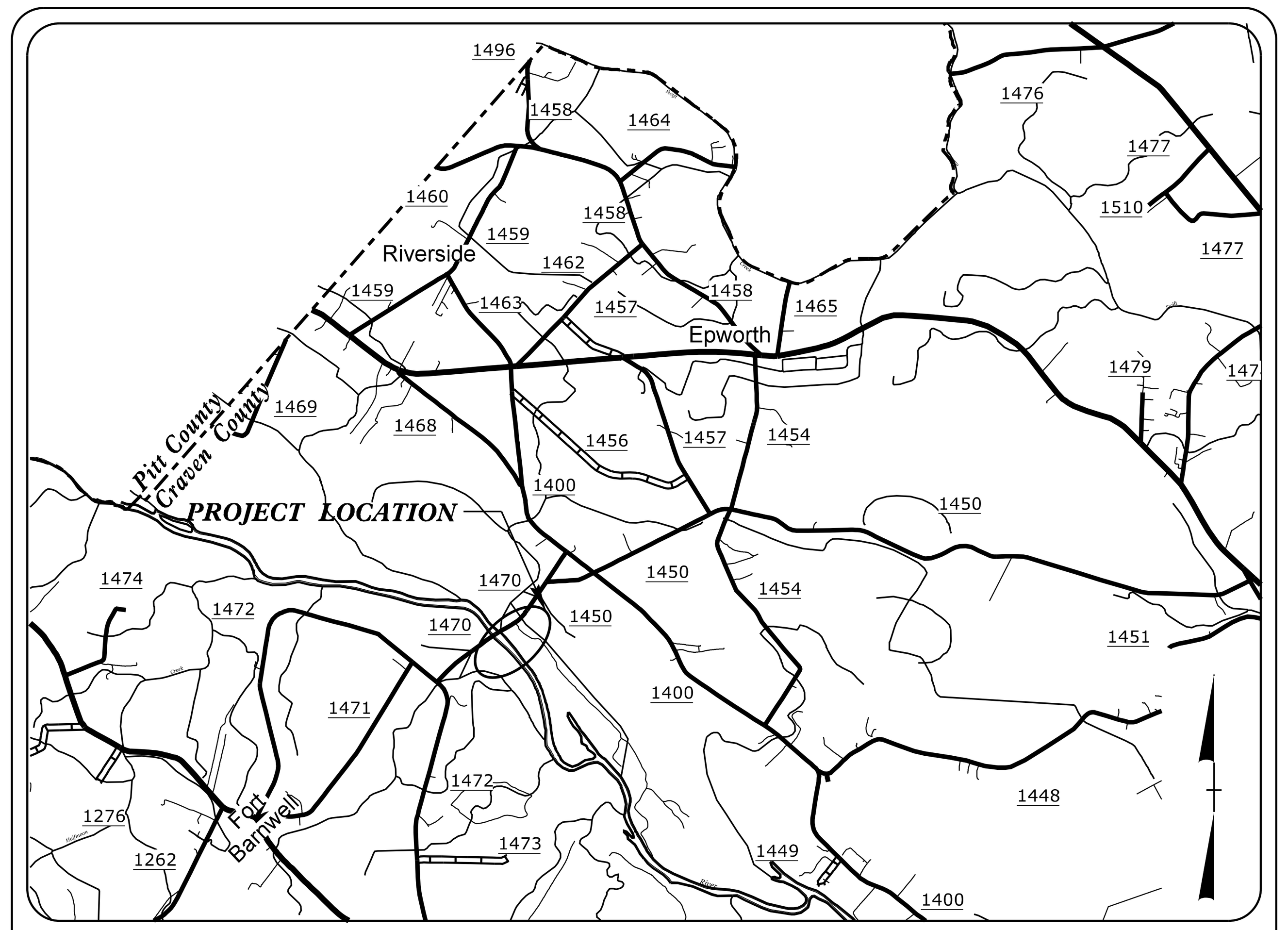
TIP PROJECT: B-4484

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4484	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33723.1.2	N/A	PE
33723.2.1	N/A	ROW, UTIL
33723.3.1	N/A	CONST.



VICINITY MAP
NOT TO SCALE

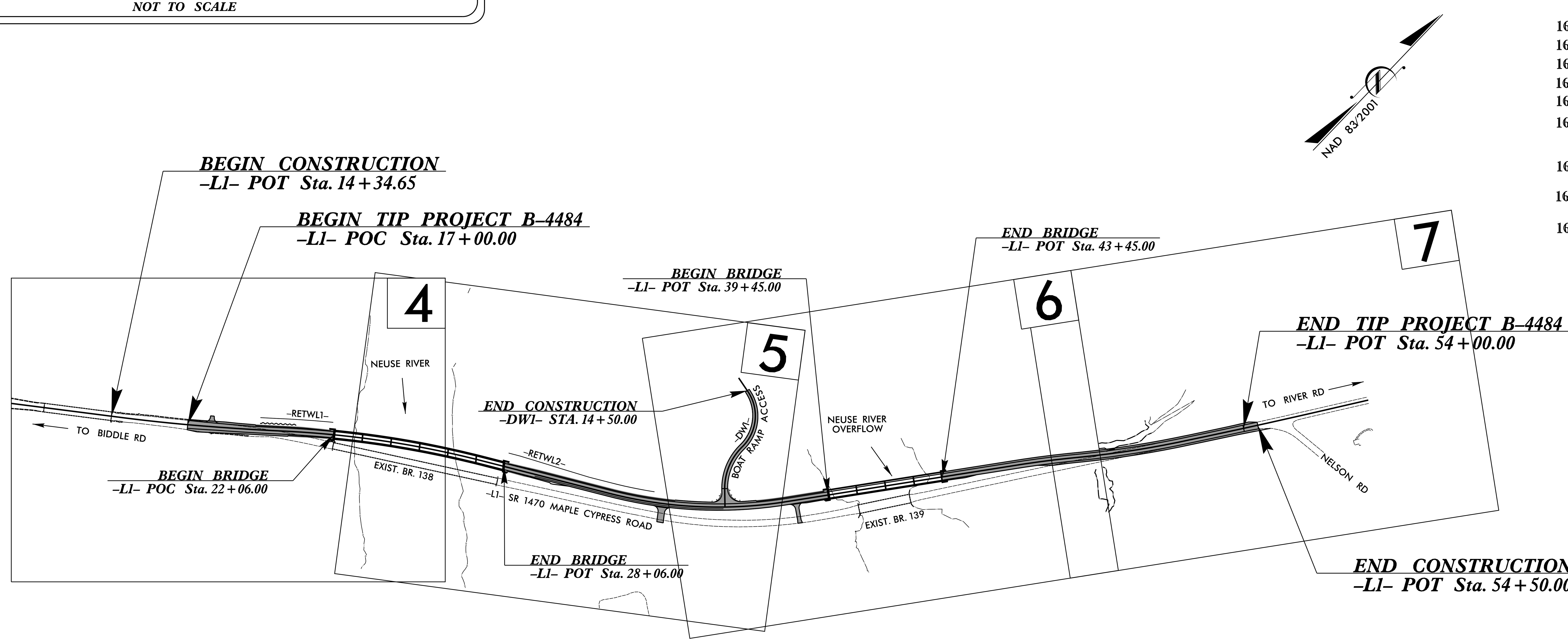
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CRAVEN COUNTY

LOCATION: REPLACE BRIDGES NO. 138 & NO. 139 OVER NEUSE RIVER AND NEUSE RIVER OVERFLOW ON SR 1470 (MAPLE CYPRESS ROAD)

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



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	FW / 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.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

GRAPHIC SCALE

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.

RS&H

Prepared In the Office of:

RS&H

8521 SIX FORKS ROAD, SUITE 400
RALEIGH, NC 27615
NC FIRM LICENSE No: F-0493

Designed by:

ALEX VINSON, P.E. — *3909*

NAME — *LEVEL III CERTIFICATION NO.*

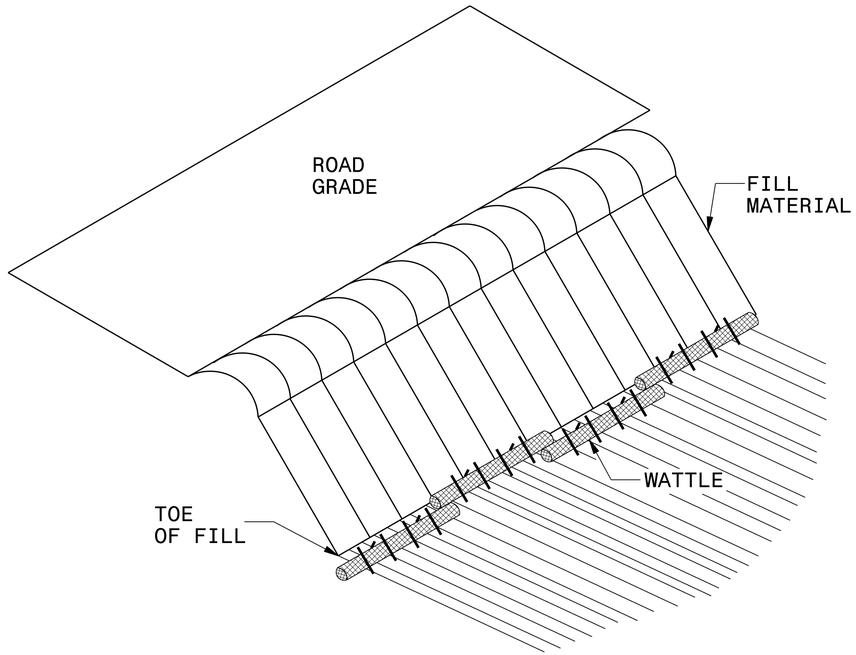
Roadway Standard Drawings

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

- 1605.01 Temporary Silt Fence
- 1607.01 Gravel Construction Entrance
- 1622.01 Temporary Berms and Slope Drains
- 1630.06 Special Stilling Basin
- 1631.01 Matting Installation
- 1632.03 Rock Inlet Sediment Trap Type C
- 1633.01 Temporary Rock Silt Check Type A
- 1635.02 Rock Pipe Inlet Sediment Trap Type B
- 1640.01 Coir Fiber Baffle

PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-2

COIR FIBER WATTLE BARRIER DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.

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

DO NOT PLACE WATTLES ON TOE OF SLOPE.

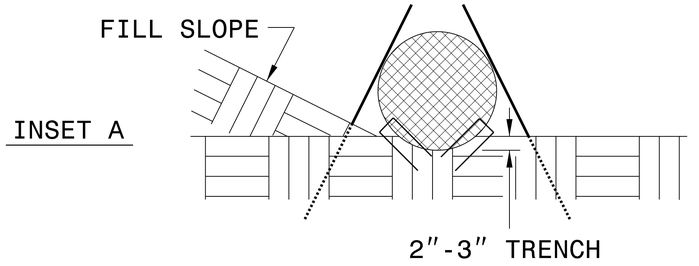
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

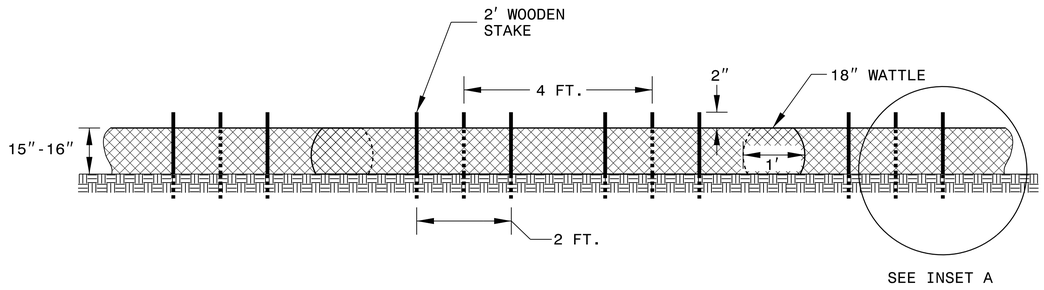
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

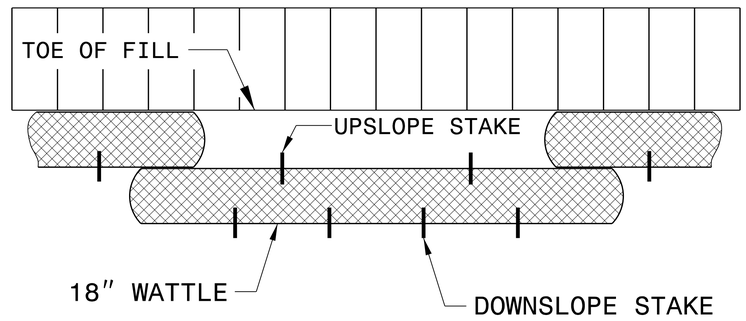
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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





FRONT VIEW

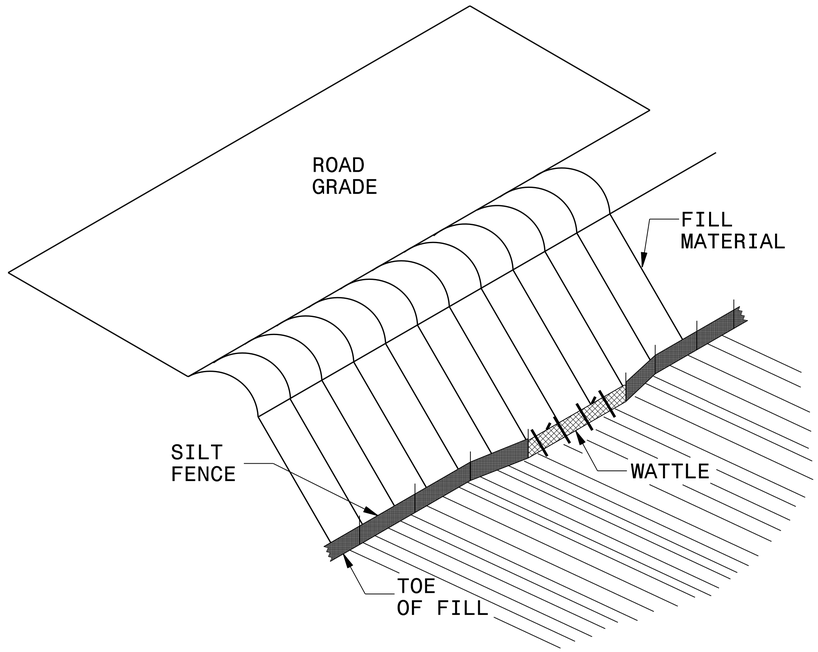


TOP VIEW

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-2A

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



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.

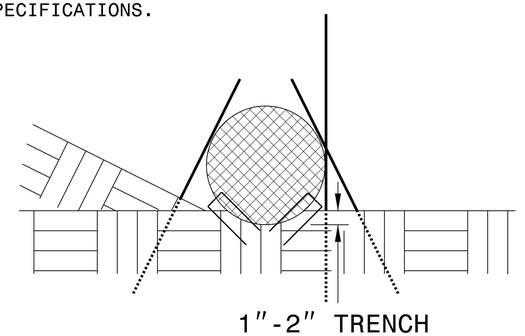
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

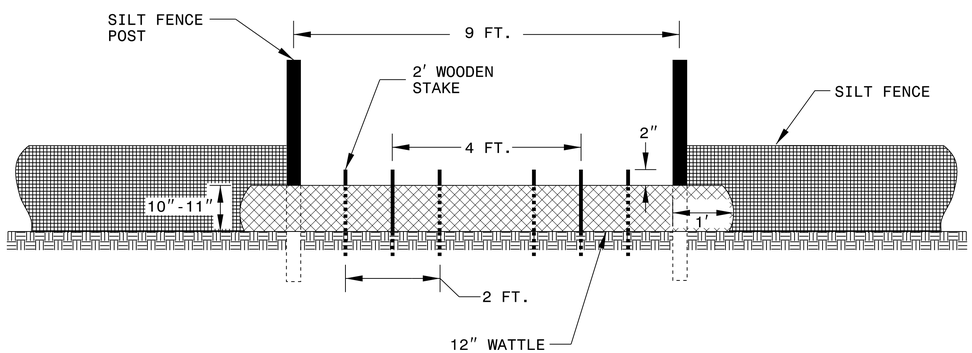
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

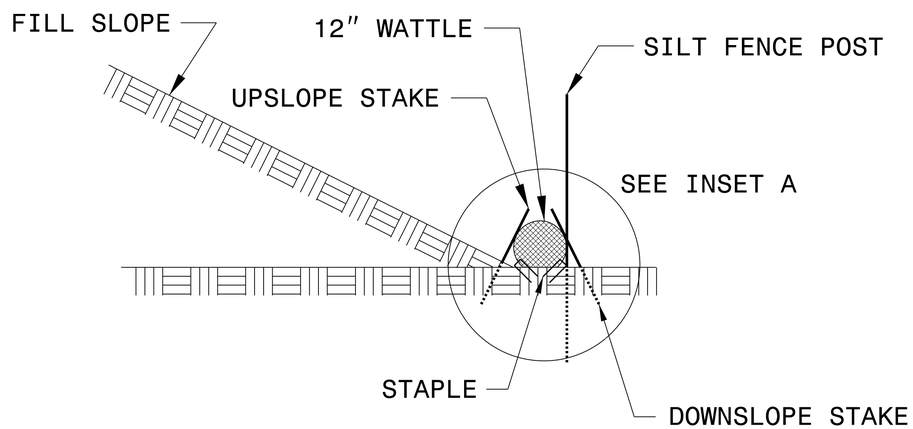
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A





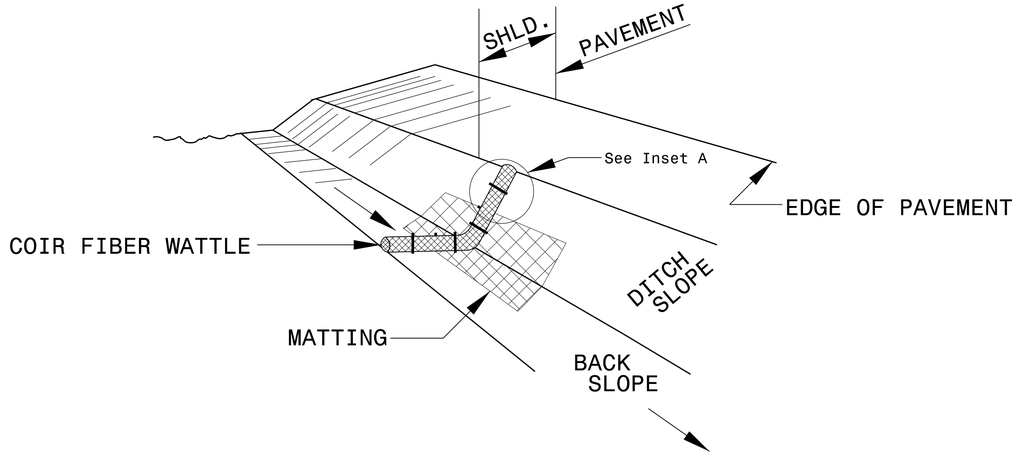
VIEW FROM SLOPE



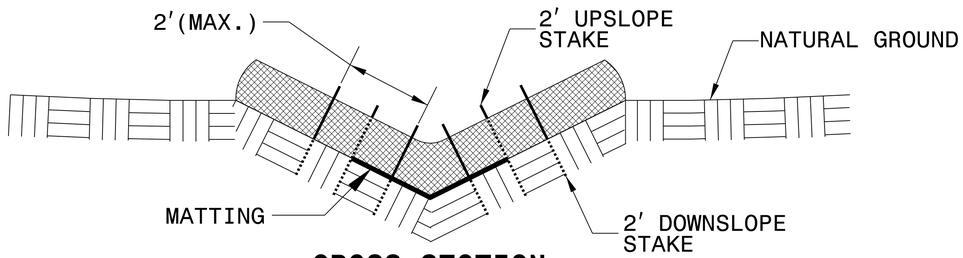
SIDE VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-2B

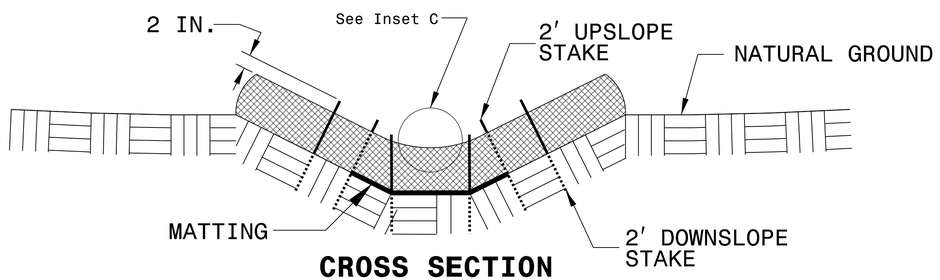
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

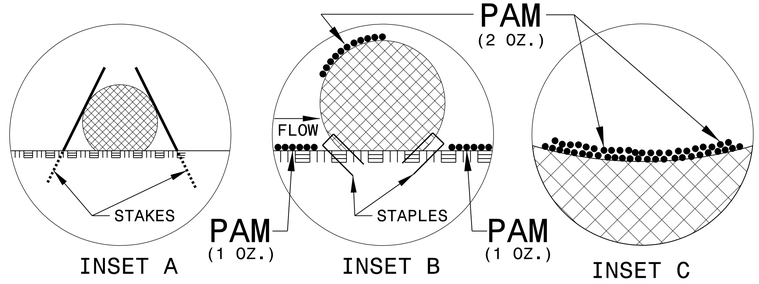
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

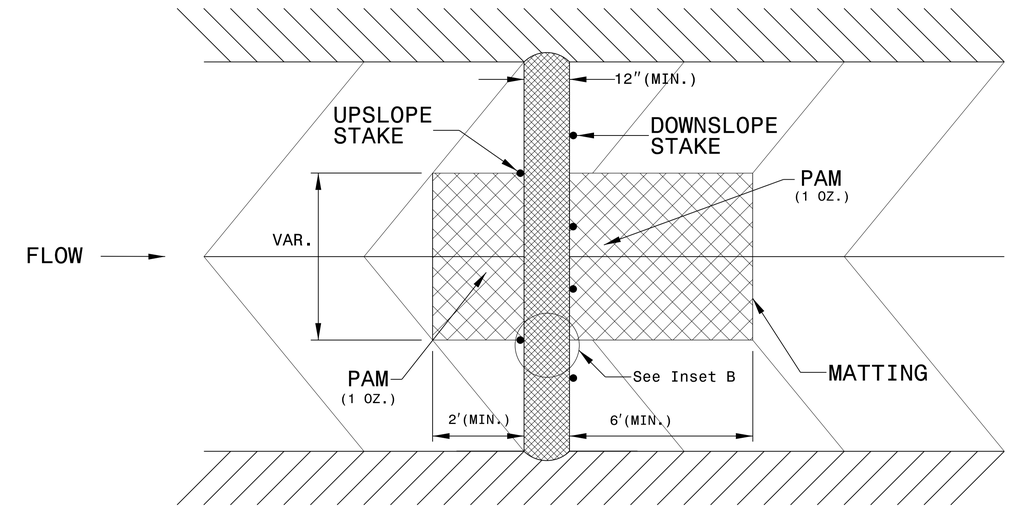
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.
B-4484	EC-2C

BORROW PIT DEWATERING BASIN DETAIL

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING V = 8.0203 * Q * T, WHERE V IS VOLUME (FT^3), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1640-14.

PROVIDE 5′ STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3′ OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 12″ STAPLES.

INSTALL TYPE 2 GEOTEXTILE ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

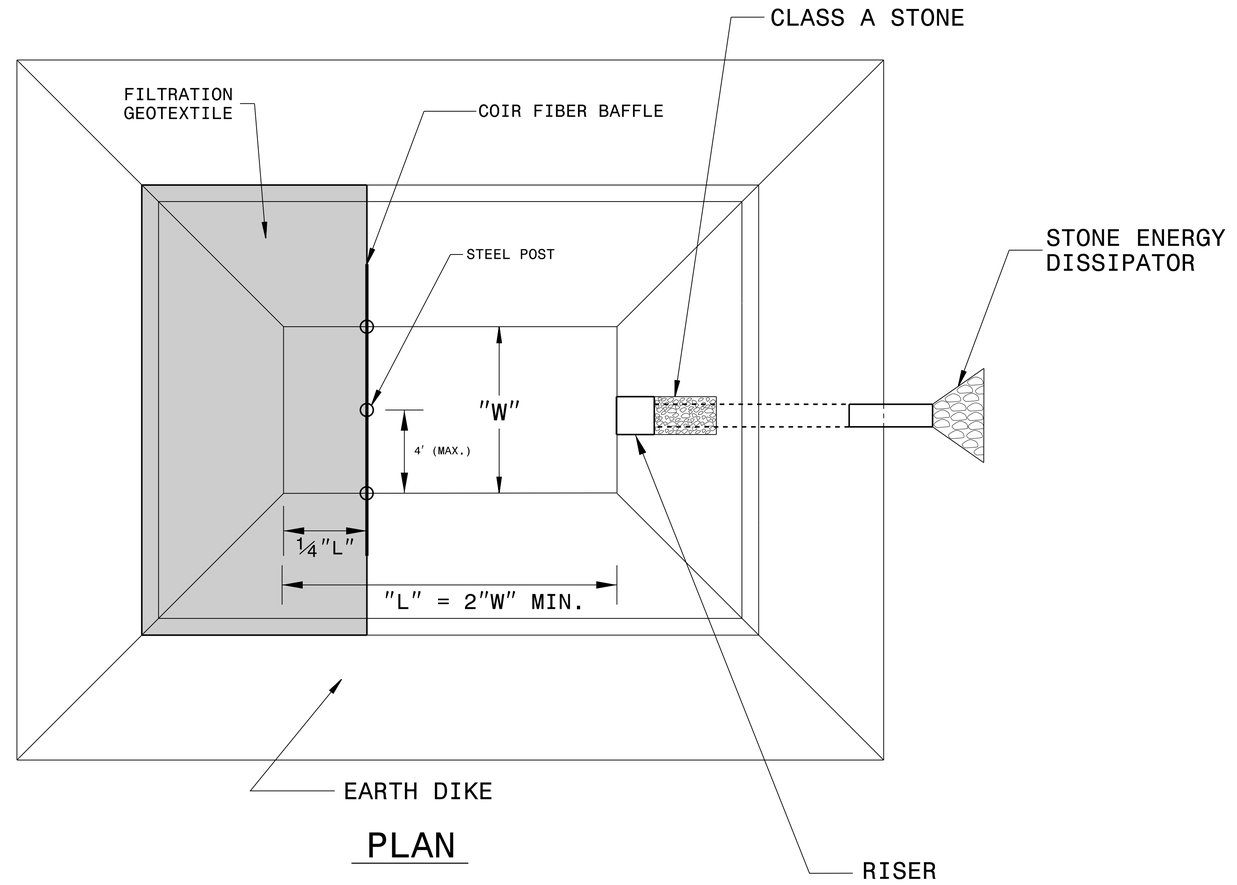
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

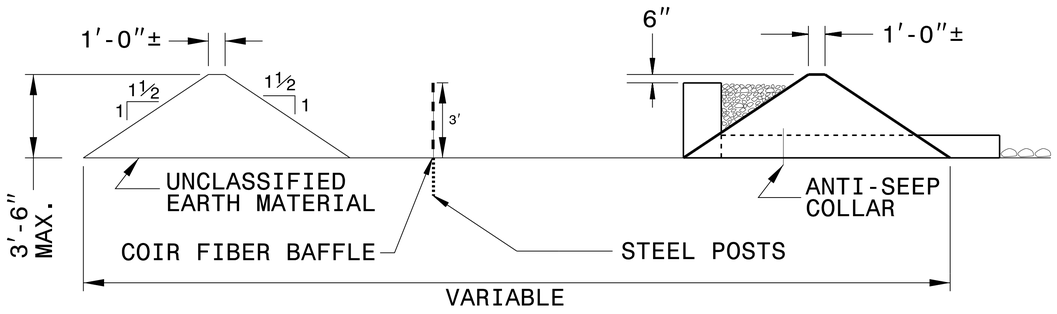
SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 6 IN. BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



PLAN



TYPICAL SECTION VIEW

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-3

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)
6	-L1-	35+20	35+50	LT	35
6	-L1-	36+50	37+21	LT	50
6	-DW1-	10+29	13+90	RT	345
6	-DW1-	14+00	14+00	RT	10
6	-DW1-	10+26	14+37	LT	425
				SUBTOTAL	865
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					2250
				TOTAL	3115
				SAY	3200

MATTING FOR EROSION CONTROL

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

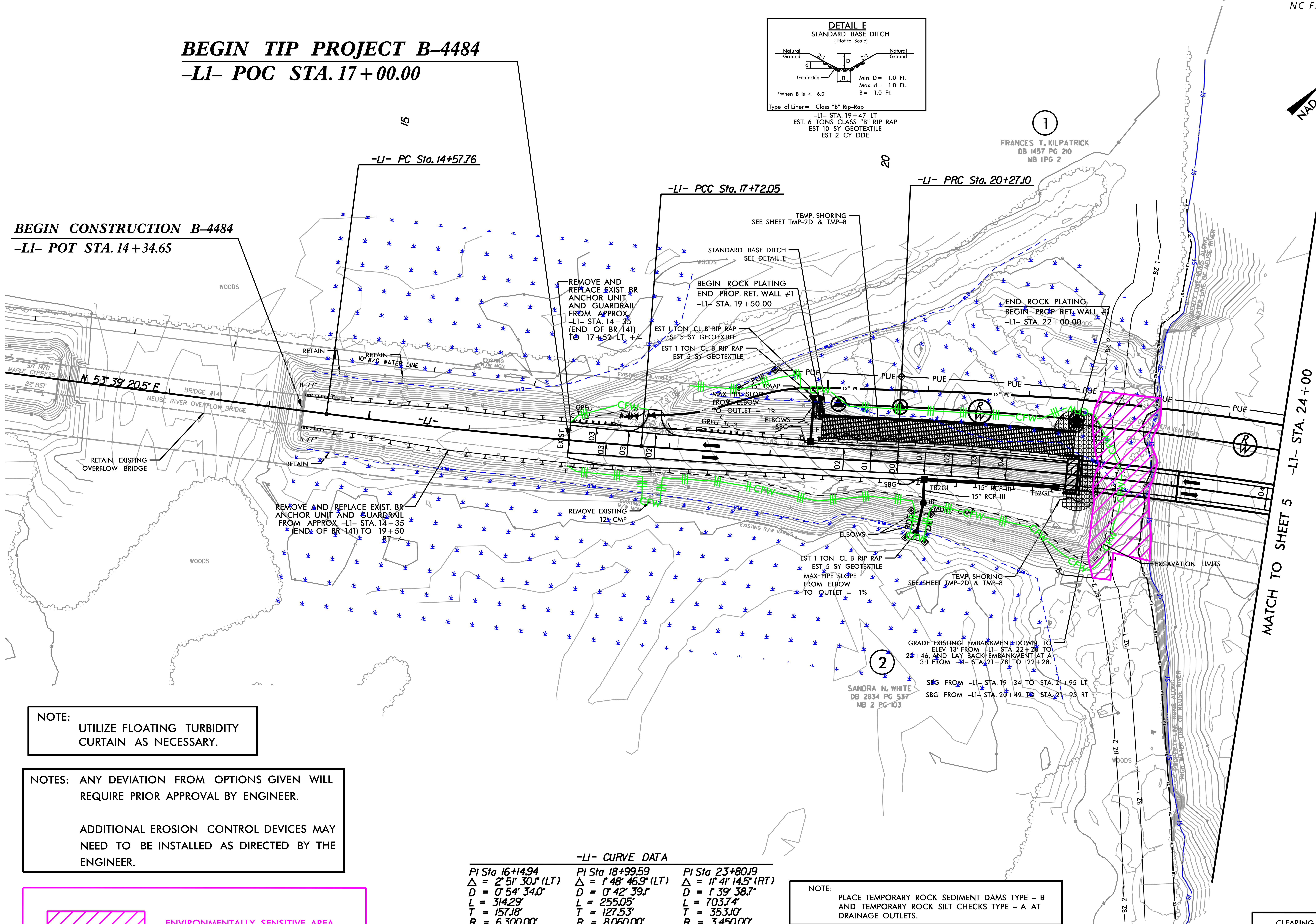
PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-3A

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.

RS&H
NC FIRM LICENSE No: F-0493



DETAIL E
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
B = 1.0 Ft.
*When B is < 6.0'
Type of Liner = Class "B" Rip-Rap
-L1- STA. 19+47 LT
EST. 6 TONS CLASS "B" RIP RAP
EST 10 SY GEOTEXTILE
EST 2 CY DDE
NAD 83/NSRS 2011
BEGIN TIP PROJECT B-4484
-L1- POC STA. 17+00.00
BEGIN CONSTRUCTION B-4484
-L1- POT STA. 14+34.65
-L1- PC Sta. 14+57.76
-L1- PCC Sta. 17+72.05
-L1- PRC Sta. 20+27.10
FRANCES T. KILPATRICK
DB 1457 PG 210
MB 1 PG 2
TEMP. SHORING
SEE SHEET TMP-2D & TMP-8
STANDARD BASE DITCH
SEE DETAIL E
BEGIN ROCK PLATING
END PROP. RET. WALL #1
-L1- STA. 19+50.00
END ROCK PLATING
BEGIN PROP. RET. WALL #1
-L1- STA. 22+00.00
REMOVE AND REPLACE EXIST. BR ANCHOR UNIT AND GUARDRAIL FROM APPROX -L1- STA. 14+35 (END OF BR 141) TO 17+52 LT +/-
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
RETAIN
10" A/C WATER LINE
SR 1470
MAPLE CYPRESS RD
22' BST
N 53° 39' 20.5" E
BRIDGE #141
NEUSE RIVER OVERFLOW BRIDGE
WOODS
PUE
MAX PIPE SLOPE FROM ELBOW TO OUTLET = 1%
ELBOWS
SBG
GREU
CFW
-L1-
RETAIN EXISTING OVERFLOW BRIDGE
REMOVE AND REPLACE EXIST. BR ANCHOR UNIT AND GUARDRAIL FROM APPROX. -L1- STA. 14+35 (END OF BR 141) TO 19+50 RT +/-
REMOVE EXISTING 12" CMP
15" RCP-III
TB2GI
EXCAVATION LIMITS
-L1- STA. 24+00
MATCH TO SHEET 5
GRADE EXISTING EMBANKMENT DOWN TO ELEV. 13' FROM -L1- STA. 22+28 TO 23+46, AND LAY BACK EMBANKMENT AT A 3:1 FROM -L1- STA. 21+78 TO 22+28.
SANDRA N. WHITE
DB 2834 PG 537
MB 2 PG 103
SBG FROM -L1- STA. 19+34 TO STA. 21+95 LT
SBG FROM -L1- STA. 20+49 TO STA. 21+95 RT
BZ 1
BZ 2

NOTE:
UTILIZE FLOATING TURBIDITY CURTAIN AS NECESSARY.

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.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

-L1- CURVE DATA

PI Sta 16+14.94	PI Sta 18+99.59	PI Sta 23+80.19
Δ = 2° 51' 30.1" (LT)	Δ = 1° 48' 46.9" (LT)	Δ = 11° 41' 14.5" (RT)
D = 0° 54' 34.0"	D = 0° 42' 39.1"	D = 1° 39' 38.7"
L = 314.29'	L = 255.05'	L = 703.74'
T = 157.18'	T = 127.53'	T = 353.10'
R = 6,300.00'	R = 8,060.00'	R = 3,450.00'
SE = 03	SE = 02	SE = 04
RO = 81'	RO = 54'	RO = 108'

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.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

REVISIONS

8/17/99

2/4/2020
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PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-5/CONST.5

RS&H
NC FIRM LICENSE No: F-0493

NAD 83/NSRS 2011

REVISIONS

8/17/99

2/4/2020
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NarayanA

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.

▨ ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

-L1- CURVE DATA
PI Sta 34+95.01
Δ = 23° 19' 51.7" (LT)
D = 3° 49' 11.0"
L = 610.81'
T = 309.69'
R = 1,500.00'
SE = .06
RO = 162'

NOTE:
UTILIZE FLOATING TURBIDITY CURTAIN AS NECESSARY.

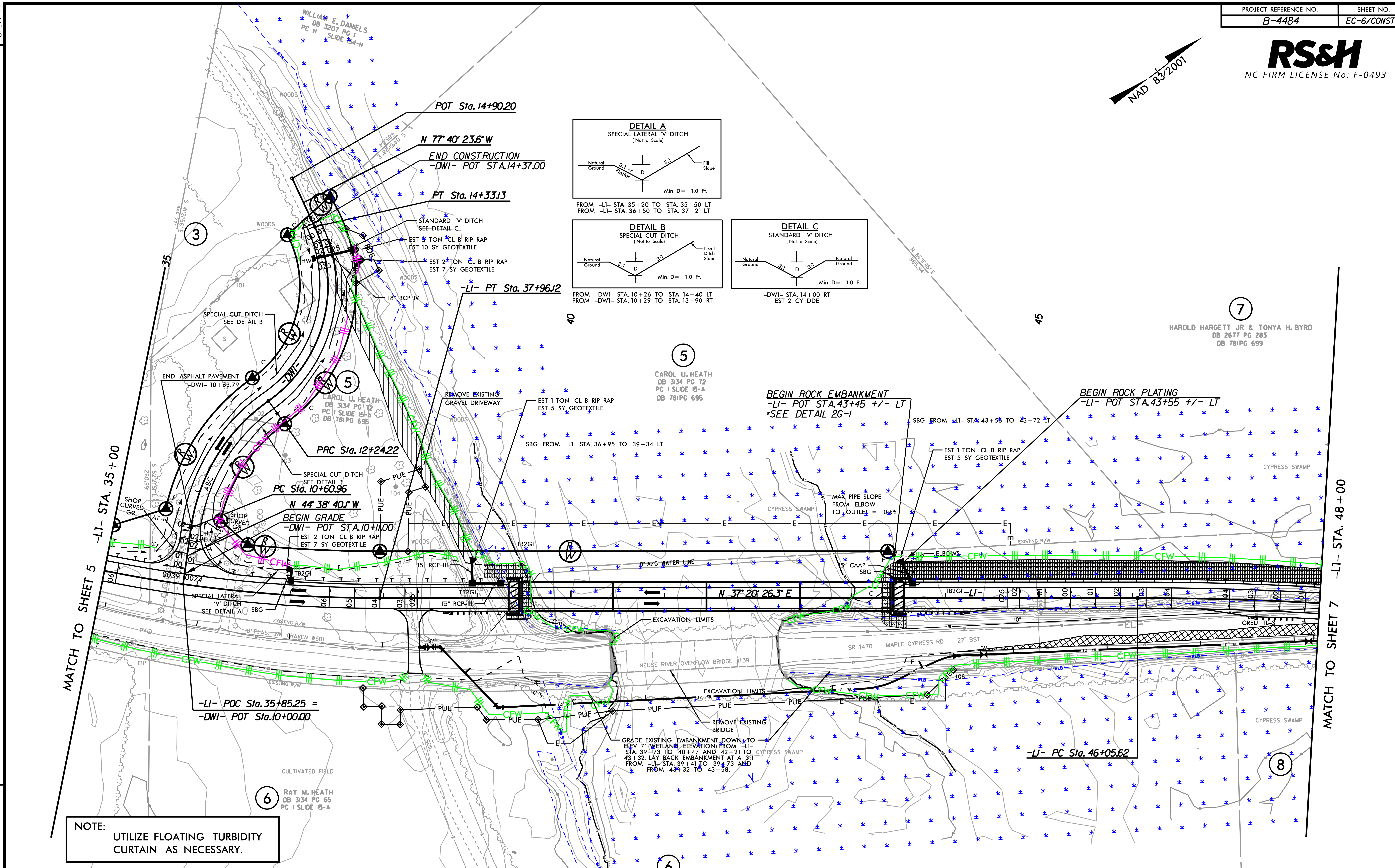
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-6/CONST.6

RS&H
NC FIRM LICENSE No: F-0493



NAD 83/2001
POT Sta. 14+90.20
N 77° 40' 23.6" W
END CONSTRUCTION
-DW1- POT STA. 14+37.00
PT Sta. 14+33.13
STANDARD 'V' DITCH SEE DETAIL C
EST 3 TON CL B RIP RAP
EST 10 SY GEOTEXTILE
EST 2 TON CL B RIP RAP
EST 7 SY GEOTEXTILE
18" RCP IV
-L1- PT Sta. 37+96.12
SPECIAL CUT DITCH SEE DETAIL B
END ASPHALT PAVEMENT -DW1- 10+63.79
PRC Sta. 12+24.22
SPECIAL CUT DITCH SEE DETAIL B
PC Sta. 10+60.96
N 44° 38' 40.1" W
BEGIN GRADE
-DW1- POT STA. 10+11.00
EST 2 TON CL B RIP RAP
EST 7 SY GEOTEXTILE
REMOVE EXISTING GRAVEL DRIVEWAY
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
SBG FROM -L1- STA. 36+95 TO 39+34 LT
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
3:1 or Flatter
Min. D = 1.0 Ft.
FROM -L1- STA. 35+20 TO STA. 35+50 LT
FROM -L1- STA. 36+50 TO STA. 37+21 LT
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Front Ditch Slope
Min. D = 1.0 Ft.
FROM -DW1- STA. 10+26 TO STA. 14+40 LT
FROM -DW1- STA. 10+29 TO STA. 13+90 RT
DETAIL C
STANDARD 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
-DW1- STA. 14+00 RT
EST 2 CY DDE
WILLIAM E. DANIELS
DB 3207 PG 1
PC H SLIDE 54-H
CAROL U. HEATH
DB 3134 PG 72
PC 1 SLIDE 15-A
DB 781 PG 695
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283
DB 781 PG 699
BEGIN ROCK EMBANKMENT
-L1- POT STA. 43+45 +/- LT
*SEE DETAIL 2G-1
BEGIN ROCK PLATING
-L1- POT STA. 43+55 +/- LT
SBG FROM -L1- STA. 43+58 TO 43+72 LT
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
MAX PIPE SLOPE FROM ELBOW TO OUTLET = 0.6%
CYPRESS SWAMP
-L1- STA. 35+00
MATCH TO SHEET 5
-L1- STA. 48+00
MATCH TO SHEET 7
N 37° 20' 26.3" E
10" A/C WATER LINE
EXCAVATION LIMITS
SR 1470 MAPLE CYPRESS RD 22' BST
NEUSE RIVER OVERFLOW BRIDGE #139
-L1- POC Sta. 35+85.25 =
-DW1- POT Sta. 10+00.00
REMOVE EXISTING BRIDGE
GRADE EXISTING EMBANKMENT DOWN TO ELEV. 7' (WETLAND ELEVATION) FROM -L1- STA. 39+73 TO 40+47 AND 42+21 TO 43+32. LAY BACK EMBANKMENT AT A 3:1 FROM -L1- STA. 39+41 TO 39+73 AND FROM 43+32 TO 43+58.
-L1- PC Sta. 46+05.62
CULTIVATED FIELD
RAY M. HEATH
DB 3134 PG 65
PC 1 SLIDE 15-A

NOTE:
UTILIZE FLOATING TURBIDITY CURTAIN AS NECESSARY.

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.

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

-DW1- CURVE DATA

PI Sta 11+47.45	PI Sta 13+49.63
Δ = 46° 46' 08.1" (RT)	Δ = 79° 47' 51.6" (LT)
D = 28° 38' 52.4"	D = 38° 11' 49.9"
L = 163.25'	L = 208.91'
T = 86.48'	T = 125.41'
R = 200.00'	R = 150.00'
SE = NC	SE = NC
RO = N/A	RO = N/A

-L1- CURVE DATA

PI Sta 47+08.74
Δ = 3° 28' 28.7" (RT)
D = 1° 41' 06.6"
L = 206.19'
T = 103.13'
R = 3,400.00'
SE = .04
RO = 108'

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

REVISIONS

8/17/99

3/5/2020
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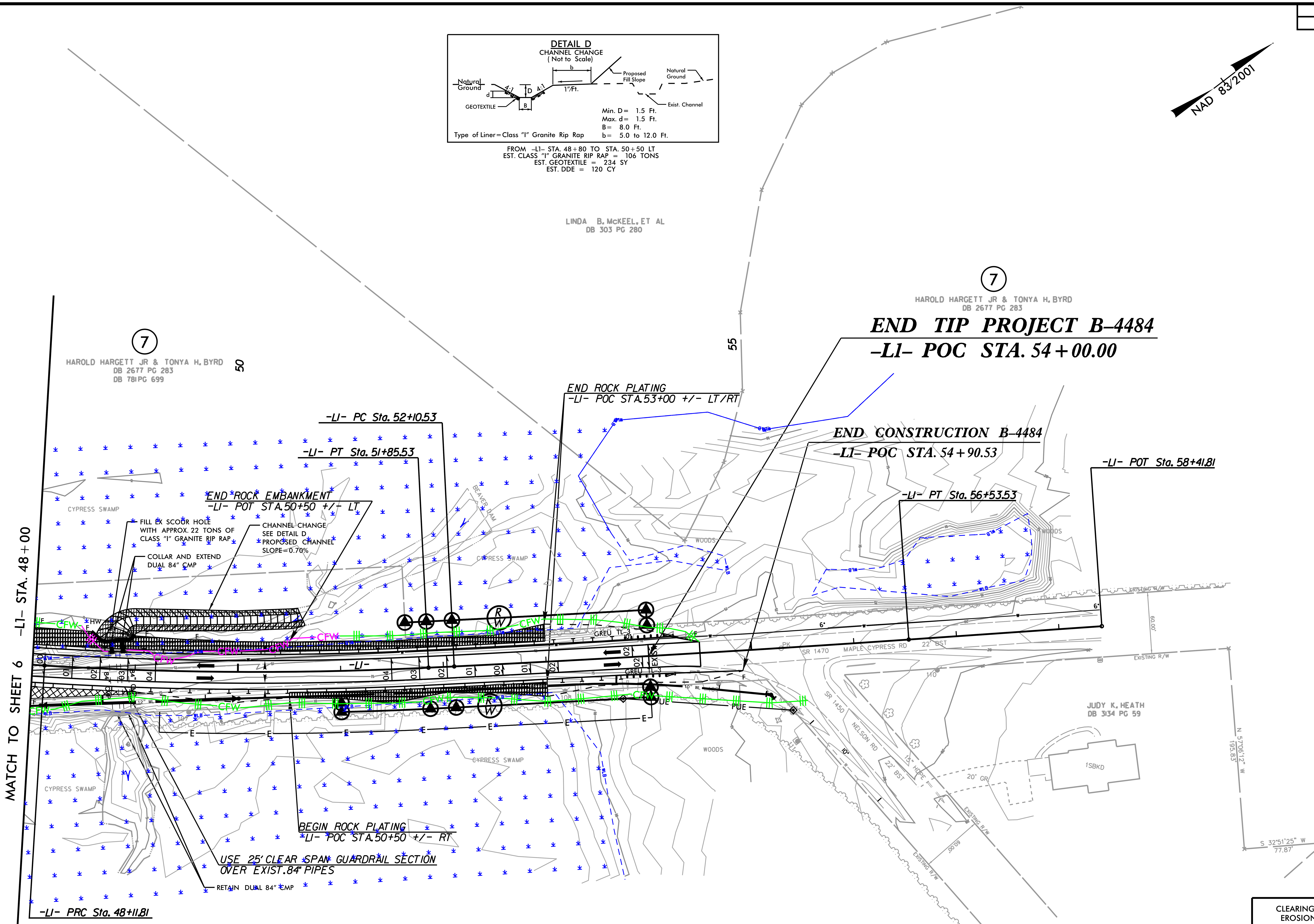
RS&H
NC FIRM LICENSE No: F-0493



DETAIL D
CHANNEL CHANGE
(Not to Scale)
Natural Ground
Proposed Fill Slope
Exist. Channel
GEOTEXTILE
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 8.0 Ft.
b = 5.0 to 12.0 Ft.
Type of Liner = Class "I" Granite Rip Rap
FROM -L1- STA. 48+80 TO STA. 50+50 LT
EST. CLASS "I" GRANITE RIP RAP = 106 TONS
EST. GEOTEXTILE = 234 SY
EST. DDE = 120 CY
NAD 83/2001
LINDA B. McKEEL, ET AL
DB 303 PG 280
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283
DB 781 PG 699
END TIP PROJECT B-4484
-L1- POC STA. 54+00.00
END ROCK PLATING
-L1- POC STA.53+00 +/- LT/RT
END CONSTRUCTION B-4484
-L1- POC STA. 54+90.53
-L1- PC Sta. 52+10.53
-L1- PT Sta. 51+85.53
-L1- POT Sta. 58+41.81
-L1- PT Sta. 56+53.53
END ROCK EMBANKMENT
-L1- POT STA.50+50 +/- LT
FILL EX SCOUR HOLE WITH APPROX. 22 TONS OF CLASS "I" GRANITE RIP RAP
CHANNEL CHANGE SEE DETAIL D PROPOSED CHANNEL SLOPE=0.70%
COLLAR AND EXTEND DUAL 84" CMP
CYPRESS SWAMP
WOODS
-L1- STA. 48+00
MATCH TO SHEET 6
SR 1470 MAPLE CYPRESS RD 22' BST
SR 1450 NELSON RD
JUDY K. HEATH
DB 3134 PG 59
BEGIN ROCK PLATING
-L1- POC STA.50+50 +/- RT
USE 25' CLEAR SPAN GUARDRAIL SECTION OVER EXIST.84" PIPES
RETAIN DUAL 84" CMP
-L1- PRC Sta. 48+11.81
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

-L1- CURVE DATA

PI Sta 49+98.86	PI Sta 54+32.04
Δ = 6° 17' 52.5" (LT)	Δ = 1° 07' 40.2" (LT)
D = 1° 41' 06.6"	D = 0° 15' 16.5"
L = 373.73'	L = 443.00'
T = 187.05'	T = 221.51'
R = 3,400.00'	R = 22,505.00'
SE = 04	SE = NC
RO = 108'	RO = N/A

PAVEMENT REMOVAL

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.

REVISIONS

8/17/99

2/4/2020
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PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-8

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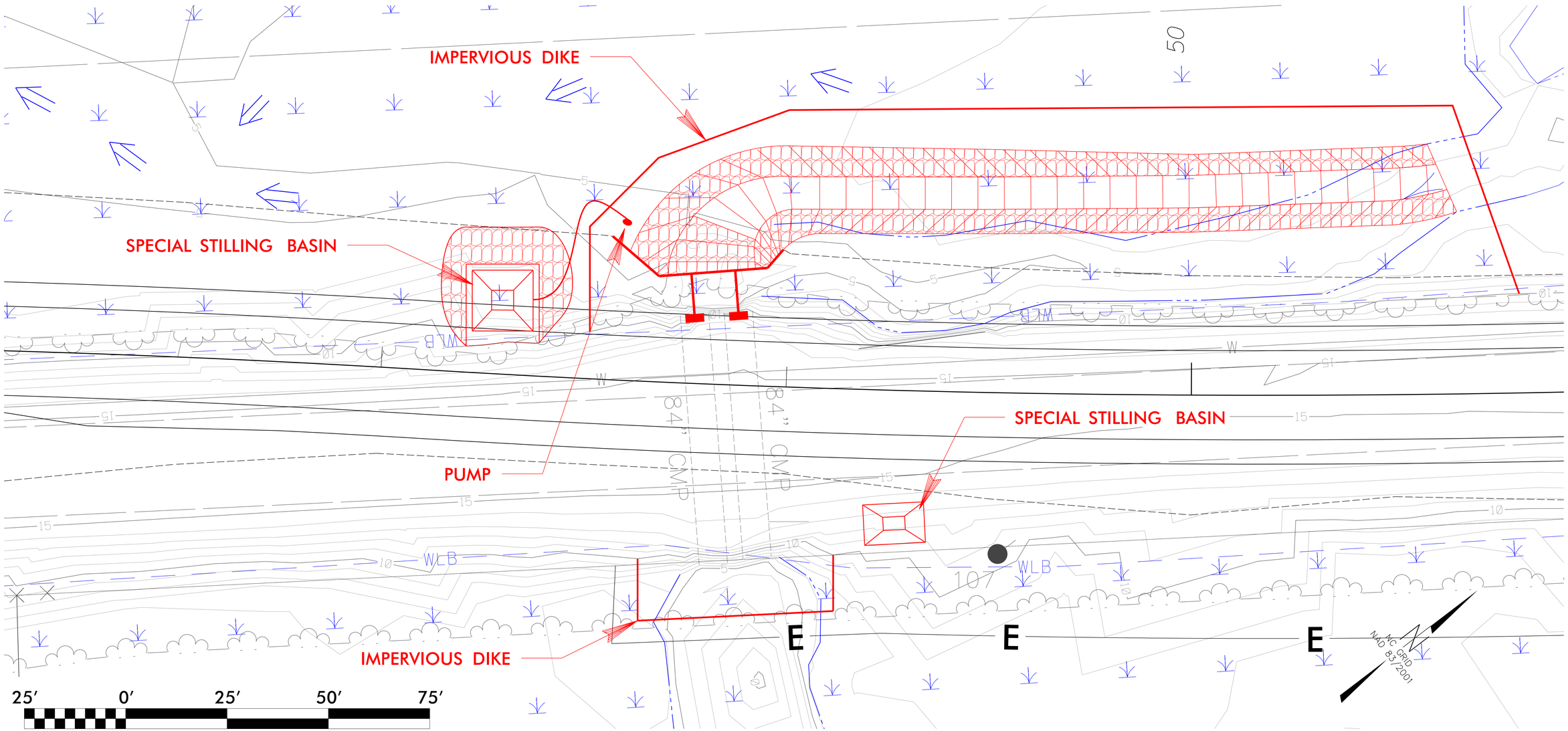
NC FIRM LICENSE No: F-0493

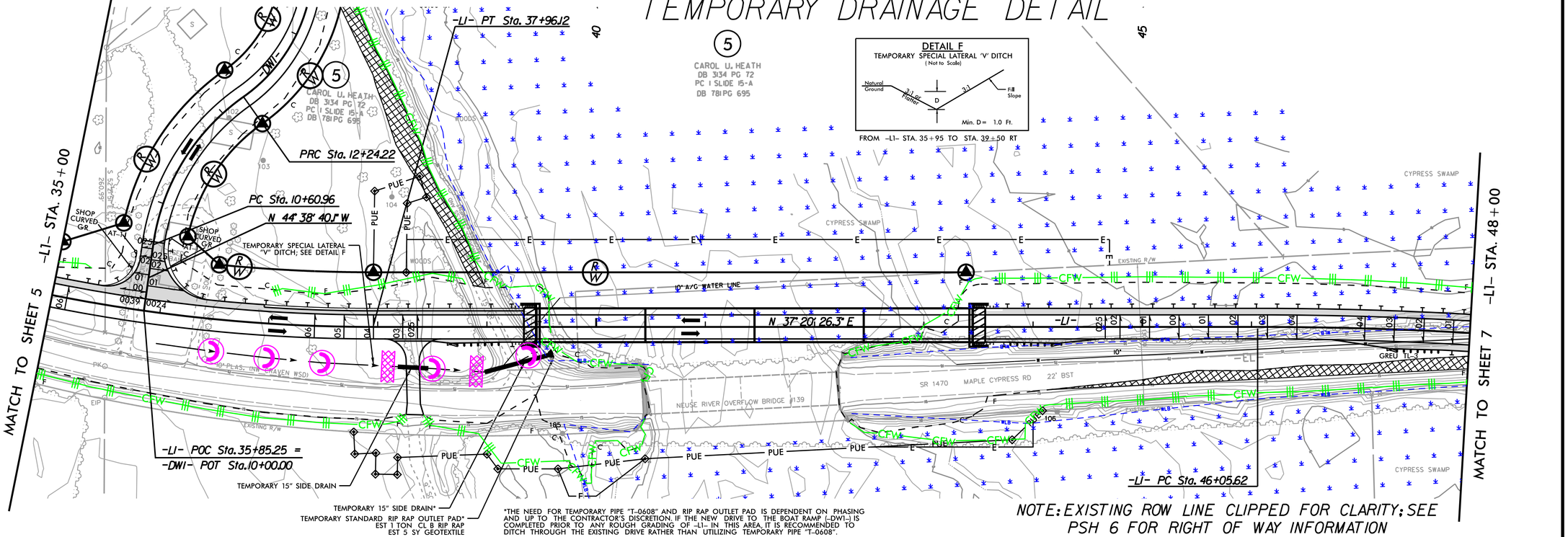
NEUSE RIVER OVERFLOW
CULVERT CONSTRUCTION SEQUENCE STA. 48+84.15 –L1–

1. UTILIZE SPECIAL STILLING BASIN(S) DURING CULVERT CONSTRUCTION AS NEEDED (POSSIBLE LOCATIONS SHOWN).
2. CONSTRUCT IMPERVIOUS DIKES AROUND INLET AND OUTLET OF PIPE AND LIMITS OF PROPOSED CHANNEL WORK.
3. PUMP WATER FROM THE PROPOSED WORK AREA. WATER PUMPED OUT OF WORK AREA WILL FLOW SOUTHWEST TO BRIDGE 139 AS INDICATED BY EXISTING FLOW ARROWS.
4. REALIGN CHANNEL AS SHOWN IN PLANS.
5. INSTALL THE CULVERT EXTENSIONS, HEADWALL AND SLIP–LINER AS SHOWN IN PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE THE REMOVAL OF IMPERVIOUS DIKES. STABILIZE DISTURBED AREA AND BACKFILL ACCORDINGLY. SLOPES AROUND PROPOSED HEADWALL SHOULD BE CONSTRUCTED AND STABILIZED, AND PROPOSED RIP RAP SHOULD BE IN PLACE IN THE PROPOSED CHANNEL BEFORE DIKES ARE REMOVED.
7. REMOVE IMPERVIOUS DIKES, ALLOWING FLOW THROUGH THE PROPOSED CULVERT.
8. COMPLETE ROADWAY.



PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-9

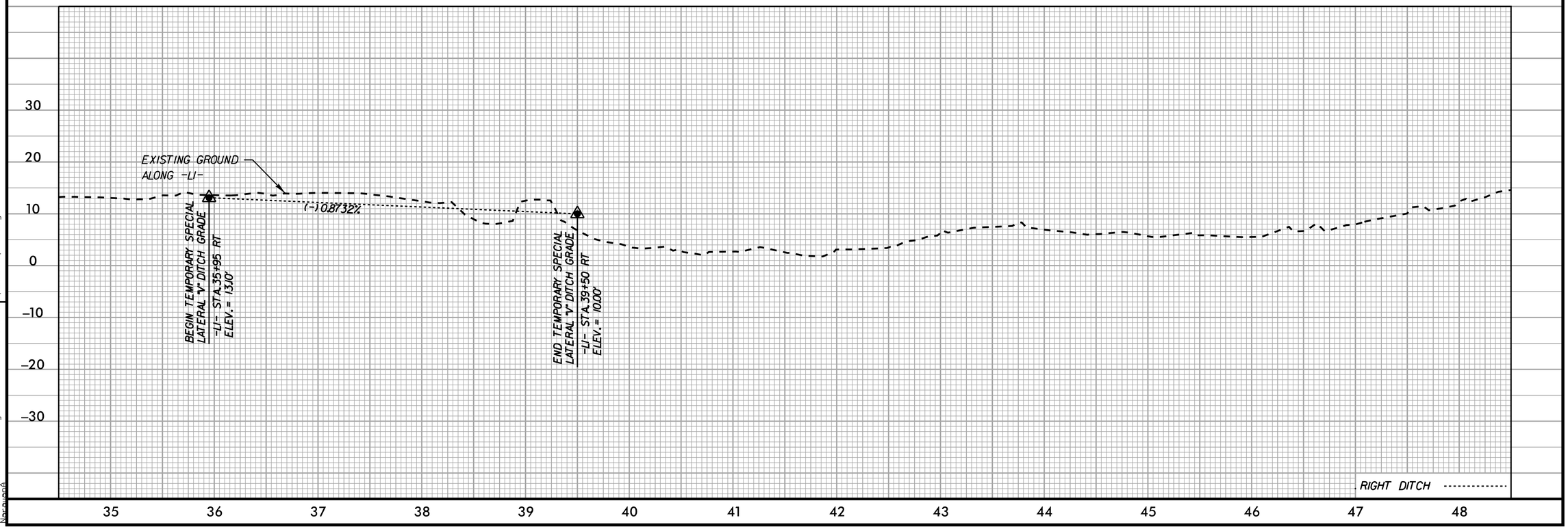
TEMPORARY DRAINAGE DETAIL



DETAIL F
TEMPORARY SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -L1- STA. 35+95 TO STA. 39+50 RT

NOTE: EXISTING ROW LINE CLIPPED FOR CLARITY; SEE PSH 6 FOR RIGHT OF WAY INFORMATION



REVISIONS

8/17/99

2/4/2020
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Norman

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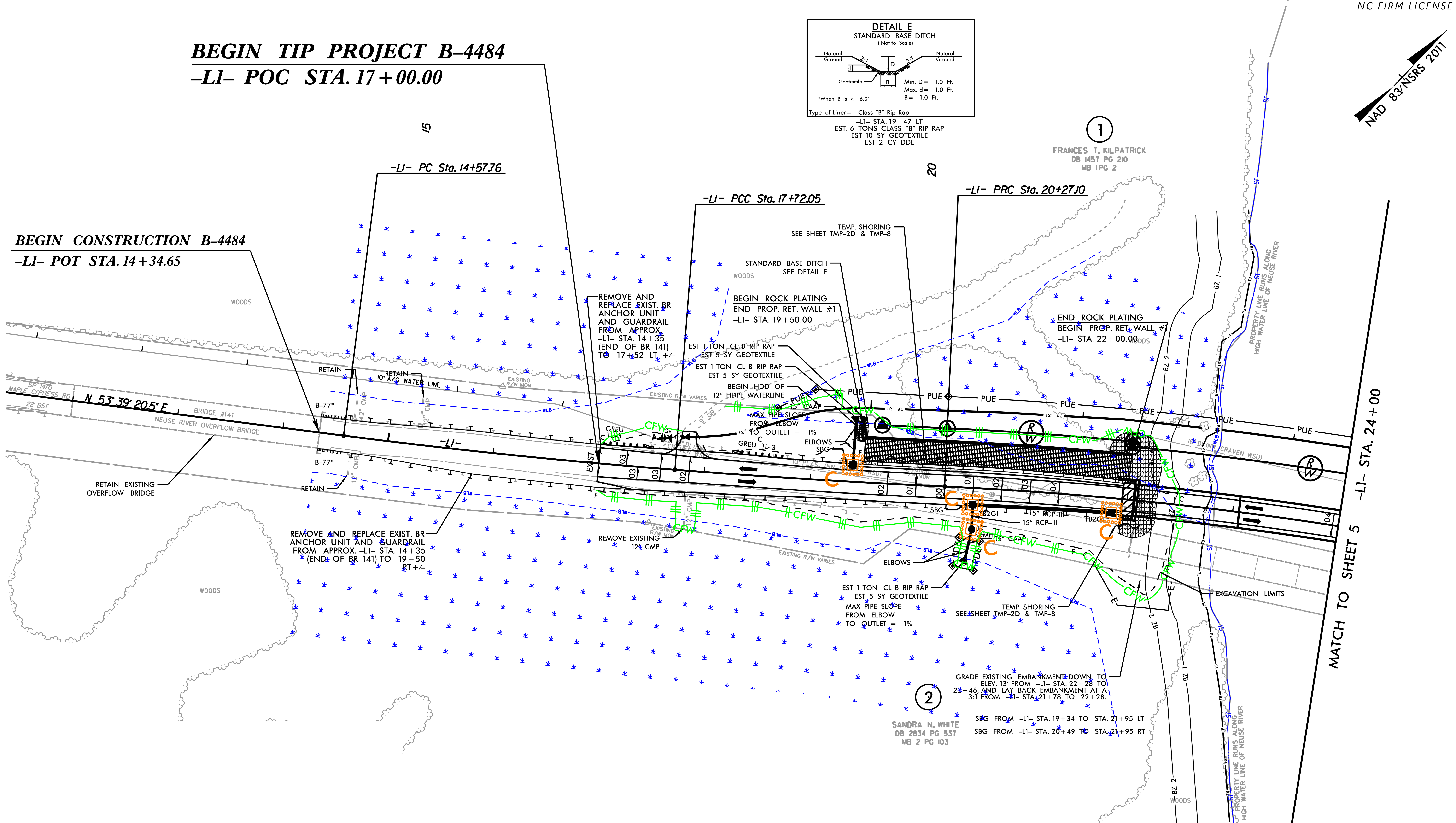
NC FIRM LICENSE No: F-0493


BEGIN TIP PROJECT B-4484
-L1- POC STA. 17+00.00
BEGIN CONSTRUCTION B-4484
-L1- POT STA. 14+34.65
-L1- PC Sta. 14+57.76
-L1- PCC Sta. 17+72.05
-L1- PRC Sta. 20+27.10
DETAIL E
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
B= 1.0 Ft.
*When B is < 6.0'
Type of Liner= Class "B" Rip-Rap
-L1- STA. 19+47 LT
EST. 6 TONS CLASS "B" RIP RAP
EST 10 SY GEOTEXTILE
EST 2 CY DDE
NAD 83/NSRS 2011
FRANCES T. KILPATRICK
DB 1457 PG 210
MB 1 PG 2
TEMP. SHORING
SEE SHEET TMP-2D & TMP-8
STANDARD BASE DITCH
SEE DETAIL E
BEGIN ROCK PLATING
END PROP. RET. WALL #1
-L1- STA. 19+50.00
END ROCK PLATING
BEGIN PROP. RET. WALL #1
-L1- STA. 22+00.00
REMOVE AND REPLACE EXIST. BR ANCHOR UNIT AND GUARDRAIL FROM APPROX. -L1- STA. 14+35 (END OF BR 141) TO 17+52 LT +/-
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
BEGIN HDD OF 12" HDPE WATERLINE
MAX PIPE SLOPE FROM ELBOW TO OUTLET = 1%
ELBOWS
RETAIN
10" A/C WATER LINE
SR 1470 MAPLE CYPRESS RD
N 53° 39' 20.5" E
NEUSE RIVER OVERFLOW BRIDGE
BRIDGE #141
RETAIN EXISTING OVERFLOW BRIDGE
REMOVE AND REPLACE EXIST. BR ANCHOR UNIT AND GUARDRAIL FROM APPROX. -L1- STA. 14+35 (END OF BR 141) TO 19+50 RT +/-
REMOVE EXISTING 12" CMP
WOODS
15" RCP-III
EXCAVATION LIMITS
GRADE EXISTING EMBANKMENT DOWN TO ELEV. 13' FROM -L1- STA. 22+28 TO 22+46, AND LAY BACK EMBANKMENT AT A 3:1 FROM -L1- STA. 21+78 TO 22+28.
SBG FROM -L1- STA. 19+34 TO STA. 21+95 LT
SBG FROM -L1- STA. 20+49 TO STA. 21+95 RT
SANDRA N. WHITE
DB 2834 PG 537
MB 2 PG 103
PROPERTY LINE RUNS ALONG HIGH WATER LINE OF NEUSE RIVER
-L1- STA. 24+00
MATCH TO SHEET 5

NOTE: UTILIZE FLOATING TURBIDITY CURTAIN AS NECESSARY.

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.

-L1- CURVE DATA

PI Sta 16+14.94	PI Sta 18+99.59	PI Sta 23+80.19
Δ = 2° 51' 30.1" (LT)	Δ = 1° 48' 46.9" (LT)	Δ = 11° 41' 14.5" (RT)
D = 0° 54' 34.0"	D = 0° 42' 39.1"	D = 1° 39' 38.7"
L = 314.29'	L = 255.05'	L = 703.74'
T = 157.18'	T = 127.53'	T = 353.10'
R = 6,300.00'	R = 8,060.00'	R = 3,450.00'
SE = .03	SE = .02	SE = .04
RO = 81'	RO = 54'	RO = 108'

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

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

REVISIONS

8/17/99

2/4/2020
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PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-11/CONST.5

RS&H
NC FIRM LICENSE No: F-0493

NAD 83/NSRS 2011

8/17/99

REVISIONS

STATE OF NORTH CAROLINA
DB 2391PG 212
PC E SLIDE 382

PROPERTY LINE RUNS ALONG HIGH WATER LINE OF NEUSE RIVER

N 23°34'31" E
424.60'

N 23°34'31" E
2.60'

WOODS

3
WILLIAM E. DANIELS
DB 3207 PG 1
PC H SLIDE 154-H

25

30

NEUSE RIVER

-L1- STA. 24+00

MATCH TO SHEET 4

PUE
12" WL
SBG
10" DI (NW CRAVEN WSD)
BRIDGE #138
NOTE: 2 SEPARATE MONITORING INSTRUMENTS ARE ATTACHED TO THE BRIDGE STRUCTURE. ONE INSTRUMENTS MEASURE FLOW RATE AND WATER LEVEL OF NEUSE RIVER. ONE IS MAINTAINED BY USGS AND THE OTHER IS UNKNOWN, POSSIBLY N.C. STATE UNIVERSITY OR NCDWQ.
NOTE: BRIDGE HAS CONC DECK, RAILS AND HEAD WALLS. STEEL I-BEAM STRINGERS SUPPORTED ON WOOD PILES
REMOVE EXISTING BRIDGE
RELOCATE TO PROPOSED BRIDGE BY OTHERS
-L1- PT Sta. 27+30.84
EXCAVATION LIMITS
GRADE EXISTING EMBANKMENT DOWN TO ELEV. 11' FROM -L1- STA. 27+42 TO 27+89, AND LAY BACK EMBANKMENT AT A 3:1 FROM -L1- STA. 27+89 TO 28+39.
NEUSE RIVER
SBG FROM -L1- STA. 28+15 TO STA. 34+11 LT
SBG FROM -L1- STA. 28+19 TO STA. 29+74 RT
PROPERTY LINE RUNS ALONG HIGH WATER LINE OF NEUSE RIVER

BEGIN ROCK PLATING
END PROP. RET. WALL #2
-L1- STA. 28+10.00

FALLOW
-L1- PC Sta. 31+85.32
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
END ROCK PLATING
BEGIN PROP. RET. WALL #2
-L1- STA. 33+35.00
15" RCP-III
N 60° 40' 18" E
15" RCP-III
SBG
TB2GI
10" PLAS. (NW CRAVEN WSD)
15" RCP-III
TB
WM
SR 1470 MAPLE CYPRESS RD 22' R/W
EXISTING R/W
15" CAAP w/ELBOWS
MAX PIPE SLOPE FROM ELBOW TO OUTLET = 1%
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
GV
WOODS
FALLOW
HEATH FAMILY FARMS, LLC
DB 1800 PG 832
DB 1016 PG 952

MATCH TO SHEET 6 -L1- STA. 35+00

4
COASTAL LUMBER COMPANY
DB 700 PG 109
PC H SLIDE 154-H

NOTE:
UTILIZE FLOATING TURBIDITY CURTAIN AS NECESSARY.

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.

-L1- CURVE DATA
PI Sta 34+95.01
Δ = 23° 19' 51.7" (LT)
D = 3° 49' 11.0"
L = 610.81'
T = 309.69'
R = 1,500.00'
SE = 06
RO = 162'

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

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

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Microstation

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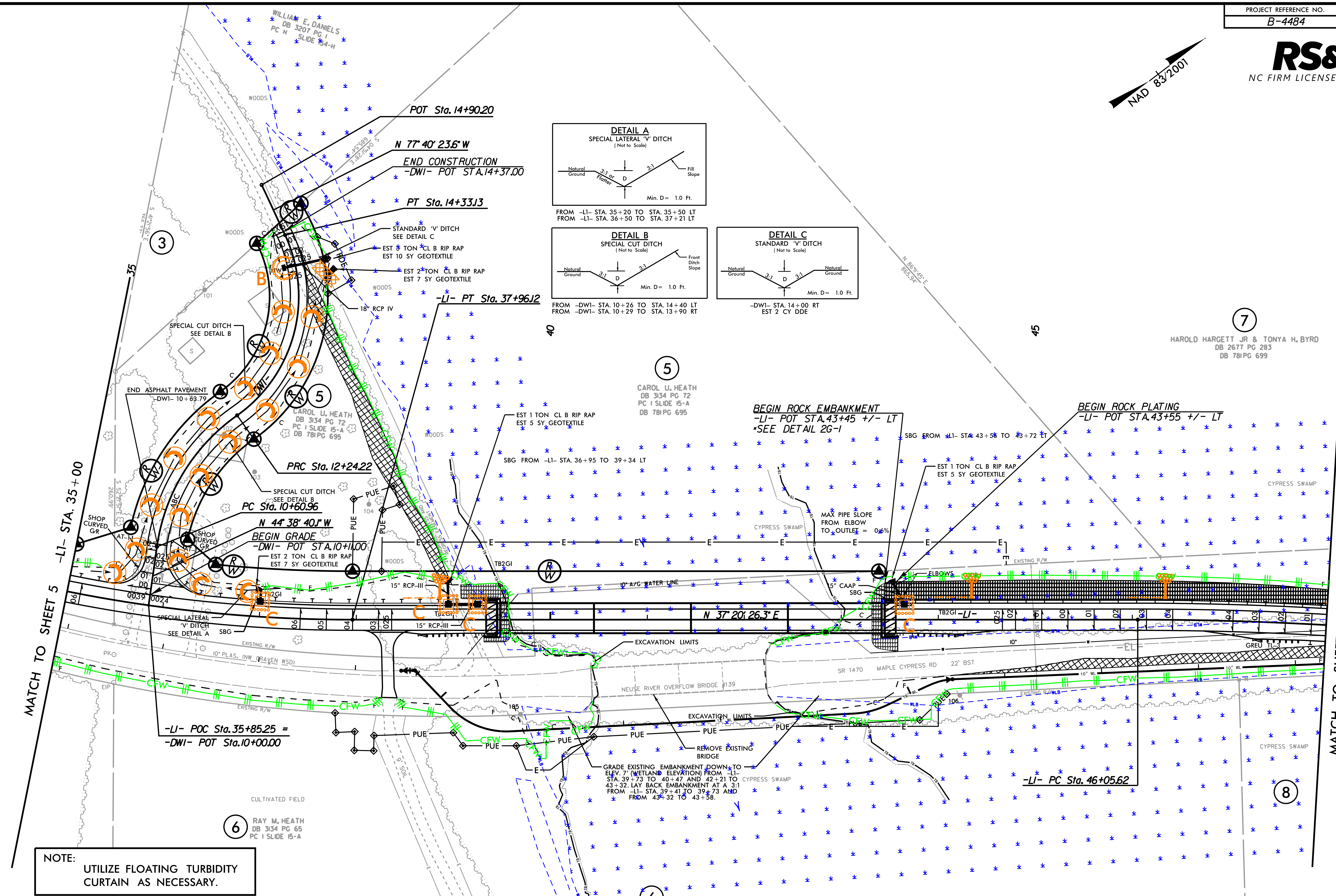
NC FIRM LICENSE No: F-0493

REVISIONS


NAD 83/2001
POT Sta. 14+90.20
N 77° 40' 23.6" W
END CONSTRUCTION
-DWI- POT STA.14+37.00
PT Sta. 14+33.13
STANDARD 'V' DITCH
SEE DETAIL C
EST 3 TON CL B RIP RAP
EST 10 SY GEOTEXTILE
EST 2 TON CL B RIP RAP
EST 7 SY GEOTEXTILE
18" RCP IV
-L1- PT Sta. 37+96.12
SPECIAL CUT DITCH
SEE DETAIL B
END ASPHALT PAVEMENT
-DW1- 10+63.79
PRC Sta. 12+24.22
SPECIAL CUT DITCH
SEE DETAIL B
PC Sta. 10+60.96
N 44° 38' 40.1" W
BEGIN GRADE
-DWI- POT STA.10+11.00
EST 2 TON CL B RIP RAP
EST 7 SY GEOTEXTILE
SPECIAL LATERAL
'V' DITCH
SEE DETAIL A
-L1- POC Sta. 35+85.25 =
-DWI- POT Sta.10+00.00
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM -L1- STA. 35+20 TO STA. 35+50 LT
FROM -L1- STA. 36+50 TO STA. 37+21 LT
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Min. D = 1.0 Ft.
FROM -DW1- STA. 10+26 TO STA. 14+40 LT
FROM -DW1- STA. 10+29 TO STA. 13+90 RT
DETAIL C
STANDARD 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
-DW1- STA. 14+00 RT
EST 2 CY DDE
WILLIAM E. DANIELS
DB 3207 PG 1
PC H SLIDE 54-H
CAROL U. HEATH
DB 3134 PG 72
PC I SLIDE 15-A
DB 781 PG 695
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283
DB 781 PG 699
RAY M. HEATH
DB 3134 PG 65
PC I SLIDE 15-A
CULTIVATED FIELD
CYPRESS SWAMP
EST 1 TON CL B RIP RAP
EST 5 SY GEOTEXTILE
SBG FROM -L1- STA. 36+95 TO 39+34 LT
BEGIN ROCK EMBANKMENT
-L1- POT STA.43+45 +/- LT
*SEE DETAIL 2G-1
BEGIN ROCK PLATING
-L1- POT STA.43+55 +/- LT
SBG FROM -L1- STA. 43+56 TO 43+72 LT
MAX PIPE SLOPE FROM ELBOW TO OUTLET = 0.6%
ELBOWS
5" CAAP
N 37° 20' 26.3" E
10" A/C WATER LINE
15" RCP-III
SR 1470 MAPLE CYPRESS RD
NEUSE RIVER OVERFLOW BRIDGE #139
EXCAVATION LIMITS
REMOVE EXISTING BRIDGE
GRADE EXISTING EMBANKMENT DOWN TO ELEV. 7' (WETLAND ELEVATION) FROM -L1- STA. 39+73 TO 40+47 AND 42+21 TO 43+32. LAY BACK EMBANKMENT AT A 3:1 FROM -L1- STA. 39+41 TO 39+73 AND FROM 43+32 TO 43+58.
-L1- PC Sta. 46+05.62
MATCH TO SHEET 5
-L1- STA. 35+00
MATCH TO SHEET 7
-L1- STA. 48+00

NOTE:
UTILIZE FLOATING TURBIDITY CURTAIN AS NECESSARY.

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.

-DWI- CURVE DATA

PI Sta 11+47.45	PI Sta 13+49.63
Δ = 46° 46' 08.1" (RT)	Δ = 79° 47' 51.6" (LT)
D = 28° 38' 52.4"	D = 38° 11' 49.9"
L = 163.25'	L = 208.91'
T = 86.48'	T = 125.41'
R = 200.00'	R = 150.00'
SE = NC	SE = NC
RO = N/A	RO = N/A

-L1- CURVE DATA

PI Sta 47+08.74
Δ = 3° 28' 28.7" (RT)
D = 1° 41' 06.6"
L = 206.19'
T = 103.13'
R = 3,400.00'
SE = .04
RO = 108'

NOTE: UTILIZE FABRIC INSERT INLET PROTECTIONS IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C TO PREVENT PONDING ON ROADS OPEN TO LIVE TRAFFIC.

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

8/17/99
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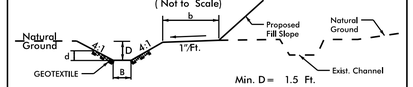
PROJECT REFERENCE NO.	SHEET NO.
B-4484	EC-13/CONST.7

RS&H
NC FIRM LICENSE No: F-0493

8/17/99

REVISIONS

DETAIL D
CHANNEL CHANGE
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 8.0 Ft.
b = 5.0 to 12.0 Ft.
Type of Liner = Class "I" Granite Rip Rap

FROM -L1- STA. 48+80 TO STA. 50+50 LT.
EST. CLASS "I" GRANITE RIP RAP = 106 TONS
EST. GEOTEXTILE = 234 SY
EST. DDE = 120 CY

NAD 83/2001

LINDA B. McKEEL, ET AL
DB 303 PG 280

7
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283

END TIP PROJECT B-4484
-L1- POC STA. 54+00.00

7
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283
DB 781PG 699

50

55

END ROCK PLATING
-L1- POC STA.53+00 +/- LT/RT

-L1- PC Sta. 52+10.53

-L1- PT Sta. 51+85.53

END CONSTRUCTION B-4484
-L1- POC STA. 54+90.53

-L1- POT Sta. 58+41.81

-L1- PT Sta. 56+53.53

END ROCK EMBANKMENT
-L1- POT STA.50+50 +/- LT

CYPRESS SWAMP

FILL EX SCOUR HOLE WITH APPROX. 22 TONS OF CLASS "I" GRANITE RIP RAP

CHANNEL CHANGE SEE DETAIL D PROPOSED CHANNEL SLOPE = 0.70%

COLLAR AND EXTEND DUAL 84" CMP

BEAVER DAM

WOODS

MATCH TO SHEET 6 -L1- STA. 48+00

SR 1470 MAPLE CYPRESS RD 22' BST

SR 1450 NELSON RD 22' BST

JUDY K. HEATH
DB 3134 PG 59

1SBKD

N 57°06'12" W
135.83'

S 32°51'25" W
77.87'

BEGIN ROCK PLATING
-L1- POC STA.50+50 +/- RT

USE 25' CLEAR SPAN GUARDRAIL SECTION OVER EXIST. 84" PIPES

-L1- PRC Sta. 48+11.81

8
HAROLD HARGETT JR & TONYA H. BYRD
DB 2677 PG 283

-L1- CURVE DATA

PI Sta 49+98.86	PI Sta 54+32.04
Δ = 6°17'52.5" (LT)	Δ = 1°07'40.2" (LT)
D = 1°41'06.6"	D = 0°15'16.5"
L = 373.73'	L = 443.00'
T = 187.05'	T = 221.51'
R = 3,400.00'	R = 22,505.00'
SE = 04	SE = NC
RO = 108'	RO = N/A

PAVEMENT REMOVAL

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.

2/4/2020
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Narayana