITCH
(Not to Scale)



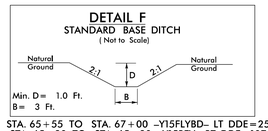
Min. D= 1.0 Ft.
Max. d= 1 Ft.
B= 3 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM STA. 76+37 –Y15FLYAC– LT TO STA. 809+50 –L– RT DDE=125 CY

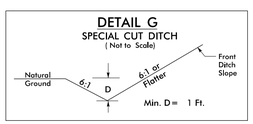
DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.0 Ft.
B= 3 Ft.

FROM STA. 65+55 TO STA. 67+00 –Y15FLYBD– LT DDE=250 CY
FROM STA. 65+30 TO STA. 65+30 –Y15REV– RT DDE=1070 CY

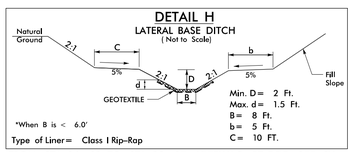
DETAIL G
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 21+00 TO STA. 22+70 –UXRPB– RT
FROM STA. 54+00 TO STA. 56+25 –Y15REV– LT
FROM STA. 715+50 TO STA. 721+50 –L– RT

DETAIL H
LATERAL BASE DITCH
(Not to Scale)



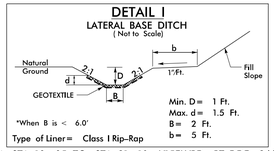
Min. D= 2 Ft.
Max. d= 1.5 Ft.
B= 8 Ft.
b= 5 Ft.
C= 10 FT.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 26+82 TO STA. 28+87 –Y15FLYAC– RT DDE=855 CY

DETAIL I
LATERAL BASE DITCH
(Not to Scale)



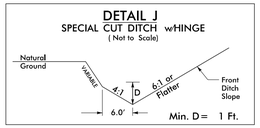
Min. D= 1 Ft.
Max. d= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 18+95 TO STA. 21+10 –Y15FLYBD– RT DDE=260 CY
FROM STA. 33+13 TO STA. 35+87 –Y15RPDREV– RT DDE=70 CY
FROM STA. 793+00 TO STA. 794+75 –L– LT DDE=924 CY

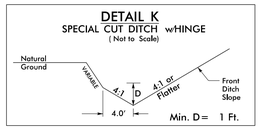
DETAIL J
SPECIAL CUT DITCH wHINGE
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 16+00 TO STA. 16+65 –Y15FLYBD– RT
FROM STA. 16+81 TO STA. 17+50 –Y15REV– RT
FROM STA. 26+00 TO STA. 29+00 –Y15– RT
FROM STA. 60+50 TO STA. 61+50 –Y15REV– LT
FROM STA. 72+00 TO STA. 72+46 –Y15REV– RT
FROM STA. 77+50 TO STA. 80+50 –Y15REV– RT
FROM STA. 773+50 TO STA. 774+50 –L– LT

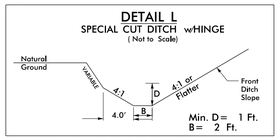
DETAIL K
SPECIAL CUT DITCH wHINGE
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 818+00 TO STA. 823+00 –L– LT
FROM STA. 821+00 TO STA. 827+50 –L– RT
FROM STA. 823+00 TO STA. 824+00 –L– LT
FROM STA. 834+50 TO STA. 836+00 –L– RT

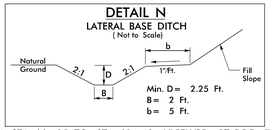
DETAIL L
SPECIAL CUT DITCH wHINGE
(Not to Scale)



Min. D= 1 Ft.
B= 2 Ft.

FROM STA. 20+00 TO STA. 22+00 –Y15FLYCA– LT

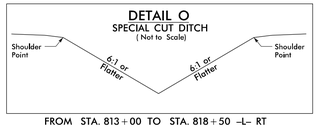
DETAIL N
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.25 Ft.
B= 2 Ft.
b= 5 Ft.

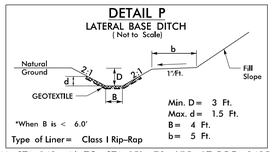
FROM STA. 66+25 TO STA. 68+43 –Y15FLYBD– RT DDE=720 CY

DETAIL O
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 813+00 TO STA. 818+50 –L– RT

DETAIL P
LATERAL BASE DITCH
(Not to Scale)



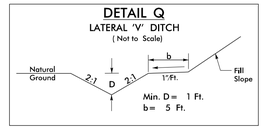
Min. D= 3 Ft.
Max. d= 1.5 Ft.
B= 4 Ft.
b= 5 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 149+46 TO STA. 151+78 –Y15– LT DDE=3485 CY
FROM STA. 152+50 TO STA. 154+24 –Y15– LT DDE=35 CY

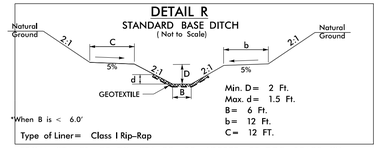
DETAIL Q
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1 Ft.
b= 5 Ft.

FROM STA. 12+08 TO STA. 18+16 –SR1– RT DDE=990 CY
FROM STA. 20+23 TO STA. 21+26 –SR1– RT DDE=160 CY
FROM STA. 15+74 TO STA. 16+00 –Y15FLYAC– RT DDE=1870 CY
FROM STA. 18+75 TO STA. 20+50 –Y15RPB– LT DDE=2475 CY
FROM STA. 19+00 TO STA. 19+50 –Y15RPC– RT DDE=725 CY
FROM STA. 20+50 TO STA. 21+50 –Y15RPB– LT DDE=820 CY
FROM STA. 22+30 TO STA. 23+75 –Y15FLYBD– LT DDE=540 CY
FROM STA. 25+50 TO STA. 27+09 –Y15FLYBD– LT DDE=155 CY
FROM STA. 41+00 TO STA. 43+50 –Y15FLYAC– RT DDE=180 CY
FROM STA. 43+95 TO STA. 45+70 –Y15REV– LT DDE=40 CY
FROM STA. 72+00 TO STA. 74+07 –Y15REV– LT DDE=290 CY
FROM STA. 161+70 TO STA. 162+50 –Y15– RT DDE=45 CY
FROM STA. 17+63 TO STA. 19+22 –UXRPC– RT DDE=180 CY
FROM STA. 23+75 TO STA. 25+50 –Y15FLYBD– LT

DETAIL R
STANDARD BASE DITCH
(Not to Scale)



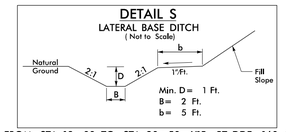
Min. D= 2 Ft.
Max. d= 1.5 Ft.
B= 6 Ft.
b= 12 Ft.
C= 12 FT.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 31+30 TO STA. 33+00 –Y15RPB– RT DDE=15630 CY

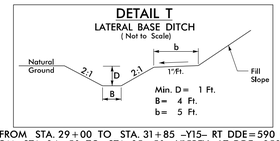
DETAIL S
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 18+00 TO STA. 20+50 –Y1B– RT DDE=160 CY
FROM STA. 31+00 TO STA. 34+50 –Y1B– RT DDE=275 CY
FROM STA. 16+00 TO STA. 17+60 –Y15FLYAC– RT DDE=740 CY
FROM STA. 16+65 TO STA. 18+95 –Y15FLYBD– RT DDE=220 CY
FROM STA. 19+50 TO STA. 25+11 –Y15RPC– RT DDE=335 CY
FROM STA. 22+00 TO STA. 22+10 –Y15RPB– LT DDE=10 CY
FROM STA. 73+00 TO STA. 73+81 –Y15REV– RT DDE=35 CY
FROM STA. 75+50 TO STA. 76+37 –Y15FLYAC– LT DDE=155 CY
FROM STA. 76+50 TO STA. 77+00 –Y15REV– RT DDE=125 CY
FROM STA. 829+50 TO STA. 829+50 –L– LT DDE=2190 CY
FROM STA. 831+00 TO STA. 832+00 –L– RT DDE=510 CY
FROM STA. 832+25 TO STA. 833+00 –L– LT DDE=520 CY
FROM STA. 15+18 TO STA. 16+00 –UXRPC– LT DDE=65 CY
FROM STA. 70+00 TO STA. 71+50 –Y15FLYCA– RT DDE=305 CY
FROM STA. 93+05 TO 94+31 –Y15FLYBD– RT DDE=240 CY

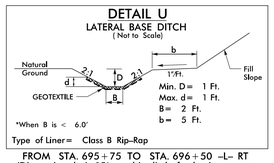
DETAIL T
LATERAL BASE DITCH
(Not to Scale)



Min. D= 1 Ft.
B= 4 Ft.
b= 5 Ft.

FROM STA. 28+25 TO STA. 31+85 –Y15– RT DDE=590 CY
FROM STA. 34+50 TO STA. 35+50 –Y15REV– LT DDE=2530 CY

DETAIL U
LATERAL BASE DITCH
(Not to Scale)



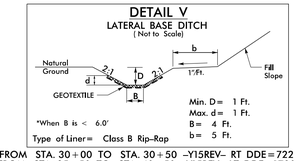
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 2 Ft.
b= 5 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM STA. 695+75 TO STA. 696+50 –L– RT
(Dimension b is 15' on this ditch for basin access, see Construction Sheet 4)
FROM STA. 21+50 TO STA. 22+00 –Y15RPB– LT DDE=155 CY
FROM STA. 22+00 TO STA. 22+30 –Y15RPB– LT DDE=90 CY
FROM STA. 34+50 TO STA. 37+30 –Y15FLYBD– LT DDE=2530 CY
FROM STA. 43+62 TO STA. 48+00 –Y15FLYCA– RT DDE=935 CY
FROM STA. 68+30 TO STA. 68+50 –Y15FLYBD– LT DDE=15 CY
FROM STA. 68+50 TO STA. 69+00 –Y15FLYBD– LT DDE=30 CY
FROM STA. 69+90 TO STA. 71+50 –Y15FLYCA– LT DDE=165 CY
FROM STA. 160+00 TO STA. 161+70 –Y15– RT DDE=225 CY
FROM STA. 799+52 TO STA. 800+50 –L– LT DDE=360 CY
FROM STA. 829+50 TO STA. 832+25 –L– LT DDE=2555 CY
FROM STA. 830+00 TO STA. 831+00 –L– RT DDE=155 CY
FROM STA. 831+00 TO STA. 834+50 –L– RT DDE=540 CY
FROM STA. 19+22 TO STA. 20+50 –UXRPC– RT DDE=40 CY
FROM STA. 68+43 TO STA. 70+00 –Y15FLYBD– RT DDE=480 CY
FROM STA. 92+95 TO STA. 93+97 –Y15FLYBD– RT DDE=115 CY

DETAIL V
LATERAL BASE DITCH
(Not to Scale)



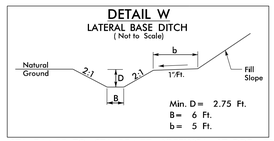
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 4 Ft.
b= 5 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM STA. 30+00 TO STA. 30+50 –Y15REV– RT DDE=722 CY
FROM STA. 35+50 TO STA. 40+50 –Y15REV– LT DDE=1780 CY
FROM STA. 159+50 TO STA. 160+00 –Y15– RT DDE=110 CY
FROM STA. 799+07 TO STA. 799+52 –L– LT
FROM STA. 43+25 TO STA. 43+62 –Y15FLYCA– RT DDE=120 CY

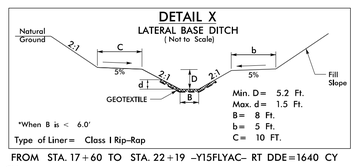
DETAIL W
LATERAL BASE DITCH
(Not to Scale)



Min. D= 2.75 Ft.
B= 6 Ft.
b= 5 Ft.

FROM STA. 54+55 TO STA. 55+77 –Y15FLYCA– LT DDE=500 CY

DETAIL X
LATERAL BASE DITCH
(Not to Scale)



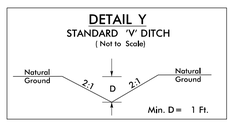
Min. D= 5.2 Ft.
Max. d= 1.5 Ft.
B= 8 Ft.
b= 5 Ft.
C= 10 FT.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 17+60 TO STA. 22+19 –Y15FLYAC– RT DDE=1640 CY

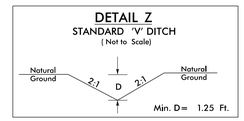
DETAIL Y
STANDARD 'V' DITCH
(Not to Scale)



Min. D= 1 Ft.

FROM STA. 57+00 TO STA. 57+46 –Y4– RT DDE=15 CY
FROM STA. 20+18 TO STA. 20+55 –Y5B– RT DDE=20 CY
FROM STA. 67+50 TO STA. 69+40 –Y15REV– LT DDE=130 CY

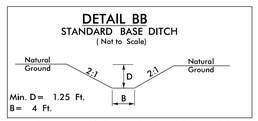
DETAIL Z
STANDARD 'V' DITCH
(Not to Scale)



Min. D= 1.25 Ft.

FROM STA. 823+00 TO STA. 824+00 –L– LT DDE=490 CY

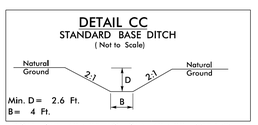
DETAIL BB
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.25 Ft.
B= 4 Ft.

FROM STA. 41+77 TO STA. 42+03 –Y15– LT DDE=15 CY

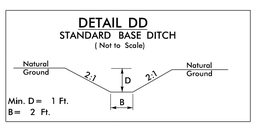
DETAIL CC
STANDARD BASE DITCH
(Not to Scale)



Min. D= 2.6 Ft.
B= 4 Ft.

FROM STA. 48+85 TO STA. 48+89 –Y15REV– LT

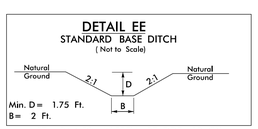
DETAIL DD
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1 Ft.
B= 2 Ft.

FROM STA. 707+50 TO STA. 707+50 –L– RT DDE=50 CY
FROM STA. 736+87 TO STA. 736+97 –L– RT DDE=5 CY
FROM STA. 740+00 TO STA. 740+50 –L– RT DDE=45 CY
FROM STA. 746+70 TO STA. 749+50 –L– RT DDE=360 CY
FROM STA. 749+50 TO STA. 754+50 –L– RT DDE=740 CY
FROM STA. 796+75 TO STA. 797+29 –L– LT DDE=125 CY
FROM STA. 16+40 TO STA. 17+35 –Y15REV– LT DDE=35 CY
FROM STA. 37+30 TO STA. 39+00 –Y15FLYBD– LT DDE=520 CY
FROM STA. 39+00 TO STA. 40+28 –Y15FLYBD– LT DDE=100 CY
FROM STA. 809+00 TO STA. 809+50 –L– RT DDE=75 CY
FROM STA. 35+30 TO STA. 35+85 –Y1B– RT DDE=30 CY

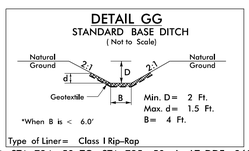
DETAIL EE
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.75 Ft.
B= 2 Ft.

STA. 34+52 –Y15REV– RT DDE=10 CY

DETAIL GG
STANDARD BASE DITCH
(Not to Scale)



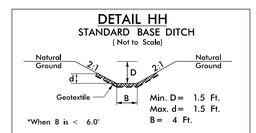
Min. D= 2 Ft.
Max. d= 1.5 Ft.
B= 4 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 734+50 TO STA. 735+50 –L– LT DDE=260 CY
FROM STA. 19+37 TO STA. 20+50 –Y15RPC– LT DDE=540 CY

DETAIL HH
STANDARD BASE DITCH
(Not to Scale)



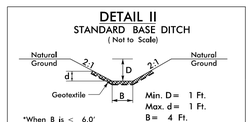
Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
B= 4 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 26+50 TO STA. 28+25 –Y1B– RT DDE=455 CY
FROM STA. 20+50 TO STA. 21+92 –Y15RPC– LT DDE=345 CY

DETAIL II
STANDARD BASE DITCH
(Not to Scale)



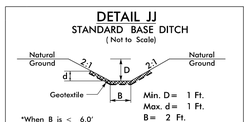
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 4 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM STA. 708+00 –L– LT TO STA. 26+50 –Y1B– RT DDE=45 CY
FROM STA. 28+25 TO STA. 31+00 –Y1B– RT DDE=175 CY
FROM STA. 25+00 TO STA. 27+35 –Y15RPB– LT DDE=365 CY
FROM STA. 28+65 TO STA. 29+00 –Y15FLYCA– LT DDE=65 CY
FROM STA. 27+05 TO STA. 28+40 –Y15FLYBD– LT DDE=1845 CY

DETAIL JJ
STANDARD BASE DITCH
(Not to Scale)



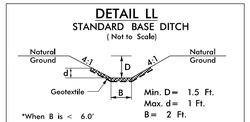
Min. D= 1 Ft.
Max. d= 1 Ft.
B= 2 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM STA. 695+82 TO STA. 696+03 –L– RT DDE=305 CY
FROM STA. 733+05 TO STA. 733+19 –L– RT DDE=20 CY
FROM STA. 22+25 TO STA. 22+79 –Y4RPB– RT DDE=75 CY
FROM STA. 22+79 TO STA. 24+80 –Y4SPB1– RT DDE=265 CY
FROM STA. 21+46 TO STA. 22+77 –Y15RPB– LT DDE=155 CY
FROM STA. 75+24 TO STA. 75+65 –Y15REV– LT DDE=25 CY
FROM STA. 21+38 TO STA. 23+18 –Y15RPC– LT DDE=395 CY
FROM STA. 52+50 TO STA. 54+40 –Y15FLYCA– LT DDE=690 CY
FROM STA. 155+51 TO STA. 157+20 –Y15– RT DDE=450 CY
FROM STA. 157+20 TO STA. 157+95 –Y15– RT DDE=550 CY

DETAIL LL
STANDARD BASE DITCH
(Not to Scale)



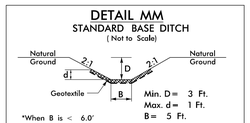
Min. D= 1.5 Ft.
Max. d= 1 Ft.
B= 2 Ft.

*When B is < 6.0'

Type of Liner= Class B Rip-Rap

FROM STA. 39+36 TO STA. 39+60 –Y15– RT DDE=75 CY

DETAIL MM
STANDARD BASE DITCH
(Not to Scale)



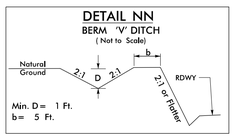
Min. D= 3 Ft.
Max. d= 1 Ft.
B= 5 Ft.

*When B is < 6.0'

Type of Liner= Class I Rip-Rap

FROM STA. 30+50 TO STA. 32+90 –Y15REV– RT DDE=3230 CY

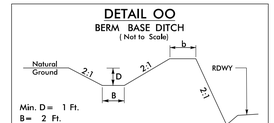
DETAIL NN
BERM 'V' DITCH
(Not to Scale)



Min. D= 1 Ft.
b= 5 Ft.

FROM STA. 707+25 TO STA. 708+00 –L– LT DDE=15 CY
FROM STA. 42+50 TO STA. 43+50 –Y4– LT DDE=10 CY
FROM STA. 11+75 TO STA. 14+25 –Y15REV– RT DDE=530 CY
FROM STA. 12+23 TO STA. 12+52 –Y15LPA– RT DDE=40 CY
FROM STA. 12+52 TO STA. 13+02 –Y15LPA– RT DDE=65 CY
FROM STA. 15+70 TO STA. 16+81 –Y15REV– RT DDE=600 CY
FROM STA. 16+00 TO STA. 19+50 –Y15FLYCA– RT DDE=145 CY
FROM STA. 23+00 TO STA. 25+95 –Y15FLYCA– RT DDE=120 CY
FROM STA. 36+88 TO STA. 38+25 –Y15– RT DDE=340 CY
FROM STA. 42+00 TO STA. 43+30 –Y15– RT DDE=465 CY
FROM STA. 43+30 TO STA. 47+00 –Y15– RT DDE=385 CY
FROM STA. 156+50 TO STA. 160+50 –Y15– LT DDE=3190 CY
FROM STA. 18+05 TO STA. 18+18 –Y15LPA– RT DDE=15 CY
FROM STA. 18+75 TO STA. 20+50 –Y15LPA– RT DDE=105 CY

DETAIL OO
BERM BASE DITCH
(Not to Scale)

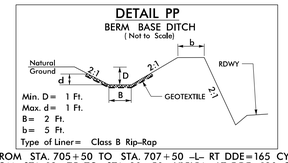


Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.

FROM STA. 702+89 TO STA. 705+50 –L– RT DDE=460 CY
FROM STA. 19+50 TO STA. 21+50 –Y15FLYCA– RT DDE=195 CY
FROM STA. 94+00 TO STA. 97+15 –Y15FLYBD– RT DDE=1185 CY
FROM STA. 149+94 TO STA. 152+55 –Y15– RT DDE=150 CY

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-2H/CONST 2D-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

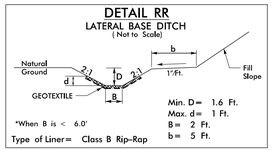
DETAIL PP
BERM BASE DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
B = 2 Ft.
b = 5 Ft.
Type of Liner = Class B Rip-Rap

FROM STA. 705+50 TO STA. 707+50 –L– RT DDE=165 CY
FROM STA. 18+75 TO STA. 20+50 –Y15LPA– LT DDE=120 CY
FROM STA. 65+76 TO STA. 66+25 –Y15REV– RT DDE=30 CY
FROM STA. 811+50 TO STA. 814+70 –L– LT DDE=220 CY
FROM STA. 21+50 TO STA. 23+00 –Y15FLYCA– RT DDE=120 CY
FROM STA. 12+62 TO STA. 14+41 –Y4RPC– LT DDE=116 CY
FROM STA. 14+41 TO STA. 17+00 –Y4RPC– LT DDE=168 CY
FROM STA. 90+37 TO STA. 92+03 –Y15FLYBD– RT DDE= 230 CY
FROM STA. 92+03 TO STA. 92+95 –Y15FLYBD– RT DDE=100 CY
FROM STA. 94+00 TO STA. 97+15 –Y15FLYBD– RT DDE=1185 CY
FROM STA. 97+15 –Y15FLYBD– RT TO STA. 92+50 –Y15REV– RT DDE=1400 CY
FROM STA. 92+50 –Y15REV– RT TO STA. 145+00 –Y15– RT DDE=2270 CY

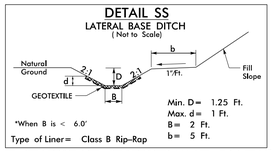
DETAIL RR
LATERAL BASE DITCH
(Not to Scale)



Min. D = 1.6 Ft.
Max. d = 1 Ft.
B = 2 Ft.
b = 5 Ft.
*When B is < 6.0'
Type of Liner = Class B Rip-Rap

FROM STA. 64+00 TO STA. 66+25 –Y15FLYBD– RT DDE=630 CY

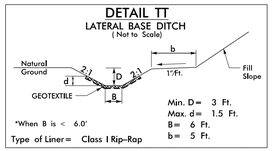
DETAIL SS
LATERAL BASE DITCH
(Not to Scale)



Min. D = 1.25 Ft.
Max. d = 1 Ft.
B = 2 Ft.
b = 5 Ft.
*When B is < 6.0'
Type of Liner = Class B Rip-Rap

FROM STA. 29+00 TO STA. 30+00 –Y15REV– RT DDE=985 CY

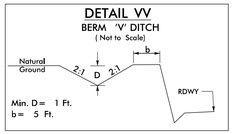
DETAIL TT
LATERAL BASE DITCH
(Not to Scale)



Min. D = 3 Ft.
Max. d = 1.5 Ft.
B = 6 Ft.
b = 5 Ft.
*When B is < 6.0'
Type of Liner = Class I Rip-Rap

FROM STA. 157+94 TO STA. 159+50 –Y15– RT DDE=550 CY

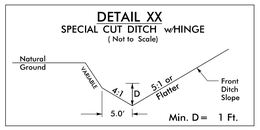
DETAIL VV
BERM 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.
b = 5 Ft.

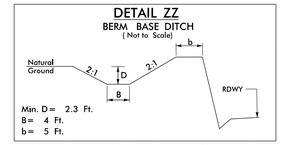
FROM STA. 732+67 TO STA. 733+70 –L– RT DDE=50 CY
FROM STA. 736+50 TO STA. 737+00 –L– RT DDE=25 CY
FROM STA. 152+55 TO STA. 152+75 –Y15– RT DDE=25 CY
FROM STA. 65+24 TO STA. 65+76 –Y15REV– RT DDE=20 CY
FROM STA. 70+00 TO STA. 72+75 –Y15FLYBD– RT DDE= 820 CY
FROM STA. 145+00 –Y15REV– TO STA. 149+94 –Y15– RT DDE=1100 CY

DETAIL XX
SPECIAL CUT DITCH wHINGE
(Not to Scale)



FROM STA. 16+57 TO STA. 16+57 –Y15RPA– RT DDE=1270 CY

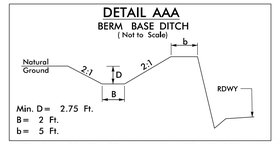
DETAIL ZZ
BERM BASE DITCH
(Not to Scale)



Min. D = 2.3 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 142+82 TO STA. 146+32 –Y15– RT

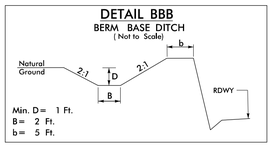
DETAIL AAA
BERM BASE DITCH
(Not to Scale)



Min. D = 2.75 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 146+32 TO STA. 147+82 –Y15– RT DDE=315 CY

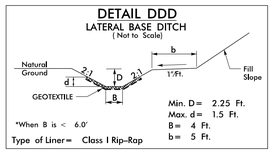
DETAIL BBB
BERM BASE DITCH
(Not to Scale)



Min. D = 1 Ft.
B = 2 Ft.
b = 5 Ft.

FROM STA. 152+60 TO STA. 153+91 –Y15– RT DDE=180 CY
FROM STA. 738+50 TO STA. 740+50 –L– RT

DETAIL DDD
LATERAL BASE DITCH
(Not to Scale)



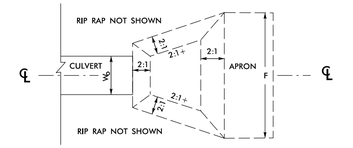
Min. D = 2.25 Ft.
Max. d = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.
*When B is < 6.0'
Type of Liner = Class I Rip-Rap

FROM STA. 151+78 TO STA. 152+50 –Y15– LT DDE=520 CY
FROM STA. 154+24 TO STA. 156+10 –Y15– LT DDE=925 CY

DETAIL EEE
RIP-RAPPED ENERGY DISSIPATOR BASIN

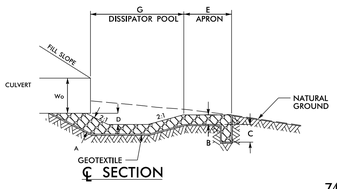
DIM. (ft)	RIP RAP BASIN # 1	2	3
A	3	3	3
B	2	2	2
C	2	2	2
D	1	1	1
E	10	10	10
F	25	12	12
G	25	12	12

ALL DIMENSIONS APPROXIMATE



PLAN

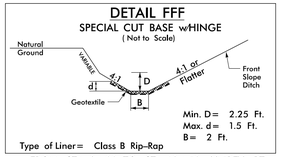
BASIN #	LOCATION (AT OUTLET)
1	–Y15– STA. 56+00
2	–Y4– STA. 40+43
3	–SR1– STA. 16+50



℄ SECTION

7/08

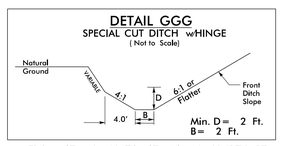
DETAIL FFF
SPECIAL CUT BASE wHINGE
(Not to Scale)



Min. D = 2.25 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
Type of Liner = Class B Rip-Rap

FROM STA. 8+00 TO STA. 12+50 –Y15REV– RT

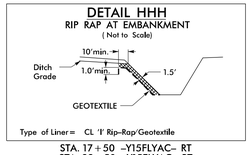
DETAIL GGG
SPECIAL CUT DITCH wHINGE
(Not to Scale)



Min. D = 2 Ft.
B = 2 Ft.

FROM STA. 12+50 TO STA. 16+50 –Y15REV– RT

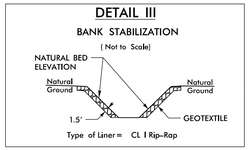
DETAIL HHH
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = CL 'I' Rip-Rap/Geotextile

STA. 17+50 –Y15FLYAC– RT
STA. 22+50 –Y15FLYAC– RT
STA. 54+38 –Y15FLYCA– LT

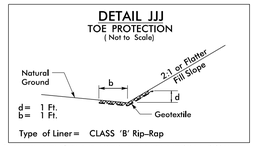
DETAIL III
BANK STABILIZATION
(Not to Scale)



Type of Liner = CL I Rip-Rap

STA. 781+20 –L– RT
STA. 833+40 –L– LT
STA. 28+62 –Y15FLYCA– LT
STA. 40+21 –Y4– RT
STA. 28+88 –Y15FLYAC– RT
STA. 31+85 –Y15– RT

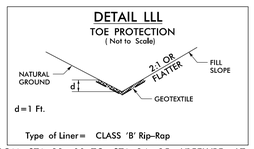
DETAIL JJJ
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
b = 1 Ft.
Type of Liner = CLASS 'B' Rip-Rap

FROM STA. 86+25 TO STA. 89+20 –Y15FLYCA– RT

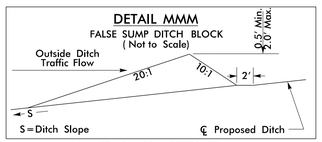
DETAIL LLL
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
Type of Liner = CLASS 'B' Rip-Rap

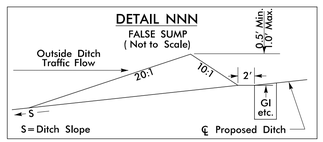
FROM STA. 33+00 TO STA. 34+25 –Y15FLYBD– LT

DETAIL MMM
FALSE SUMP DITCH BLOCK
(Not to Scale)

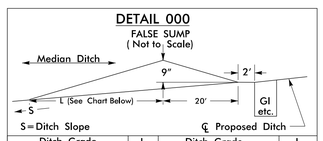


STA. 16+59 –Y15REV– RT
STA. 12+30 –Y15FLYCA– RT

DETAIL NNN
FALSE SUMP
(Not to Scale)

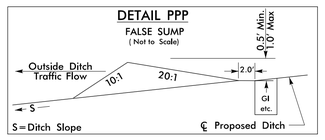


DETAIL 000
FALSE SUMP
(Not to Scale)

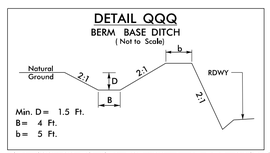


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

DETAIL PPP
FALSE SUMP
(Not to Scale)



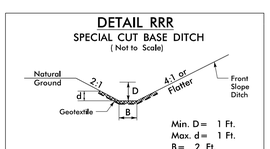
DETAIL QQQ
BERM BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.

FROM STA. 699+00 TO STA. 705+00 –L– LT DDE=2460 CY

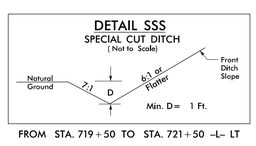
DETAIL RRR
SPECIAL CUT BASE DITCH
(Not to Scale)



Min. D = 1 Ft.
Max. d = 1 Ft.
B = 2 Ft.
Type of Liner = Class B Rip-Rap

FROM STA. 14+50 TO STA. 14+91 –Y1– LT
FROM STA. 14+91 TO STA. 15+00 –Y1– LT

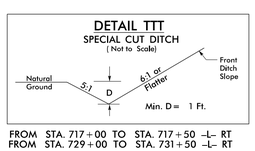
DETAIL SSS
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 719+50 TO STA. 721+50 –L– LT

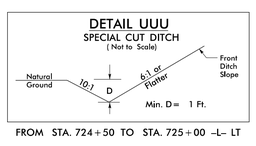
DETAIL TTT
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 717+00 TO STA. 717+50 –L– RT
FROM STA. 729+00 TO STA. 731+50 –L– RT

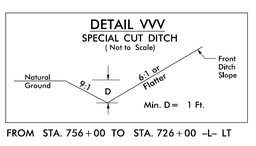
DETAIL UUU
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 724+50 TO STA. 725+00 –L– LT

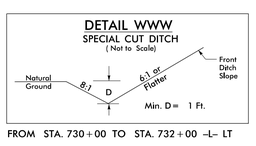
DETAIL VVV
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 756+00 TO STA. 726+00 –L– LT

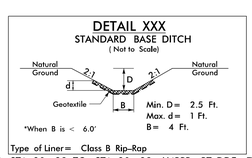
DETAIL WWW
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1 Ft.

FROM STA. 730+00 TO STA. 732+00 –L– LT

DETAIL XXX
STANDARD BASE DITCH
(Not to Scale)

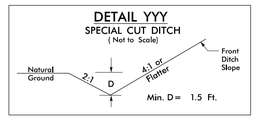


Min. D = 2.5 Ft.
Max. d = 1 Ft.
B = 4 Ft.
*When B is < 6.0'
Type of Liner = Class B Rip-Rap

FROM STA. 20+29 TO STA. 20+29 –Y4RPB– RT DDE=75 CY
FROM STA. 16+57 TO 16+57 –Y15RPA– RT DDE=5 CY
FROM STA. 689+87 TO 692+09 –L– RT DDE= 142 CY

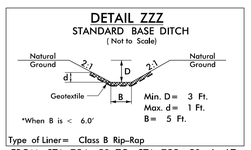
PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-21/CONST.2D-3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DETAIL YYY
SPECIAL CUT DITCH
(Not to Scale)



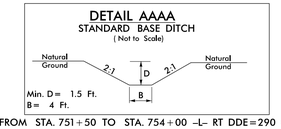
FROM STA. 17+50 TO STA. 18+25 –Y4A LT

DETAIL ZZZ
STANDARD BASE DITCH
(Not to Scale)



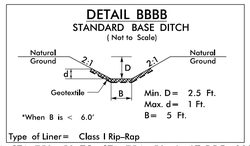
FROM STA. 754+50 TO STA. 755+50 –L– LT

DETAIL AAAA
STANDARD BASE DITCH
(Not to Scale)



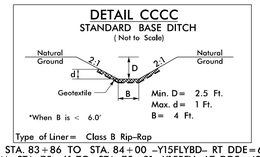
FROM STA. 751+50 TO STA. 754+00 –L– RT DDE=290 CY

DETAIL BBBB
STANDARD BASE DITCH
(Not to Scale)



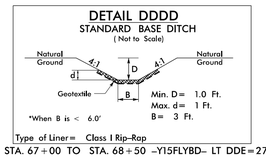
FROM STA. 750+50 TO STA. 754+50 –L– LT DDE=290 CY
FROM STA. 757+05 TO STA. 757+73 –L– LT DDE=550 CY
FROM STA. 54+58 TO STA. 54+62 –Y15FLYCA– LT DDE=97 CY

DETAIL CCCC
STANDARD BASE DITCH
(Not to Scale)



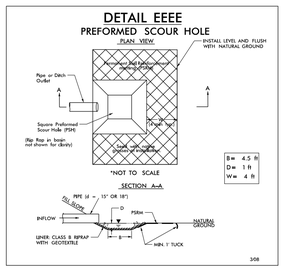
FROM STA. 83+86 TO STA. 84+00 –Y15FLYBD– RT DDE=613 CY
FROM STA. 75+61 TO STA. 75+81 –Y15REV– LT DDE=42 CY
FROM STA. 77+15 TO STA. 77+20 –Y15REV– RT DDE=55 CY

DETAIL DDDD
STANDARD BASE DITCH
(Not to Scale)



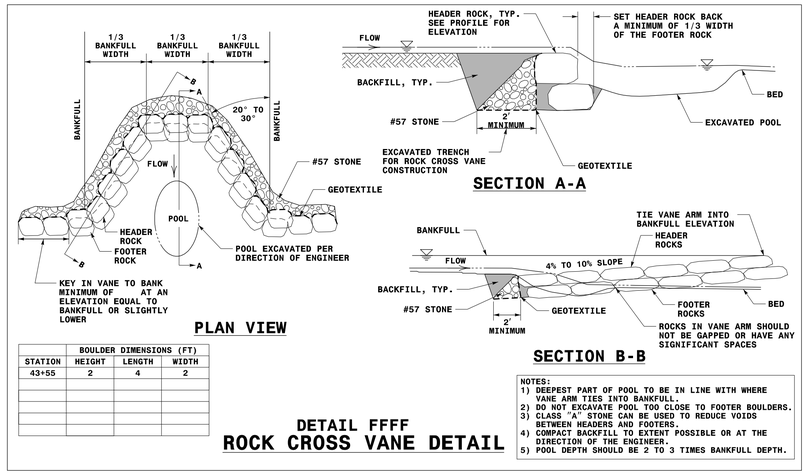
FROM STA. 67+00 TO STA. 68+50 –Y15FLYBD– LT DDE=275 C

DETAIL EEEE
PREFORMED SCOUR HOLE



FROM STA. 30+50 –Y15– LT
FROM STA. 35+00 –Y15– LT
FROM STA. 40+35 –Y15– LT
FROM STA. 50+50 –Y15– LT
FROM STA. 52+50 –Y15– LT
FROM STA. 55+50 –Y15– LT
FROM STA. 45+38 –Y15REV– RT
FROM STA. 47+32 –Y15FLYAC– LT
FROM STA. 13+58 –Y15RPA– RT
FROM STA. 13+50 –UXRPB– LT
FROM STA. 11+38 –Y15RPB– RT
FROM STA. 84+63 –Y15FLYCA– RT

DETAIL FFFF
ROCK CROSS VANE DETAIL

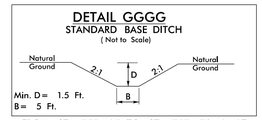


BOULDER DIMENSIONS (FT)			
STATION	HEIGHT	LENGTH	WIDTH
43+55	2	4	2

NOTES:
1) DEEPEST PART OF POOL TO BE IN LINE WITH WHERE VANE ARM TIES INTO BANKFULL.
2) DO NOT EXCAVATE POOL TOO CLOSE TO FOOTER BOULDERS.
3) CLASS "A" STONE CAN BE USED TO REDUCE VOIDS BETWEEN HEADERS AND FOOTERS.
4) COMPACT BACKFILL TO EXTENT POSSIBLE OR AT THE DIRECTION OF THE ENGINEER.
5) POOL DEPTH SHOULD BE 2 TO 3 TIMES BANKFULL DEPTH.

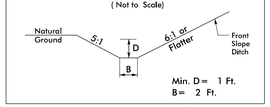
STA. 43+55 –Y15FLYCA– LT
(AS NEEDED, SEE NOTE ON SHEET 11)

DETAIL GGGG
STANDARD BASE DITCH
(Not to Scale)



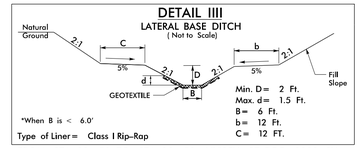
FROM STA. 757+05 TO STA. 757+73 –L– LT

DETAIL HHHH
SPECIAL CUT BASE DITCH
(Not to Scale)



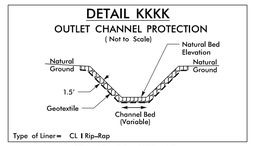
FROM STA. 39+36 TO STA. 40+00 –Y15– RT

DETAIL IIII
LATERAL BASE DITCH
(Not to Scale)



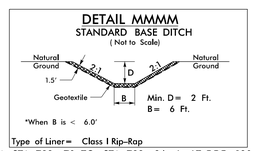
FROM STA. 30+50 TO STA. 38+50 –Y15REV– RT DDE=3900 CY

DETAIL KKKK
OUTLET CHANNEL PROTECTION
(Not to Scale)



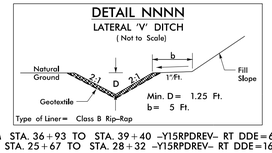
STA. 19+80 –Y5B– LT
STA. 35+55 –Y15RPDREV– LT
STA. 793+60 –L– RT
STA. 43+72 –Y15FLYCA– LT

DETAIL MMMM
STANDARD BASE DITCH
(Not to Scale)



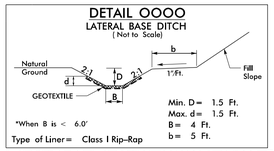
FROM STA. 792+70 TO STA. 792+86 –L– LT DDE=1305 CY
FROM STA. 54+55 TO STA. 56+00 –Y15FLYCA– LT DDE=500 CY

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



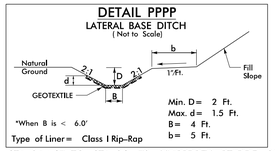
FROM STA. 36+93 TO STA. 39+40 –Y15RPDREV– RT DDE=65 CY
FROM STA. 25+67 TO STA. 28+32 –Y15RPDREV– RT DDE=1620 CY

DETAIL OOOO
LATERAL BASE DITCH
(Not to Scale)



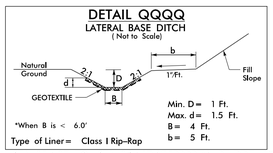
FROM STA. 26+72 TO STA. 28+32 –Y15RPDREV– RT DDE=70 CY

DETAIL PPPP
LATERAL BASE DITCH
(Not to Scale)



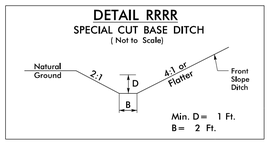
FROM STA. 25+67 TO STA. 26+72 –Y15RPDREV– RT DDE=30 CY

DETAIL QQQQ
LATERAL BASE DITCH
(Not to Scale)



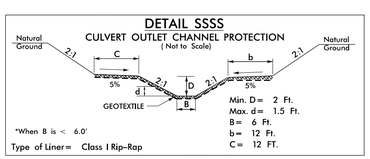
FROM STA. 35+87 TO STA. 36+17–Y15RPDREV– RT DDE=10 CY

DETAIL RRRR
SPECIAL CUT BASE DITCH
(Not to Scale)



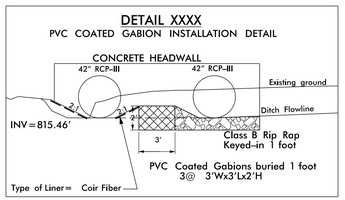
FROM STA. 794+75 TO STA. 796+75 –L– LT

DETAIL SSSS
CULVERT OUTLET CHANNEL PROTECTION
(Not to Scale)



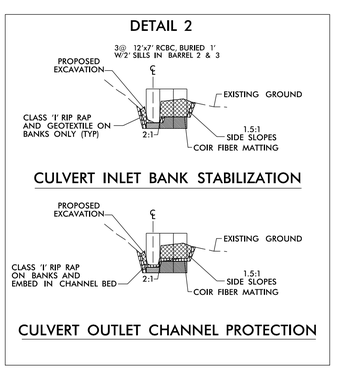
STA. 31+34 –Y15RPB– RT

DETAIL XXXX
PVC COATED GABION INSTALLATION DETAIL



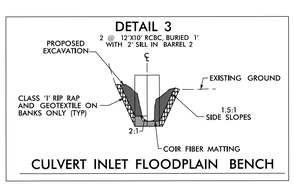
STA. 12+58 –Y15FLYCA– RT

DETAIL 2



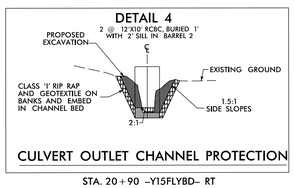
STA. 18+00 –Y5B– CL

DETAIL 3



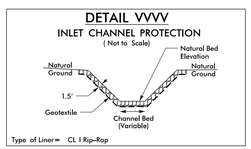
STA. 84+00 –Y15FLYCA– RT

DETAIL 4



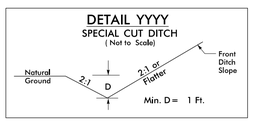
STA. 20+90 –Y15FLYBD– RT

DETAIL VVVV
INLET CHANNEL PROTECTION
(Not to Scale)



STA. 35+55 –Y15RPDREV– RT

DETAIL YYYY
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 152+55 TO STA. 154+50 –Y15– RT

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20-4	-Y1DET-	18+00	21+00	RT	825
20-4	-Y1DET-	24+00	27+00	RT	962
20-5	-Y4DET-	27+00	31+00	RT	1491
20-5	-Y4DET-	28+00	31+00	LT	1374
20-6	-Y16DET-	26+00	31+00	LT	994
20-6	-Y16DET-	26+00	31+00	RT	878
4	-L-	692+33	696+00	RT	1629
4	-L-	692+33	704+50	LT	7305
5	-L-	697+50	702+00	RT	2517
5	-L-	703+50	706+00	RT	1068
5	-L-	706+00	707+00	LT	441
6	-L-	716+00	716+50	RT	188
6	-Y1B-	26+00	26+50	RT	186
6	-Y1B-	39+50	40+50	LT	221
6	-Y4-	38+00	39+00	RT	385
6	-Y4-	40+00	40+50	RT	268
6	-Y4RPA-	10+16	18+40	LT	11915
6	-Y4RPA-	18+87	21+77	LT	3798
6	-Y4RPA-	24+00	24+50	RT	273
6	-Y4RPB-	19+15	22+70	RT	1763
6	-Y4RPB-	11++44	17+08	RT	5236
6	-Y4RPC-	17+89	21+37	LT	2683
6	-Y4RPC-	23+50	24+00	RT	391
6	-Y4RPD-	14+33	17+31	RT	1365
6	-Y4RPD-	17+81	20+81	RT	1354
6	-Y4SPA-	22+26	23+25	LT	686
6	-Y4SPB1-	23+34	23+92	RT	259
6	-Y4SPC-	21+88	22+00	LT	49
7	-L-	737+50	755+50	LT	7355
7	-L-	745+00	750+00	RT	1775

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
7	-SR1-	12+08	13+06	LT	646
7	-SR1-	17+13	17+65	LT	206
7	-SR1-	18+68	19+71	RT	214
7	-SR1-	19+19	19+71	LT	107
7	-Y4RPC-	10+41	16+40	LT	4878
7	-Y4RPD-	10+33	12+32	RT	755
8	-L-	756+50	757+00	LT	157
8	-L-	757+00	759+50	RT	845
8	-SR1-	26+37	26+87	RT	161
9	-L-	770+00	772+50	RT	1986
9	-Y15FLYBD-	10+08	10+58	RT	139
9	-Y15FLYBD-	12+08	12+58	RT	221
9	-Y15FLYBD-	14+07	14+57	RT	104
9	-Y15FLYBD-	18+99	19+46	RT	155
9	-Y15FLYBD-	18+99	19+46	LT	291
9	-Y15FLYBD-	19+95	25+50	RT	3962
9	-Y15FLYCA-	79+80	81+27	RT	777
9	-Y15FLYCA-	81+80	82+30	RT	133
9	-Y15FLYCA-	83+78	88+27	RT	2109
10	-L-	771+00	781+00	LT	6517
10	-L-	782+00	782+50	LT	161
10	-L-	784+50	788+00	RT	2865
10	-L-	790+00	791+00	LT	482
10	-L-	790+50	791+00	RT	171
10	-L-	793+00	794+00	LT	698
10	-L-	793+00	798+50	RT	4803
10	-Y15FLYBD-	19+95	34+00	LT	15877
10	-Y15FLYBD-	32+00	39+00	RT	7300
10	-Y15FLYBD-	35+50	39+00	LT	3795
10	-Y15FLYCA-	50+00	52+50	LT	2507

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
10	-Y15FLYCA-	50+00	52+50	RT	2338
10	-Y15FLYCA-	66+50	68+00	LT	507
10	-Y15FLYCA-	66+50	68+50	RT	606
10	-Y15FLYCA-	70+00	71+00	RT	607
10	-Y15FLYCA-	70+00	71+50	LT	1121
10	-Y15FLYCA-	72+50	74+00	RT	451
10	-Y15FLYCA-	73+00	80+77	LT	3683
10	-Y15LPA-	17+00	22+50	LT	2099
10	-Y15LPA-	17+00	22+50	RT	2720
10	-Y15LPA-	13+53	16+40	RT	2706
10	-Y15REV-	45+50	46+00	RT	102
10	-Y15RPA-	28+00	29+76	LT	680
10	-Y15RPA-	31+60	32+11	RT	830
10	-Y15RPA-	32+60	35+40	RT	2593
10	-Y15RPB-	10+40	16+50	RT	6203
10	-Y15RPB-	17+00	19+00	LT	1146
10	-Y15RPB-	17+00	19+50	RT	1568
10	-Y15RPDREV-	29+68	30+00	RT	160
10	-Y15RPDREV-	29+68	30+50	LT	502
10	-Y15RPDREV-	32+00	38+60	LT	4720
10	-Y15RPDREV-	34+00	38+05	RT	2549
10	-Y15RPDREV-	42+05	42+50	LT	167
10	-Y15RPDREV-	42+55	43+03	LT	194
11	-L-	800+00	800+50	LT	239
11	-L-	800+50	806+00	RT	2067
11	-L-	810+00	810+50	LT	202
11	-L-	811+50	814+00	RT	900
11	-L-	812+50	816+00	LT	2514
11	-L-	818+00	822+50	LT	2546
11	-L-	824+00	826+00	LT	477

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
11	-L-	826+00	826+50	RT	186
11	-Y15FLYAC-	66+50	77+50	LT	9356
11	-Y15FLYAC-	66+50	77+50	RT	13343
11	-Y15FLYAC-	79+50	80+00	LT	114
11	-Y15FLYAC-	80+79	86+23	RT	3590
11	-Y15FLYAC-	89+23	92+73	RT	1988
11	-Y15FLYCA-	42+00	47+50	RT	6161
11	-Y15FLYCA-	42+00	48+00	LT	7806
11	-Y15RPC-	16+50	17+00	RT	152
11	-Y15RPC-	18+00	24+22	LT	7357
11	-Y15RPC-	26+70	27+70	RT	359
11	-Y15RPDREV-	17+05	24+15	RT	5855
11	-Y15RPDREV-	25+67	29+68	RT	2822
11	-Y15RPDREV-	26+68	29+68	LT	1787
11	-Y16-	20+00	20+50	RT	326
11	-Y16-	26+00	26+50	LT	140
12	-L-	828+00	836+32	LT	8212
12	-L-	828+50	834+00	RT	3872
12	-L-	835+00	835+50	RT	196
16	-Y15-	24+50	25+00	RT	197
16	-Y15-	27+00	28+00	RT	304
16	-Y15-	28+50	29+00	RT	197
16	-Y15-	30+00	34+50	RT	1213
17	-Y15-	37+50	38+00	RT	207
17	-Y15-	38+50	39+00	RT	236
17	-Y15-	41+50	42+50	RT	225
17	-Y15-	42+50	44+50	LT	768
17	-Y15-	44+50	46+50	RT	645
17	-Y15FLYCA-	10+50	11+50	RT	304
18	-Y15-	8+00	16+00	LT	2421

HDR Engineering, Inc. of the Carolinas
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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
18	-Y15-	51+00	56+00	LT	1110
18	-Y15FLYCA-	15+60	18+57	RT	1218
18	-Y15FLYCA-	18+57	18+93	RT	160
18	-Y15FLYCA-	18+57	19+06	LT	211
18	-Y15FLYCA-	19+50	28+50	RT	6261
18	-Y15FLYCA-	20+00	20+50	LT	289
19	-Y15FLYCA-	24+00	27+50	LT	1507
19	-Y15FLYCA-	29+00	29+50	RT	220
19	-Y15FLYCA-	30+00	34+00	RT	1814
19	-Y15FLYCA-	31+00	40+00	LT	3596
19	-Y15REV-	13+50	16+00	RT	950
19	-Y15REV-	17+50	27+00	RT	7687
19	-Y15REV-	29+00	44+50	RT	9009
19	-Y15REV-	31+00	38+00	RT	5757
19	-Y15REV-	31+50	41+50	LT	5929
19	-Y15RPB-	22+00	28+81	LT	5503
19	-Y15RPB-	25+50	27+00	RT	1115
19	-Y15RPB-	29+27	29+75	RT	328
19	-Y15RPC-	10+50	16+04	RT	3285
20	-Y15FLYAC-	19+54	21+53	LT	1330
20	-Y15FLYAC-	19+54	32+00	RT	7687
20	-Y15FLYAC-	23+00	24+00	LT	441
20	-Y15FLYAC-	26+00	42+50	LT	16857
20	-Y15FLYAC-	39+00	47+50	RT	6013
20	-Y15FLYAC-	43+50	47+50	LT	3504
20	-Y15FLYBD-	70+50	82+50	RT	6777
20	-Y15FLYBD-	71+00	82+50	LT	4749
20	-Y15FLYBD-	86+15	86+50	LT	173
20	-Y15FLYBD-	86+15	86+50	RT	109
20	-Y15FLYBD-	86+15	86+65	LT	281

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20	-Y15FLYBD-	86+65	90+05	RT	1999
20	-Y15REV-	62+50	71+50	RT	5793
20	-Y15REV-	74+50	77+00	LT	1695
20	-Y15REV-	75+00	76+50	RT	439
20	-Y15REV-	77+00	77+50	RT	287
20	-Y15REV-	78+00	80+50	LT	1186
20	-Y15REV-	78+50	80+50	RT	992
20	-Y15REV-	81+50	84+00	LT	1556
20	-Y15RPA-	10+00	14+02	RT	2603
20	-Y15RPA-	14+52	20+00	RT	2867
20	-Y15RPA-	18+65	19+02	LT	164
20	-Y15RPDREV-	44+01	48+49	RT	4531
21	-Y15-	145+00	149+00	LT	1463
21	-Y15-	145+00	151+50	RT	2797
21	-Y15REV-	89+00	96+28	RT	3419
21	-Y15REV-	93+50	96+28	LT	1089
22	-Y15-	149+50	150+00	LT	195
22	-Y15-	155+50	156+00	RT	106
22	-Y15-	158+00	161+00	RT	799
23	-UXRPB-	15+20	15+70	LT	115
23	-UXRPC-	14+10	15+60	RT	358
23	-UXRPC-	19+10	19+60	RT	133
23	-UXRPC-	19+10	19+60	LT	211
23	-UXRPC-	19+50	20+50	RT	404
23	-UXRPC-	19+60	20+00	LT	286
23	-Y15-	160+50	166+00	LT	965
25	-Y15FLYBD-	52+00	63+00	RT	11530
25	-Y15FLYBD-	52+00	69+00	LT	11562
25	-Y15FLYBD-	64+50	69+00	RT	1410
26	-Y5B-	17+50	19+50	RT	556

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3C

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR SLOPE

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
26	-Y5B-	18+00	19+00	LT	273
	MATTING FOR SLOPES SUBTOTAL				415845 SY

MATTING FOR SLOPE

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

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

HDR Engineering, Inc. of the Carolinas
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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	692+33	695+25	M	330
4	-L-	692+33	695+25	LT	330
4	-L-	695+25	697+00	M	200
4	-L-	697+00	699+00	M	270
4	-L-	695+25	699+00	LT	425
5	-L-	699+00	701+00	M	315
5	-L-	699+00	702+00	LT	340
5	-L-	701+00	703+50	M	390
5	-L-	702+89	703+50	RT	45
5	-L-	703+50	704+50	M	160
5	-L-	699+00	705+00	LT	560
5	-L-	703+50	705+50	RT	145
5	-L-	704+50	706+00	M	235
5	-L-	704+50	706+00	RT	140
5	-Y10-	14+00	18+00	LT	280
5	-Y10-	14+00	18+00	RT	280
5	-Y10-	18+00	20+50	RT	180
6	-L-	707+50	707+50	RT	80
6	-L-	707+25	708+00	LT	40
6	-L-	708+00	710+50	LT	285
6	-L-	710+50	711+00	LT	60
6	-L-	711+00	712+50	LT	170
6	-L-	709+50	712+50	RT	340
6	-L-	712+00	715+00	M	470
6	-L-	713+50	715+00	LT	170
6	-L-	715+00	717+50	M	340
6	-L-	715+00	717+50	LT	335
6	-L-	717+50	719+50	LT	315
6	-L-	719+50	721+50	LT	290
6	-L-	719+50	721+50	RT	270

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-L-	717+50	721+59	M	460
6	-L-	724+50	725+00	LT	90
6	-L-	725+00	726+00	LT	170
6	-L-	725+00	726+50	RT	170
6	-L-	726+00	729+00	LT	470
6	-L-	726+50	729+00	RT	285
6	-L-	729+00	730+00	LT	160
6	-L-	729+00	731+50	RT	285
6	-L-	730+00	732+00	LT	315
6	-Y10-	26+50	27+50	RT	120
6	-Y10-	27+50	28+25	RT	90
6	-Y10-	31+00	33+75	RT	200
6	-Y4RPA-	15+05	17+44	LT	270
6	-Y4RPA-	17+44	23+25	LT	655
6	-Y4RPB-	14+51	17+60	RT	350
6	-Y4RPB-	20+29	20+29	RT	100
6	-Y4RPC-	16+40	22+40	LT	675
6	-Y4RPD-	13+33	16+00	RT	300
6	-Y4RPD-	16+00	22+31	RT	710
7	-L-	732+84	733+18	RT	20
7	-L-	733+65	737+00	M	415
7	-L-	733+50	737+00	RT	395
7	-L-	736+50	737+00	RT	25
7	-L-	737+00	740+50	M	395
7	-L-	737+00	740+50	RT	395
7	-L-	740+50	742+50	RT	225
7	-L-	740+50	743+00	M	285
7	-L-	742+50	744+00	RT	170
7	-L-	743+00	745+00	M	225
7	-L-	745+00	747+00	M	225

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3E
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
7	-SR1-	12+08	13+06	RT	50
7	-SR1-	13+06	15+08	RT	100
7	-SR1-	18+16	20+23	RT	105
7	-SR1-	18+16	20+74	LT	185
7	-SR1-	21+26	26+88	RT	395
8	-L-	747+00	749+00	M	225
8	-L-	746+70	749+00	RT	165
8	-L-	749+00	749+50	RT	60
8	-L-	749+00	751+50	M	285
8	-L-	749+50	751+50	RT	240
8	-L-	751+50	754+00	M	285
8	-L-	751+50	754+00	RT	295
8	-L-	754+00	754+50	RT	40
8	-L-	754+00	756+00	M	250
8	-L-	756+00	761+00	M	670
8	-L-	757+50	761+00	LT	395
8	-SR1-	24+85	28+91	LT	285
9	-L-	761+00	762+50	M	205
9	-L-	762+50	767+00	M	605
9	-L-	767+00	769+50	LT	335
9	-L-	767+00	770+50	M	470
9	-L-	771+00	772+50	RT	140
9	-L-	769+50	773+50	LT	540
9	-L-	770+50	773+50	M	405
9	-Y15FLYBD-	13+25	16+00	RT	310
9	-Y15FLYCA-	76+32	82+58	RT	705
10	-L-	773+50	781+00	RT	1005
10	-L-	773+50	782+00	M	1050
10	-L-	774+50	782+50	LT	900
10	-L-	782+50	783+00	LT	70

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
10	-L-	782+00	786+50	M	555
10	-L-	786+50	790+00	M	435
10	-L-	781+50	790+50	RT	1015
10	-L-	790+00	792+00	M	250
10	-L-	790+50	792+25	RT	200
10	-L-	790+00	792+25	LT	115
10	-L-	794+75	796+75	LT	190
10	-L-	795+00	797+00	RT	225
10	-L-	797+00	798+50	RT	125
10	-L-	792+00	801+50	M	1170
10	-L-	799+50	808+50	RT	1015
10	-Y15FLYBD-	23+75	25+50	LT	90
10	-Y15FLYBD-	25+50	27+05	LT	80
10	-Y15FLYCA-	69+90	70+00	LT	10
10	-Y15FLYCA-	70+00	70+75	RT	75
10	-Y15FLYCA-	70+75	71+50	RT	75
10	-Y15FLYCA-	73+50	76+20	RT	305
10	-Y15FLYCA-	76+20	77+72	LT	175
10	-Y15LPA-	12+52	13+02	RT	25
10	-Y15LPA-	18+13	19+00	RT	35
10	-Y15LPA-	19+00	19+90	RT	45
10	-Y15REV-	48+64	50+00	RT	185
10	-Y15REV-	49+40	52+50	LT	350

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3F
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
10	-Y15REV-	53+00	54+00	LT	135
10	-Y15REV-	52+50	55+70	RT	360
10	-Y15REV-	54+00	57+50	LT	360
10	-Y15REV-	55+70	65+40	RT	1090
10	-Y15RPA-	20+75	27+00	LT	705
10	-Y15RPB-	18+75	19+50	LT	40
10	-Y15RPB-	19+50	20+50	LT	50
10	-Y15RPDREV-	35+87	36+17	RT	30
10	-Y15RPDREV-	39+60	45+42	LT	655
11	-DR1-	12+00	11+00	LT	60
11	-DR1-	10+90	11+50	LT	40
11	-DR1-	11+50	12+00	LT	30
11	-L-	801+50	804+00	M	335
11	-L-	799+50	804+00	RT	510
11	-L-	804+00	808+50	RT	510
11	-L-	804+00	809+00	M	670
11	-L-	802+21	809+00	LT	765
11	-L-	809+50	811+00	RT	140
11	-L-	811+50	816+00	LT	510
11	-L-	813+00	816+00	RT	405
11	-L-	813+00	818+50	RT	620
11	-L-	816+00	819+00	RT	405
11	-L-	813+00	823+00	M	1340
11	-L-	818+00	823+00	LT	455
11	-L-	823+00	824+00	LT	140
11	-L-	821+00	827+50	RT	590
11	-Y15FLYAC-	75+50	76+37	LT	65
11	-Y15FLYAC-	78+25	80+30	LT	235
11	-Y15RPC-	19+50	20+00	RT	50
11	-Y15RPC-	20+00	25+00	RT	360

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
11	-Y15RPC-	28+90	31+36	RT	280
11	-Y15RPDREV-	18+10	25+00	RT	775
11	-Y16-	16+10	19+00	LT	205
11	-Y16-	26+74	28+05	RT	95
11	-Y16-	28+81	29+60	RT	60
11	-Y16B-	13+25	13+87	RT	45
11	-Y16C-	12+00	10+21	RT	110
11	-Y16C-	11+00	12+50	LT	90
11	-Y16C-	12+50	14+00	LT	90
11	-Y16C-	16+90	15+00	RT	115
12	-L-	827+50	833+50	M	805
12	-L-	834+50	836+00	RT	170
12	-L-	836+00	836+32	RT	40
12	-L-	833+50	836+32	M	380
13	-Y4-	11+25	11+50	RT	20
13	-Y4-	12+30	12+50	RT	15
13	-Y4-	12+46	13+00	LT	40
13	-Y4-	12+50	15+50	RT	210
13	-Y4-	16+10	17+30	RT	85
13	-Y4-	13+00	18+50	LT	385
13	-Y4-	17+30	18+90	RT	115
13	-Y4A-	11+50	14+92	RT	240
13	-Y4A-	15+00	17+50	LT	175
13	-Y4A-	17+50	18+25	LT	80
14	-Y1-	11+75	12+50	LT	55
14	-Y1-	12+50	14+50	LT	140
14	-Y1B-	36+00	37+50	LT	105
14	-Y1B-	37+50	40+00	LT	175
14	-Y1B-	40+00	40+50	LT	35
14	-Y1B-	40+50	41+17	LT	50

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3G
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
14	-Y4-	42+50	43+50	LT	50
14	-Y4-	45+50	46+50	LT	70
14	-Y4-	46+50	49+00	LT	175
14	-Y4-	47+50	52+50	RT	350
14	-Y4-	52+50	54+50	RT	140
15	-Y4-	55+00	56+67	LT	120
15	-Y4-	54+50	57+00	RT	175
15	-Y4-	57+28	57+50	LT	20
15	-Y4-	60+00	60+50	RT	35
16	-Y15-	23+50	25+02	RT	125
16	-Y15-	26+00	29+00	RT	340
16	-Y15-	29+00	30+25	RT	120
16	-Y15-	30+25	31+85	RT	150
17	-Y15-	35+50	36+88	RT	130
17	-Y15-	36+88	37+25	RT	20
17	-Y15-	37+25	38+25	RT	50
17	-Y15-	39+36	40+00	RT	95
17	-Y15-	41+77	42+03	LT	40
17	-Y15-	40+00	42+30	RT	390
17	-Y15-	44+25	46+50	RT	115
17	-Y15-	43+30	48+50	RT	585
18	-Y15FLYCA-	12+52	16+72	RT	475
18	-Y15FLYCA-	16+72	17+50	RT	60
18	-Y15FLYCA-	16+98	18+93	LT	265
18	-Y15FLYCA-	16+72	19+50	RT	315
18	-Y15FLYCA-	22+00	28+00	LT	675
18	-Y15FLYCA-	19+50	28+50	RT	1015
18	-Y15REV-	13+00	14+25	RT	65
18	-Y15REV-	12+50	16+50	RT	1215
18	-Y15REV-	16+50	16+75	RT	30

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
19	-Y15FLYCA-	29+50	33+50	LT	450
19	-Y15FLYCA-	29+50	33+50	RT	450
19	-Y15FLYCA-	33+50	37+50	LT	450
19	-Y15FLYCA-	33+50	37+50	RT	450
19	-Y15REV-	16+40	17+35	LT	75
19	-Y15REV-	16+81	17+50	RT	80
19	-Y15REV-	17+50	21+16	RT	415
19	-Y15REV-	21+16	23+00	RT	210
19	-Y15REV-	18+00	28+50	LT	1410
19	-Y15REV-	30+50	34+50	LT	365
19	-Y15REV-	34+52	34+52	RT	20
19	-Y15REV-	35+00	35+50	LT	50
19	-Y15RP0-	20+50	21+50	LT	50
20	-Y15FLYAC-	35+50	41+00	RT	500
20	-Y15FLY0D-	75+00	76+00	RT	115
20	-Y15FLY0D-	70+00	76+00	LT	675
20	-Y15FLY0D-	76+00	80+00	RT	450
20	-Y15FLY0D-	80+00	83+50	RT	395
20	-Y15FLY0D-	76+00	83+50	LT	845
20	-Y15FLY0D-	83+86	84+00	RT	135
20	-Y15FLY0D-	85+00	87+60	RT	295
20	-Y15FLY0D-	85+25	87+60	LT	265
20	-Y15FLY0D-	87+60	91+06	RT	390
20	-Y15REV-	57+75	59+00	LT	215
20	-Y15REV-	65+30	65+30	LT	140
20	-Y15REV-	59+00	65+34	LT	1070
20	-Y15REV-	65+34	66+00	LT	75
20	-Y15REV-	67+50	69+40	LT	95

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3H
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20	-Y15REV-	65+40	72+00	RT	745
20	-Y15REV-	72+00	72+46	RT	55
20	-Y15REV-	72+00	73+50	LT	75
20	-Y15REV-	74+50	75+00	RT	60
20	-Y15REV-	77+50	79+75	LT	255
20	-Y15REV-	77+50	80+50	RT	340
20	-Y15REV-	80+50	83+50	RT	275
21	-Y15-	144+72	152+55	RT	880
21	-Y15FLYAC-	13+10	14+60	RT	170
21	-Y15FLYAC-	15+74	16+50	RT	40
21	-Y15FLYAC-	16+50	17+60	RT	80
21	-Y15FLYBD-	91+06	92+55	RT	170
21	-Y15FLYBD-	93+05	94+31	RT	90
21	-Y15REV-	88+00	93+00	RT	565
21	-Y15REV-	93+00	96+00	RT	340
21	-Y15REV-	92+00	96+00	LT	450
22	-Y15-	144+72	149+25	LT	510
22	-Y15-	152+55	154+00	RT	165
22	-Y15-	154+00	157+00	RT	340
22	-Y15-	156+34	159+50	LT	355
22	-Y15-	159+50	163+19	LT	415
23	-UXRPB-	16+00	20+75	LT	535
23	-UXRPC-	17+63	19+22	RT	80
23	-Y15-	162+50	163+50	RT	115
23	-Y15-	163+19	166+58	LT	385

MATTING IN DITCHES

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
23	-Y15-	163+50	168+00	RT	510
23	-Y15-	168+00	170+00	RT	270
24	-UXRPB-	21+00	21+50	RT	70
25	-Y15FLYBD-	66+50	68+43	RT	280
25	-Y15FLYBD-	70+00	75+00	RT	565
26	-Y5B-	20+18	20+55	LT	20
26	-Y5B-	21+00	22+50	LT	105
26	-Y5B-	21+00	22+50	RT	105
27	-Y8-	13+50	14+50	RT	70
28-5	-Y4DET-	18+50	21+50	LT	215
28-5	-Y4DET-	21+50	23+22	LT	125
28-5	-Y4DET-	27+50	30+37	LT	205
			MATTING IN DITCHES SUBTOTAL		78375 SY
			MATTING SUBTOTAL FOR SLOPES		415845 SY
			MISC. MATTING TO BE INSTALLED AS DIRECTED BY ENGINEER		257660 SY
			MATTING SUBTOTAL		751880 SY
				SAY	752000 SY

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-31

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
20-5	-Y4DET-	27+00	27+50	LT	35
5	-L-	697+00	700+00	RT	340
5	-L-	705+50	707+50	RT	145
6	-Y10-	28+25	28+75	RT	50
6	-Y10-	28+75	31+00	RT	270
6	-Y6-	10+40	12+00	LT	150
6	-Y6-	10+30	12+00	RT	120
7	-SR1-	15+08	16+50	RT	70
7	-SR1-	20+23	21+26	RT	75
9	-L-	766+50	769+00	RT	285
9	-L-	769+00	771+00	RT	185
9	-Y15FLYBD-	16+00	16+65	RT	90
9	-Y15FLYBD-	16+65	18+95	RT	165
10	-L-	773+50	774+00	LT	60
10	-L-	774+00	774+50	LT	60
10	-L-	796+75	797+29	LT	45
10	-Y15FLYBD-	22+30	23+00	LT	35
10	-Y15FLYBD-	36+50	37+30	LT	60
10	-Y15FLYBD-	37+30	39+00	LT	125
10	-Y15FLYBD-	39+00	40+28	LT	105
10	-Y15FLYCA-	55+70	56+44	LT	185
10	-Y15FLYCA-	71+75	73+50	RT	200
10	-Y15FLYCA-	72+50	76+20	LT	420
10	-Y15LPA-	12+23	12+52	RT	15
10	-Y15LPA-	17+00	18+13	RT	15

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
10	-Y15LPA-	16+40	24+00	LT	855
10	-Y15REV-	43+95	45+70	LT	130
10	-Y15RPA-	21+25	27+00	RT	650
10	-Y15RPA-	27+00	30+11	LT	350
10	-Y15RPA-	27+00	32+30	RT	600
10	-Y15RPDREV-	38+88	39+40	RT	40
11	-L-	812+11	813+07	LT	70
11	-L-	823+00	824+00	LT	95
11	-Y15FLYAC-	73+15	75+50	LT	170
11	-Y15RPC-	19+00	19+50	RT	25
11	-Y15RPC-	23+18	27+17	LT	365
11	-Y15RPDREV-	16+59	15+57	RT	75
11	-Y15RPDREV-	19+68	17+11	RT	185
11	-Y15RPDREV-	25+67	26+72	RT	150
11	-Y16C-	14+00	15+00	LT	60
11	-Y16C-	15+00	17+00	LT	120
12	-L-	831+82	832+25	LT	35
12	-L-	832+25	833+00	LT	55
12	-L-	833+50	834+50	RT	75
14A	-Y1-	14+50	14+91	LT	40
15	-Y4-	57+00	57+46	RT	25
15	-Y4-	57+75	60+00	RT	160
15	-Y4-	57+70	60+50	LT	200
16	-Y15-	25+02	26+00	RT	90
17	-Y15-	42+00	43+30	RT	65
17	-Y15-	43+30	44+25	RT	50
17	-Y15-	46+50	47+00	RT	25
18	-Y15FLYCA-	12+00	12+52	RT	60
18	-Y15FLYCA-	16+00	16+72	RT	40
18	-Y15FLYCA-	17+50	19+50	RT	145

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3J

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
18	-Y15FLYCA-	19+50	20+50	RT	75
18	-Y15REV-	8+00	12+50	RT	1120
18	-Y15REV-	12+50	13+00	RT	25
19	-Y15REV-	23+00	28+00	RT	565
19	-Y15REV-	35+50	38+00	LT	235
19	-Y15REV-	30+50	38+50	RT	1710
19	-Y15REV-	38+00	40+50	LT	235
19	-Y15RPB-	31+30	33+00	RT	550
20	-Y15FLYAC-	26+82	28+87	RT	790
20	-Y15FLYAC-	41+00	43+50	RT	125
20	-Y15REV-	65+34	65+76	RT	25
20	-Y15REV-	73+00	73+81	RT	60
20	-Y15REV-	73+50	74+07	LT	30
20	-Y15REV-	75+00	76+50	RT	155
21	-Y15FLYAC-	17+60	18+25	RT	250
21	-Y15FLYAC-	18+25	22+19	RT	1610
22	-Y15-	152+50	154+24	LT	380
22	-Y15-	157+94	159+50	RT	375
22	-Y15-	156+50	160+50	LT	200
22	-Y15-	159+50	160+00	RT	50
23	-UXRPB-	15+18	16+00	LT	60
23	-UXRPC-	19+22	20+50	RT	125
23	-Y15-	161+70	162+50	RT	40
24	-UXRPB-	20+75	22+00	LT	145
24	-UXRPB-	21+50	22+70	RT	165
25	-Y15FLYBD-	56+00	59+00	RT	275
25	-Y15FLYBD-	64+00	66+50	RT	180
25	-Y15FLYBD-	65+55	67+00	LT	290

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
				PSRM SUBTOTAL	18155 SY
				SAY	18500 SY

HDR Engineering, Inc. of the Carolinas
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N.C.B.E.L.S. License Number: F-0116

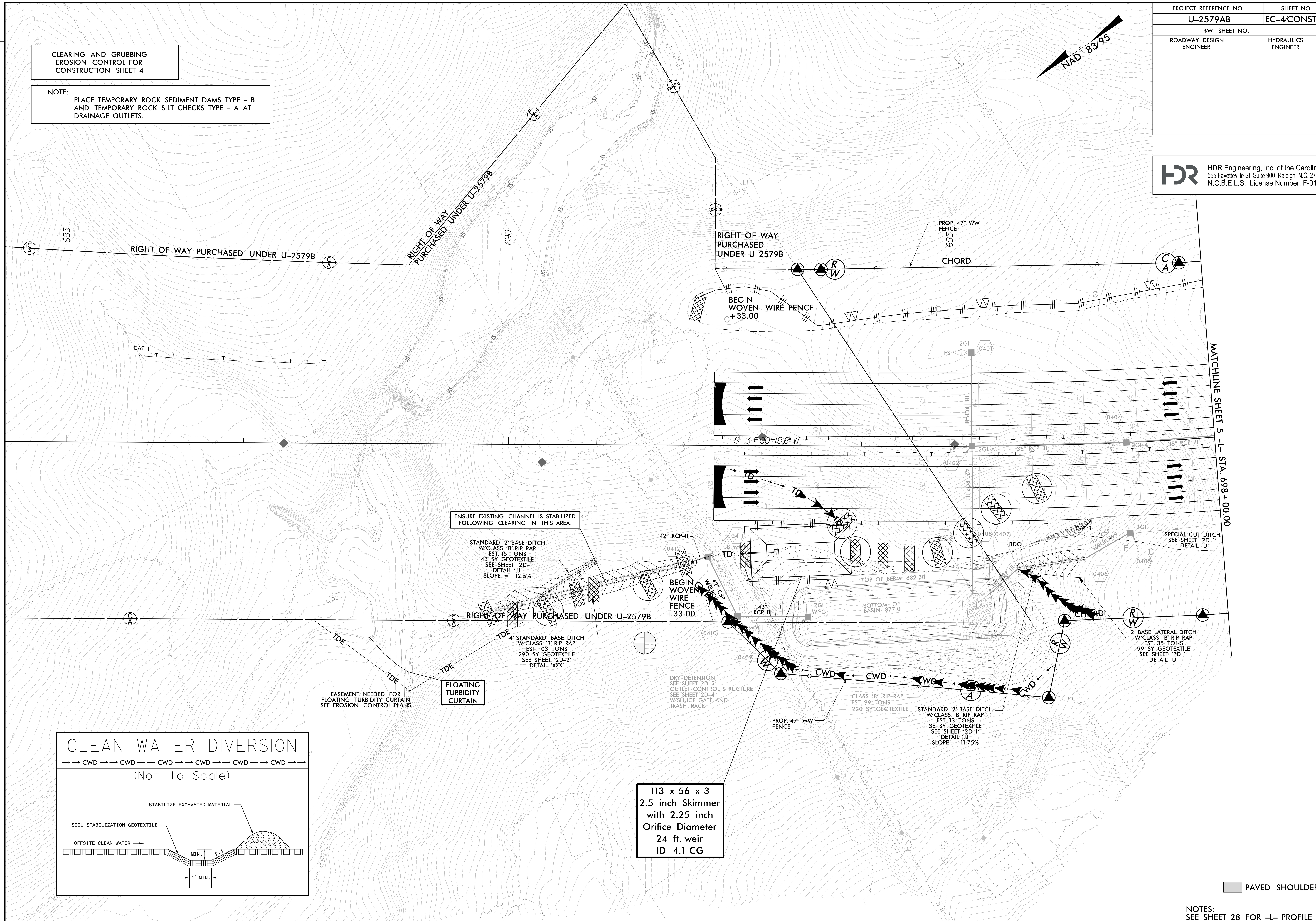
PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-3K

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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



PROJECT REFERENCE NO.
U-2579AB
SHEET NO.
EC-4/CONST. 4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116
NAD 83/95
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.
RIGHT OF WAY PURCHASED UNDER U-2579B
RIGHT OF WAY PURCHASED UNDER U-2579B
RIGHT OF WAY PURCHASED UNDER U-2579B
RIGHT OF WAY PURCHASED UNDER U-2579B
PROP. 47" WW FENCE
CHORD
BEGIN WOVEN WIRE FENCE +33.00
MATCHLINE SHEET 5 -L- STA. 698+00.00
CAT-1
S 34°00' 18.6" W
ENSURE EXISTING CHANNEL IS STABILIZED FOLLOWING CLEARING IN THIS AREA.
STANDARD 2' BASE DITCH W/CLASS 'B' RIP RAP EST. 15 TONS 43 SY GEOTEXTILE SEE SHEET '2D-1' DETAIL 'JJ' SLOPE = 12.5%
42" RCP-III
TD
BEGIN WOVEN WIRE FENCE +33.00
TOP OF BERM 882.70
BOTTOM OF BASIN 877.0
BDO
SPECIAL CUT DITCH SEE SHEET '2D-1' DETAIL 'D'
4' STANDARD BASE DITCH W/CLASS 'B' RIP RAP EST. 103 TONS 290 SY GEOTEXTILE SEE SHEET '2D-2' DETAIL 'XXX'
TDE
FLOATING TURBIDITY CURTAIN
EASEMENT NEEDED FOR FLOATING TURBIDITY CURTAIN SEE EROSION CONTROL PLANS
DRY DETENTION, SEE SHEET 2D-5 OUTLET CONTROL STRUCTURE SEE SHEET 2D-4 W/SLUICE GATE AND TRASH RACK
CLASS 'B' RIP RAP EST. 99 TONS 220 SY GEOTEXTILE
CWD
STANDARD 2' BASE DITCH W/CLASS 'B' RIP RAP EST. 13 TONS 36 SY GEOTEXTILE SEE SHEET '2D-1' DETAIL 'JJ' SLOPE = 11.75%
2' BASE LATERAL DITCH W/CLASS 'B' RIP RAP EST. 35 TONS 99 SY GEOTEXTILE SEE SHEET '2D-1' DETAIL 'U'
PROP. 47" WW FENCE
113 x 56 x 3
2.5 inch Skimmer
with 2.25 inch
Orifice Diameter
24 ft. weir
ID 4.1 CG
CLEAN WATER DIVERSION
CWD
(Not to Scale)
STABILIZE EXCAVATED MATERIAL
SOIL STABILIZATION GEOTEXTILE
OFFSITE CLEAN WATER
1' MIN.
2:1
PAVED SHOULDER
NOTES: SEE SHEET 28 FOR -L- PROFILE
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-5/CONST. 5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

62 x 31 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 5.1 CG

NAD 83/95

MATCHLINE SHEET 4 –L– STA. 698+00.00

MATCHLINE SHEET 6 –Y1B– STA. 25+00.00

MATCHLINE SHEET 6 –L– STA. 706+50.00

PROP. 47" WW FENCE

4' BASE BERM DITCH SEE SHEET '2D-2' DETAIL 'QQQ'

SPECIAL CUT DITCH SEE SHEET '2D-1' DETAIL 'D'

SPECIAL CUT DITCH SEE SHEET '2D-1' DETAIL 'B'

CLASS 'B' RIP RAP EST. 5 TONS

FILTER FABRIC

BEG. EXPWY. GUTTER +47

END FENCE +47.47

END FENCE +82.45

BEGIN FENCE

BEGIN FENCE +97.39

2' BASE BERM DITCH SEE SHEET '2D-1' DETAIL 'OO'

2' BASE BERM DITCH W/CLASS 'B' RIP RAP EST. 105 TONS 297 SY GEOTEXTILE SEE SHEET '2D-2' DETAIL 'PP'

2' BASE LATERAL DITCH SEE SHEET '2D-1' DETAIL 'S'

6" DECK DRAINS @ 12' SP.
BEGIN STA. 20+55 END STA. 20+74 LT Y1B
BEGIN STA. 21+83 END STA. 22+29 LT Y1B
BEGIN STA. 23+28 END STA. 23+64 LT Y1B

124 x 62 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
29 ft. weir
ID 6.1 B

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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

PAVEMENT REMOVAL
PAVED SHOULDER
CONC. SIDEWALK

NOTES:
SEE SHEET 2B-1 FOR BRIDGE SKETCH
SEE SHEET 2B-4 FOR –Y1B– DETOUR PLANS
SEE SHEET 28 FOR –L– PROFILE
SEE SHEET 34 FOR –Y1B– PROFILE
SEE SHEET 35 FOR –Y1BDET– PROFILE
SEE SHEETS S1-1 THRU S1-46 FOR STRUCTURE PLANS
DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-6/CONST. 6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

SCALE
50 25 0 50 100

SITE 2

SITE 1

SITE 22

A

B

C

D

UTILIZE FABRIC INSERT INLET PROTECTION (HIGH FLOW) FOR DRAINAGE INLETS CLOSE TO TRAFFIC AS NEEDED

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

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

44 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
11 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 6.18 B

Modified Silt Basin
Type 'B'
44 x 33 x 3
11 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 6.18 B

92 x 45 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
16 ft. weir
ID 6.7 CG

76 x 38 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
10 ft. weir
ID 6.8 CG

124 x 62 x 3
2.5 inch Skimmer
with 2.375 inch
Orifice Diameter
29 ft. weir
ID 6.1 B

98 x 49 x 3
2 inch Skimmer
with 1.875 inch
Orifice Diameter
18 ft. weir
ID 6.2 CG

142 x 71 x 3
3 inch Skimmer
with 2.75 inch
Orifice Diameter
38 ft. weir
ID 6.3 CG

162 x 28 x 3
2 inch Skimmer
with 1.875 inch
Orifice Diameter
17 ft. weir
ID 6.4 B

TEMPORARY EARTH BERM
NOT to Scale
Natural Ground
D = 2 FT.
B = 1FT.
•STABILIZE EARTH BERM•

INSET 1
MATCHLINE –Y6– STA. 13+00.00
SEE THIS SHEET

MATCHLINE SHEET 14 –Y4– STA. 41+50.00

MATCHLINE SHEET 14 –Y1B– STA. 36+50.00

MATCHLINE SHEET 7 –Y1B– 23+00.00

MATCHLINE SHEET 6 –L– STA. 70+50.00

MATCHLINE SHEET 7 –Y4– STA. 23+00.00

MATCHLINE –Y6– STA. 13+00.00
SEE INSET 1

END FENCE

MATCHLINE SHEET 13 –Y4– STA. 21+00.00

PAVEMENT REMOVAL
PAVED SHOULDER
CONC. SIDEWALK

NOTES:
SEE SHEETS 28 AND 29 FOR –L– PROFILE
SEE SHEETS 28-5 FOR –Y4DET– DETOUR PLANS AND CURVE DATA
SEE SHEETS 36 AND 37 FOR –Y4– PROFILE
SEE SHEET 38 FOR –Y4DET– PROFILE
SEE SHEET 39 FOR –Y4RPA– PROFILE
SEE SHEET 43 FOR –Y4SPA– PROFILE
SEE SHEET 40 FOR –Y4RPB– PROFILE
SEE SHEET 43 FOR –Y4SPB1– AND –Y4SPB2– PROFILES
SEE SHEET 41 FOR –Y4RPC– PROFILE
SEE SHEET 43 FOR –Y4SPC– PROFILE
SEE SHEET 42 FOR –Y4RPD– PROFILE
SEE SHEET 42 FOR –Y4SPD1– AND –Y4SPD2– PROFILES
SEE SHEETS 34 AND 35 FOR –Y1B– PROFILE
SEE SHEET 28-6 FOR –Y1BDET– DETOUR PLANS AND CURVE DATA
SEE SHEET 35 FOR –Y1BDET– PROFILE
SEE SHEET 73 FOR –Y6– PROFILE

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U–2579AB	EC–7/CONST. 7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

63 x 61 x 3
2.5 inch Skimmer
with 2.125 inch
Orifice Diameter
29 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.2 CG

Modified Silt Basin
Type 'B'
63 x 61 x 3
29 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.2 CG

50 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 7.4 CG

37 x 74 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
11 ft. weir
ID 7.3 B

52 x 20 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 7.8 CG

NAD 83/95

MATCHLINE SHEET 6 –L– STA. 733+00.00

MATCHLINE SHEET 8 –L– STA. 746+50.00

ORIGIN OF JURISDICTIONAL STREAM

DRY DETENTION SEE SHEET 2D–5 OUTLET CONTROL STRUCTURE SEE SHEET 2D–4 W/SLUICE GATE AND TRASH RACK

CLASS 'I' RIP RAP EST. 20 TONS 39 SY GEOTEXTILE

CLASS 'B' RIP RAP EST. 27 TONS 60 SY GEOTEXTILE

CLASS 'B' RIP RAP EST. 3 TONS 10 SY GEO–TEXTILE

STANDARD 4' BASE DITCH W/CLASS 'I' RIP RAP EST. 66 TONS 174 SY GEOTEXTILE SEE SHEET '2D–1' DETAIL 'GG'

LATERAL 'V' DITCH SEE SHEET '2D–1' DETAIL 'Q'

ENERGY DISSIPATOR BASIN SEE SHEET '2D–2' DETAIL 'EE'

12' GATE

S 12° 37' 12.9" E

S 12° 52' 58.4" E

N 86° 32' E

CHORD

CLASS 'B' RIP RAP EST. 2 TONS 7 SY GEOTEXTILE

STANDARD 2' BASE DITCH W/CLASS 'B' RIPRAP EST. 11 TONS 32 SY GEOTEXTILE SEE SHEET '2D–1' DETAIL 'DD'

PROP. 47" WW FENCE

CAT–1

+36, BEGIN SBG

END SBG +29

SPECIAL CUT DITCH SEE SHEET '2D–1' DETAIL 'D'

BERM DITCH SEE SHEET '2D–2' DETAIL 'VV'

2' BASE BERM DITCH SEE SHEET '2D–2' DETAIL 'BBB'

2' BASE BERM DITCH W/CLASS 'B' RIP RAP EST. 80 TONS 227 SY GEOTEXTILE SEE SHEET '2D–2' DETAIL 'PP'

STANDARD 2' BASE DITCH W/CLASS 'B' RIP RAP EST. 13 TONS 36 SY GEOTEXTILE SEE SHEET '2D–1' DETAIL 'JJ' SLOPE = 6.61%

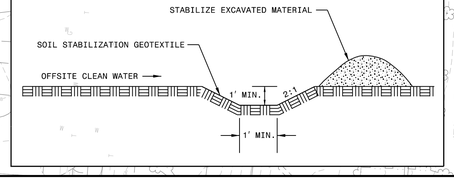
SITE 3

DO NOT BURN

CLEAN WATER DIVERSION

→→ CWD →→ CWD →→ CWD →→ CWD →→ CWD →→ CWD →→

(Not to Scale)



Modified Silt Basin
Type 'B'
45 x 41 x 3
14 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.1 B

45 x 41 x 3
1.5 inch Skimmer
with 1.5 inch
Orifice Diameter
14 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 7.1 B

PAVEMENT REMOVAL

PAVED SHOULDER

NOTES:
SEE SHEET 29 FOR –L– PROFILE
SEE SHEET 41 FOR –Y4RPC– PROFILE
SEE SHEET 42 FOR –Y4RPD PROFILE
SEE SHEET 74 FOR –SR1– PROFILE
DRIVEWAY RADII 10' UNLESS OTHERWISE NOTED

REVISIONS

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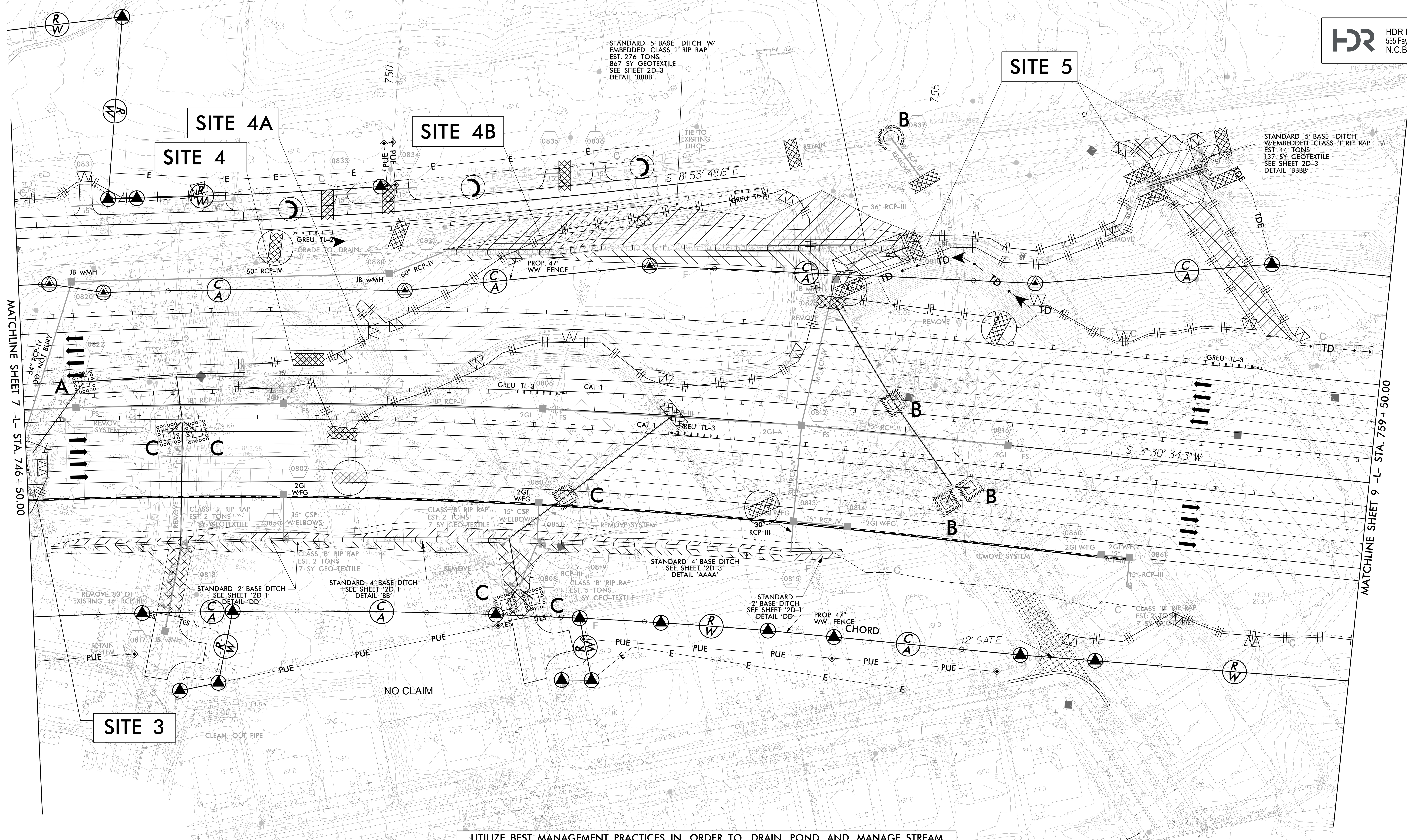
PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-8/CONST. 8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

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

UTILIZE FABRIC INSERT INLET PROTECTION (HIGH FLOW) FOR DRAINAGE INLETS CLOSE TO TRAFFIC AS NEEDED



UTILIZE BEST MANAGEMENT PRACTICES IN ORDER TO DRAIN POND AND MANAGE STREAM FLOW UNTIL PIPE SYSTEMS ARE IN PLACE, IN ACCORDANCE WITH NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

PAVEMENT REMOVAL

PAVED SHOULDER

NOTES:
SEE SHEETS 29 AND 30 FOR -L- PROFILE
SEE SHEET 74 FOR -SR1- PROFILE
DRIVEWAY 10' UNLESS OTHERWISE NOTED

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-9/CONST. 9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 9

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

UTILIZE TEMPORARY STREAM CROSSING (STD. 1645.01) DURING CLEARING OPERATIONS AND EARLY STAGES OF GRADING. CONTRACTOR MAY DETERMINE APPROPRIATE LOCATION.

198 x 40 x 5
3.0 inch Skimmer
with 3.0 inch
Orifice Diameter
21 ft. weir
ID 9.2 B

48 x 24 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 9.5 CG

38 x 38 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
11 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 9.1 CG

Modified Silt Basin
Type 'B'
38 x 38 x 3
11 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 9.1 CG

68 x 26 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 9.3 B

128 x 29 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
14 ft. weir
ID 9.4 B

SITE 6B

SITE 6

SITE 6A

A

B

NAD 83/95

MATCHLINE SHEET 8 –L– STA. 759+50.00

MATCHLINE SHEET 10 –L– STA. 773+00.00

MATCHLINE SHEET 10 –Y15FLYBD– STA. 23+00.00

MATCHLINE SHEET 10 –Y15RPA– STA. 35+00.00
–Y15FLYCA– STA. 78+88.50

N 9° 45' 36.2" W

S 3° 30' 34.3" W

S 3° 30' 34.3" W 48" RCP-III

42" RCP-III

18" RCP-III

15" RCP-III

48" RCP-III

18" RCP-III

2' @ 12'X10' RCBC BURIED 1' WITH 2' SILL IN BARREL FILLED WITH MIXTURE OF CLASS B RIP RAP AND NATIVE MATERIAL

6.3' CLEARANCE

INLET CHANNEL FLOODDRAIN BENCH
EST. 6 TONS
CLASS 'I' RIP RAP
EST. 33 TONS
47 SY GEOTEXTILE
SEE SHEET 2D-3
DETAIL '3'

10' CLEARANCE FROM TOP OF ROW TO BOTTOM OF ROW

PREFORMED SCOUR HOLE
EST. 20 SY PSRM
EST. 12 SY GEOTEXTILE
EST. 9 TONS CLASS 'B' STONE
DETAIL 'EEEE'

TOE PROTECTION
SEE SHEET 2D-2
SEE DETAIL 'A'

ROADWAY DITCH
CLASS 'B' RIP RAP
EST. 70 TONS
209 SY GEOTEXTILE

SPECIAL CUT DITCH
SEE SHEET '2D-1'
DETAIL 'J'

2' BASE LATERAL DITCH
W/CLASS 'I' RIP RAP
EST. 258 TONS
257 SY GEOTEXTILE
SEE SHEET '2D-1'
DETAIL 'I'

OUTLET CHANNEL PROTECTION
CLASS 'I' RIP RAP
EST. 217 TONS
306 SY GEOTEXTILE
SEE SHEET 2D-3
DETAIL '4'

LATERAL 'V' DITCH
SEE SHEET '2D-1'
DETAIL 'Q'

GRADE TO DRAIN

REMOVE AND REPLACE LAST 4' OF 36" RCP CLEAN OUT PIPE

PROP. 47" WW FENCE

12' GATE

CHORD

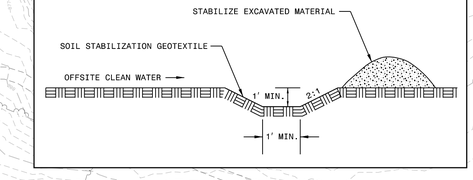
PAVED SHOULDER

NOTES:
SEE SHEET 30 FOR –L– PROFILE
SEE SHEET 55 FOR –Y15FLYBD– PROFILE
SEE SHEET 61 FOR –Y15FLYCA– PROFILE
SEE SHEET 62 FOR –Y15RPA– PROFILE
SEE SHEETS C1-1 THRU C1-11 FOR CULVERT PLANS

CLEAN WATER DIVERSION

→→ CWD →→ CWD →→ CWD →→ CWD →→ CWD →→ CWD →→

(Not to Scale)



REVISIONS

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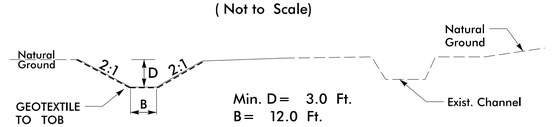
CULVERT CONSTRUCTION SEQUENCE STA. 768+62 –L–

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-9A/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

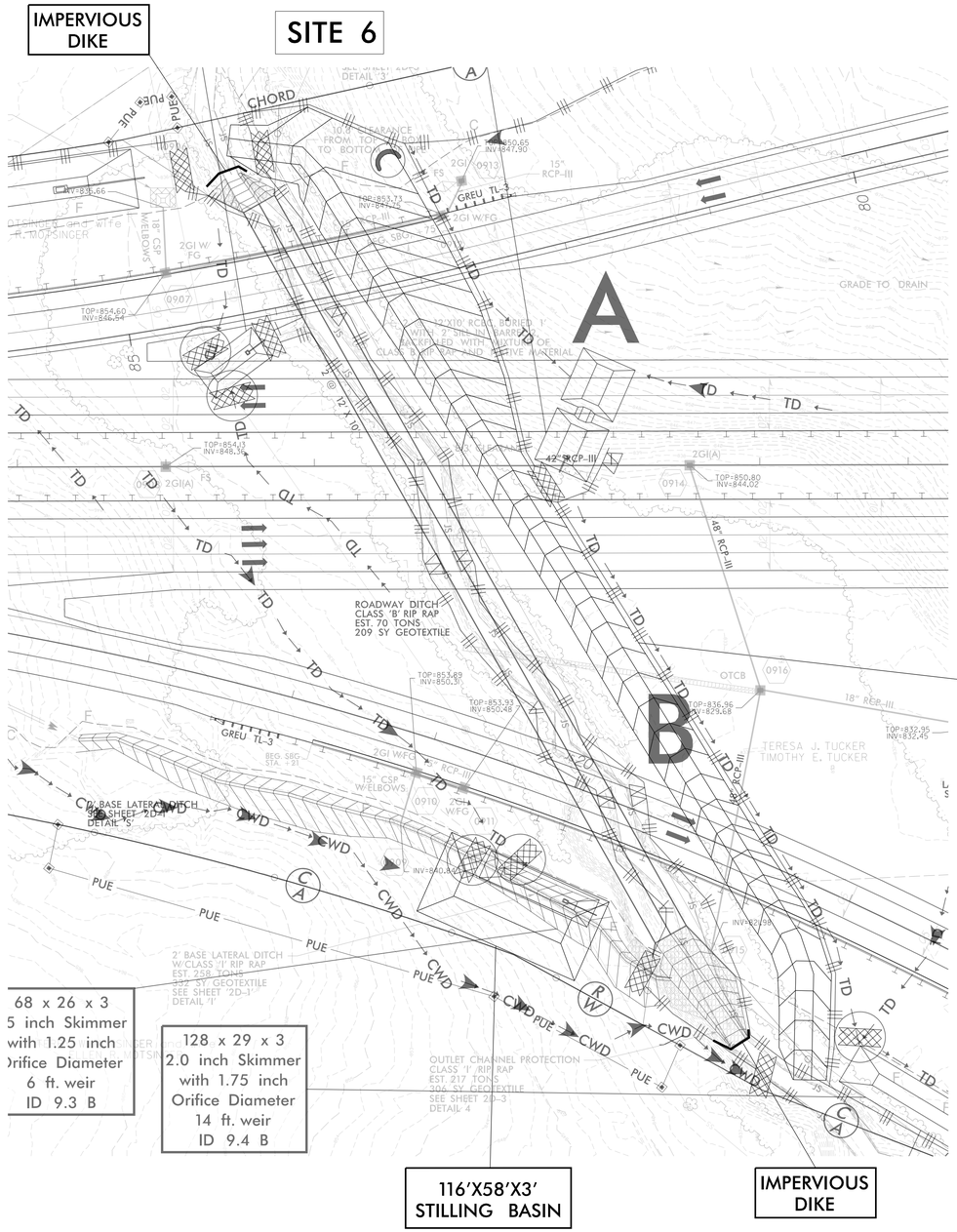
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

1. CONSTRUCT 116'X58'X3' STILLING BASIN.
2. CONSTRUCT 12' BASE TEMPORARY CHANNEL CHANGE WITH LINER. SECURE INLET AND OUTLET OF CHANNEL.
3. UTILIZE STILLING BASIN, TEMPORARY DIKES AND BYPASS PUMPS TO TIE TEMPORARY CHANNEL CHANGE INTO STREAM.
4. INSTALL IMPERVIOUS DIKES AS SHOWN TO DIRECT WATER FLOW AROUND THE WORK AREA INTO THE TEMPORARY CHANNEL CHANGE.
5. CONSTRUCT CULVERT USING STILLING BASIN AND PUMP TO DE–WATER THE WORK ZONE.
6. COMPLETE INLET AND OUTLET CHANNEL IMPROVEMENTS.
7. REMOVE STILLING BASIN AND IMPERVIOUS DIKES TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED CULVERT.

TEMPORARY CHANNEL CHANGE
(Not to Scale)



Type of Liner= Geotextile Type 4

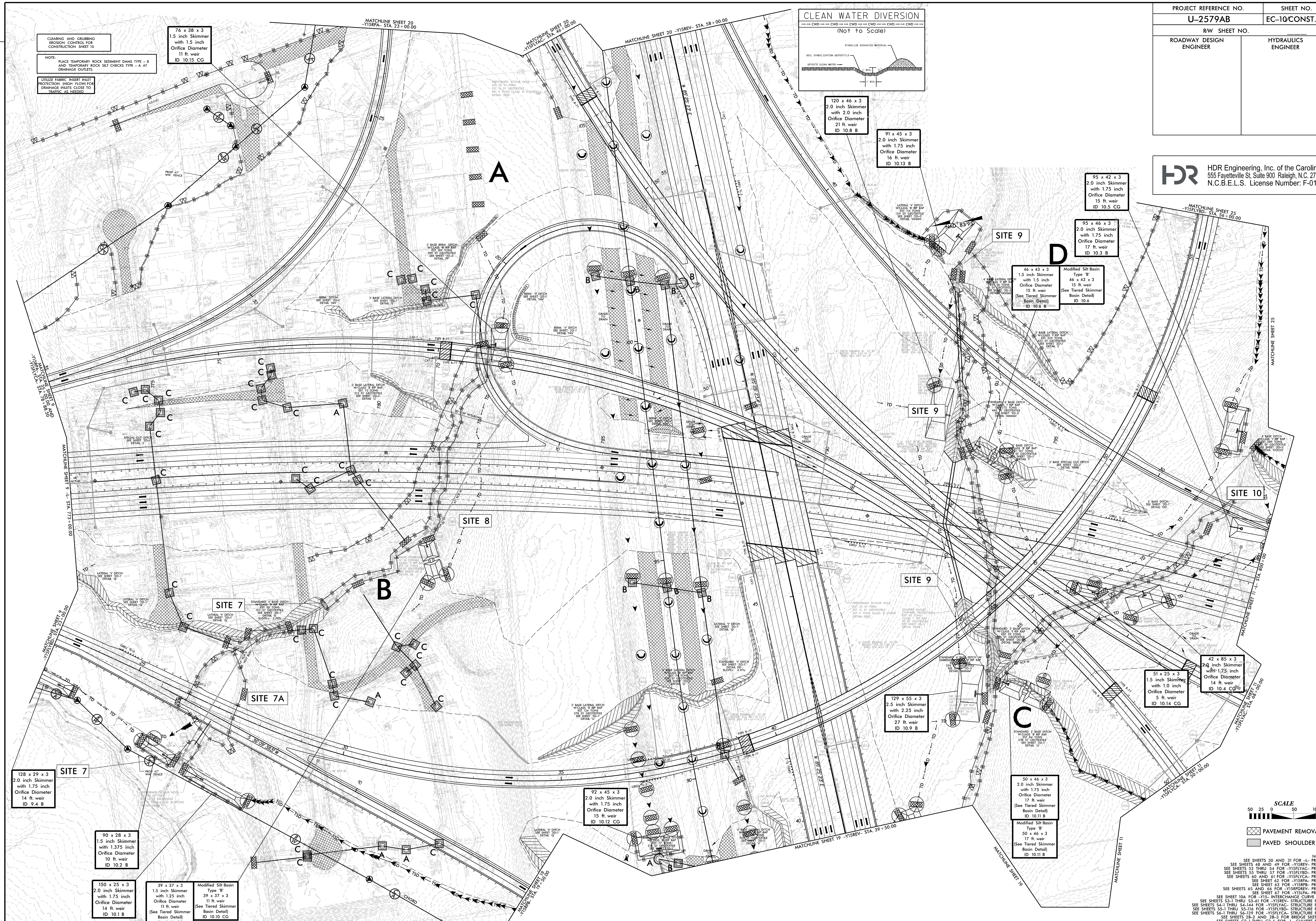


PROJECT REFERENCE NO.	SHEET NO.
U–2579AB	EC–10/CONST. 10

R/W SHEET NO. ____

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



NOTES:
SEE SHEETS 30 AND 31 FOR –L– PROFILE
SEE SHEETS 48 AND 49 FOR –Y15REV– PROFILE
SEE SHEETS 53 THRU 54 FOR –Y15FLYAC– PROFILE
SEE SHEETS 55 THRU 57 FOR –Y15FLYBD– PROFILE
SEE SHEETS 60 AND 61 FOR –Y15FLYCA– PROFILE
SEE SHEET 62 FOR –Y15RPA– PROFILE
SEE SHEET 63 FOR –Y15RPB– PROFILE
SEE SHEETS 65 AND 66 FOR –Y15RPDREV– PROFILE
SEE SHEET 67 FOR –Y15LPA– PROFILE
SEE SHEET 10A FOR –Y15– INTERCHANGE CURVE DATA
SEE SHEETS S3–1 THRU S3–61 FOR –Y15REV– STRUCTURE PLANS
SEE SHEETS S4–1 THRU S4–144 FOR –Y15FLYAC– STRUCTURE PLANS
SEE SHEETS S5–1 THRU S5–116 FOR –Y15FLYBD– STRUCTURE PLANS
SEE SHEETS S6–1 THRU S6–129 FOR –Y15FLYCA– STRUCTURE PLANS
SEE SHEETS 2B–2 AND 2B–3 FOR BRIDGE SKETCHES
SEE SHEETS C2–1 THRU C2–6 FOR –L– CULVERT PLANS
SEE SHEETS C7–1 THRU C7–6 FOR –Y15RPDREV– CULVERT PLANS

REVISIONS

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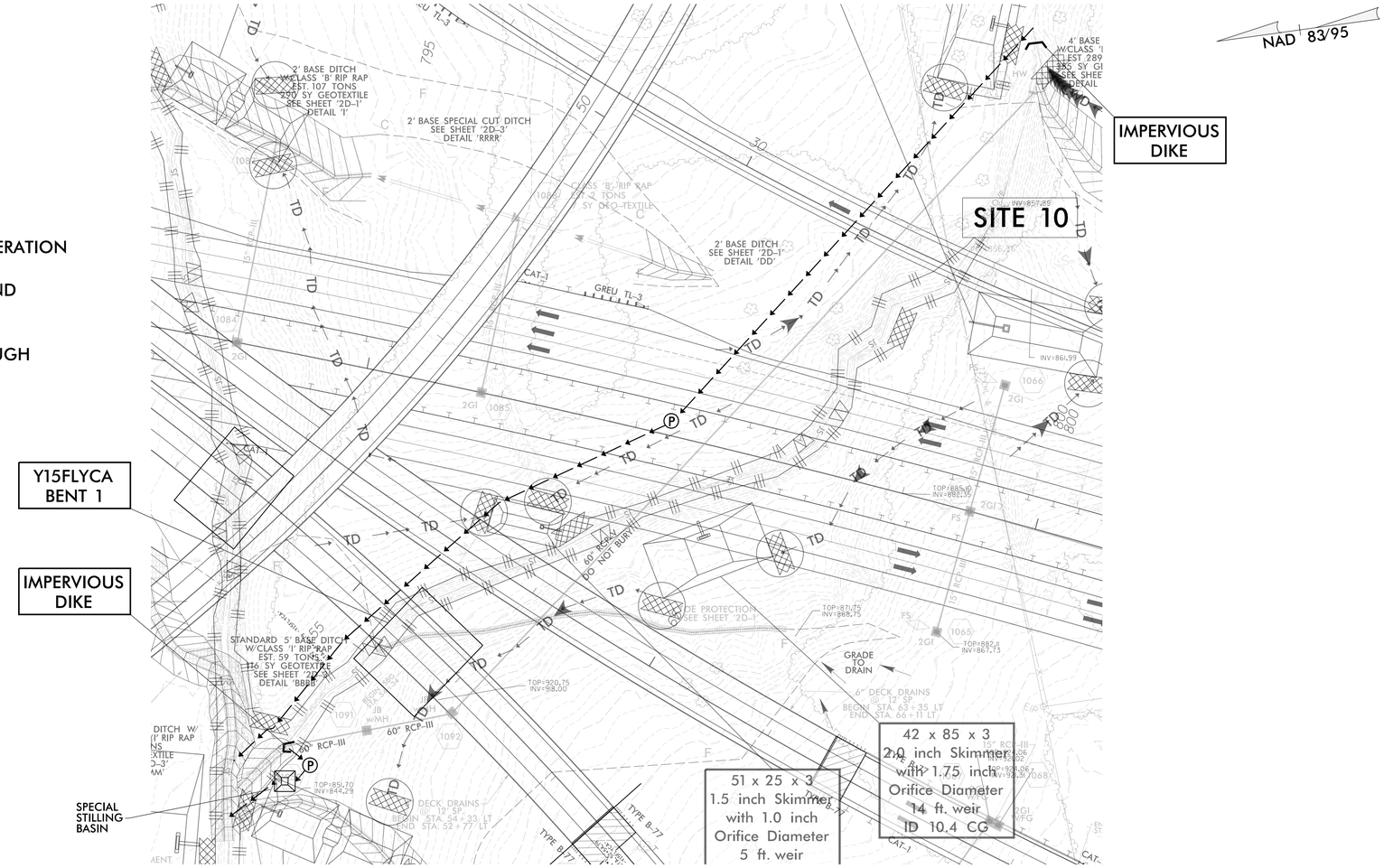
CULVERT CONSTRUCTION SEQUENCE STA. 797+65 –L–

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-10A/CONSTJ0
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

1. INSTALL IMPERVIOUS DIKES AND USE PUMP–AROUND OPERATION TO DIVERT STREAM FLOW AROUND WORK ZONE.
2. INSTALL 60″ RCP UTILIZING SPECIAL STILLING BASIN(S) AND PUMP TO DE–WATER THE WORK ZONE.
3. COMPLETE INLET AND OUTLET CHANNEL IMPROVEMENTS.
4. REMOVE IMPERVIOUS DIKES TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED 60″ RCP.



NOTES:
1. PRESUME THAT THE 6'X7' CULVERT AND OUTLET CHANNEL WORK COVERED ON CONSTRUCTION SEQUENCE SHEET EC–10B WILL BE COMPLETED PRIOR TO INSTALLATION OF THE 60″ PIPE.
2. CONTRACTOR TO USE TEMPORARY PIPE AS NECESSARY TO AVOID CONFLICT WITH CONSTRUCTION OF Y15FLYCA BENT 1.
3. COMPLETE BYPASS PUMP NOT INTENDED TO BE IN PLACE FOR THE ENTIRE PIPE INSTALLATION.
4. CONTRACTORS MAY BUILD AS MUCH OF THE PIPE IN THE DRY AS POSSIBLE AND USE BYPASS PUMPING WHEN MAKING FINAL CONNECTIONS.
5. DRAWING ACKNOWLEDGES THAT BYPASS CLEAN WATER PUMPING IS THE RECOMMENDED METHOD FOR CONVEYING JURISDICTIONAL FLOW, AND RECOMMEND USE OF IMPERVIOUS DIKES AS NEEDED TO KEEP WORK AREAS DRY AS CONSTRUCTION OF THE PIPE PROGRESSES AND AS BYPASS PUMP MOVES.

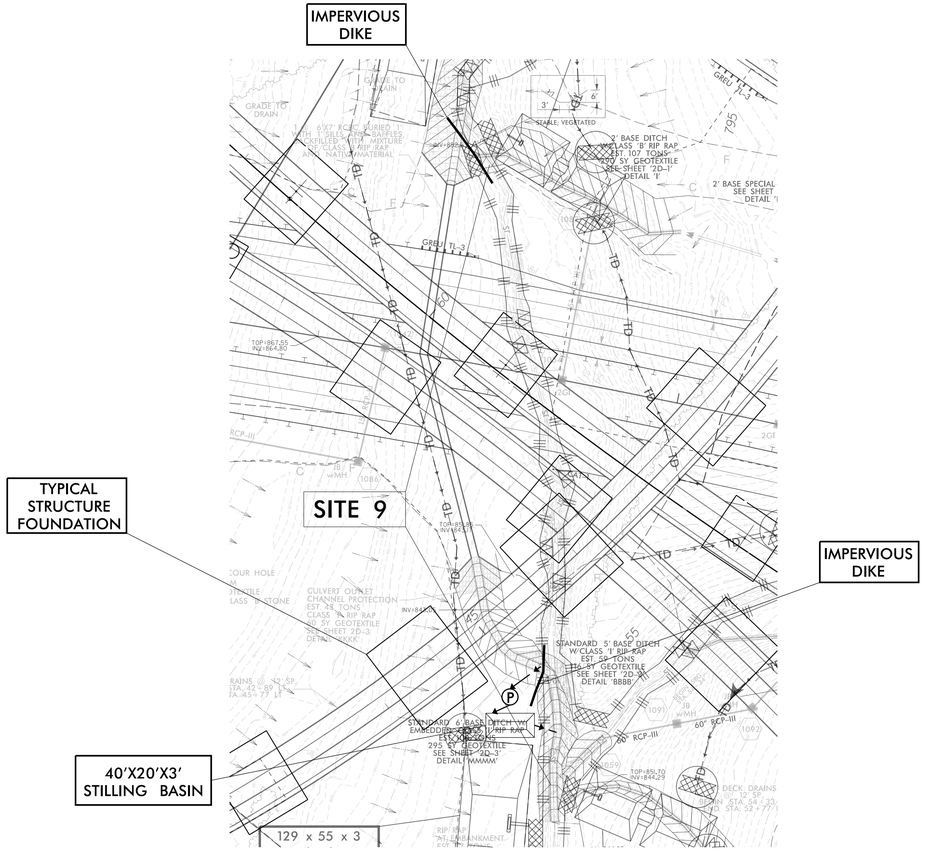
CULVERT CONSTRUCTION SEQUENCE STA. 792+88 –L–

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-10B/CONSTJO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PHASE 1

1. CONSTRUCT 40'X20'X3' STILLING BASIN.
2. INSTALL IMPERVIOUS DIKES AS SHOWN TO ISOLATE WORK AREA.
3. CONSTRUCT CULVERT USING STILLING BASIN AND PUMP TO DE–WATER THE WORK ZONE.
4. COMPLETE INLET AND OUTLET CHANNEL IMPROVEMENTS IN DRY CONDITIONS THROUGH THE USE OF PUMP–AROUND OPERATION AND IMPERVIOUS DIKES.

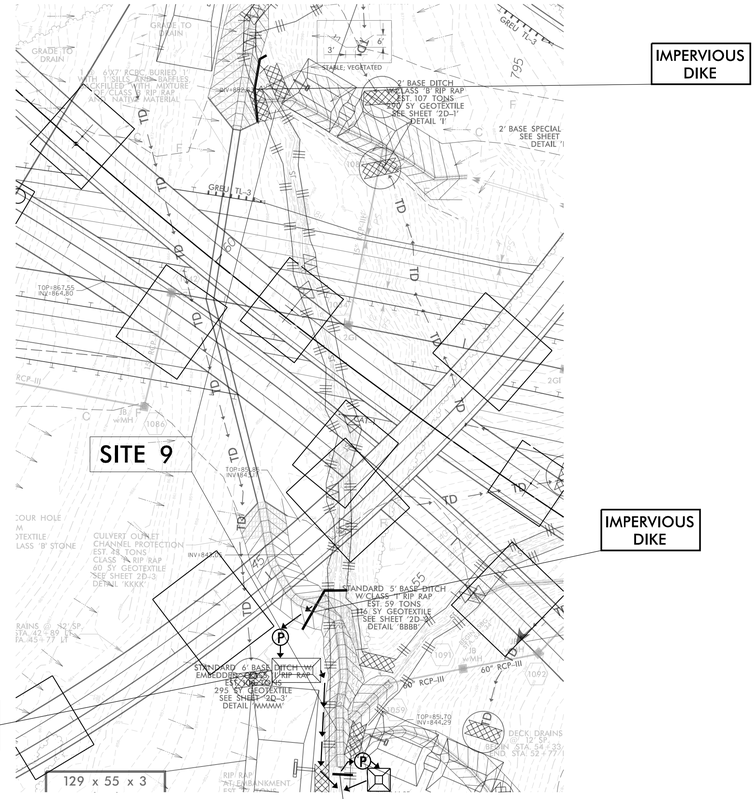


NOTE: IT IS RECOMMEDED TO COMPLETE CONSTRUCTION OF THE CULVERT PRIOR TO CONSTRUCTION OF FOOTINGS FOR STRUCTURES ON –Y15FLYAC–, –Y15FLYBD–, AND –Y15FLYCA–.

PHASE 2

1. RELOCATE IMPERVIOUS DIKES AT DOWNSTREAM END OF NEWLY CONSTRUCTED CULVERT AS SHOWN.
2. INSTALL IMPERVIOUS DIKES DOWNSTREAM OF PROPOSED CHANNEL IMPROVEMENT AS SHOWN.
3. RELOCATE IMPERVIOUS DIKES AT UPSTREAM END OF NEWLY CONSTRUCTED CULVERT AS SHOWN TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED CULVERT.
4. MAINTAIN PUMP AROUND OPERATION AT DOWNSTREAM END OF CULVERT TO CONVEY STREAM FLOW BEYOND THE DOWNSTREAM IMPERVIOUS DIKES.
5. CONSTRUCT STILLIN BASIN AND PUMP AROUND OPERATION TO DEWATER THE WORK ZONE AND COMEPLETE DOWNSTREAM CHANNEL IMPROVEMENTS.
6. REMOVE STILLING BASINS AND IMPERVIOUS DIKES TO ALLOW FLOW THROUGH CULVERT AND COMPLETED CHANNEL.

NAD 83/95

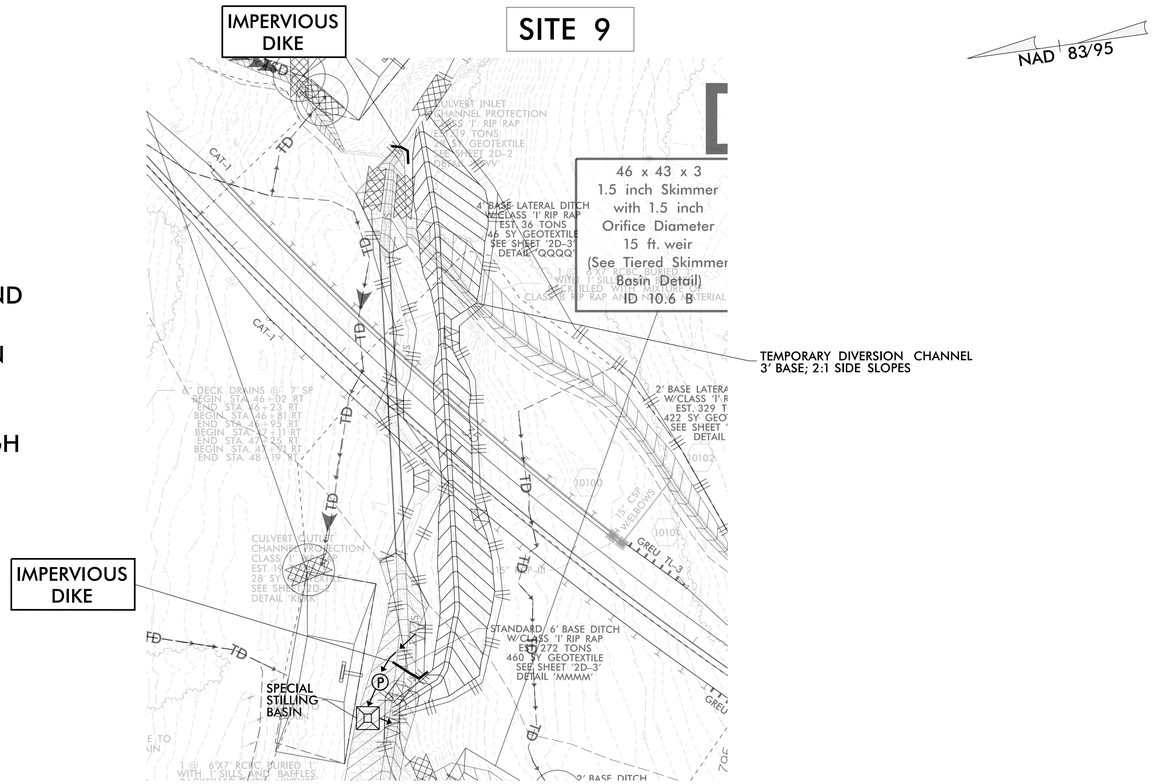


CULVERT CONSTRUCTION SEQUENCE STA. 35 + 54 –Y15RPD–

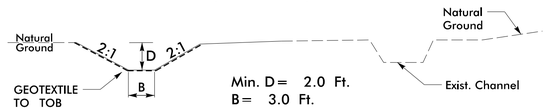
PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-IOC/CONSTJO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

1. CONSTRUCT 3′ BASE TEMPORARY CHANNEL CHANGE WITH LINER. SECURE INLET AND OUTLET OF CHANNEL.
2. UTILIZE SPECIAL STILLING BASIN(S), TEMPORARY DIKES AND BYPASS PUMPS TO TIE TEMPORARY CHANNEL CHANGE INTO STREAM.
3. INSTALL IMPERVIOUS DIKES AS SHOWN TO DIRECT WATER FLOW AROUND THE WORK AREA INTO THE TEMPORARY CHANNEL CHANGE.
4. CONSTRUCT CULVERT USING SPECIAL STILLING BASIN(S) AND PUMP TO DE–WATER THE WORK ZONE.
5. COMPLETE INLET AND OUTLET CHANNEL IMPROVEMENTS IN DRY CONDITIONS THROUGH THE USE OF PUMP–AROUND OPERATION AND IMPERVIOUS DIKES.
6. REMOVE IMPERVIOUS DIKES TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED CULVERT.



TEMPORARY CHANNEL CHANGE
(Not to Scale)



Type of Liner= Geotextile Type 4

NOTE: CONTRACTOR TO USE BERMS AS NEEDED TO MAINTAIN A MINIMUM 2′ DEPTH OF THE TEMPORARY CHANNEL CHANGE.

CULVERT CONSTRUCTION SEQUENCE STA. 11+21 –Y15RPB–

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	EC-10D/CONST10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

1. INSTALL IMPERVIOUS DIKES AND USE PUMP–AROUND OPERATION TO DIVERT STREAM FLOW AROUND WORK ZONE.
2. INSTALL 54" RCP UTILIZING SPECIAL STILLING BASIN(S) AND PUMP TO DE–WATER THE POND AND WORK ZONE.
3. COMPLETE INLET AND OUTLET CHANNEL IMPROVEMENTS IN DRY CONDITIONS THROUGH THE USE OF PUMP–AROUND OPERATION AND IMPERVIOUS DIKES.
4. REMOVE IMPERVIOUS DIKES TO ESTABLISH FLOW THROUGH NEWLY CONSTRUCTED 54" RCP.