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PROJECT: U-2707

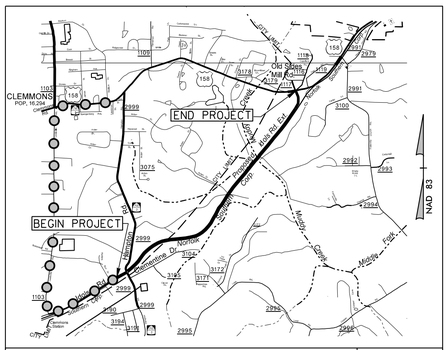
TIP No.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2707	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34845.1.1	STP-3000(1)	P.E.
34845.2.1	STP-3000(1)	R/W & UTIL.
34845.2.2	STP-3000(1)	CONST.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEET 1-A FOR INDEX OF SHEETS
SEE SHEET 1-B FOR CONVENTIONAL SYMBOLS



VICINITY MAP
FORSYTH COUNTY, NC

OFF SITE DETOUR ROUTE

PLFI PLANS

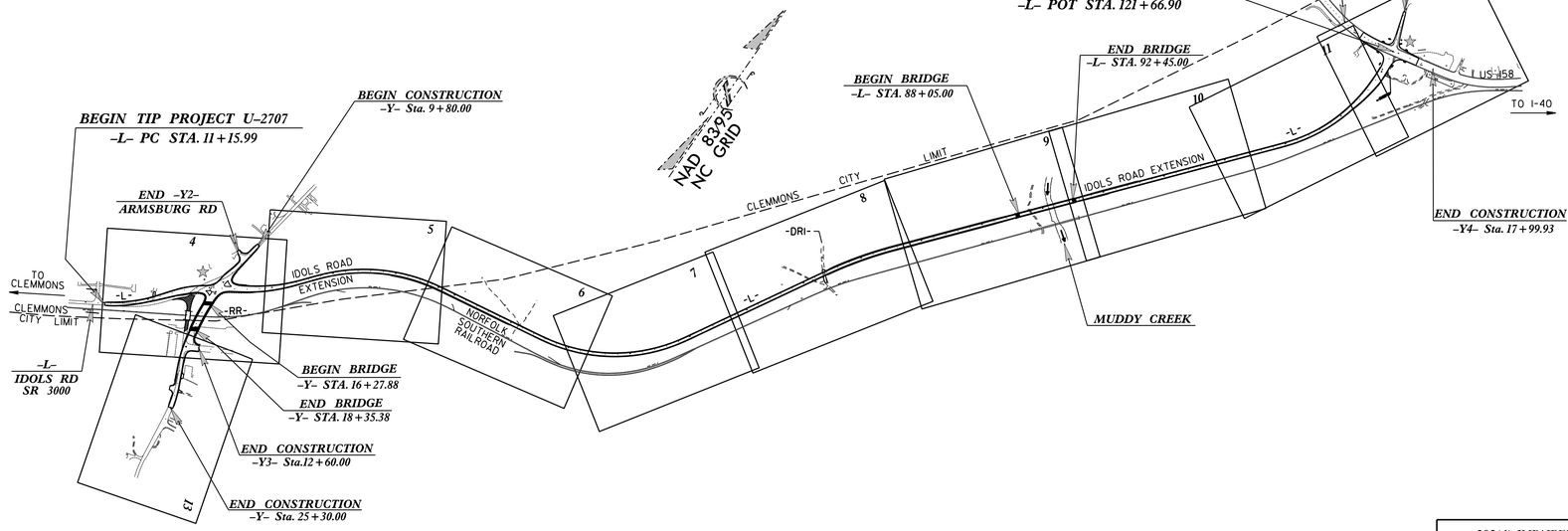
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

FORSYTH COUNTY

LOCATION: CLEMMONS – SR 3000 (IDOLS ROAD), FROM SR 2999 (HAMPTON ROAD) TO US 158 (CLEMMONS ROAD)

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



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	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	EW CFW
	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.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

303(d) IMPAIRED WATER(S) EXIST ON THIS PROJECT

303(d) Impaired Water Zone(s) Exist
From Sta. Begin
to Sta. End
Refer To E. C. Special Provisions for Special Considerations.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

GRAPHIC SCALE

50 25 0 50 100
PLANS

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

Prepared in the Office of:

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258
ENG FIRM LICENSE NO. C-890
L.A. FIRM LICENSE NO. C-91

Designed by:

Brian N. Elam, PE ***3195***
NAME *LEVEL III CERTIFICATION NO.*

Reviewed in the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Reviewed by:

Natalie Chan, PE, CPESC, CPSWQ

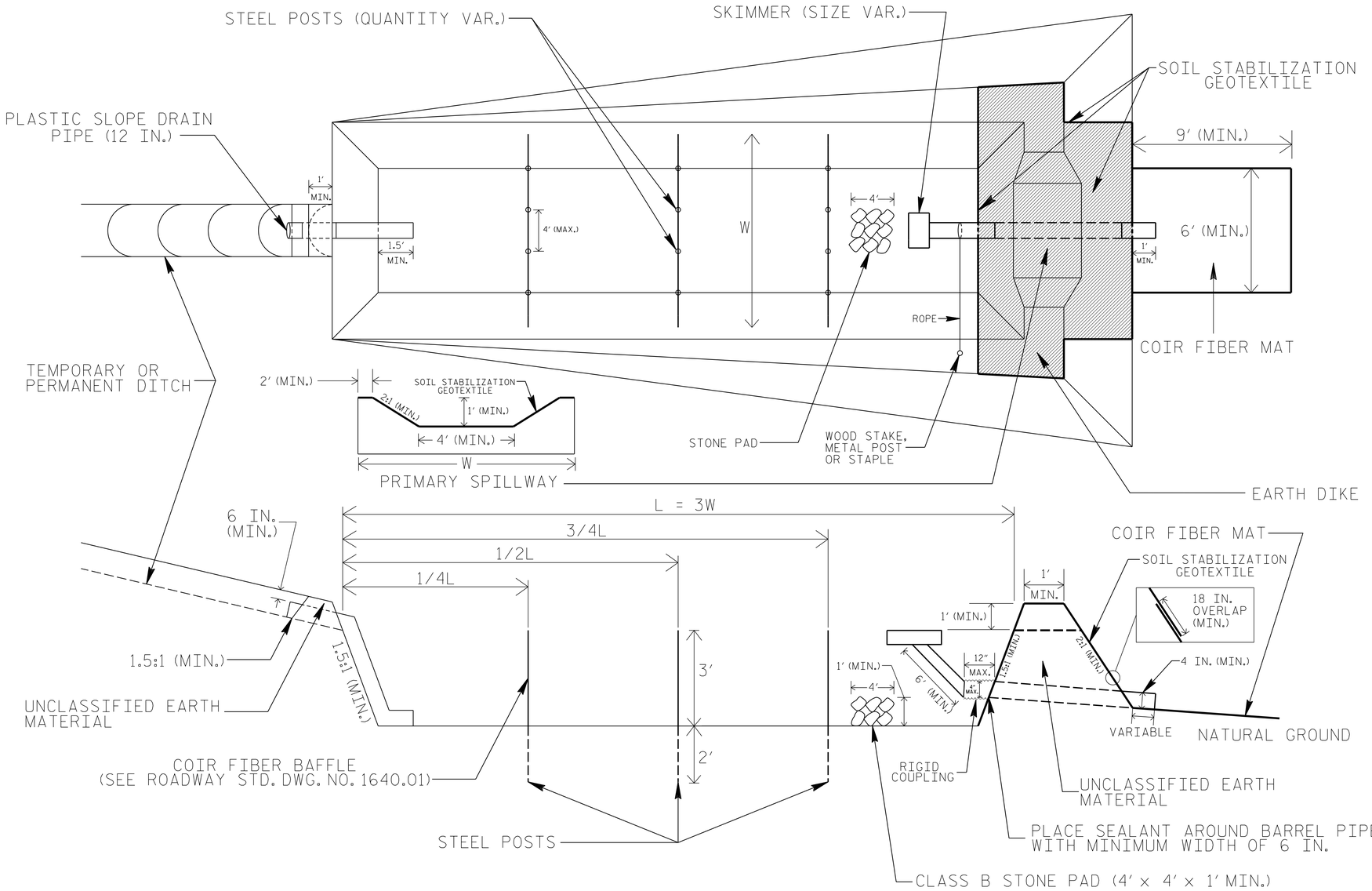
Roadway Standard Drawings

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

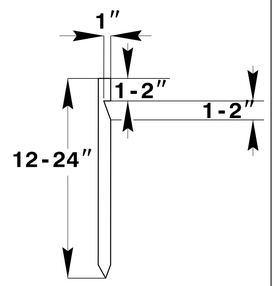
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type 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		

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

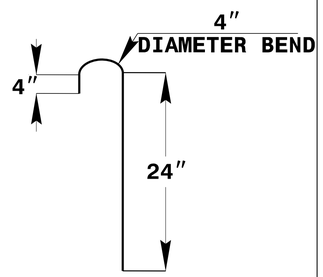
SKIMMER BASIN WITH BAFFLES DETAIL



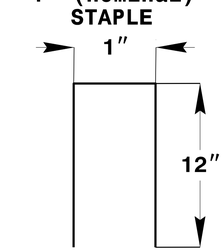
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

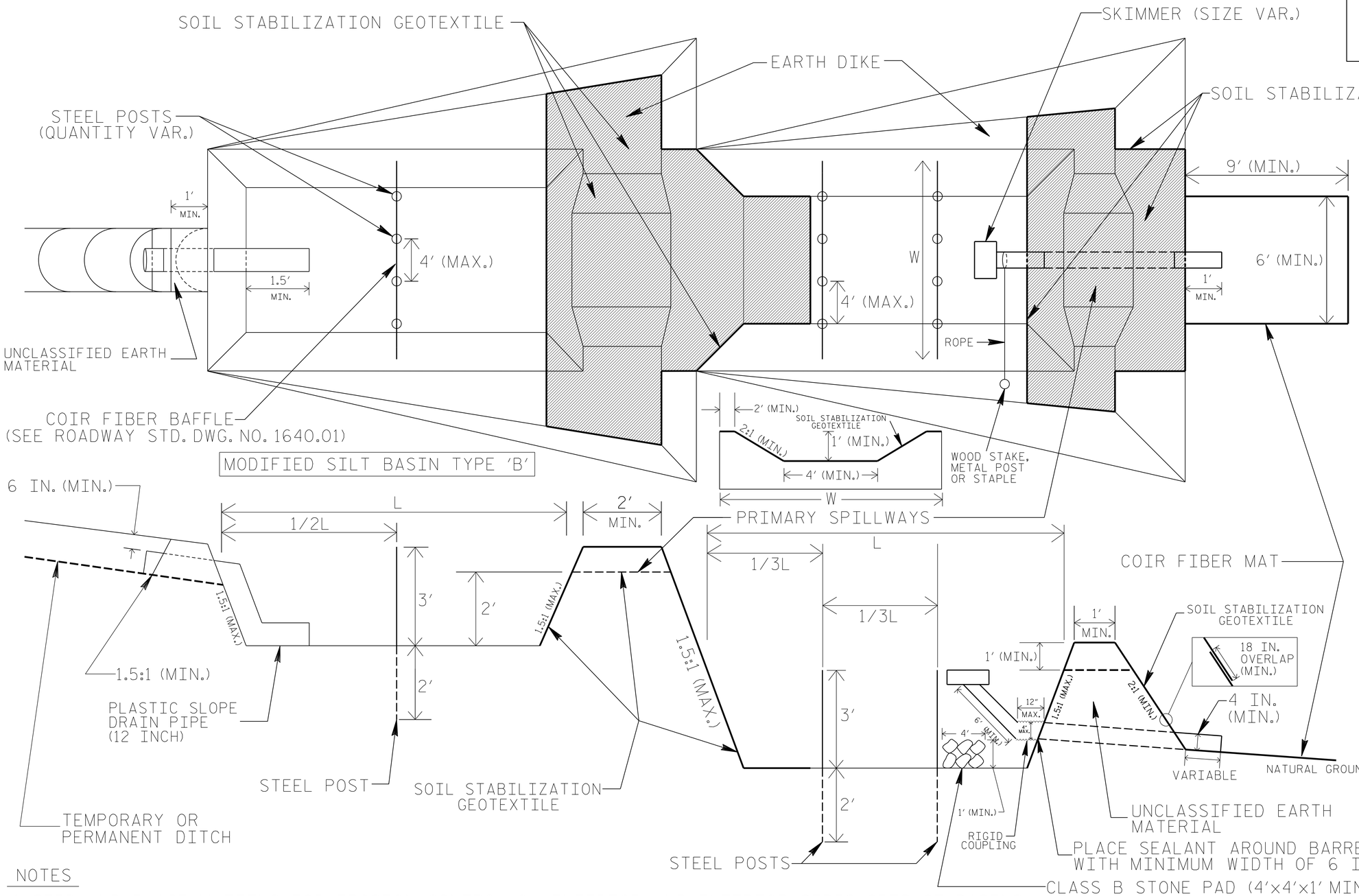
NOTES

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.).

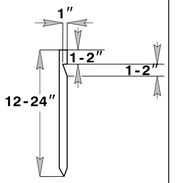
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

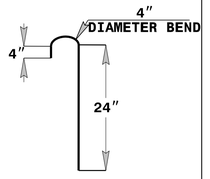
TIERED SKIMMER BASIN DETAIL



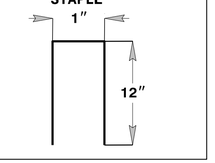
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

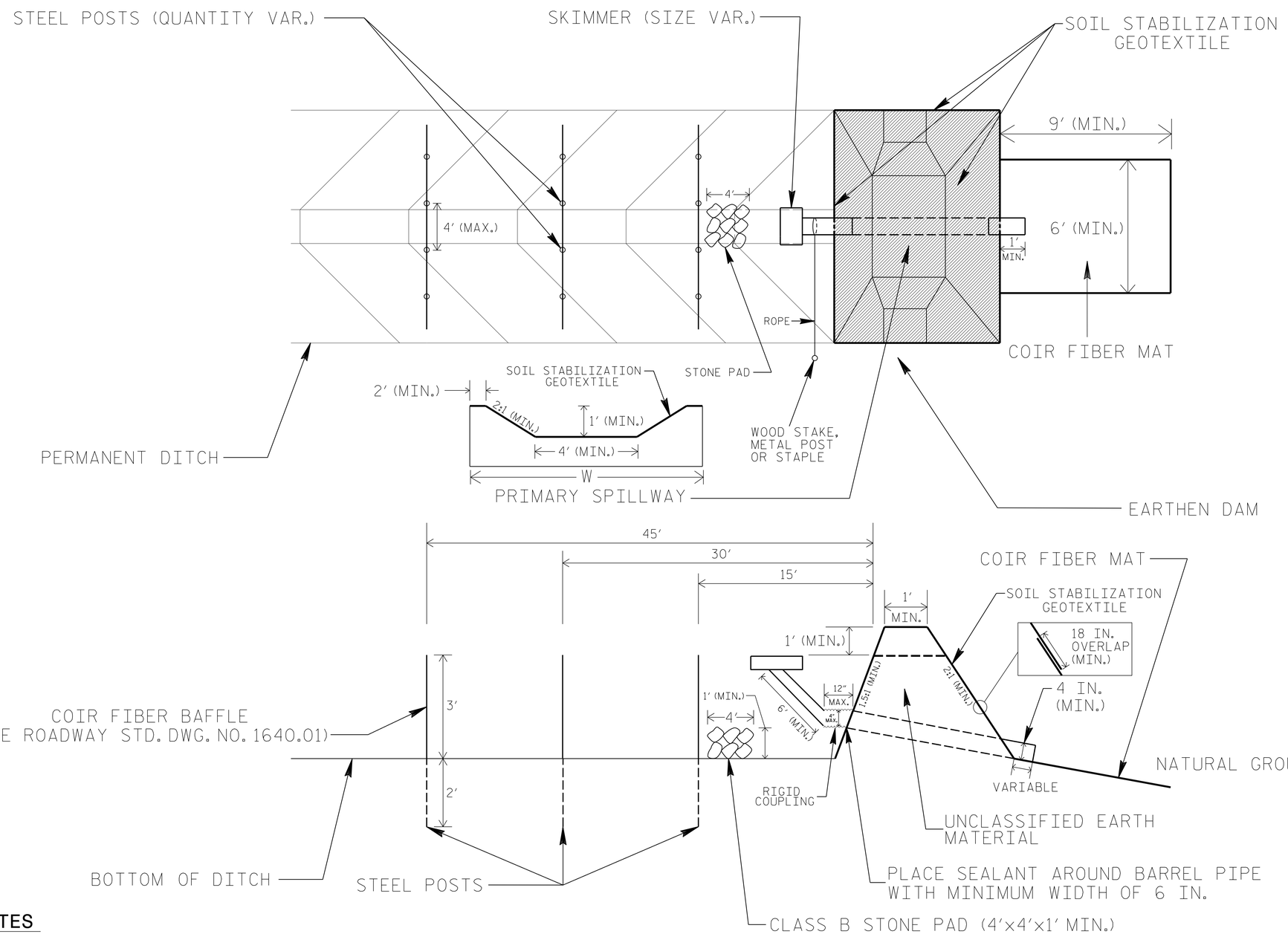
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES 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.).

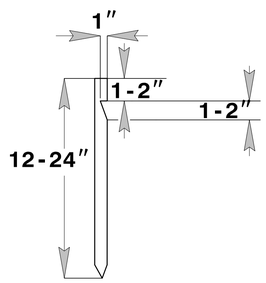
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

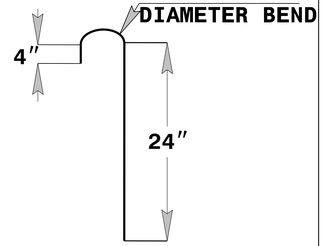
EARTHEN DAM WITH SKIMMER



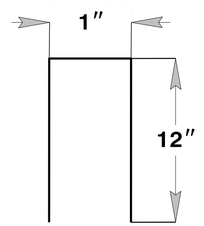
2″ x 2″ (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1″ (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

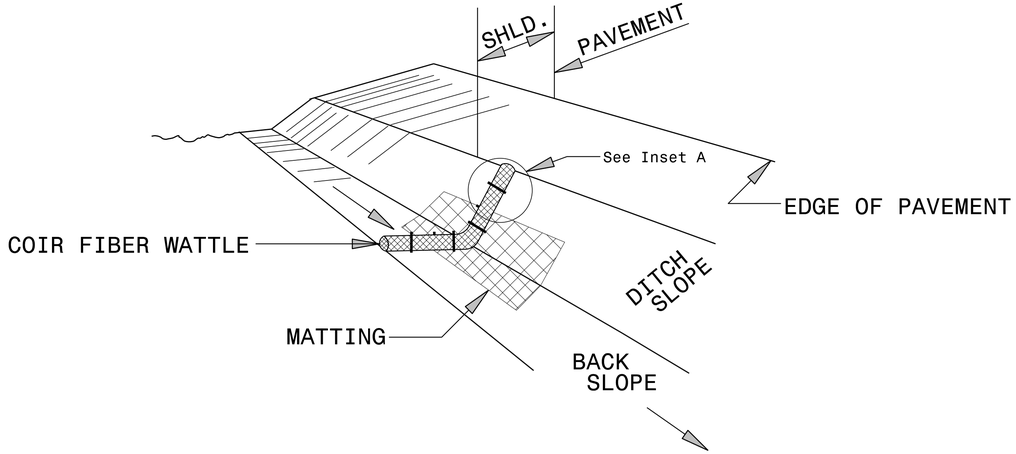
NOTES

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

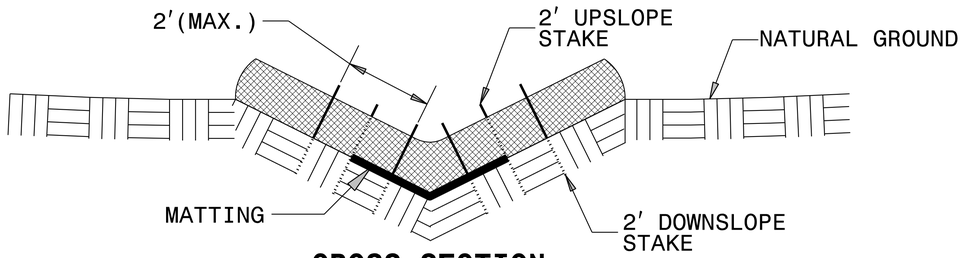
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

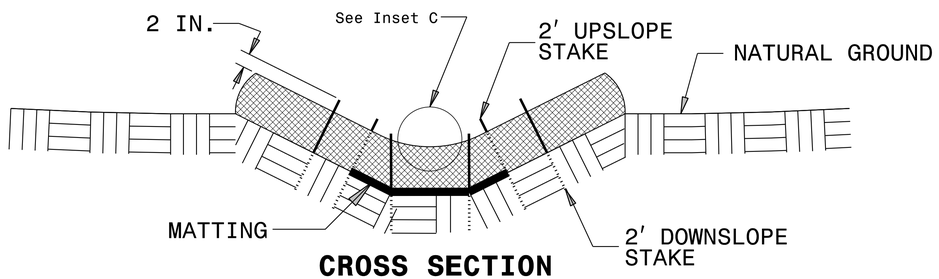
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

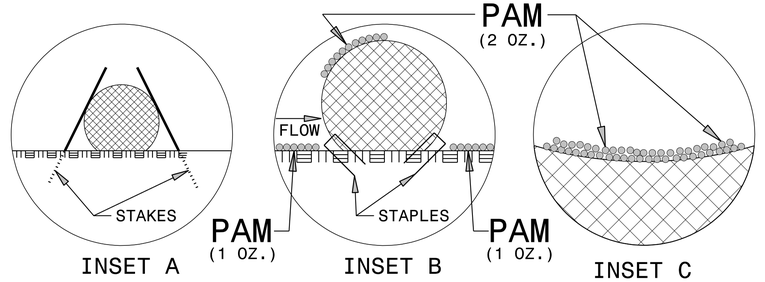
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

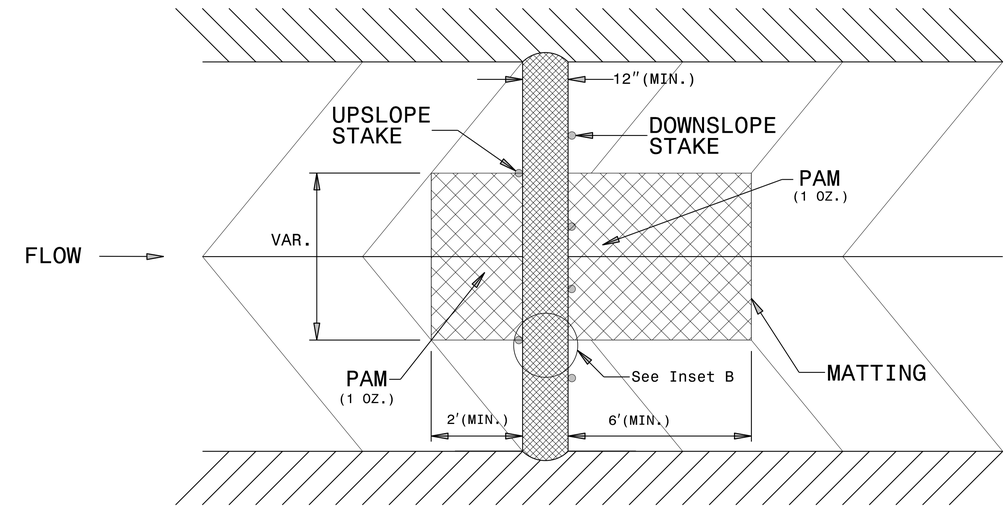
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

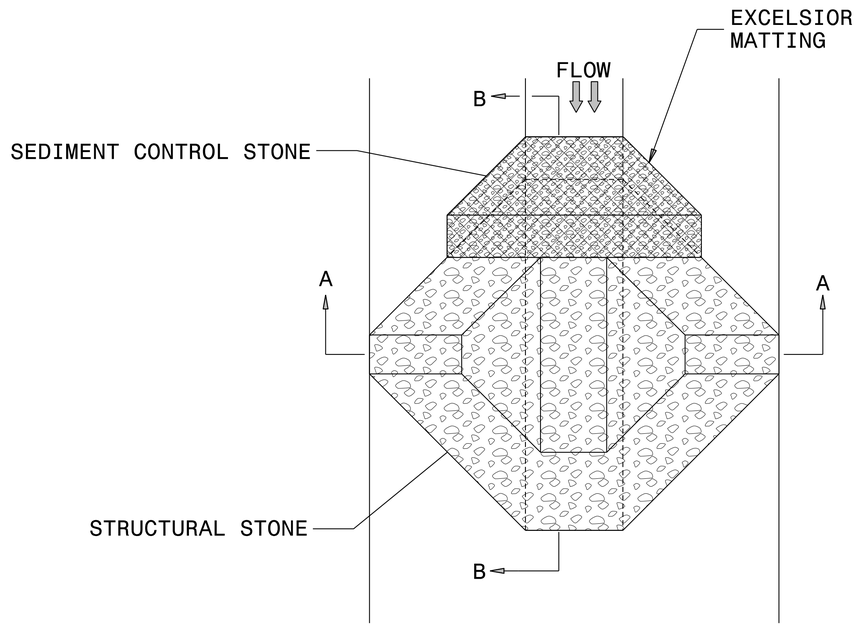




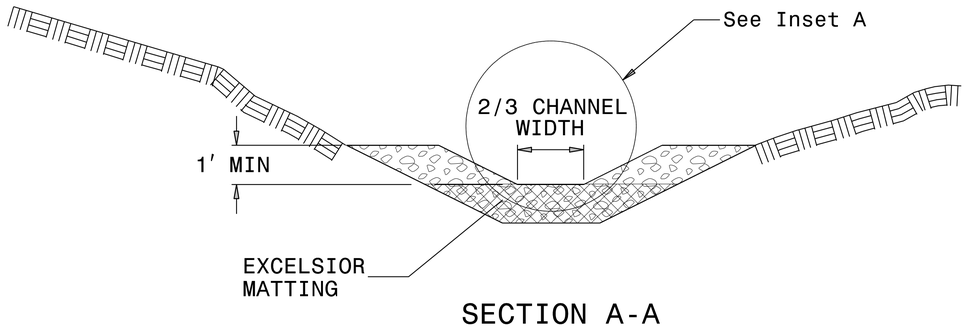
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



SECTION A-A

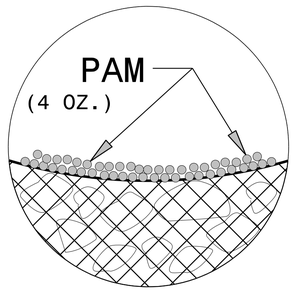
NOTES:

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

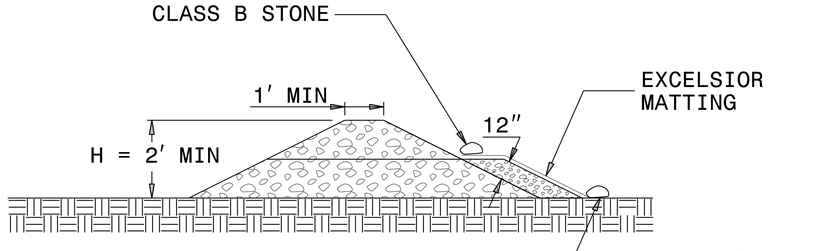
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	13+50	18+00	RT	605
4	-Y-	10+00	12+00	LT	270
4	-Y-	10+00	11+00	RT	105
4	-Y-	12+00	14+00	RT	185
4	-Y2-	9+80	11+00	LT	85
5	-L-	28+75	30+00	LT	90
5	-L-	30+00	33+50	LT	365
6	-L-	38+00	40+65	LT	335
6	-L-	40+65	42+50	LT	130
6	-L-	43+00	48+50	LT	385
6	-L-	50+60	52+50	LT	135
6	-L-	50+15		RT	65
7	-L-	51+50	58+00	RT	800
7	-L-	52+50	63+00	LT	1070
7	-L-	60+00	61+00	RT	135
7	-L-	62+50	64+00	RT	205
7	-L-	63+00	66+00	LT	405
8	-L-	70+00	71+75	LT	200
8	-L-	68+58	69+50	RT	50
8	-L-	70+00	71+50	RT	105
8,9	-L-	73+00	83+70	RT	890
8,9	-L-	74+50	82+65	LT	405
9,10	-L-	91+00	93+50	RT	480
9,10	-L-	92+06	96+00	LT	730
10	-L-	100+50	105+50	RT	670
10	-L-	101+50	106+50	LT	670
11	-L-	106+75	117+50	LT	980
11	-L-	107+50	117+50	RT	910
12	-L-	117+50	119+50	RT	225
12	-L-	117+50	119+70	LT	250

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
12	-L-/-Y4-	120+00	15+85	RT	85
12	-Y4-	12+30	13+00	RT	35
12	-Y5-	12+00	13+00	RT	95
12	-Y5-	12+00	13+00	LT	105
13	-Y-	18+00	25+00	RT	345
13	-Y-	20+50	21+00	LT	70
			SUBTOTAL		12,670
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					37,330
				TOTAL	50,000
				SAY	50,000

PERMANENT SOIL REINFORCEMNT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
5	-L-	23+00	25+00	LT	140
6	-L-	48+50	50+60	LT	150
7	-L-	61+85		LT	45
8	-L-	68+45	70+00	LT	110
			SUBTOTAL		445
	ADDITIONAL PSRM TO BE INSTALLED				0
				TOTAL	445
				SAY	445

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-3A
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.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 04

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-04/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

-L-

PI Sta 13+25.43
Δ = 16° 26' 34.70" (LT)
D = 4° 46' 28.73"
L = 344.38'
T = 173.38'
R = 1,200.00'
SE = 0.06

PIs Sta 15+46.45
Θs = 3° 34' 51.6"
Ls = 150.00'
LT = 100.02'
ST = 50.02'

PIs Sta 17+46.47
Θs = 5° 08' 46.8"
Ls = 150.00'
LT = 100.04'
ST = 50.04'

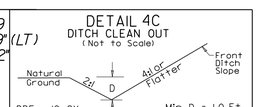
PI Sta 18+97.07
Δ = 13° 44' 42.1" (RT)
D = 6° 51' 42.4"
L = 200.31'
T = 100.64'
R = 835.00'
SE = 0.06

PI Sta 24+47.09
Δ = 15° 07' 44.9" (LT)
D = 3° 49' 11.0"
L = 396.08'
T = 199.20'
R = 1,500.00'
SE = 0.06

-Y-

PI Sta 15+84.89
Δ = 19° 45' 58.9" (LT)
D = 3° 57' 05.2"
L = 500.23'
T = 252.63'
R = 1,450.00'
SE = 0.03

DETAIL 4C
DITCH CLEAN OUT
(Not to Scale)

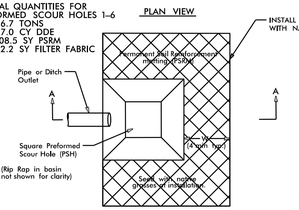


-Y2- STA. 9+80 TO 11+00 LT

PREFORMED SCOUR HOLE
*NOT TO SCALE

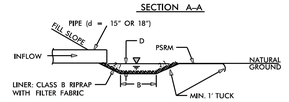
TYPICAL QUANTITIES FOR PREFORMED SCOUR HOLES 1–6
EST. 36.7 TONS
EST. 57.0 CY DDE
EST. 108.5 SY PSRM
EST. 52.2 SY FILTER FABRIC

PLAN VIEW



B = 4'
D = 1'
W = 4'

SECTION A–A



DETAIL 4D

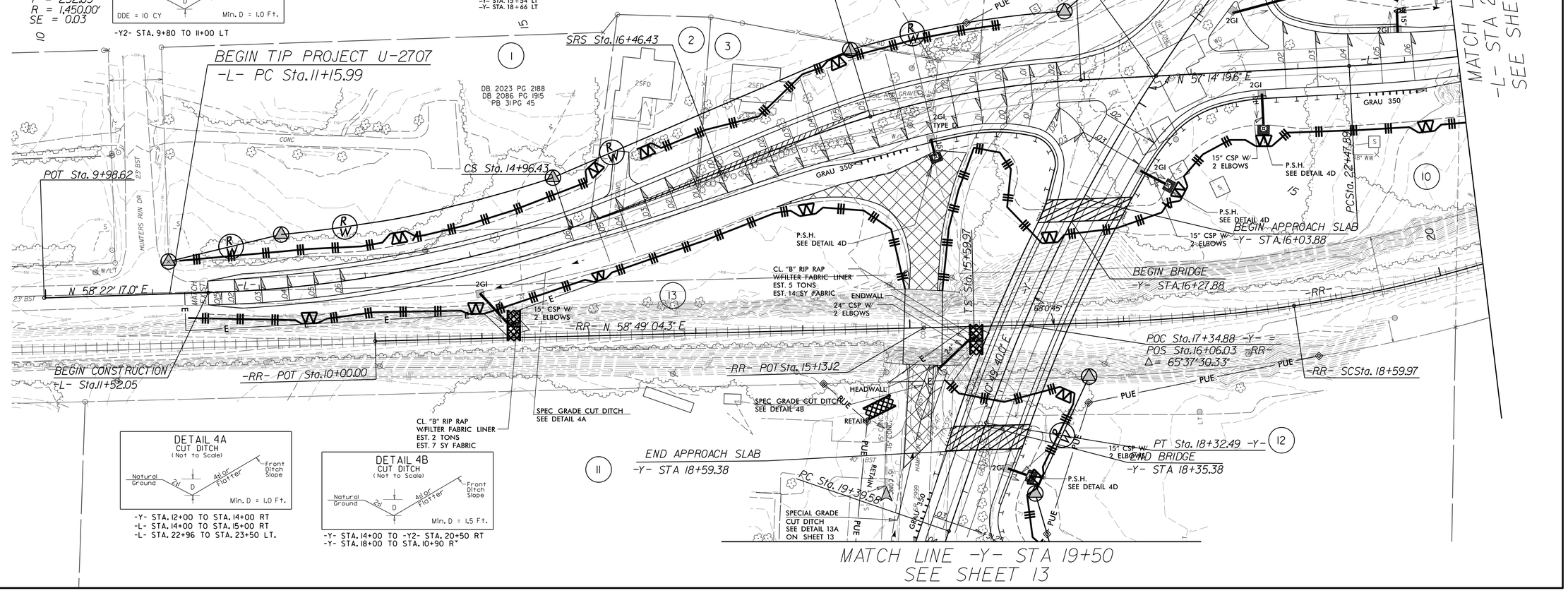
-L- STA. 18+47 RT
-L- STA. 21+65 RT
-Y- STA. 12+70 LT
-Y- STA. 13+10 LT
-Y- STA. 15+54 LT
-Y- STA. 18+66 LT

DETAIL 4A
CUT DITCH
(Not to Scale)

-Y- STA. 12+00 TO STA. 14+00 RT
-L- STA. 14+00 TO STA. 15+00 RT
-L- STA. 22+96 TO STA. 23+50 LT.

DETAIL 4B
CUT DITCH
(Not to Scale)

-Y- STA. 14+00 TO -Y2- STA. 20+50 RT
-Y- STA. 18+00 TO STA. 10+90 RT



PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-05/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 05

REVISIONS

BEGIN CONSTRUCTION
-Y- Sta.09+80.00

BEGIN RESURFACING
-Y- Sta.09+95.00

SPEC. GRADE CUT DITCH
SEE DETAIL 4A

78 x 32 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
9 ft. weir
ID 0502

STD. BASE DITCH
W/CLASS "B"RIP RAP
EST. 35 TONS
EST. 65 SY. FABRIC
EST. 70 CY DDE
SEE DETAIL 5B

SPEC. LAT "V" DITCH
W/CLASS "B" RIP RAP
EST. 113 TONS
EST. 125 S.Y. FABRIC
SEE DETAIL 5D

SPEC. LAT "V" DITCH
SEE DETAIL 5A

SPEC. LAT BASE DITCH
SEE DETAIL 5E

SPEC. LAT BASE DITCH
W/CLASS "B"RIP RAP
EST. 188 TONS
EST. 346 SY FABRIC
SEE DETAIL 5F

SC Sta. 29+43.97

CHORD

SRS Sta. 27+93.97

CS Sta. 26+43.97

SPEC. GRADE CUT DITCH
SEE DETAIL 5H

HEADWALL

RETAIN

STD. BASE DITCH
W/CLASS "I"RIP RAP
EST. 40 TONS
EST. 60 SY FABRIC
EST. 150 CY DDE
SEE DETAIL 5C

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 11 TONS
EST. 28 SY FABRIC

84 x 42 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
13 ft. weir
ID 0501

58 x 20 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 0503

GRAU-350

EXISTING RIGHT OF WAY

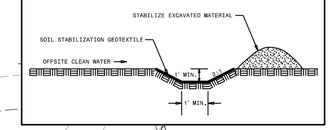
EXISTING R/R RIGHT OF WAY

MATCH LINE
-L- STA 23+50 SEE SHEET 4

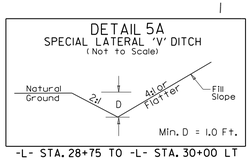
MATCH LINE
-L- STA 37+50
SEE SHEET 6

NC NAD 83 GRID

CLEAN WATER DIVERSION
CWD — CWD — CWD — CWD
(Not to Scale)

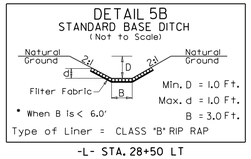


DETAIL 5A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



-L- STA. 28+75 TO -L- STA. 30+00 LT

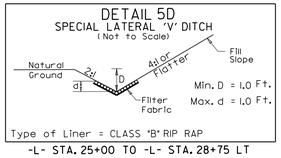
DETAIL 5B
STANDARD BASE DITCH
(Not to Scale)



* When B Is < 6.0'
Type of Liner = CLASS "B" RIP RAP

-L- STA. 28+50 LT

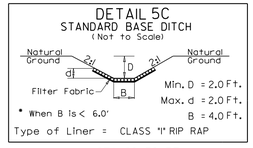
DETAIL 5D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Type of Liner = CLASS "B" RIP RAP

-L- STA. 25+00 TO -L- STA. 28+75 LT

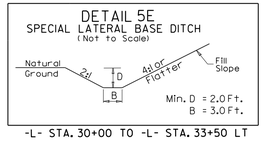
DETAIL 5C
STANDARD BASE DITCH
(Not to Scale)



* When B Is < 6.0'
Type of Liner = CLASS "I" RIP RAP

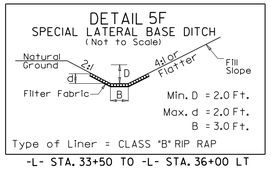
-L- STA. 29+70 RT

DETAIL 5E
SPECIAL LATERAL BASE DITCH
(Not to Scale)



-L- STA. 30+00 TO -L- STA. 33+50 LT

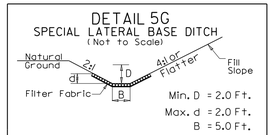
DETAIL 5F
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Type of Liner = CLASS "B" RIP RAP

-L- STA. 33+50 TO -L- STA. 36+00 LT

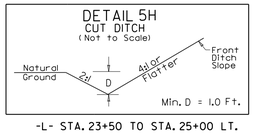
DETAIL 5G
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Type of Liner = CLASS "B" RIP RAP

-L- STA. 36+00 TO -L- STA. 38+00 LT

DETAIL 5H
CUT DITCH
(Not to Scale)



-L- STA. 23+50 TO STA. 25+00 LT

-L-

PI Sta 24+47.09	Ps Sta 26+93.98	Ps Sta 28+93.99	PI Sta 33+81.2
Δ = 15° 07' 44.9" (LT)	Θs = 2° 51' 53.2"	Θs = 3° 07' 30.8"	Δ = 35° 16' 48.
D = 3° 49' 11.0"	Ls = 150.00'	Ls = 150.00'	D = 4° 10' 01.1"
L = 396.08'	LT = 100.01'	LT = 100.02'	L = 846.66'
T = 199.20'	ST = 50.01'	ST = 50.01'	T = 437.23'
R = 1,500.00'			R = 1,375.00'
SE = 0.06			SE = 0.06

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

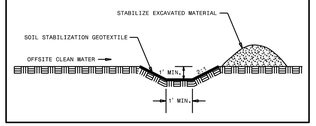
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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

CLEAN WATER DIVERSION

CWD — CWD — CWD — CWD

(Not to Scale)



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 06

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-06/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC GRID
NAD 83/95

19 | 21 | 22Z

SPEC. LAT BASE DITCH
SEE DETAIL 6B

SPEC. LAT BASE DITCH
W/CLASS "B"RIP RAP
EST. 170 TONS
EST. 680 SY FABRIC
SEE DETAIL 6

64 x 32 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 0601

CHORD

SPEC. LAT "V" DITCH
SEE DETAIL 6D

ST Sta. 39+50.63

CS Sta. 37+90.63

HEADWALL

70 x 24 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 0602

SPEC. GRADE DITCH
-L- STA. 44+00 TO 47+00

SC Sta. 48+52.63

TS Sta. 46+92.63

CUT DITCH
SEE DETAIL 6H

STD. BASE DITCH
W/CLASS "B"RIP RAP
EST. 20 TONS
EST. 50 SY FABRIC
EST. 225 CY DDE
SEE DETAIL 6G

MATCH LINE SHEET 7
-L- STA 51+50 SEE

-L- STA 37+50 SEE SHEET 5

15" RCP IV

15" CS W/ 2 ELBOWS

P.S.H. DETAIL

-L- N 80° 59' 01.7" E

GRAU-350

EXISTING RIGHT OF WAY

CL "I" RIP RAP
W/FILTER FABRIC LINER
EST. 49 S.Y.
EST. 26 TONS
EST. 50 SY FABRIC

RETAIN

BORE AND JACK
48" SMOOTH
STEEL PIPE
W/ 0.625"
WALL THICKNESS

13

NORFOLK SOUTHERN RR

EXISTING R/R RIGHT OF WAY

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL "I" RIP RAP
W/FILTER FABRIC LINER
EST. 49 S.Y.
EST. 26 TONS
EST. 50 SY FABRIC

STANDARD BASE DITCH
W/CLASS "I"RIP RAP
EST. 1 TONS
EST. 2 SY FABRIC
SEE DETAIL 6C

20-A

CL "A" RIP RAP
W/FILTER FABRIC LINER
EST. 5 TONS
EST. 16 SY FABRIC

HEADWALL

BORE AND JACK
36" SMOOTH STEEL PIPE
W/ 0.50" WALL THICKNESS

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 7 TONS
EST. 22 SY FABRIC

STD. BASE DITCH
EST. 115 CY DDE
SEE DETAIL 6E

RETAIN

49+50.00 -L-
230.00

85 x 28 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
9 ft. weir
ID 0603

STD. BASE DITCH
W/CLASS "I"RIP RAP
EST. 12 TONS
EST. 15 SY FABRIC
EST. 220 CY DDE
SEE DETAIL 6F

20-B

40+70.00 -L-
200.00

-L-

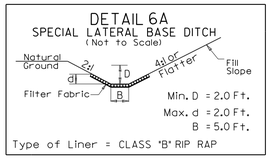
PIs Sta 38+43.98	PIs Sta 47+99.32	PI Sta 53+94.10
Θs = 3° 20' 00.9"	Θs = 3° 26' 46.9"	Δ = 44° 18' 15.0" (LT)
Ls = 160.00'	Ls = 160.00'	D = 4° 18' 28.6"
LT = 106.69'	LT = 106.69'	L = 1,028.43
ST = 53.35'	ST = 53.35'	T = 541.47'
		R = 1,330.00'
		SE = 0.06

INSTALL FILTRATION GEOTEXTILE UNDER TEMPORARY ROCK SILT CHECK(S) TYPE A IN PERMITTED WETLANDS.

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

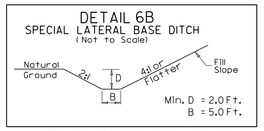
DETAIL 6A
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Type of Liner = CLASS "B" RIP RAP

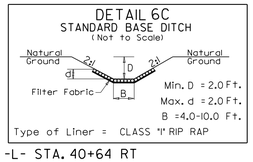
-L- STA. 36+00 TO -L- STA. 38+00 LT

DETAIL 6B
SPECIAL LATERAL BASE DITCH
(Not to Scale)



-L- STA. 38+00 TO STA. 40+65 LT

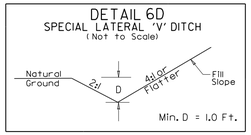
DETAIL 6C
STANDARD BASE DITCH
(Not to Scale)



Type of Liner = CLASS "I" RIP RAP

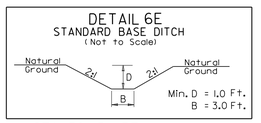
-L- STA. 40+64 RT

DETAIL 6D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



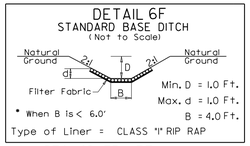
-L- STA. 40+65 TO STA. 42+50 LT
-L- STA. 43+00 TO STA. 44+00 LT
-L- STA. 48+50 TO STA. 50+60 LT

DETAIL 6E
STANDARD BASE DITCH
(Not to Scale)



-L- STA. 50+15 RT

DETAIL 6F
STANDARD BASE DITCH
(Not to Scale)

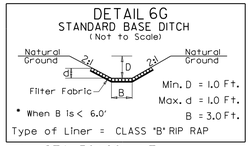


* When B Is < 6.0'

Type of Liner = CLASS "I" RIP RAP

-L- STA. 49+75 RT

DETAIL 6G
STANDARD BASE DITCH
(Not to Scale)

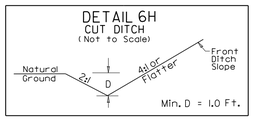


* When B Is < 6.0'

Type of Liner = CLASS "B" RIP RAP

-L- STA. 50+60 LT

DETAIL 6H
CUT DITCH
(Not to Scale)



-L- STA. 50+60 TO STA. 51+50 LT

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-07/CONST.07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 07

NC NAD 83 GRID

22Z

64 x 24 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
6 ft. weir
ID 0701

80 x 28 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
9 ft. weir
ID 0702

67 x 25 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
6 ft. weir
ID 0703

-L- STA 51+50 SEE SHEET 6 MATCH LINE

-L- STA 65+00 MATCH LINE SEE SHEET 8

CUT DITCH
SEE DETAIL 7A

SPECIAL GRADE DITCH
SEE PROFILE SHEET No. 15

SPECIAL GRADE CUT DITCH
SEE DETAIL 7A

STANDARD BASE DITCH
SEE DETAIL 7B
DDE = 20 CY

CS Sta. 58+81.06

ST Sta. 60+41.06

N 29° 47' 12.9" E

-L-

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 5 TONS
EST. 14 SY FABRIC

EXISTING RIGHT OF WAY

NORFOLK SOUTHERN R/R

EXISTING R/R RIGHT OF WAY

13

20-B

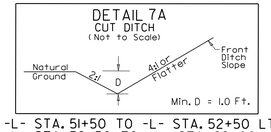
23

-L-

PI Sta 53+94.10
△ = 44° 18' 15.0" (LT)
D = 4° 18' 28.6"
L = 1,028.43
T = 541.47'
R = 1,330.00'
SE = 0.06

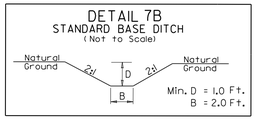
PIs Sta 59+34.41
Θs = 3° 26' 46.9"
Ls = 160.00'
LT = 106.69'
ST = 53.35'

DETAIL 7A
CUT DITCH
(Not to Scale)



-L- STA. 51+50 TO -L- STA. 52+50 LT
-L- STA. 59+50 TO -L- STA. 62+00 LT
-L- STA. 62+00 TO -L- STA. 63+00 LT

DETAIL 7B
STANDARD BASE DITCH
(Not to Scale)



-L- STA. 61+85 LT

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-08/CONST.08
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

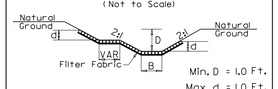
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 08

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

DETAIL 8B
INLET / OUTLET TYPICAL
(Not to Scale)



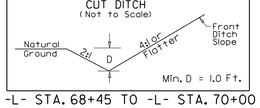
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 5.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "I" RIP RAP

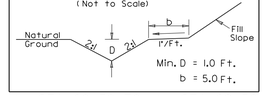
-L- STA. 68+50 RT

DETAIL 8D
CUT DITCH
(Not to Scale)



-L- STA. 68+45 TO -L- STA. 70+00 LT
-L- STA. 70+00 TO -L- STA. 71+50 RT

DETAIL 8E
LATERAL 'V' DITCH
(Not to Scale)



-L- STA. 68+58 TO -L- STA. 69+50 RT
-L- STA. 74+50 TO -L- STA. 79+00 LT

50 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 0802

60 x 30 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
7 ft. weir
ID 0801

SEE SHEET EC-24 FOR STREAM MITIGATION EROSION CONTROL

MATCH LINE -L- STA 65+00 SEE SHEET 7

MATCH LINE -L- STA 79+00 SEE SHEET 9

NAD 83 GRID N

60" CMP
INV = 696.58'

PROPOSED BANKFULL CHANNEL

PROPOSED THALWEG

STD. BASE DITCH
W/CLASS "I" RIP RAP
EST. 65 TONS
EST. 100 SY FABRIC
EST. 175 CY DDE
SEE DETAIL 8C

POT Sta. 71+78.03 -L- =
POT Sta. 11+98.07 -DRI-
Δ= 106°11'41.92"

PT Sta. 13+18.27

END CONSTRUCTION
STA. 12+31.82 -DRI-

PC Sta. 71+91.06

PT Sta. 77+69.27

LAT "V" DITCH
EST. 187 CY DDE
SEE DETAIL 8E

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

LAT BASE DITCH
EST. 137 CY DDE
SEE DETAIL 8H

CUT DITCH
SEE DETAIL 8D

HEADWALL

15" 2GI

F.S.

N 29° 47' 12.9" E

N 40° 08' 22.9" E

GRAU-350

PCC Sta. 11+82.80

LAT BASE DITCH
EST. 245 CY DDE
SEE DETAIL 8A

15" CSP W/
2 ELBOWS

PC Sta. 10+54.67

BEGIN CONSTRUCTION
STA. 11+25.37 -DRI-

POT Sta. 10+00.00

N 80° 57' 59.6" W

RIP RAP TOE PROTECTION
W/CLASS "B" RIP RAP
EST. 48 TONS
EST. 53 SY FABRIC
SEE DETAIL 8F

CL. "I" RIP RAP
W/FILTER FABRIC LINER
EST. 49 S.Y.
EST. 26 TONS
EST. 50 SY FABRIC

SPECIAL HEADWALL

RETAIN

COLLAR

STD. BASE DITCH
W/CLASS "I" RIP RAP
EST. 14 TONS
EST. 25 SY FABRIC
EST. 20 CY DDE
SEE DETAIL 8B

SPEC. LAT "V" DITCH
EST. 176 CY DDE
SEE DETAIL 8E

BORE AND JACK
48" SMOOTH STEEL PIPE
W/0.625" WALL THICKNESS

CL. "I" RIP RAP
W/FILTER FABRIC LINER
EST. 60 SY
EST. 33 TONS
EST. 62 SY FABRIC

RIP RAP AT EMBANKMENT
W/CLASS "I" RIP RAP
SEE DETAIL 8G

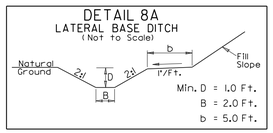
SPEC. GRADE CUT DITCH
SEE DETAIL 8D

EXISTING R/R RIGHT OF WAY

NORFOLK SOUTHERN RR

RR SIGNAL

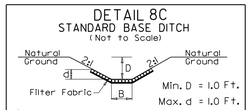
DETAIL 8A
LATERAL BASE DITCH
(Not to Scale)



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

-L- STA. 73+00 TO -L- STA. 79+00 RT

DETAIL 8C
STANDARD BASE DITCH
(Not to Scale)



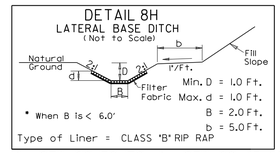
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 5.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "I" RIP RAP

-L- STA. 68+45 LT

DETAIL 8H
LATERAL BASE DITCH
(Not to Scale)



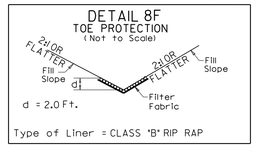
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "B" RIP RAP

-L- STA. 66+50 TO -L- STA. 68+45 LT

DETAIL 8F
TOE PROTECTION
(Not to Scale)

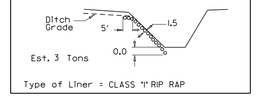


d = 2.0 Ft.

Type of Liner = CLASS "B" RIP RAP

-L- STA. 67+20 TO -L- STA. 68+40 RT

DETAIL 8G
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = CLASS "I" RIP RAP

-L- STA. 90+90 RT

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-09/CONST.09
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 09

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

130 x 40 x 3
2.0 inch Skimmer
with 2.0 inch
Orifice Diameter
20 ft. weir
ID 0902

66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 0903

120 x 30 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
13 ft. weir
ID 0905

124 x 30 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
14 ft. weir
ID 0901

54 x 26 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 0904

100 x 30 x 3
2.0 inch Skimmer
with 1.875 inch
Orifice Diameter
23 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 0906

Modified Silt Basin
Type 'B'
100 x 30 x 3
23 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 0906

NAD 83/95 NC GRID

PROPOSED THALWEG

PROPOSED BRIDGE CHANNEL

BEGIN BRIDGE
-L- STA 87+05.00

BEGIN APPROACH SLAB
-L- STA 87+80.83

BEGIN APPROACH SLAB
-L- STA 92+69.17

END BRIDGE
-L- STA 92+45.00

MIDDY CREEK

N 40° 08' 22.9" E

SEE SHEET EC-25 FOR STREAM MITIGATION EROSION CONTROL

LAT "V" DITCH
EST. 187 CY DDE
SEE DETAIL 9C

LAT BASE DITCH
EST. 245 CY DDE
SEE DETAIL 9A

LAT BASE DITCH
EST. 195 CY DDE
SEE DETAIL 9B

LAT GRASSED SWALE
EST. 411 CY DDE
SEE DETAIL 9D

CLASS "II" RIP RAP
SLOPE PROTECTION
SEE DETAIL 9I

15" CSP W/
2 ELBOWS

P.S.H.
SEE DETAIL 9H

50:1 TAPER

TYPE-II
2GI

CL "I" RIP RAP
W/FILTER FABRIC LINER
EST. 96 TONS
EST. 774 SY FABRIC

STANDARD BASE
GRASSED SWALE
EST. 178 CY DDE
SEE DETAIL 9E

TYPE-III

RETAIN EXISTING CHANNEL

REMOVE

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 8 TONS
EST. 21 SY FABRIC

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

RIP RAP OUTLET
W/CLASS "II" RIP RAP
SEE DETAIL 9F

EXISTING R/R RIGHT OF WAY

NORFOLK SOUTHERN RR

MUDDY CREEK

MATCH LINE -L- STA 79+00 SEE SHEET 8

MATCH LINE -L- STA 93+00 SEE SHEET 10

22 22Z 23 13 26

DETAIL 9A
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'/Ft., Fill Slope, B

Min. D = 1.0 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

-L- STA. 79+00 TO -L- STA. 80+50 RT

DETAIL 9B
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'/Ft., Fill Slope, B

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

-L- STA. 80+50 TO -L- STA. 83+70 RT

DETAIL 9C
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'/Ft., Fill Slope

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

-L- STA. 79+00 TO -L- STA. 82+65 LT

DETAIL 9D
LATERAL GRASSED SWALE
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, 1'/Ft., FILL SLOPE, B

Min. D=1 Ft.
B=10 Ft.
b=5 Ft.

-L- STA 92+06 TO STA 93+50 LT

DETAIL 9E
STANDARD BASE GRASSED SWALE
(Not to Scale)

Natural Ground, 3:1, OR FLATTER, D, B, 3:1, OR FLATTER, Natural Ground

Min. D=1 Ft.
B=10 Ft.

*NOTES:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%.
2) MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.

-L- STA. 92+06 LT & RT
-L- STA. 91+00 TO STA. 92+06 RT
-L- STA. 79+00 TO -L- STA. 82+65 LT

DETAIL 9F
RIP RAP AT EMBANKMENT
(Not to Scale)

Ditch Grade, 15', 2.0, 3.0, Est. 20 Tons

Type of Liner = CLASS "II" RIP RAP

-L- STA. 90+90 RT

DETAIL 9H
LATERAL GRASSED SWALE
(Not to Scale)

Natural Ground, 3:1, D, 3:1, b, 1'/Ft., FILL SLOPE, B

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

-L- STA 92+06 TO 93+50 RT

DETAIL 9I
RIP RAP AT EMBANKMENT
(Not to Scale)

EL=704.26
(50 YR + 2')
2.0
3.5
Natural Ground
Est. Tons
Type of Liner = CL "II" RIP RAP

-L- STA. 87+00 TO STA. 88+00 LT
-L- STA 92+50 TO STA 93+00 LT

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

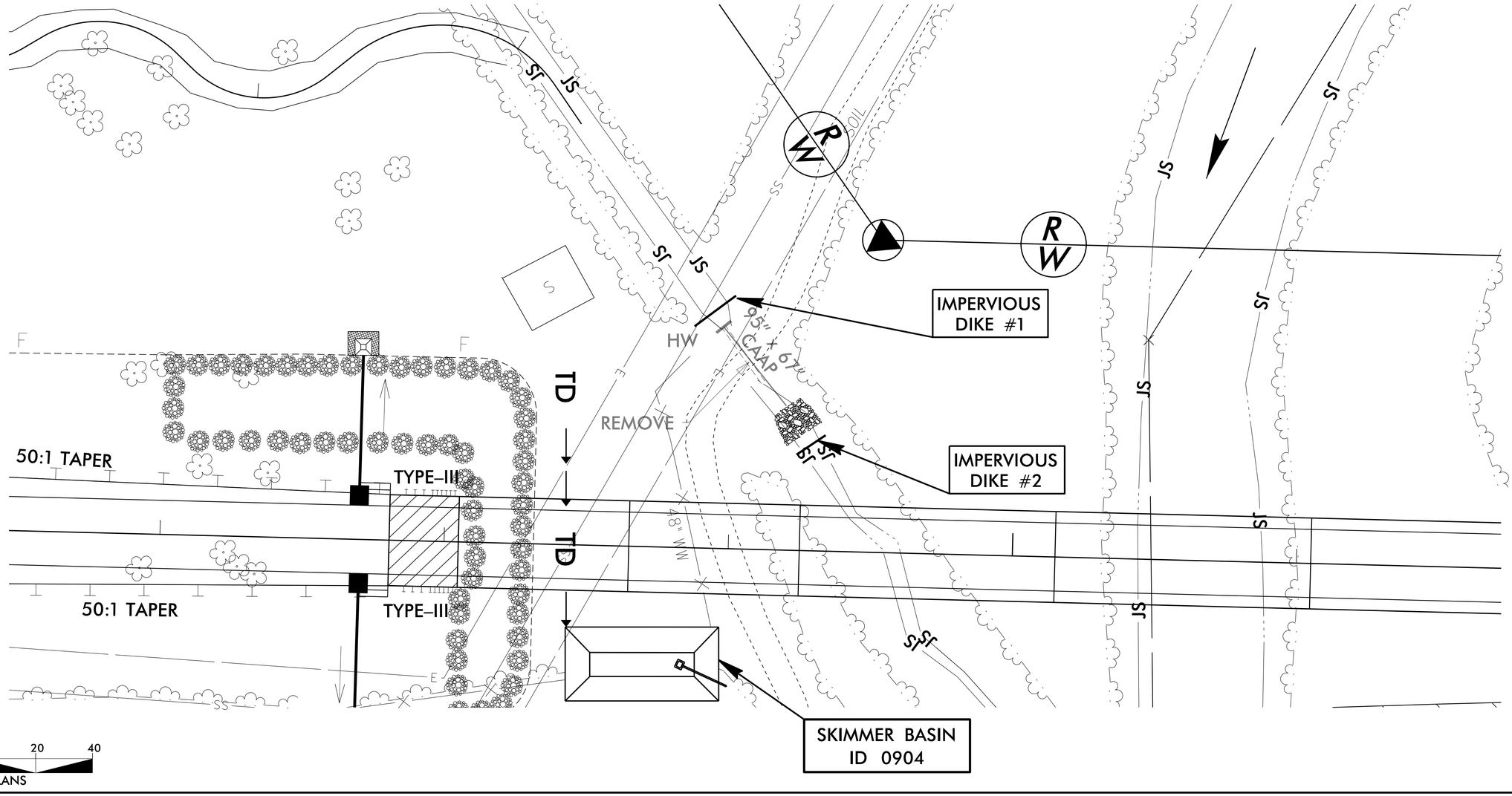
UNNAMED TRIBUTARY TO MUDDY CREEK
95″ x 67″ CAAP CONSTRUCTION SEQUENCE STA. 89+08 –L– LT

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-09A/CONST.09
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PHASE I

1. INSTALL SKIMMER BASIN 0904 IN ACCORDANCE WITH THE EROSION CONTROL PLANS.
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE IMPERVIOUS DIKE #1 AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE IMPERVIOUS DIKE #2 AND UTILIZE SKIMMER BASIN 0904 TO DEWATER CONSTRUCTION AREA.
5. INSTALL 95″ x 67″ CAAP IN ACCORDANCE WITH THE PLANS.
6. REMOVE IMPERVIOUS DIKES, PUMPS AND TEMPORARY FLEXIBLE HOSE.

NOTE: 95″ x 67″ CAAP TO BE INSTALLED PRIOR TO COMPLETION OF U–2707 STREAM MITIGATION PROJECT.



NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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

26

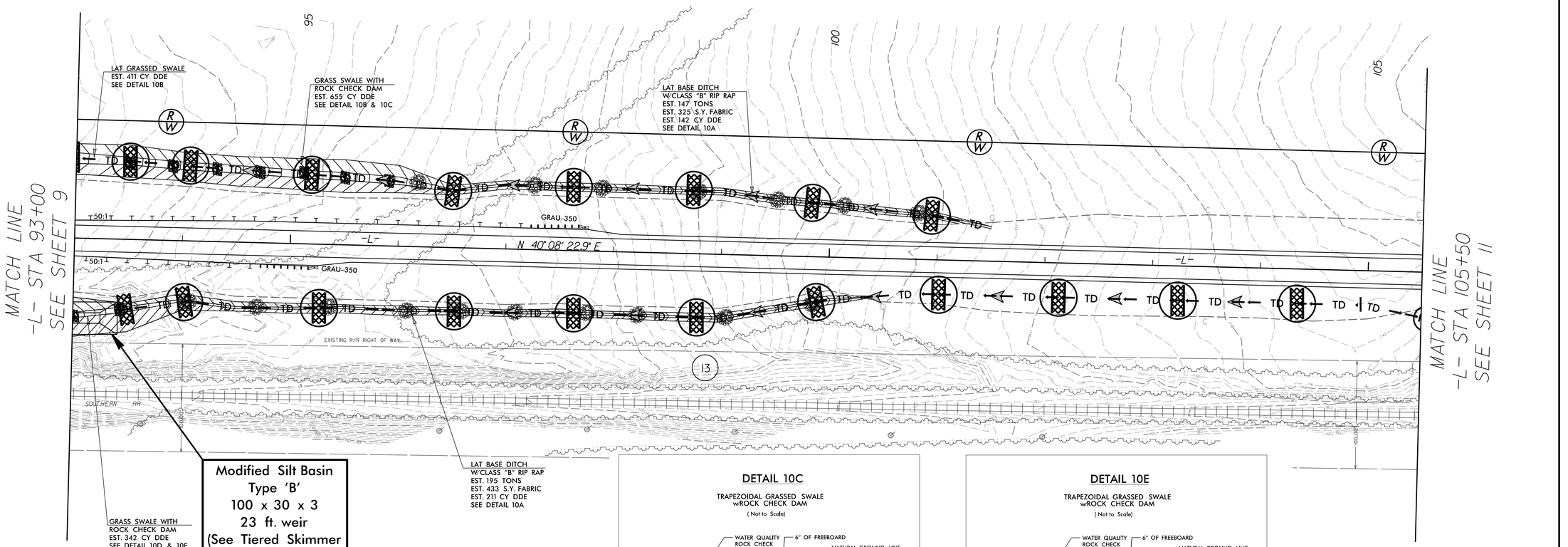
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 10

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-10/CONST10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

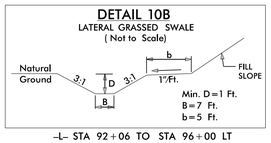
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83 NC GRID 83-95

REVISIONS

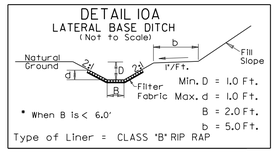


DETAIL 10B
LATERAL GRASSED SWALE
(Not to Scale)



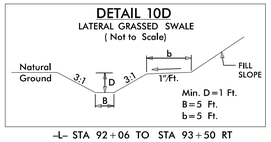
-L- STA 92+06 TO STA 96+00 LT

DETAIL 10A
LATERAL BASE DITCH
(Not to Scale)



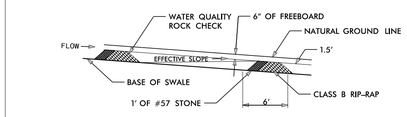
-L- STA. 96+00 TO -L- STA. 101+50 LT
-L- STA 93+50 RT TO STA 100+50 RT

DETAIL 10D
LATERAL GRASSED SWALE
(Not to Scale)

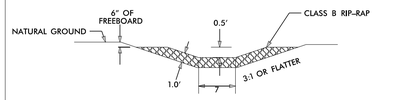


-L- STA 92+06 TO STA 93+50 RT

DETAIL 10C
TRAPEZOIDAL GRASSED SWALE
wROCK CHECK DAM
(Not to Scale)



PROFILE

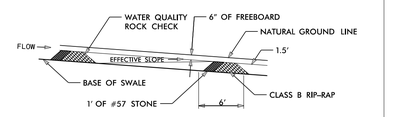


TYPICAL SECTION

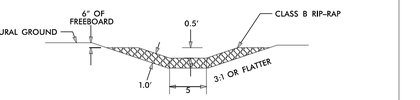
NOTES:
1) DO NOT USE INSIDE CLEAR RECOVERY AREA.
2) NOT PRACTICAL TO USE ON SLOPES > 5%.
3) FOR PERMANENT STRUCTURES IN GRASS SWALE.
4) CHECK DAMS SHOULD BE SPACED SUCH THAT THE BASE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

-L- STA 93+50 TO STA 96+00 LT

DETAIL 10E
TRAPEZOIDAL GRASSED SWALE
wROCK CHECK DAM
(Not to Scale)



PROFILE



TYPICAL SECTION

NOTES:
1) DO NOT USE INSIDE CLEAR RECOVERY AREA.
2) NOT PRACTICAL TO USE ON SLOPES > 5%.
3) FOR PERMANENT STRUCTURES IN GRASS SWALE.
4) CHECK DAMS SHOULD BE SPACED SUCH THAT THE BASE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

-L- STA. 92+06 TO STA. 93+50 RT

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 11

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-11/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC GRID NAD 83/95

REVISIONS

26

110 x 35 x 3
2 inch Skimmer
with 1.625 inch
Orifice Diameter
15 ft. weir
ID 1101

MATCH LINE
-L- STA 105+50
SEE SHEET 10

SPEC GRADE CUT DITCH
SEE DETAIL 11A

FALSE SUMP
SEE DETAIL 11B

F.S.

-L- N 40° 08' 22.9" E

TS Sta. 109+05.83

SC Sta. 110+55.83

SPEC GRADE DITCH
SEE PROFILE SHEET No 17

MATCH LINE
-L- STA 117+75
SEE SHEET 12

SPEC GRADE DITCH
SEE PROFILE SHEET No 17

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

SPEC GRADE CUT DITCH
SEE DETAIL 11A

CL "B" RIP RAP
W/FILTER FABRIC LINER
EST. 3 TONS
EST. 10 SY FABRIC

EXISTING R/R RIGHT OF WAY

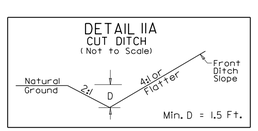
29

13

-L-

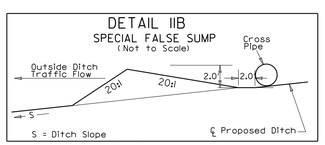
PIs Sta 110+05.85	PI Sta 115+08.96
Θs = 3° 16' 04.1"	△ = 38° 01' 36.1" (LT)
Ls = 150.00'	D = 4° 21' 25.5"
LT = 100.02'	L = 872.75
ST = 50.01'	T = 453.13'
	R = 1,315.00'
	SE = 0.06

DETAIL 11A
CUT DITCH
(Not to Scale)



-L- STA. 106+75 TO -L- STA. 108+00 LT
-L- STA. 107+50 TO -L- STA. 110+00 RT

DETAIL 11B
SPECIAL FALSE SUMP
(Not to Scale)



-L- STA. 106+60 LT

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-12/CONST J2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83 GRID N

REVISIONS

BEGIN CONSTRUCTION
-Y4- Sta. 10+00.00

BEGIN RESURFACING
-Y4- Sta. 11+73.04

CS Sta. 12+27.70

END CONSTRUCTION
-Y5- Sta. 13+62.68

END RESURFACING
-Y5- Sta. 13+28.79

END TIP PROJECT U-2707
POT Sta. 121+66.90 -L- =
POS Sta. 14+59.06 -Y4- =
POT Sta. 10+00.00 -Y5-
Δ = 82°41'27.42" -Y5-
Δ = 97°22'05.88" -L-

ST Sta. 120+78.59

ST Sta. 14+77.70

POT Sta.119+79.39 -L- =
POT Sta.10+00.00 -DR2-

END CONSTRUCTION
POT Sta. 10+80.00 -DR2-

END RESURFACING -Y4-
POT Sta. 16+65.00

END CONSTRUCTION
-Y4- Sta. 17+99.93

MATCH LINE
-L- STA 117+75
SEE SHEET 11

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 3 TONS
EST. 11 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 5 TONS
EST. 14 SY FABRIC

SPEC.GRADE CUT DITCH
W/CLASS "B"RIP RAP
EST. 20 TONS
EST. 22 SY FABRIC
SEE DETAIL 12B

CUT DITCH
W/CLASS "B"RIP RAP
EST. 11 TONS
EST. 12 SY FABRIC
SEE DETAIL 12B

LAT. "Y" DITCH
W/CLASS "B"RIP RAP
EST. 20 TONS
EST. 22 SY FABRIC
SEE DETAIL 12C

STD. BERM DITCH
SEE DETAIL 12A

15"ø CSP W/
2 ELBOWS &
BERM DITCH OUTLET

2GI W/
FLAT
GRATE

RETAIN

REMOVE

PLUG

EXISTING R/R RIGHT OF WAY

-Y4-

PI Sta 11+14.33
Δ = 12° 47' 26.0" (LT)
D = 5° 37' 02.0"
L = 227.70
T = 114.33'
R = 1,020.00'
SE = EXIST.

PIs Sta 13+11.5
Θs = 7° 01' 17.5"
Ls = 250.00'
LT = 166.80'
ST = 83.45'
SE = EXIST.

-L-

PI Sta 115+08.96
Δ = 38° 01' 36.1" (LT)
D = 4° 21' 25.5"
L = 872.75
T = 453.13'
R = 1,315.00'
SE = 0.06

PIs Sta 119+78.60
Θs = 3° 16' 04.1"
Ls = 150.00'
LT = 100.02'
ST = 50.01'

DETAIL 12C
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
2d
d
T
D
1"/Ft.
Fill Slope
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = CLASS "B" RIP RAP

-Y4- STA. 15+00 RT TO STA. 16+00 RT

DETAIL 12A
BERM DITCH
(Not to Scale)

SLOPE STAKE
CLEARING LIMITS
5.0'
6.0'
5.0'
4.0'
10.0' V.C.
2d
D
VAR.
Min. D = 1.0 Ft.

-L- STA. 120+00 RT TO -Y4- STA. 15+85 RT
-Y4- STA. 12+30 TO STA. 13+00 RT

DETAIL 12B
CUT DITCH
(Not to Scale)

Natural Ground
2d
d
T
4:1 or Flatter
Front Ditch Slope
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CLASS "B" RIP RAP

-Y5- STA. 11+00 RT TO STA. 11+35 RT
-Y5- STA. 11+35 RT TO STA. 12+00 RT

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-13/CONST13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

REVISIONS

NC GRID
NAD 83/95

-Y-

PI Sta 24+77.65
△ = 18° 15' 54.9" (RT)
D = 6° 01' 52.1"
L = 302.85'
T = 152.72'
R = 950.00'
SE = 0.04

PI Sta 20+52.02
△ = 13° 30' 00.2" (LT)
D = 6° 01' 52.1"
L = 223.84'
T = 112.44'
R = 950.00'
SE = 0.04

POT 12+90.56 -Y3-

END CONSTRUCTION
POT Sta.12+60.00 -Y3-

N 60° 49' 10.9" E

RETAIN
STONE CONC.

MAINTAIN EXISTING DITCH
RETAIN AND ADJUST ROOF
DRAINS AS NECESSARY

PT Sta. 21+63.42

MATCH LINE -Y- STA 19+50
SEE SHEET 4

PUE

SPECIAL GRADE
CUT DITCH
SEE DETAIL 13B

SPECIAL GRADE
CUT DITCH
SEE DETAIL 13A

S 24° 19' 40.1" E

REMOVE

18" CONC.

END CONSTRUCTION
POC Sta.25+30.00 -Y-

PT Sta. 26+27.78

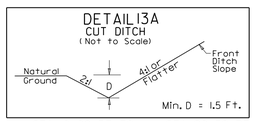
END RESURFACING
POC Sta.25+02.69 -Y-

SR 2999 — HAMPTON RD — 24' BST

POC Sta.20+04.54 -Y- =
POT Sta.10+00.00 -Y3-
△ = 75°33'54.76"

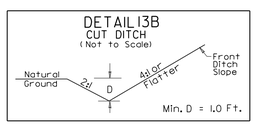
PC Sta. 23+24.93

DETAIL 13A
CUT DITCH
(Not to Scale)



-Y- STA. 18+00 RT TO -Y- STA. 20+50 RT

DETAIL 13B
CUT DITCH
(Not to Scale)



-Y- STA. 20+50 RT TO -Y- STA. 21+50 RT

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

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-14/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 19+00 to Sta. 19+50 –L– RT
Sta. 21+00 to Sta. 21+50 –L– RT
Sta. 15+00 to Sta. 16+00 –Y– LT
Sta. 15+50 to Sta. 16+35 –Y– RT

-L-

PI Sta 13+25.43
△ = 16° 26' 34.70" (LT)
D = 4° 46' 28.73"
L = 344.38'
T = 173.38'
R = 1,200.00'
SE = 0.06

PIs Sta 15+46.45
θs = 3° 34' 51.6"
Ls = 150.00'
LT = 100.02'
ST = 50.02'

PIs Sta 17+46.47
θs = 5° 08' 46.8"
Ls = 150.00'
LT = 100.04'
ST = 50.04'

PI Sta 18+97.07
△ = 13° 44' 42.1" (RT)
D = 6° 51' 42.4"
L = 200.31'
T = 100.64'
R = 835.00'
SE = 0.06

PI Sta 24+47.09
△ = 15° 07' 44.9" (LT)
D = 3° 49' 11.0"
L = 396.08'
T = 199.20'
R = 1,500.00'
SE = 0.06

-Y-

PI Sta 15+84.89
△ = 19° 45' 58.9" (LT)
D = 3° 57' 05.2"
L = 500.23'
T = 252.63'
R = 1,450.00'
SE = 0.03

DETAIL 4C
DITCH CLEAN OUT
(Not to Scale)

DDE = 10 CY
Min. D = 1.0 Ft.

-Y2- STA. 9+80 TO 11+00 LT

PREFORMED SCOUR HOLE
*NOT TO SCALE

TYPICAL QUANTITIES FOR PREFORMED SCOUR HOLES 1–6
EST. 36.7 TONS
EST. 57.0 CY DDE
EST. 108.5 SY PSRM
EST. 52.2 SY FILTER FABRIC

PLAN VIEW

SECTION A–A

DETAIL 4D
308

-L- STA. 18+47 RT
-L- STA. 21+65 RT
-Y- STA. 12+70 LT
-Y- STA. 13+10 LT
-Y- STA. 15+54 LT
-Y- STA. 18+66 LT

DETAIL 4A
CUT DITCH
(Not to Scale)

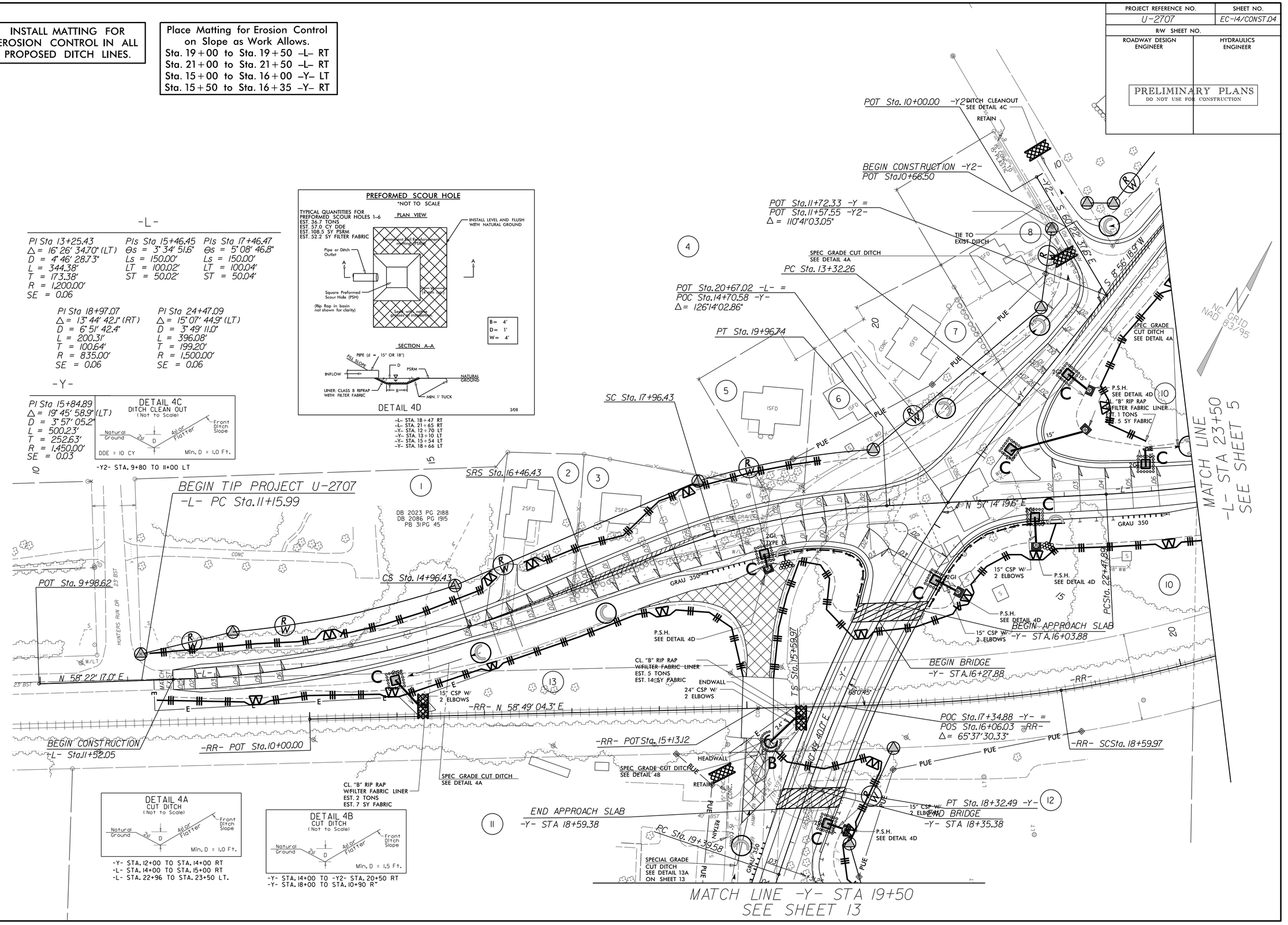
Min. D = 1.0 Ft.

-Y- STA. 12+00 TO STA. 14+00 RT
-L- STA. 14+00 TO STA. 15+00 RT
-L- STA. 22+96 TO STA. 23+50 LT.

DETAIL 4B
CUT DITCH
(Not to Scale)

Min. D = 1.5 Ft.

-Y- STA. 14+00 TO -Y2- STA. 20+50 RT
-Y- STA. 18+00 TO STA. 10+90 RT



PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-15/CONST.05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

MATCH LINE -L- STA 23+50 SEE SHEET 4

MATCH LINE -L- STA 37+50 SEE SHEET 6

BEGIN CONSTRUCTION
-Y- Sta.09+80.00

BEGIN RESURFACING
-Y- Sta.09+95.00

NC NAD 83 GRID

SPEC GRADE CUT DITCH
SEE DETAIL 4A

STD. BASE DITCH
W/CLASS "B"RIP RAP
EST. 35 TONS
EST. 65 SY FABRIC
EST. 70 CY DDE
SEE DETAIL 5B

78 x 32 x 3
1.5 inch Skimmer
with 1.375 inch
Orifice Diameter
9 ft. weir
ID 0502

SPEC. LAT "V" DITCH
W/CLASS "B" RIP RAP
EST. 113 TONS
EST. 125 S.Y. FABRIC
SEE DETAIL 5D

SPEC. LAT "V" DITCH
SEE DETAIL 5A

SPEC. LAT BASE DITCH
SEE DETAIL 5E

SPEC. LAT BASE DITCH
W/CLASS "B"RIP RAP
EST. 188 TONS
EST. 346 SY FABRIC
SEE DETAIL 5F

SC Sta. 29+43.97

SRS Sta. 27+93.97

CS Sta. 26+43.97

CHORD

SPEC GRADE CUT DITCH
SEE DETAIL 5H

HEADWALL

RETAIN

BORE AND JACK 36" SMOOTH ST W/0.50" WALL TH

STD. BASE DITCH
W/CLASS "I"RIP RAP
EST. 40 TONS
EST. 60 SY FABRIC
EST. 150 CY DDE
SEE DETAIL 5C

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 11 TONS
EST. 28 SY FABRIC

58 x 20 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
4 ft. weir
ID 0503

GRAU-350

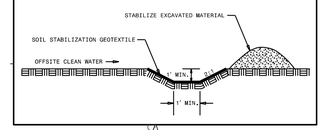
EXISTING RIGHT OF WAY

EXISTING R/R RIGHT OF WAY

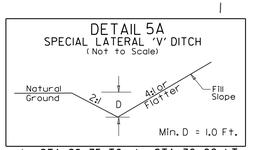
CLEAN WATER DIVERSION

CWD — CWD — CWD — CWD

(Not to Scale)



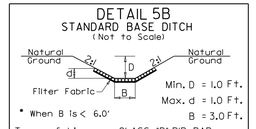
DETAIL 5A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.

-L- STA. 28+75 TO -L- STA. 30+00 LT

DETAIL 5B
STANDARD BASE DITCH
(Not to Scale)



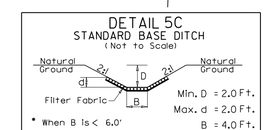
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 3.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "B" RIP RAP

-L- STA. 28+50 LT

DETAIL 5C
STANDARD BASE DITCH
(Not to Scale)



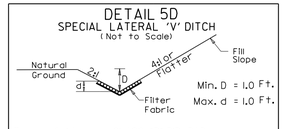
Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 4.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "I" RIP RAP

-L- STA. 29+70 RT

DETAIL 5D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

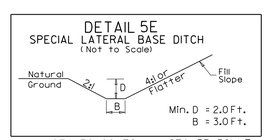


Min. D = 1.0 Ft.
Max. d = 1.0 Ft.

Type of Liner = CLASS "B" RIP RAP

-L- STA. 25+00 TO -L- STA. 28+75 LT

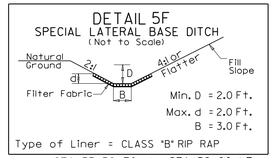
DETAIL 5E
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2.0 Ft.
B = 3.0 Ft.

-L- STA. 30+00 TO -L- STA. 33+50 LT

DETAIL 5F
SPECIAL LATERAL BASE DITCH
(Not to Scale)

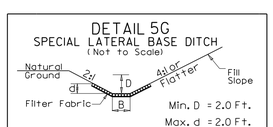


Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 3.0 Ft.

Type of Liner = CLASS "B" RIP RAP

-L- STA. 33+50 TO -L- STA. 36+00 LT

DETAIL 5G
SPECIAL LATERAL BASE DITCH
(Not to Scale)

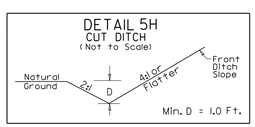


Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 5.0 Ft.

Type of Liner = CLASS "B" RIP RAP

-L- STA. 36+00 TO -L- STA. 38+00 LT

DETAIL 5H
CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.

-L- STA. 23+50 TO STA. 25+00 LT.

-L-

PI Sta 24+47.09	PIs Sta 26+93.98	PIs Sta 28+93.99	PI Sta 33+81.20
△ = 15° 07' 44.9" (LT)	Θs = 2° 51' 53.2"	Θs = 3° 07' 30.8"	△ = 35° 16' 48.5" (RT)
D = 3° 49' 11.0"	Ls = 150.00'	Ls = 150.00'	D = 4° 10' 01.1"
L = 396.08'	LT = 100.01'	LT = 100.02'	L = 846.66'
T = 199.20'	ST = 50.01'	ST = 50.01'	T = 437.23'
R = 1,500.00'			R = 1,375.00'
SE = 0.06			SE = 0.06

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 25+50 to Sta. 29+50 –L– RT
Sta. 31+50 to Sta. 32+50 –L– RT
Sta. 36+00 to Sta. 37+50 –L– RT

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

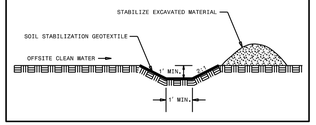
PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-16/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CLEAN WATER DIVERSION

CWD — CWD — CWD — CWD

(Not to Scale)



1.5 inch Skimmer with 1.0 inch Orifice Diameter 6.0 ft. weir with 3.0 ft. weir height ID 0604 (See Earthen Dam with Skimmer Detail)

NC GRID NAD 83/95

19 | 21 | 22Z | 40 | 45 | 50

SPEC. LAT BASE DITCH SEE DETAIL 6B

SPEC. LAT BASE DITCH W/CLASS "B"RIP RAP EST. 170 TONS EST. 680 SY FABRIC SEE DETAIL 6A

CHORD

CS Sta. 37+90.63

ST Sta. 39+50.63

HEADWALL

SPEC. LAT "V" DITCH SEE DETAIL 6D

SPEC. GRADE DITCH -L- STA. 44+00 TO 47+00

SC Sta. 48+52.63

TS Sta. 46+92.63

58 x 12 x 3 ID 0605

STD. BASE DITCH W/CLASS "B"RIP RAP EST. 20 TONS EST. 50 SY FABRIC EST. 225 CY DDE SEE DETAIL 6G

CUT DITCH SEE DETAIL 6H

SPEC. LAT "V" DITCH SEE DETAIL 6D

MATCH LINE SHEET 7 -L- STA 51+50

15" RCP IV

15" CSP W/ 2 ELBOWS

P.S.H. SEE DETAIL 6C

-L- N 80° 59' 01.7" E

GRAU-350

CL. "I" RIP RAP W/FILTER FABRIC LINER EST. 49 S.Y. EST. 26 TONS EST. 50 SY FABRIC

RETAIN

EXISTING RIGHT OF WAY

BORE AND JACK 48" SMOOTH STEEL PIPE W/ 0.625" WALL THICKNESS

NORFOLK SOUTHERN RR

CL. "B" RIP RAP W/FILTER FABRIC LINER EST. 2 TONS EST. 7 SY FABRIC

CL. "B" RIP RAP W/FILTER FABRIC LINER EST. 5 TONS EST. 16 SY FABRIC

HEADWALL

BORE AND JACK 36" SMOOTH STEEL PIPE W/ 0.50" WALL THICKNESS

STD. BASE DITCH EST. 115 CY DDE SEE DETAIL 6E

CL. "B" RIP RAP W/FILTER FABRIC LINER EST. 7 TONS EST. 22 SY FABRIC

RETAIN

CL. "I" RIP RAP W/FILTER FABRIC LINER EST. 49 S.Y. EST. 26 TONS EST. 50 SY FABRIC

EXISTING R/R RIGHT OF WAY

STANDARD BASE DITCH W/CLASS "I"RIP RAP EST. 1 TONS EST. 2 SY FABRIC SEE DETAIL 6C

MATCH LINE SHEET 5 -L- STA 37+50 SEE SHEET 5

13 | 20-A | 20-B

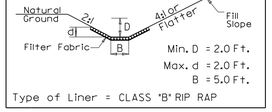
40+70.00 -L- 200.00

49+50.00 -L- 230.00

85 x 28 x 3 1.5 inch Skimmer with 1.375 inch Orifice Diameter 9 ft. weir ID 0603

STD. BASE DITCH W/CLASS "I"RIP RAP EST. 12 TONS EST. 15 SY FABRIC EST. 220 CY DDE SEE DETAIL 6F

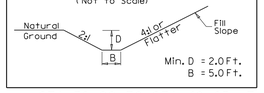
DETAIL 6A
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 5.0 Ft.
Type of Liner = CLASS "B" RIP RAP

-L- STA. 36+00 TO -L- STA. 38+00 LT

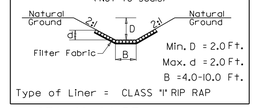
DETAIL 6B
SPECIAL LATERAL BASE DITCH
(Not to Scale)



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

-L- STA. 38+00 TO STA. 40+65 LT

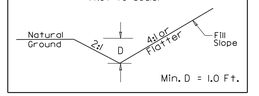
DETAIL 6C
STANDARD BASE DITCH
(Not to Scale)



Min. D = 2.0 Ft.
Max. d = 2.0 Ft.
B = 4.0-10.0 Ft.
Type of Liner = CLASS "I" RIP RAP

-L- STA. 40+64 RT

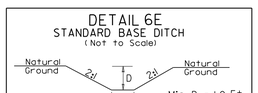
DETAIL 6D
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.

-L- STA. 40+65 TO STA. 42+50 LT
-L- STA. 43+00 TO STA. 44+00 LT
-L- STA. 48+50 TO STA. 50+60 LT

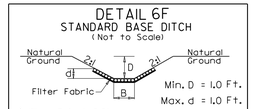
DETAIL 6E
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.0 Ft.
B = 3.0 Ft.

-L- STA. 50+15 RT

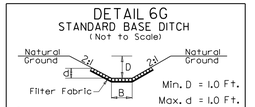
DETAIL 6F
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 4.0 Ft.
* When B is < 6.0'
Type of Liner = CLASS "I" RIP RAP

-L- STA. 49+75 RT

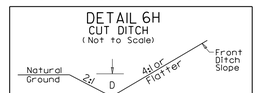
DETAIL 6G
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 3.0 Ft.
* When B is < 6.0'
Type of Liner = CLASS "B" RIP RAP

-L- STA. 50+60 LT

DETAIL 6H
CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.

-L- STA. 50+60 TO STA. 51+50 LT

INSTALL FILTRATION GEOTEXTILE UNDER TEMPORARY ROCK SILT CHECK(S) TYPE A IN PERMITTED WETLANDS.

Place Matting for Erosion Control on Slope as Work Allows. Sta. 37+50 to Sta. 44+00 -L- RT

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-17/CONST.07
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC NAD 83/95 GRID N

22Z

64 x 24 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
6 ft. weir
ID 0701

72 x 12 x 3
ID 0704

MATCH LINE
-L- STA 51+50 SEE SHEET 6

MATCH LINE
-L- STA 65+00
SEE SHEET 8

CUT DITCH
SEE DETAIL 7A

SPECIAL GRADE DITCH
SEE PROFILE SHEET No. 15

SPECIAL GRADE CUT DITCH
SEE DETAIL 7A

STANDARD BASE DITCH
SEE DETAIL 7B
DDE = 20 CY

SPEC. GRADE CUT DITCH
SEE DETAIL 7A

CS Sta. 58+81.06

ST Sta. 60+41.06

N 29° 47' 12.9" E

-L-

55

60

65

EXISTING RIGHT OF WAY

NORFOLK SOUTHERN RR

EXISTING R/R RIGHT OF WAY

13

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 5 TONS
EST. 14 SY FABRIC

20-B

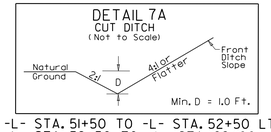
23

-L-

PI Sta 53+94.10
△ = 44° 18' 15.0" (LT)
D = 4° 18' 28.6"
L = 1,028.43
T = 541.47'
R = 1,330.00'
SE = 0.06

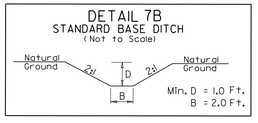
PIs Sta 59+34.41
θs = 3° 26' 46.9"
Ls = 160.00'
LT = 106.69'
ST = 53.35'

DETAIL 7A
CUT DITCH
(Not to Scale)



-L- STA. 51+50 TO -L- STA. 52+50 LT
-L- STA. 59+50 TO -L- STA. 62+00 LT
-L- STA. 62+00 TO -L- STA. 63+00 LT

DETAIL 7B
STANDARD BASE DITCH
(Not to Scale)



-L- STA. 61+85 LT

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 53+00 to Sta. 61+00 –L– LT

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-18/CONST.08
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

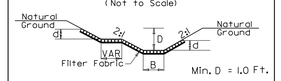
REVISIONS

MATCH LINE SHEET 7
-L- STA 65+00 SEE SHEET 7

MATCH LINE SHEET 9
-L- STA 79+00 SEE SHEET 9

NC GRID NAD 83/96

DETAIL 8B
INLET / OUTLET TYPICAL
(Not to Scale)



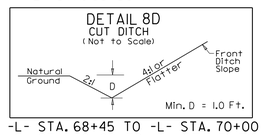
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 5.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "I" RIP RAP

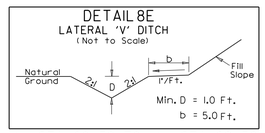
-L- STA. 68+50 RT

DETAIL 8D
CUT DITCH
(Not to Scale)



-L- STA. 68+45 TO -L- STA. 70+00 LT
-L- STA. 70+00 TO -L- STA. 71+50 RT

DETAIL 8E
LATERAL 'V' DITCH
(Not to Scale)



-L- STA. 68+58 TO -L- STA. 69+50 RT
-L- STA. 74+50 TO -L- STA. 79+00 LT

50 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 0802

58 x 16 x 3
ID 0803

STD. BASE DITCH
W/CLASS "I" RIP RAP
EST. 65 TONS
EST. 100 SY FABRIC
EST. 175 CY DDE
SEE DETAIL 8C

POT Sta.71+78.03 -L- =
POT Sta.11+98.07 -DRI-
Δ= 106°11'41.92"

PT Sta. 13+18.27

END CONSTRUCTION
STA.12+31.82 -DRI-

PC Sta. 71+91.06

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

LAT BASE DITCH
EST. 137 CY DDE
SEE DETAIL 8A

CUT DITCH
SEE DETAIL 8D

HEADWALL

N 29° 47' 12.9" E

-L-

SPEC GRADE CUT DITCH
SEE DETAIL 8D

EXISTING R/R RIGHT OF WAY

RIP RAP TOE
PROTECTION
W/CLASS "B" RIP RAP
EST. 48 TONS
EST. 53 SY FABRIC
SEE DETAIL 8F

CL. "I" RIP RAP
W/FILTER FABRIC LINER
EST. 49 S.Y.
EST. 26 TONS
EST. 50 SY FABRIC

SPECIAL
HEADWALL

RETAIN

STD. BASE DITCH
W/CLASS "I" RIP RAP
EST. 14 TONS
EST. 25 SY FABRIC
EST. 20 CY DDE
SEE DETAIL 8B

COLLAR

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

BEGIN CONSTRUCTION
STA.11+25.37 -DRI-

SPEC. LAT. "V" DITCH
EST. 176 CY DDE
SEE DETAIL 8E

POT Sta. 10+00.00

BORE AND JACK
48" SMOOTH STEEL PIPE
W/0.625" WALL THICKNESS

CL. "I" RIP RAP
W/FILTER FABRIC LINER
EST. 60 SY
EST. 33 TONS
EST. 62 SY FABRIC

RIP RAP AT EMBANKMENT
W/CLASS "I" RIP RAP
SEE DETAIL 8G

N 80° 57' 59.8" W

SEE SHEET EC-24 FOR STREAM
MITIGATION EROSION CONTROL

PROPOSED THALWEG

PROPOSED BANKFULL
CHANNEL

LAT "V" DITCH
EST. 187 CY DDE
SEE DETAIL 8E

PT Sta. 77+69.27

GRAU-350

N 40° 08' 22.9" E

PCC Sta. 11+82.80

LAT BASE DITCH
EST. 245 CY DDE
SEE DETAIL 8A

PC Sta. 10+54.67

15" CSP W/
2 ELBOWS

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

15" CSP W/
2 ELBOWS

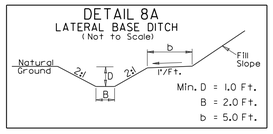
CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

-DRI-

PI Sta 11+20.93	PI Sta 12+50.65
Δ = 36° 00' 35.0" (RT)	Δ = 8° 19' 40.8" (RT)
D = 28° 06' 14.7"	D = 6° 08' 51.4"
L = 128.13'	L = 135.47'
T = 66.26'	T = 67.85'
R = 203.87'	R = 932.00'
SE = NC	SE = NC

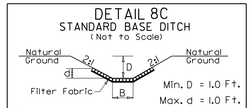
DETAIL 8A
LATERAL BASE DITCH
(Not to Scale)



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

-L- STA. 73+00 TO -L- STA. 79+00 RT

DETAIL 8C
STANDARD BASE DITCH
(Not to Scale)



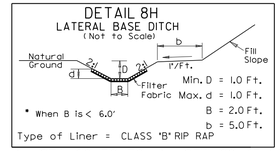
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 5.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "I" RIP RAP

-L- STA. 68+45 LT

DETAIL 8H
LATERAL BASE DITCH
(Not to Scale)



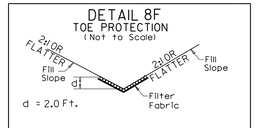
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

* When B Is < 6.0'

Type of Liner = CLASS "B" RIP RAP

-L- STA. 66+50 TO -L- STA. 68+45 LT

DETAIL 8F
TOE PROTECTION
(Not to Scale)

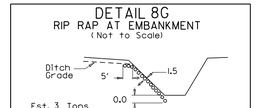


d = 2.0 Ft.

Type of Liner = CLASS "B" RIP RAP

-L- STA. 67+20 TO -L- STA. 68+40 RT

DETAIL 8G
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = CLASS "I" RIP RAP

-L- STA. 90+90 RT

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 67+50 to Sta. 68+50 -L- LT
Sta. 67+50 to Sta. 69+00 -L- RT
Sta. 73+50 to Sta. 79+00 -L- LT
Sta. 73+00 to Sta. 79+00 -L- RT

Place Matting for Erosion Control
on Slopes Adjacent to Permitted
Wetlands as Work Allows.

INSTALL MATTING FOR
EROSION CONTROL IN ALL
PROPOSED DITCH LINES.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-19/CONST.09
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

Place Matting for Erosion Control on Slopes Adjacent to Permitted Wetlands as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 79+00 to Sta. 87+00 –L– LT
Sta. 79+00 to Sta. 88+00 –L– RT
Sta. 92+50 to Sta. 93+00 –L– RT

130 x 40 x 3
2.0 inch Skimmer
with 2.0 inch
Orifice Diameter
20 ft. weir
ID 0902

66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 0903

120 x 30 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
13 ft. weir
ID 0905

124 x 30 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
14 ft. weir
ID 0901

54 x 26 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
5 ft. weir
ID 0904

100 x 30 x 3
2.0 inch Skimmer
with 1.875 inch
Orifice Diameter
23 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 0906

Modified Silt Basin
Type 'B'
100 x 30 x 3
23 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 0906

NAD 83/95 NC GRID

-L- STA 79+00 SEE SHEET 8

-L- STA 93+00 SEE SHEET 10

PROPOSED THALWEG

PROPOSED BOTTOM FULL CHANNEL WIDTH

BEGIN BRIDGE
-L- STA 88+05.00

BEGIN APPROACH SLAB
-L- STA 87+80.83

END BRIDGE
-L- STA 92+45.00

BEGIN APPROACH SLAB
-L- STA 92+69.17

MUDDY CREEK

LAT "V" DITCH
EST. 187 CY DDE
SEE DETAIL 9C

SEE SHEET EC-25 FOR STREAM MITIGATION EROSION CONTROL

CLASS "II" RIP RAP SLOPE PROTECTION SEE DETAIL 9I

15" CSP W/ 2 ELBOWS

P.S.H. SEE DETAIL 9H

18" CONC. REMOVE

CL. "I" RIP RAP W/FILTER FABRIC LINER EST. 96 TONS EST. 174 SY FABRIC

LAT GRASSED SWALE
EST. 411 CY DDE
SEE DETAIL 9D

STANDARD BASE GRASSED SWALE
EST. 123 CY DDE
SEE DETAIL 9E

TYPE-III

50:1 TAPER

N 40° 08' 22.9" E

RETAIN EXISTING CHANNEL

EXISTING R/R RIGHT OF WAY

NORFOLK SOUTHERN RR

LAT BASE DITCH
EST. 245 CY DDE
SEE DETAIL 9A

LAT BASE DITCH
EST. 195 CY DDE
SEE DETAIL 9B

CL. "B" RIP RAP W/FILTER FABRIC LINER EST. 8 TONS EST. 21 SY FABRIC

CL. "B" RIP RAP W/FILTER FABRIC LINER EST. 2 TONS EST. 7 SY FABRIC

15" CSP W/ 2 ELBOWS

REMOVE

RIP RAP OUTLET W/CLASS "II" RIP RAP SEE DETAIL 9F

STANDARD BASE GRASSED SWALE EST. 178 CY DDE SEE DETAIL 9E

GRASS SWALE WITH ROCK CHECK DAM EST. 342 CY DDE SEE DETAIL 9G & 9H

22 22Z 23 26 13

DETAIL 9A
LATERAL BASE DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 b 1'/Ft. Fill Slope B

Min. D = 1.0 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

-L- STA. 79+00 TO -L- STA. 80+50 RT

DETAIL 9B
LATERAL BASE DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 b 1'/Ft. Fill Slope B

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

-L- STA. 80+50 TO -L- STA. 83+70 RT

DETAIL 9C
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground 2:1 D 2:1 b 1'/Ft. Fill Slope

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

-L- STA. 79+00 TO -L- STA. 82+65 LT

DETAIL 9D
LATERAL GRASSED SWALE
(Not to Scale)

Natural Ground 3:1 D 3:1 b 1'/Ft. FILL SLOPE B

Min. D=1 Ft.
B=10 Ft.
b=5 Ft.

-L- STA 92+06 TO STA 93+50 LT

DETAIL 9E
STANDARD BASE GRASSED SWALE
(Not to Scale)

Natural Ground 3:1 OR FLATTER D 3:1 OR FLATTER Natural Ground B

Min. D=1 Ft.
B=10 Ft.

*NOTES:
1) LONGITUDINAL SLOPES BETWEEN 0.3% AND 4.0%.
2) MODIFICATIONS MAY BE NEEDED, AS APPROVED BY ENGINEER.

-L- STA. 92+06 LT & RT
-L- STA. 91+00 TO STA. 92+06 RT

DETAIL 9F
RIP RAP AT EMBANKMENT
(Not to Scale)

Ditch Grade 15' 2.0 3.0

Est. 20 Tons

Type of Liner = CLASS "II" RIP RAP

-L- STA. 90+90 RT

DETAIL 9H
LATERAL GRASSED SWALE
(Not to Scale)

Natural Ground 3:1 D 3:1 b 1'/Ft. FILL SLOPE B

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

-L- STA 92+06 TO 93+50 RT

DETAIL 9I
RIP RAP AT EMBANKMENT
(Not to Scale)

EL=704.26
(50 YR + 2')
2.0
3.5
Natural Ground
Est. Tons

Type of Liner = CL "II" RIP RAP

-L- STA. 87+00 TO STA. 88+00 LT
-L- STA 92+50 TO STA 93+00 LT

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-20/CONST.JO
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

Place Matting for Erosion Control on Slope as Work Allows.
Sta. 93+00 to Sta. 97+00 –L– LT
Sta. 93+00 to Sta. 97+50 –L– RT

26

NAD 83 NC GRID

95 100 105

MATCH LINE -L- STA 93+00 SEE SHEET 9

MATCH LINE -L- STA 105+50 SEE SHEET 11

LAT GRASSED SWALE
EST. 411 CY DDE
SEE DETAIL 10B

GRASS SWALE WITH
ROCK CHECK DAM
EST. 655 CY DDE
SEE DETAIL 10B & 10C

LAT BASE DITCH
W/CLASS "B" RIP RAP
EST. 147 TONS
EST. 325 S.Y. FABRIC
EST. 142 CY DDE
SEE DETAIL 10A

GRAU-350

-L- N 40° 08' 22.9" E

50.0'

EXISTING R/R RIGHT OF WAY

13

SOUTHERN RR

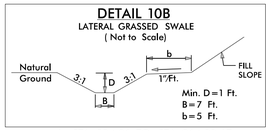
100.00'

GRASS SWALE WITH
ROCK CHECK DAM
EST. 342 CY DDE
SEE DETAIL 10D & 10E

Modified Silt Basin
Type 'B'
100 x 30 x 3
23 ft. weir
(See Tiered Skimmer Basin Detail)
ID 0906

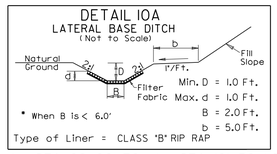
LAT BASE DITCH
W/CLASS "B" RIP RAP
EST. 195 TONS
EST. 433 S.Y. FABRIC
EST. 211 CY DDE
SEE DETAIL 10A

DETAIL 10B
LATERAL GRASSED SWALE
(Not to Scale)



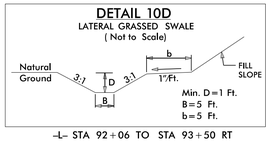
-L- STA 92+06 TO STA 96+00 LT

DETAIL 10A
LATERAL BASE DITCH
(Not to Scale)



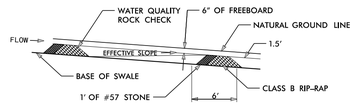
-L- STA. 96+00 TO -L- STA. 101+50 LT
-L- STA 93+50 RT TO STA 100+50 RT

DETAIL 10D
LATERAL GRASSED SWALE
(Not to Scale)

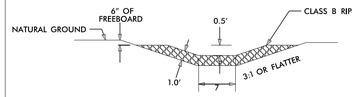


-L- STA 92+06 TO STA 93+50 RT

DETAIL 10C
TRAPEZOIDAL GRASSED SWALE
wROCK CHECK DAM
(Not to Scale)



PROFILE

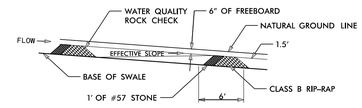


TYPICAL SECTION

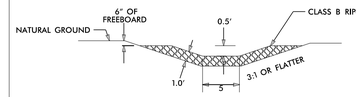
NOTES:
1) DO NOT USE INSIDE CLEAR RECOVERY AREA.
2) NOT PRACTICAL TO USE ON SLOPES > 5%.
3) FOR PERMANENT STRUCTURES IN GRASS SWALE.
4) CHECK DAMS SHOULD BE SPACED SUCH THAT THE BASE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

-L- STA 93+50 TO STA 96+00 LT

DETAIL 10E
TRAPEZOIDAL GRASSED SWALE
wROCK CHECK DAM
(Not to Scale)



PROFILE



TYPICAL SECTION

NOTES:
1) DO NOT USE INSIDE CLEAR RECOVERY AREA.
2) NOT PRACTICAL TO USE ON SLOPES > 5%.
3) FOR PERMANENT STRUCTURES IN GRASS SWALE.
4) CHECK DAMS SHOULD BE SPACED SUCH THAT THE BASE OF THE UPSTREAM CHECK IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK.

-L- STA. 92+06 TO STA. 93+50 RT

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-21/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC GRID NAD 83/95

REVISIONS

26

110

111

115

MATCH LINE -L- STA 105+50 SEE SHEET 10

SPEC GRADE CUT DITCH
SEE DETAIL 11A

61 x 12 x 3
ID 1102

FALSE SUMP
SEE DETAIL 11B

F.S.

-L- N 40° 08' 22.9" E

TS Sta. 109+05.83

SC Sta. 110+55.83

SPEC GRADE DITCH
SEE PROFILE SHEET No 17

SPEC GRADE DITCH
SEE PROFILE SHEET No 17

MATCH LINE -L- STA 117+75 SEE SHEET 12

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

SPEC GRADE CUT DITCH
SEE DETAIL 11A

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 3 TONS
EST. 10 SY FABRIC

600.00'

EXISTING R/R RIGHT OF WAY

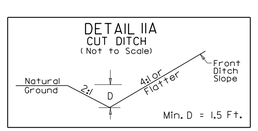
29

13

-L-

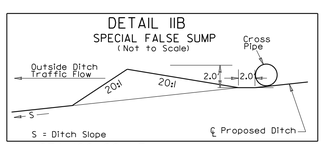
PIs Sta 110+05.85	PI Sta 115+08.96
Θs = 3° 16' 04.1"	△ = 38° 01' 36.1" (LT)
Ls = 150.00'	D = 4° 21' 25.5"
LT = 100.02'	L = 872.75
ST = 50.01'	T = 453.13'
	R = 1,315.00'
	SE = 0.06

DETAIL 11A
CUT DITCH
(Not to Scale)



-L- STA. 106+75 TO -L- STA. 108+00 LT
-L- STA. 107+50 TO -L- STA. 110+00 RT

DETAIL 11B
SPECIAL FALSE SUMP
(Not to Scale)



-L- STA. 106+60 LT

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-22/CONST J2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

NAD 83 GRID N

BEGIN CONSTRUCTION
-Y4- Sta. 10+00.00

BEGIN RESURFACING
-Y4- Sta. 11+73.04

CS Sta. 12+27.70

ST Sta. 120+78.59

POT Sta.119+79.39 -L- =
POT Sta.10+00.00 -DR2-

ST Sta. 14+77.70

END CONSTRUCTION
-Y5- Sta. 13+62.68

END RESURFACING
-Y5- Sta. 13+28.79

END TIP PROJECT U-2707
POT Sta. 121+66.90 -L- =
POS Sta. 14+59.06 -Y4- =
POT Sta. 10+00.00 -Y5-
Δ = 82°41'27.42" -Y5-
Δ = 97°22'05.88" -L-

END RESURFACING -Y4-
POT Sta. 16+65.00

END CONSTRUCTION
-Y4- Sta. 17+99.93

END CONSTRUCTION
POT Sta. 10+80.00 -DR2-

MATCH LINE
-L- STA 117+75
SEE SHEET 11

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 2 TONS
EST. 7 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 3 TONS
EST. 11 SY FABRIC

CL. "B" RIP RAP
W/FILTER FABRIC LINER
EST. 5 TONS
EST. 14 SY FABRIC

SPEC.GRADE CUT DITCH
W/CLASS "B"RIP RAP
EST. 20 TONS
EST. 22 SY FABRIC
SEE DETAIL 12B

CUT DITCH
W/CLASS "B"RIP RAP
EST. 11 TONS
EST. 12 SY FABRIC
SEE DETAIL 12B

LAT. "V" DITCH
W/CLASS "B"RIP RAP
EST. 20 TONS
EST. 22 SY FABRIC
SEE DETAIL 12C

STD. BERM DITCH
SEE DETAIL 12A

15" CSP W/
2 ELBOWS &
BERM DITCH OUTLET

2GI W/
FLAT
GRATE

PLUG

REMOVE

RETAIN

EXISTING R/R RIGHT OF WAY

-Y4-

PI Sta 11+14.33
Δ = 12° 47' 26.0" (LT)
D = 5° 37' 02.0"
L = 227.70
T = 114.33'
R = 1,020.00'
SE = EXIST.

PIs Sta 13+11.15
Θs = 7° 01' 17.5"
Ls = 250.00'
LT = 166.80'
ST = 83.45'
SE = EXIST.

-L-

PI Sta 115+08.96
Δ = 38° 01' 36.1" (LT)
D = 4° 21' 25.5"
L = 872.75
T = 453.13'
R = 1,315.00'
SE = 0.06

PIs Sta 119+78.60
Θs = 3° 16' 04.1"
Ls = 150.00'
LT = 100.02'
ST = 50.01'

DETAIL 12C
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
2d
d
T
D
2d
1"/Ft.
Fill Slope
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = CLASS 'B' RIP RAP

-Y4- STA. 15+00 RT TO STA. 16+00 RT

DETAIL 12A
BERM DITCH
(Not to Scale)

SLOPE STAKE
CLEARING LIMITS
5.0'
6.0'
4.0'
10.0' V.C.
2d
D VAR.
Min. D = 1.0 Ft.

-L- STA. 120+00 RT TO -Y4- STA. 15+85 RT
-Y4- STA. 12+30 TO STA. 13+00 RT

DETAIL 12B
CUT DITCH
(Not to Scale)

Natural Ground
2d
d
T
D
4d or Flatter
Front Ditch Slope
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CLASS 'B' RIP RAP

-Y5- STA. 11+00 RT TO STA. 11+35 RT
-Y5- STA. 11+35 RT TO STA. 12+00 RT

INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-23/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

REVISIONS

-Y-

PI Sta 24+77.65	PI Sta 20+52.02
△ = 18° 15' 54.9" (RT)	△ = 13° 30' 00.2" (LT)
D = 6° 01' 52.1"	D = 6° 01' 52.1"
L = 302.85'	L = 223.84'
T = 152.72'	T = 112.44'
R = 950.00'	R = 950.00'
SE = 0.04	SE = 0.04

NC GRID NAD 83/95

POT 12+90.56 -Y3-

END CONSTRUCTION
POT Sta.12+60.00 -Y3-

32

33

25

RETAIN

PT Sta. 21+63.42

MAINTAIN EXISTING DITCH RETAIN AND ADJUST ROOF DRAINS AS NECESSARY

END CONSTRUCTION
POC Sta.25+30.00 -Y-

MATCH LINE -Y- STA 19+50
SEE SHEET 4

N 60° 49' 10.9" E

S 24° 19' 40.1" E

REMOVE

PUE

SPECIAL GRADE
CUT DITCH
SEE DETAIL 13B

SPECIAL GRADE
CUT DITCH
SEE DETAIL 13A

PT Sta. 26+27.78

END RESURFACING
POC Sta.25+02.69 -Y-

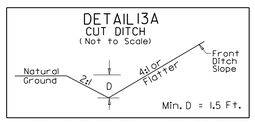
SR 2999 HAMPTON RD 24' BST

POC Sta.20+04.54 -Y- =
POT Sta.10+00.00 -Y3-
△ = 75°33'54.76"

PC Sta. 23+24.93

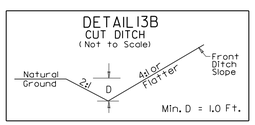
INSTALL MATTING FOR EROSION CONTROL IN ALL PROPOSED DITCH LINES.

DETAIL 13A
CUT DITCH
(Not to Scale)



-Y- STA. 18+00 RT TO -Y- STA. 20+50 RT

DETAIL 13B
CUT DITCH
(Not to Scale)



-Y- STA. 20+50 RT TO -Y- STA. 21+50 RT

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-24/MIT03
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

5/28/99

0+00

5+00

10+00

NC GRID NAD 83

STREAM PLUG

PROPOSED SLOPE STAKES

PROPOSED THALWEG

PROPOSED BANKFULL CHANNEL

REMOVE TRSC-A PRIOR TO DIRECTING FLOW INTO PROPOSED CHANNEL

STREAM INV.=687.51'
SS TOP=685.76'

130 x 40 x 3
2.0 inch Skimmer
with 2.0 inch
Orifice Diameter
20 ft. weir
ID 0902

60" CMP

INV = 696.58'

22Z
EDNA W. BINGHAM
DB 786 PG 441

22
EDNA W. BINGHAM
DB 786 PG 441

GRAU-350

MATCH TO SHEET MIT-04
-RI- STA 12+15.00

12/15/2015
12/7/2015
bpixley
U-2707_dsn_psh_24_mit.dgn

5/28/99

REVISIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-25/MIT04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCH TO SHEET MIT-03
-RI- STA 12+15.00

15+00

22
EDNA W. BINGHAM
DB 786 PG 441

22Z
EDNA W. BINGHAM
DB 786 PG 441

PROPOSED STAKES

PROPOSED BANKFULL CHANNEL

PROPOSED THALWEG

REMOVE TRSC-A PRIOR TO DIRECTING FLOW INTO PROPOSED CHANNEL.

REMOVE EXISTING 18" CMP

66 x 33 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
8 ft. weir
ID 0903

26
JOSEPH C. GOODMAN
AND WIFE
MARY ANN HARRIS GOODMAN
DB 2226 PG 4675
DB 1629 PG 3747

MIDDY CREEK

TYPE-III

50:1 TAPER

GRAU-350

EXISTING R/R RIGHT OF WAY

NORFOLK SOUTHERN RR

NC GRID
NAD 83

12/15/2015
12/7/2015
bpayne

I:\2707\25_dsn_psh_25_mit_dgn

STREAM MITIGATION CONSTRUCTION SEQUENCE

UT TO MUDDY CREEK

PROJECT REFERENCE NO.	SHEET NO.
U-2707	EC-25A/MIT04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Working Sections

Phase	Begin Station	End Station	Construction Activity
1	0+00	18+00	Install permiter EC measures and skimmer basin 0902 and 0903, in accordance with the plans.
2	2+75	9+75	Construct proposed channel from station 2+75 to 9+75, between the beginning of project and just before the intersection with Reach 1.
3	11+00	18+00	Construct proposed channel from station 11+00, just after Reach 1, to the end of project. Install impervious dikes #1 and #2, and begin pump around operation prior to tieing proposed channel into Reach 2. Utilize basin 0903 to dewater construction area. Stabilize the channel tie in and remove impervious dikes #1 and #2.
4	9+75	11+00	Install impervious dikes #3 and #4, and begin pump around operation. Utilize basin 0902 for dewatering construction area. Construct proposed channel from 9+75 to 11+00, through the intersection with Reach 1. Install stream plug at station 10+75 RT. Remove impervious dike #3 and turn flow from Reach 1 into proposed channel.
5	0+00	2+75	Install impervious dikes #5 and #6, and begin pump around operation. Utilize special stilling basin for dewatering construction area. Construct proposed channel from beginning of project to tie in at station 2+75. Install stream plug at station 1+25 LT. Remove impervious dike #5 and turn flow into proposed channel.

60 30 0 60 120

PLANS