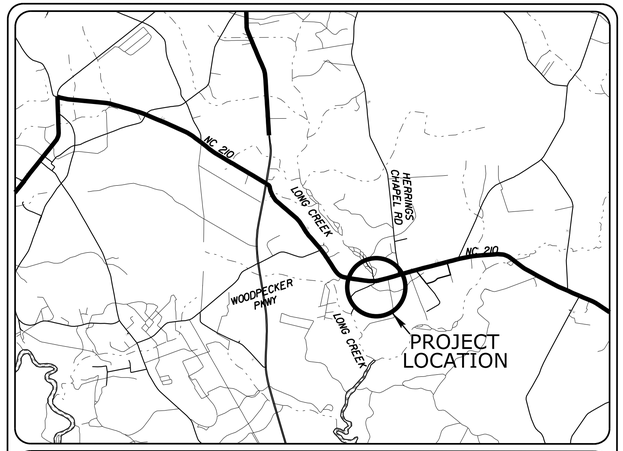
TIP PROJECT: B–5156

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5156	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42331.1.2		P.E.
42331.2.1		RIGHT–OF–WAY
42331.2.1		UTILITIES
42331.3.1		CONSTRUCTION



VICINITY MAP
NOT TO SCALE

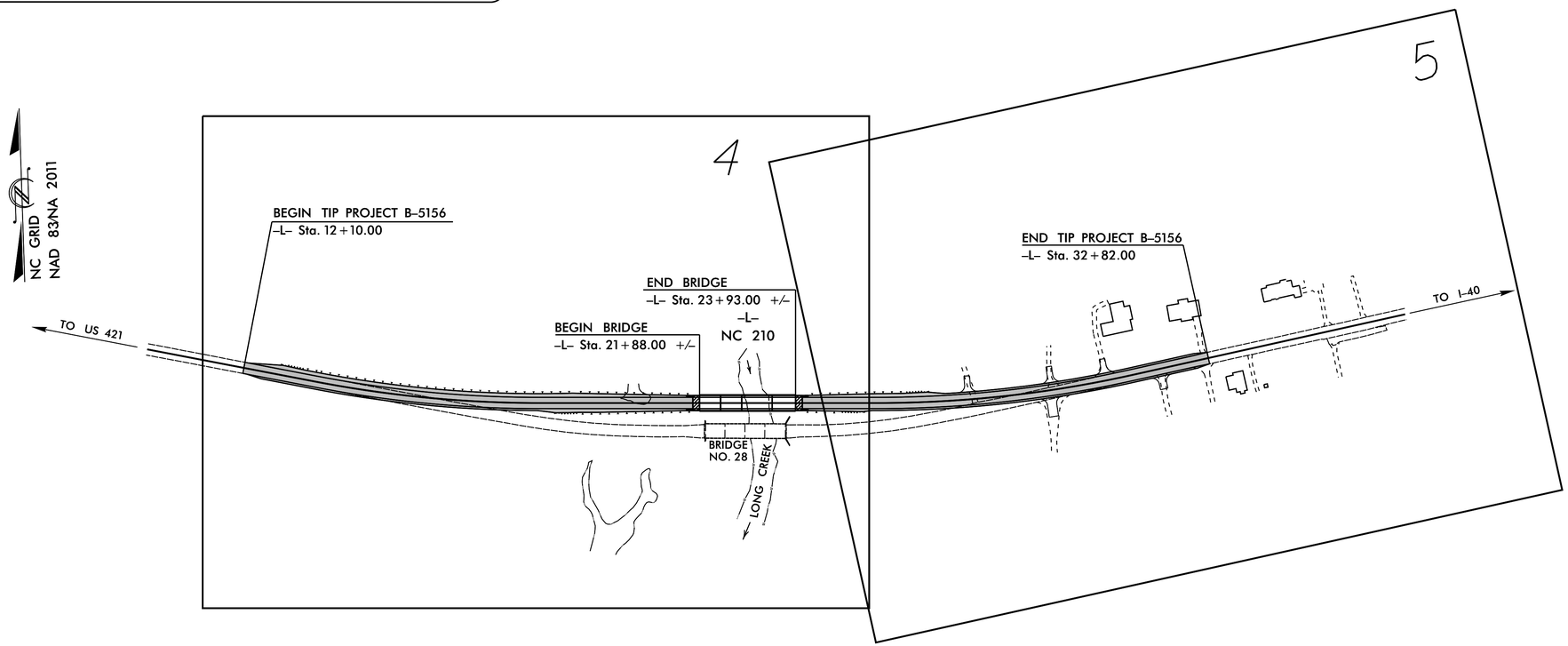
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

PENDER COUNTY

LOCATION: BRIDGE 28 OVER LONG CREEK ON NC 210

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



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

THE OUTSIDE BUFFER, WETLAND, OR WATER BOUNDARY SHALL BE CLEARLY MARKED BY HIGHLY VISIBLE FENCING (ORANGE SAFETY FENCE).

GRAPHIC SCALE

50 25 0 50 100
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.

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Prepared in the Office of:

KIMLEY–HORN
421 FAYETTEVILLE STREET, SUITE 601
RALEIGH, NC 27601

Designed by:

VANCE BLANTON *3708*
NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

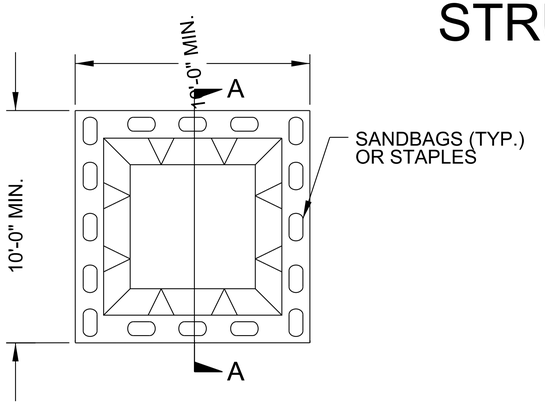
EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C

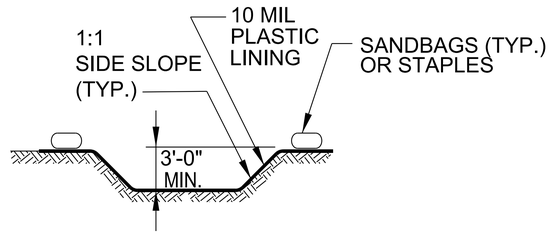
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	—EW—EW—EW—
1636.03	Coir Fiber Wattle Barrier	—CFW—CFW—CFW—

PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-02A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

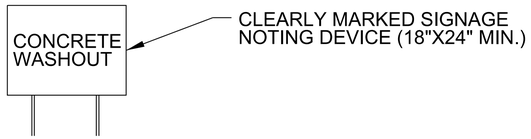
ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A



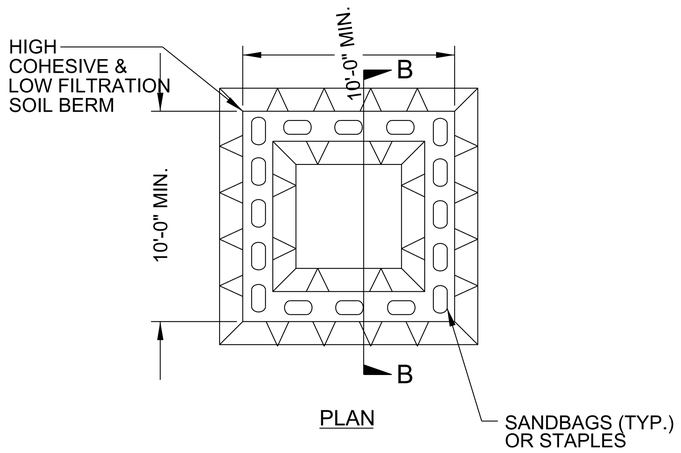
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

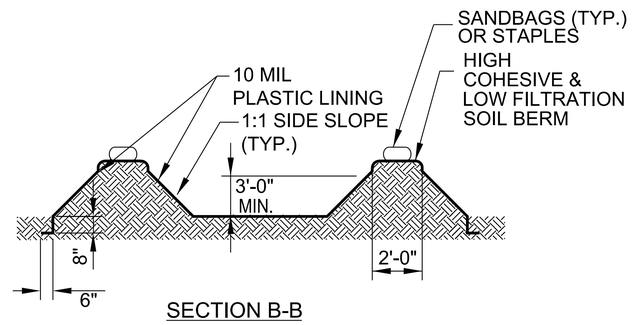
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

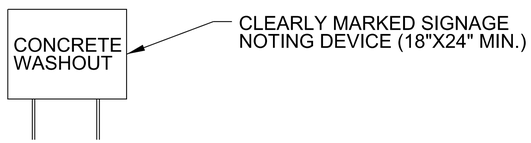
NOT TO SCALE



PLAN



SECTION B-B



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

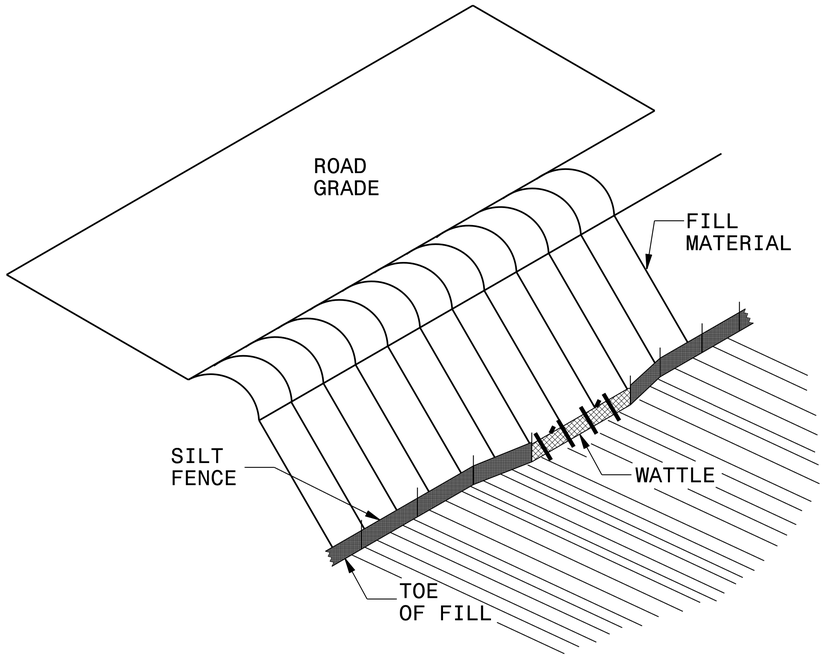
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

SILT FENCE COIR FIBER WATTLE BREAK DETAIL

PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-02B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ISOMETRIC VIEW

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

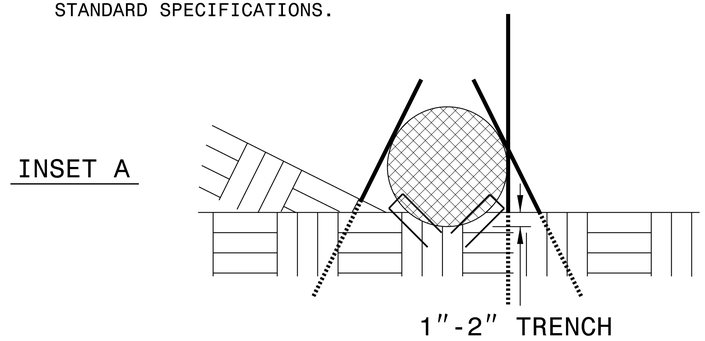
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

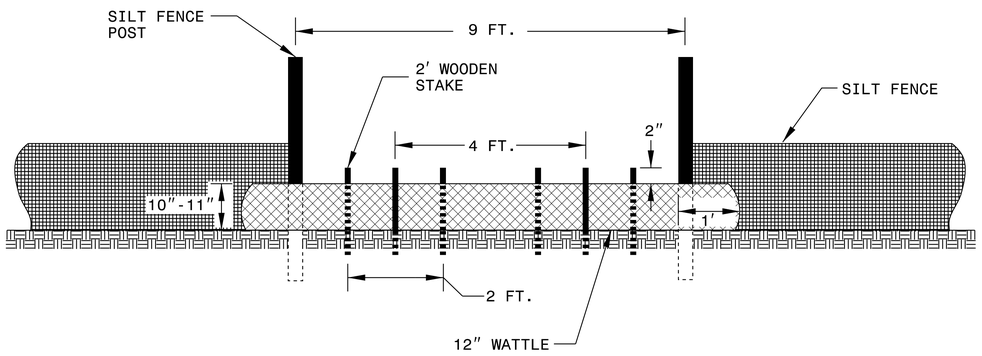
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

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

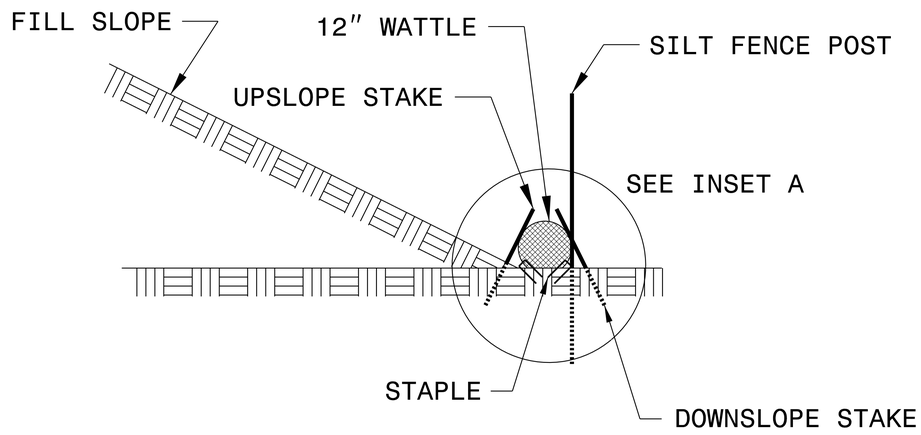
WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.





VIEW FROM SLOPE



SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL (DITCHES)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
DITCHES					
5	-L-	26+75	27+50	L	80
		DITCHES SUBTOTAL			80

MATTING FOR EROSION CONTROL (SLOPES)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
SLOPES					
4	-L-	14+00	21+88	L	2440
4	-L-	23+93	24+50	L	390
		SLOPES SUBTOTAL			2830
	MATTING TO BE INSTALLED ON DITCHES*				80
	MATTING TO BE INSTALLED ON SLOPES*				2830
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					1600
				TOTAL	4510
				SAY	4600

* REFER TO FINAL CONSTRUCTION PHASE SHEETS FOR LOCATIONS OF MATTING

PROJECT REFERENCE NO.	SHEET NO.
B-5156	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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES

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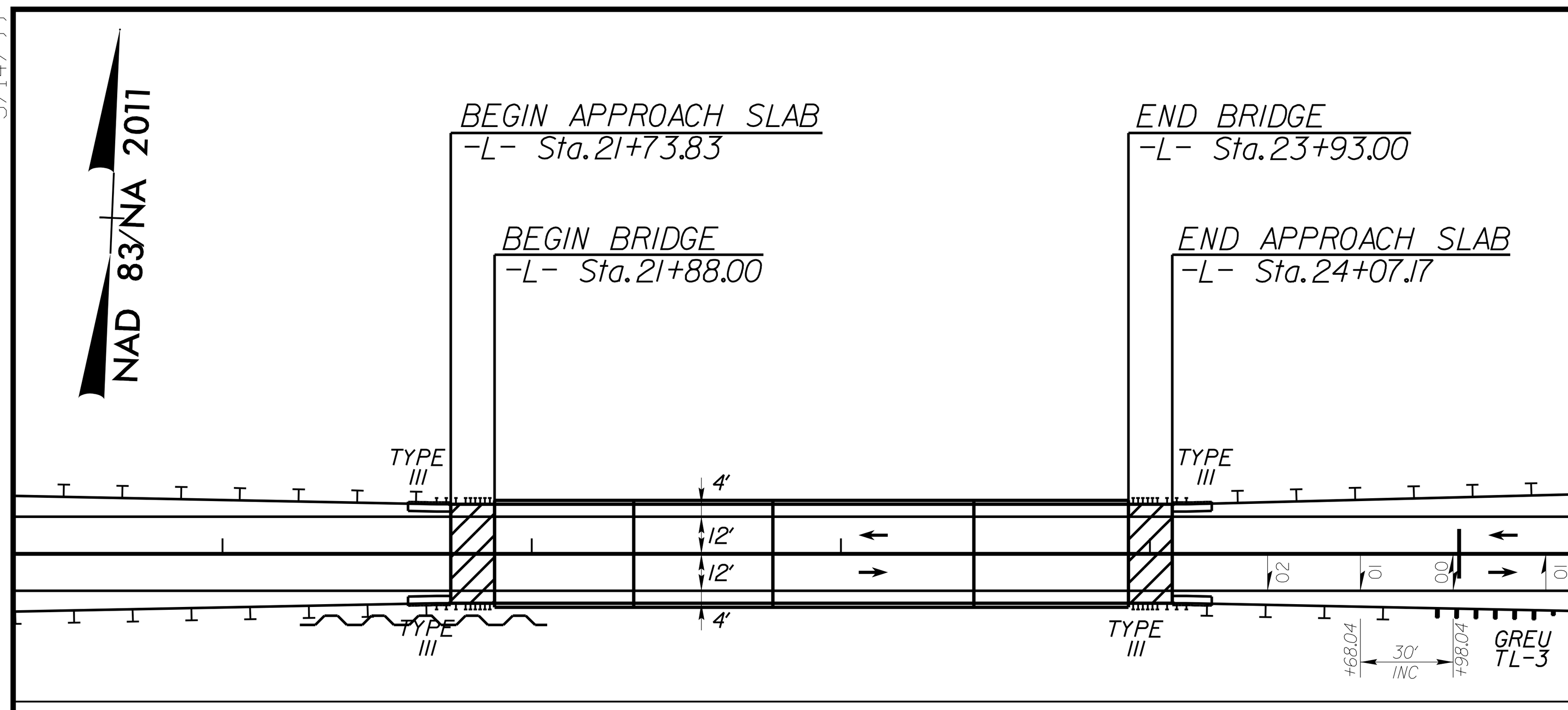
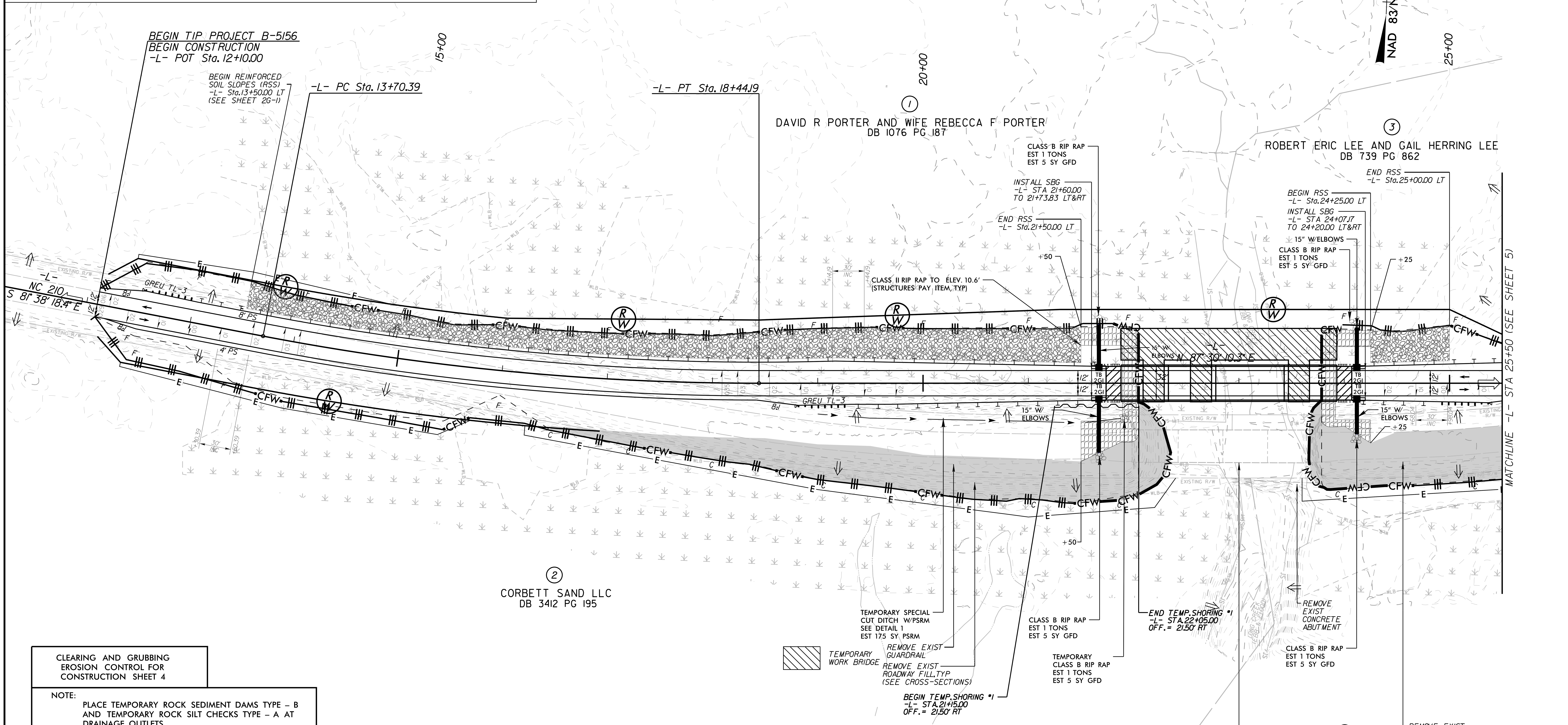
PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DETAIL SHOWING BRIDGE /PAVEMENT RELATIONSHIP



▨ TEMPORARY WORK BRIDGE

▨ EXIST ROADWAY FILL EXCAVATION,TYP (SEE CROSS-SECTIONS)

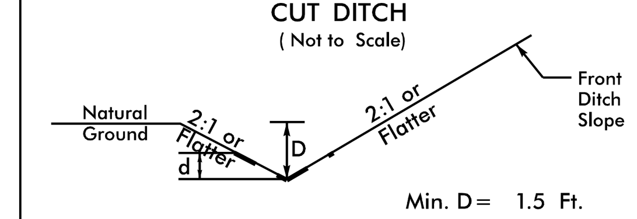
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE:
USE 1.0 FT WEIR HEIGHT FOR TEMPORARY ROCK SILT CHECKS TYPE – A THAT ARE NOT LABELED.

DETAIL 1
CUT DITCH
(Not to Scale)



FROM STA. 19+00 TO STA. 21+88 (RT)

5/14/99

1/10/2024

5/14/99

REVISIONS

1/10/2024

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PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
PI Sta 28+42.77
△ = 12° 32' 32.8" (LT)
D = 2°17' 30.6"
L = 547.27'
T = 274.73'
R = 2,500.00'
SE = 0.035
RO = 105'

-L- PT Sta. 31+15.31

END TIP PROJECT B-5156
END CONSTRUCTION
-L- POT Sta. 32+82.00

-L- PC Sta. 25+68.04

-L- POT Sta. 37+12.00

NAD 83/NA 2011

BM2 ELEVATION= 23.72'
L STA 37+12.00
N 53°07'23.5" DIST 217.96'
TIE SPIKE SET IN 24" OAK

MATCHLINE -L- STA 25+50 (SEE SHEET 4)

TRANSITION PROTECTION
EST 15 SY PSRM

PROTECT OUTLET & SHOULDER BY DRIVEWAY WHERE SHOWN BELOW W/ CLASS A RIP RAP
EST 3 TONS
EST 12 SY GFD

SPECIAL CUT DITCH
SEE DETAIL 2

REMOVE EXIST GUARDRAIL

REMOVE EXIST ROADWAY FILL,TYP (SEE CROSS-SECTIONS)

GRADE TO DRAIN AREA ON TOP OF PIPE FOR LENGTH OF PIPE (SEE CROSS SECTIONS)

REMOVE 15"

REMOVE 15" RCP

REMOVE 12"

RETAIN 18"

RETAIN 12"

REMOVE & REPLACE 18"

-L-
NC 210
N 74° 57' 37.5" E

(3) ROBERT ERIC LEE AND GAIL HERRING LEE
DB 739 PG 862

(5) JOSHUA R. LEE AND WIFE ERIN K LEE
DB 4620 PG 1880

(7) JESSICA CAVILEER
DB 4165 PG 218

JAMES A. RUSSELL
DB 3143 PG 255

CHARLES H HOLLY AND WIFE ROBBIE G HOLLY
DB 3159 PG 275

(4) LONG CREEK PROPERTIES LLC
DB 3930 PG 273
MB 38 PG61 SL513

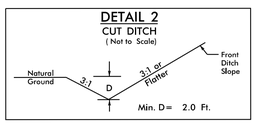
(6) CHRISTOPHER ERIC LEE AND WIFE ROBERTA RIVENBARK LEE
DB 2515 PG 70

DOUGLAS MOORE
ALLEN MOORE
EDITH SHANNON
DB 2235 PG 5

D. L. MERCER JR. ET AL
DB 3211 PG 250

EXIST ROADWAY FILL EXCAVATION,TYP (SEE CROSS-SECTIONS)

DETAIL 2
CUT DITCH
(Not to Scale)



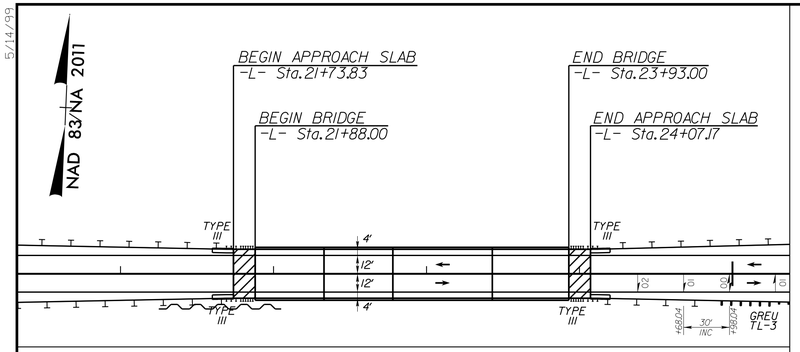
FROM STA. 26+75 TO STA. 27+50 (LT)

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.

NOTE:
USE 1.0 FT WEIR HEIGHT FOR TEMPORARY ROCK SILT CHECKS TYPE – A THAT ARE NOT LABELED.

5/14/99



DETAIL SHOWING BRIDGE /PAVEMENT RELATIONSHIP

-L-
PI Sta 16+08.01
△ = 10° 51' 31.3" (LT)
D = 2° 17' 30.6"
L = 473.80'
T = 237.61'
R = 2,500.00'
SE = 0.035
RO = 105'

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PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-6/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BEGIN TIP PROJECT B-5156
BEGIN CONSTRUCTION
-L- POT Sta. 12+10.00

BEGIN REINFORCED SOIL SLOPES (RSS)
-L- Sta.13+50.00 LT
(SEE SHEET 2G-1)

-L- PC Sta. 13+70.39

-L- PT Sta. 18+44.19

-L- NC 210 S 81° 38' 18.4" E

GREU TL-3

15+00

20+00

25+00

NAD 83/NA 2011

(1) DAVID R PORTER AND WIFE REBECCA F PORTER
DB 1076 PG 187

(2) CORBETT SAND LLC
DB 3412 PG 195

(3) ROBERT ERIC LEE AND GAIL HERRING LEE
DB 739 PG 862

(4) LONG CREEK PROPERTIES LLC
DB 3930 PG 273
MB 38 PG61 SL513

CLASS B RIP RAP
EST 1 TONS
EST 5 SY GFD

INSTALL SBG
-L- STA 21+60.00
TO 21+73.83 LT&RT

END RSS
-L- Sta.21+50.00 LT

CLASS II RIP RAP TO ELEV. 10.6'
(STRUCTURES PAY ITEM, TYP)

15" W/ ELBOWS

-L- N 87° 30' 10.3" E

BEGIN RSS
-L- Sta.24+25.00 LT

INSTALL SBG
-L- STA 24+07.17
TO 24+20.00 LT&RT

END RSS
-L- Sta.25+00.00 LT

15" W/ELBOWS

CLASS B RIP RAP
EST 1 TONS
EST 5 SY GFD

TEMPORARY SPECIAL CUT DITCH W/PSRM
SEE DETAIL 1
EST 175 SY PSRM

REMOVE EXIST GUARDRAIL

REMOVE EXIST ROADWAY FILL,TYP
(SEE CROSS-SECTIONS)

BEGIN TEMP.SHORING *1
-L- STA.21+15.00
OFF.= 21.50' RT

CLASS B RIP RAP
EST 1 TONS
EST 5 SY GFD

TEMPORARY
CLASS B RIP RAP
EST 1 TONS
EST 5 SY GFD

END TEMP.SHORING *1
-L- STA.22+05.00
OFF.= 21.50' RT

REMOVE EXIST BRIDGE AND INTERNAL PIERS
(STRUCTURE PAY ITEM)

REMOVE EXIST CONCRETE ABUTMENT

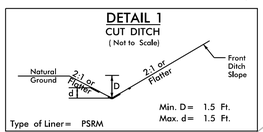
CLASS B RIP RAP
EST 1 TONS
EST 5 SY GFD

REMOVE EXIST GUARDRAIL

MATCHLINE -L- STA 25+50 (SEE SHEET 5)

EXIST ROADWAY FILL EXCAVATION,TYP
(SEE CROSS-SECTIONS)

DETAIL 1
CUT DITCH
(Not to Scale)



FROM STA. 19+00 TO STA. 21+88 (RT)

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 4

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

NOTE:
USE 1.0 FT WEIR HEIGHT FOR TEMPORARY ROCK SILT CHECKS TYPE – A THAT ARE NOT LABELED.

1/10/2024

5/14/99

REVISIONS

1/10/2024

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PROJECT REFERENCE NO.	SHEET NO.
B-5156	EC-7/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
PI Sta 28+42.77
△ = 12° 32' 32.8" (LT)
D = 2° 17' 30.6"
L = 547.27'
T = 274.73'
R = 2,500.00'
SE = 0.035
RO = 105'

-L- PT Sta. 31+15.31

END TIP PROJECT B-5156
END CONSTRUCTION
-L- POT Sta. 32+82.00

-L- PC Sta. 25+68.04

NAD 83/NA 2011

-L- POT Sta. 37+12.00

BM2 ELEVATION= 23.72'
L STA 37+12.00
N 53°07'23.5" DIST 217.96'
TIE SPIKE SET IN 24" OAK

MATCHLINE -L- STA 25+50 (SEE SHEET 4)

LINE DRAWN BY GIS
N 75°29'20" E
345.50'

LINE DRAWN BY GIS
N 75°29'20" E
270.00'

S 82°52'31" E
97.31'

S 75°26'02" W
198.68'

N 75°03'56" E
266.40'

30+00

35+00

TRANSITION PROTECTION
EST 15 SY PSRM

PROTECT OUTLET & SHOULDER BY DRIVEWAY WHERE SHOWN BELOW W/ CLASS A RIP RAP
EST 3 TONS
EST 12 SY GFD

SPECIAL CUT DITCH
SEE DETAIL 2

18"

15"

REMOVE 15"

GRADE TO DRAIN AREA ON TOP OF PIPE FOR LENGTH OF PIPE (SEE CROSS SECTIONS)

RETAIN 18"

REMOVE EXIST GUARDRAIL

REMOVE EXIST ROADWAY FILL,TYP (SEE CROSS-SECTIONS)

REMOVE 15" RCP

REMOVE & REPLACE 18"

RETAIN 12"

16' DR

20' DR

12' DR

4' PS

30' INC

30' TAPER

+52

+82

+25.3'

-25.3'

-BL-6-

TH 1
N 252390.7689
E 2294382.2876
Ground Elv. 12.86
Top Pipe Elv. 9.46

SEPTIC TANK LOCATION UNKNOWN - POSSIBLY WITHIN FENCE AREA

DRAIN LINES

SEPTIC TANK

RICE FIELD LOCATED 7-9-2009

WOODS

ISFD

ISBD

LANDSCAPE AREA

CONC

EXISTING R/W

48" WD SPLIT RAIL

60" WD SPLIT RAIL

3 ROBERT ERIC LEE AND GAIL HERRING LEE
DB 739 PG 862

5 JOSHUA R. LEE AND WIFE ERIN K LEE
DB 4620 PG 1880

7 JESSICA CAVILEER
DB 4165 PG 218

JAMES A. RUSSELL
DB 3143 PG 255

CHARLES H HOLLY AND WIFE ROBBIE G HOLLY
DB 3159 PG 275

4 LONG CREEK PROPERTIES LLC
DB 3930 PG 273
MB 38 PG61 SL513

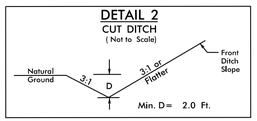
6 CHRISTOPHER ERIC LEE AND WIFE ROBERTA RIVENBARK LEE
DB 2515 PG 70

DOUGLAS MOORE
ALLEN MOORE
EDITH SHANNON
DB 2235 PG 5

D. L. MERCER JR. ET AL
DB 321 PG 250

EXIST ROADWAY FILL EXCAVATION,TYP (SEE CROSS-SECTIONS)

DETAIL 2
CUT DITCH
(Not to Scale)



FROM STA. 26+75 TO STA. 27+50 (LT)

FINAL
EROSION CONTROL FOR CONSTRUCTION SHEET 5

NOTE:
UTILIZE COIR FIBER MATTING ADJACENT TO WETLANDS/JURISDICTIONAL AREAS, AND AS DIRECTED.

NOTE:
USE 1.0 FT WEIR HEIGHT FOR TEMPORARY ROCK SILT CHECKS TYPE – A THAT ARE NOT LABELED.