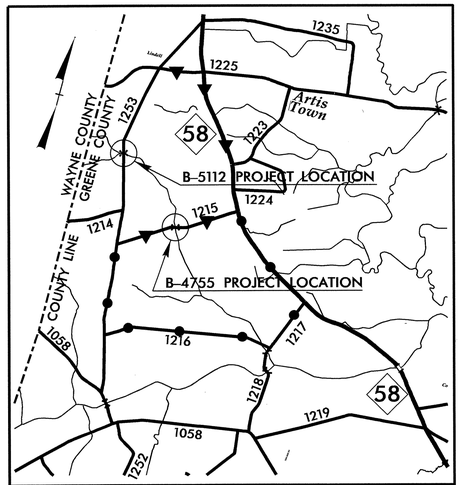
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4755 /B-5112	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
38527.1.1	BRZ-1215(2)	B-4755 (P.E.)
42250.1.1	BRZ-1253(2)	B-5112 (P.E.)
38527.2.1	BRZ-1215(2)	B-4755 (R/W & UTIL.)
42250.2.1	BRZ-1253(2)	B-5112 (R/W & UTIL.)
38527.3.FD1	BRZ-1215(2)	B-4755/B-5112 (CONST.)

TIP PROJECT: B-4755 /B-5112

CONTRACT: C203248

See Sheet 1-A For Index of Sheets
See Sheet 2 for Conventional Symbols



VICINITY MAP

NOT TO SCALE

B-4755 OFFSITE DETOUR

B-5112 OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

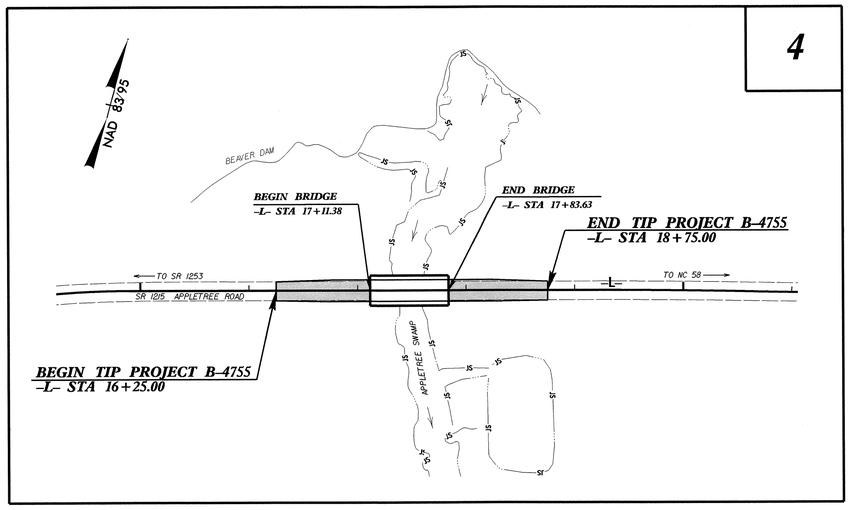
GREENE COUNTY

PART I – LOCATION: ***BRIDGE NO. 65 OVER APPLETREE SWAMP ON SR 1215 (APPLETREE RD)***

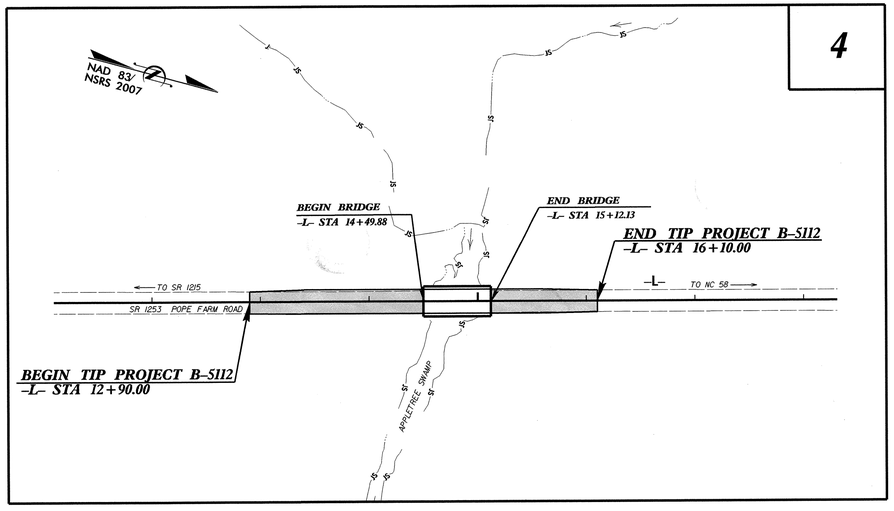
PART II – LOCATION: ***BRIDGE NO. 72 OVER APPLETREE SWAMP ON SR 1253 (POPE FARM RD)***

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

PART I



PART II



PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4755 /B-5112	=	0.082 MILES
LENGTH STRUCTURE TIP PROJECT B-4755 /B-5112	=	0.026 MILES
TOTAL LENGTH OF TIP PROJECT B-4755 /B-5112	=	0.108 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh, NC 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE (B-4755): JULY 23, 2012

RIGHT OF WAY DATE (B-5112): OCTOBER 16, 2012

LETTING DATE: OCTOBER 15, 2013

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

09/08/99
23-JUL-2013 14:36
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PROJECT REFERENCE NO.	SHEET NO.
B-4755/B-5112	1-A

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN D. LANCASTER
7/21/15

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET (B-4755/B-5112)
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
2	CONVENTIONAL SYMBOLS
3	SUMMARY OF QUANTITIES
B-4755 : PART I	
1	TITLE SHEET (B-4755)
1-A	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A	DETAIL OF STRUCTURE ANCHOR UNIT TYPE III
3-A	SUMMARIES OF EARTHWORK, DRAINAGE, GUARDRAIL PAVEMENT REMOVAL, SHOULDER BERM CURB, SHOULDER BERM GUTTER, AND SUBSURFACE DRAINAGE
4	PLAN SHEET
5	PROFILE SHEET
TMP-1	TRANSPORTATION MANAGEMENT PLANS
EC-1 THROUGH EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UC-1 THROUGH UC-5	UTILITIES PLANS
U0-1 THROUGH U0-3	UTILITIES BY OTHER PLANS
X-1	CROSS SECTION SUMMARY SHEET
X-2 THROUGH X-3	CROSS-SECTIONS
S-1 THROUGH S-28	STRUCTURE PLANS
B-5112 : PART II	
1	TITLE SHEET (B-5112)
1-A	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A	DETAIL OF STRUCTURE ANCHOR UNIT TYPE III
3-A	SUMMARIES OF EARTHWORK, DRAINAGE, GUARDRAIL PAVEMENT REMOVAL, SHOULDER BERM CURB, SHOULDER BERM GUTTER, AND SUBSURFACE DRAINAGE
4	PLAN SHEET
5	PROFILE SHEET
TMP-1	TRANSPORTATION MANAGEMENT PLANS
EC-1 THROUGH EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UC-1 THROUGH UC-5	UTILITIES PLANS
U0-1 THROUGH U0-3	UTILITIES BY OTHER PLANS
X-1	CROSS SECTION SUMMARY SHEET
X-2 THROUGH X-4	CROSS-SECTIONS
S-1 THROUGH S-28	STRUCTURE PLANS

EFF. 01-17-2012
REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch – N. C. Department of Transportation – Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 – EARTHWORK	
200.03	Method of Clearing – Method III
225.02	Guide for Grading Subgrade – Secondary and Local
225.04	Method of Obtaining Superelevation – Two Lane Pavement
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 – MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 6 – ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 – INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames – Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (Detail in lieu of Standard Drawing, see sheet 2-A)
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES: 2012 SPECIFICATIONS

EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 AND/OR STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND/OR STD. NO. 560.02

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Green County Regional Water System (B-4755 & B-5112)

Century Link (B-4755 & B-5112)

Piedmont Natural Gas (B-4755)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

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04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4755 /B-5112	2

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203248

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (14+81.01)
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (17+47.51)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	2	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	700	CY	UNDERCUT EXCAVATION
0195000000-E	265	700	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	800	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	60	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	140	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	56	LF	15" DRAINAGE PIPE
0448200000-E	310	24	LF	15" RC PIPE CULVERTS, CLASS IV
1220000000-E	545	200	TON	INCIDENTAL STONE BASE
1489000000-E	610	310	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1519000000-E	610	190	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1525000000-E	610	120	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	35	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	100	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	44.8	CY	SUBDRAIN EXCAVATION
2026000000-E	815	200	SY	GEOTEXTILE FOR SUBSURFACE DRAINS
2036000000-E	815	33.6	CY	SUBDRAIN COARSE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	2	EA	SUBDRAIN PIPE OUTLET

ItemNumber	Sec #	Quantity	Unit	Description
2077000000-E	815	12	LF	6" OUTLET PIPE
2286000000-N	840	4	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	105	LF	SHOULDER BERM GUTTER
2752000000-E	SP	40	LF	GENERIC PAVING ITEM SPECIAL SHOULDER BERM CURB
3030000000-E	862	150	LF	STEEL BM GUARDRAIL
3150000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	8	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	8	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	3	TON	RIP RAP, CLASS B
3656000000-E	876	1,075	SY	GEOTEXTILE FOR DRAINAGE
4400000000-E	1110	458	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	80	LF	BARRICADES (TYPE III)
5325600000-E	1510	400	LF	6" WATER LINE
5325800000-E	1510	400	LF	8" WATER LINE
5540000000-E	1515	2	EA	6" VALVE
5546000000-E	1515	2	EA	8" VALVE
5606000000-E	1515	2	EA	2" BLOW OFF
5800000000-E	1530	320	LF	ABANDON 6" UTILITY PIPE
5801000000-E	1530	322	LF	ABANDON 8" UTILITY PIPE
5871400000-E	1550	252	LF	TRENCHLESS INSTALLATION OF 6" IN SOIL
5871410000-E	1550	28	LF	TRENCHLESS INSTALLATION OF 6" NOT IN SOIL
5871500000-E	1550	252	LF	TRENCHLESS INSTALLATION OF 8" IN SOIL
5871510000-E	1550	28	LF	TRENCHLESS INSTALLATION OF 8" NOT IN SOIL

ItemNumber	Sec #	Quantity	Unit	Description
6000000000-E	1605	1,350	LF	TEMPORARY SILT FENCE
6006000000-E	1610	265	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	60	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	200	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	400	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	800	LF	SAFETY FENCE
6030000000-E	1630	110	CY	SILT EXCAVATION
6036000000-E	1631	1,725	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	200	SY	COIR FIBER MAT
6042000000-E	1632	470	LF	1/4" HARDWARE CLOTH
6048000000-E	SP	240	SY	FLOATING TURBIDITY CURTAIN
6070000000-N	1639	4	EA	SPECIAL STILLING BASINS
6071010000-E	SP	15	LF	WATTLE
6071014000-E	SP	280	LF	COIR FIBER WATTLE BARRIER
6071020000-E	SP	5	LB	POLYACRYLAMIDE (PAM)
6084000000-E	1660	1	ACR	SEEDING & MULCHING
6087000000-E	1660	0.4	ACR	MOWING
6090000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.5	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	20	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	36	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.2	ACR	REFORESTATION

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09/08/99

TIP PROJECT: B-4755

CONTRACT: C203248

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GREENE COUNTY

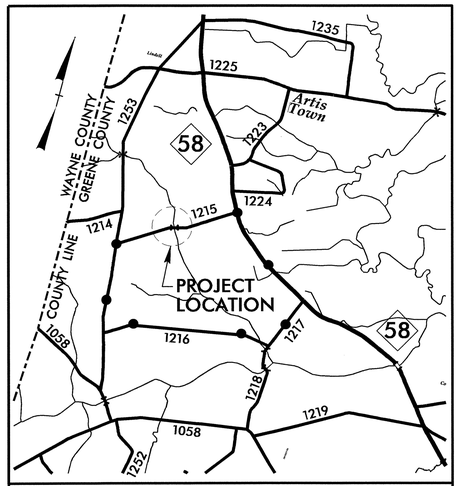
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4755	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38527.1.1	BRZ-1215(2)	PE
38527.2.1	BRZ-1215(2)	R/W & UTIL.
38527.3.FD1	BRZ-1215(2)	CONST.

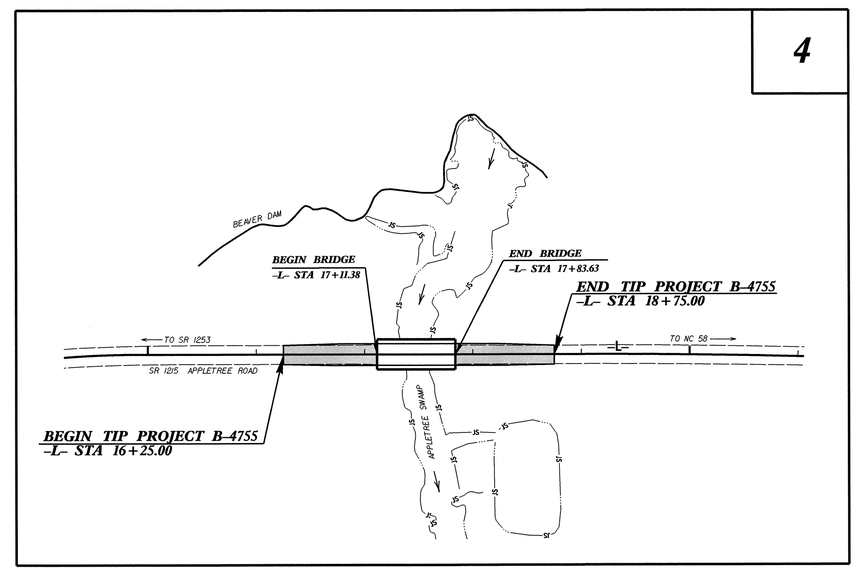
PART 1 OF 2

LOCATION: BRIDGE NO. 65 OVER APPLETREE SWAMP ON SR 1215 (APPLETREE RD)

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



VICINITY MAP
NOT TO SCALE
OFFSITE DETOUR



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 388
ADT 2033 = 581
DHV = 10 %
D = 60 %
T = 5 % *
V = 60 MPH
* (TTST 2% + DUAL 3%)
FUNC CLASS. = RURAL LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4755 = 0.033 MILES
LENGTH STRUCTURE TIP PROJECT B-4755 = 0.014 MILES
TOTAL LENGTH OF TIP PROJECT B-4755 = 0.047 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 23, 2012

LETTING DATE:
OCTOBER 15, 2013

GARY LOVERING, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN
SIGNATURE: 7/24/13

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER
SIGNATURE: 7/24/13

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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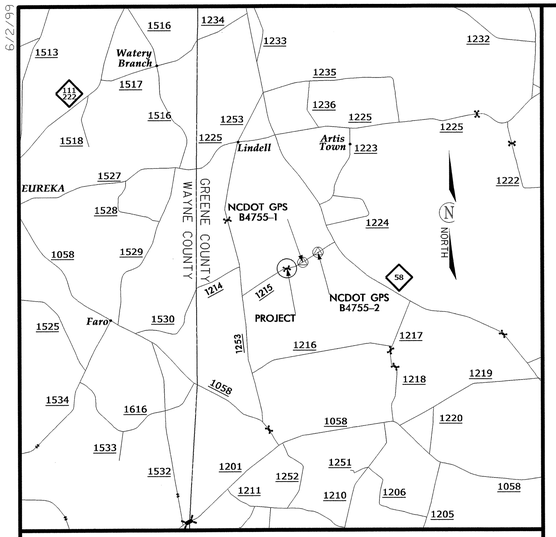
PROJECT REFERENCE NO.	SHEET NO.
B-4755	1-A
Location and Surveys	

SURVEY CONTROL SHEET B-4755



VICINITY MAP
(NOT TO SCALE)

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	647140.4060	2356399.7310	88.03	13+30.24	29.07 LT
2	BL-2	647260.8770	2356832.5010	72.91	17+74.98	15.46 LT
3	BL-3	647384.1090	2357314.0190	83.10	22+71.74	12.84 LT

BM1 ELEVATION - 72.14
N 647118 E 2356833
L STATION 17+38.00 123 RIGHT
R/R SPIKE SET IN BASE OF 15" GUM ON WEST
SIDE OF CREEK AND SOUTH OF ROAD

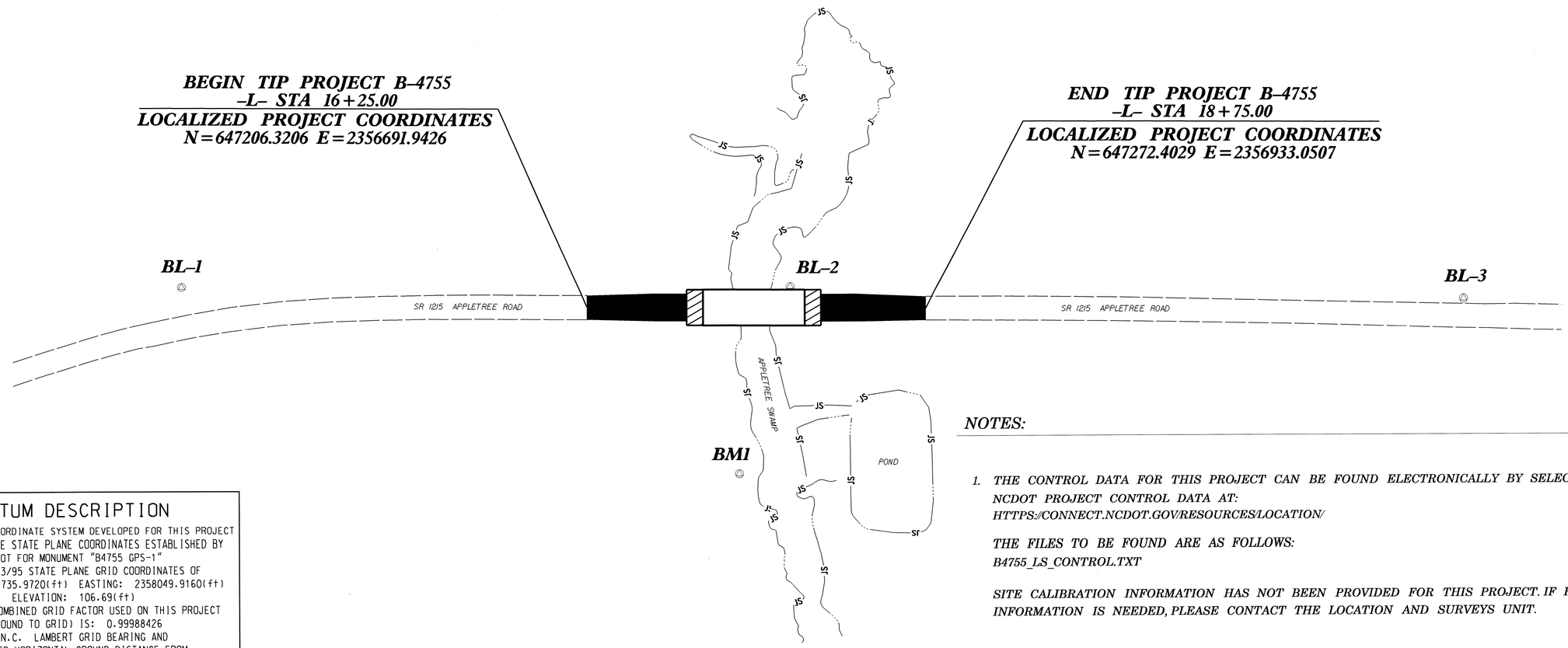
FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	16+78.00	40.00	647181.7527	2356753.6307
L	16+78.00	30.00	647191.3971	2356750.9874
L	16+78.00	-30.00	647249.2630	2356735.1277
L	16+78.00	-40.00	647258.9073	2356732.4844
L	16+98.00	40.00	647187.0393	2356772.9194
L	16+98.00	30.00	647196.6836	2356770.2761
L	16+98.00	-30.00	647254.5496	2356754.4163
L	16+98.00	-40.00	647264.1939	2356751.7730

FINAL L

TYPE	STATION	NORTH	EAST
POT	10+00.00	646938.1790	2356133.4130
PC	12+20.12	647059.6390	2356316.9874
PT	14+89.57	647170.5232	2356561.3323
PC	19+04.25	647280.1356	2356961.2642
PT	20+69.10	647322.0877	2357120.6829
POT	23+62.68	647393.9060	2357405.3440

NAD 83/95



NOTE: DRAWING NOT TO SCALE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4755 GPS-1"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 647735.9720(ft) EASTING: 2358049.9160(ft)
ELEVATION: 106.69(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988426
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4755 GPS-1" TO -L- STATION 16+25.00 IS
S 68°41'33.7" W 1457.61(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING NCDOT PROJECT CONTROL DATA AT:
HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/

THE FILES TO BE FOUND ARE AS FOLLOWS:
B4755_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

△ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

6/2/99
12-AUG-2013 11:51
R:\Location&Surveys\B4755_LS_1A.DGN
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4755	2

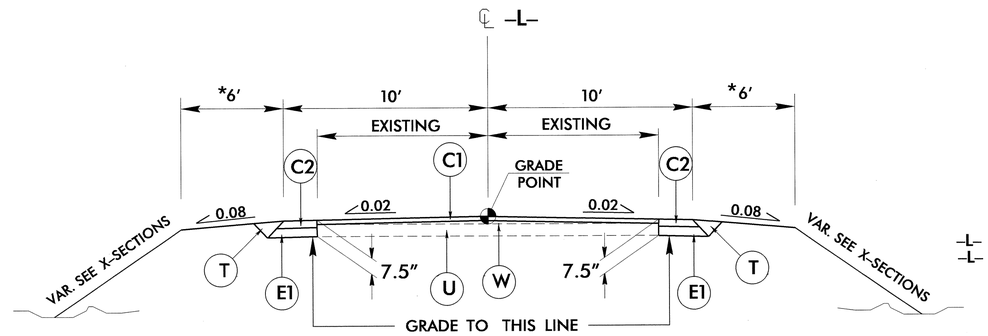
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER
7/29/13

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
7/29/13

FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	SPECIAL SHOULDER BERM CURB.
R2	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).
W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING ON BRIDGE).

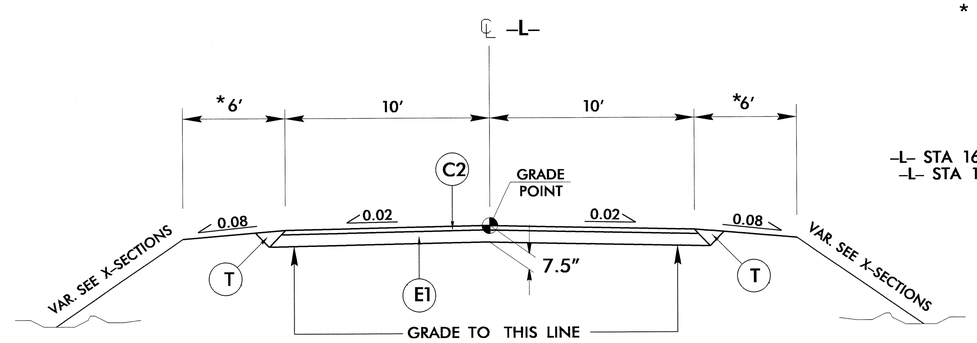
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION 1

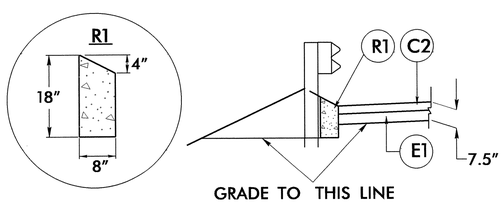
-L- STA 16+25.00 TO -L- STA 16+80.00
-L- STA 18+15.00 TO -L- STA 18+75.00

* MAINTAIN 3' OF GRADED SHOULDER BEHIND GUARDRAIL INSTALLATION



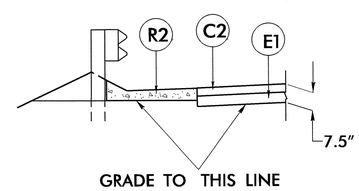
TYPICAL SECTION 2

-L- STA 16+80.00 TO -L- STA 17+11.38 (BEGIN BRIDGE)
-L- STA 17+83.63 (END BRIDGE) TO -L- STA 18+15.00



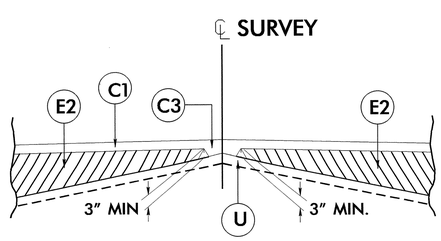
DETAIL SHOWING SPECIAL SHOULDER BERM CURB ON TOP OF SUBGRADE

-L- STA. 17+94.63 (END APPROACH SLAB) TO -L- STA. 18+02.38 (LT & RT)

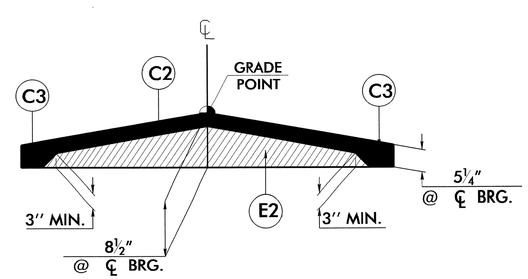


DETAIL SHOWING SHOULDER BERM GUTTER ON TOP OF SUBGRADE

-L- STA. 16+82 TO STA. 17+00.38 (LT & RT)

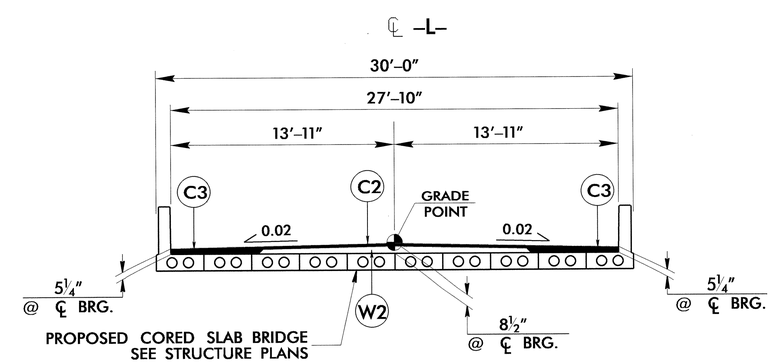


DETAIL SHOWING METHOD OF WEDGING



DETAIL SHOWING METHOD OF WEDGING ON BRIDGE

USE IN CONJUNCTION WITH BRIDGE TYPICAL



BRIDGE TYPICAL

-L- STA 17+11.38 (BEGIN BRIDGE) TO -L- STA 17+83.63 (END BRIDGE)

6/2/99

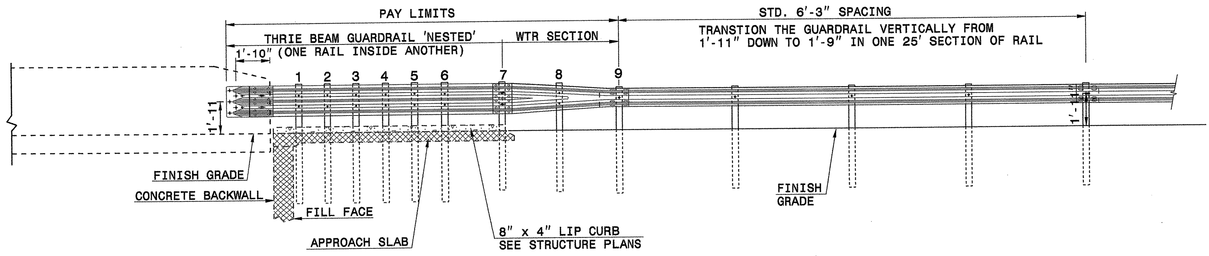
29-JUL-2013 15:56
R:\Roadway\Proj\B4755_Rdy_typ.dgn
$$$$USERNAME$$$$

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

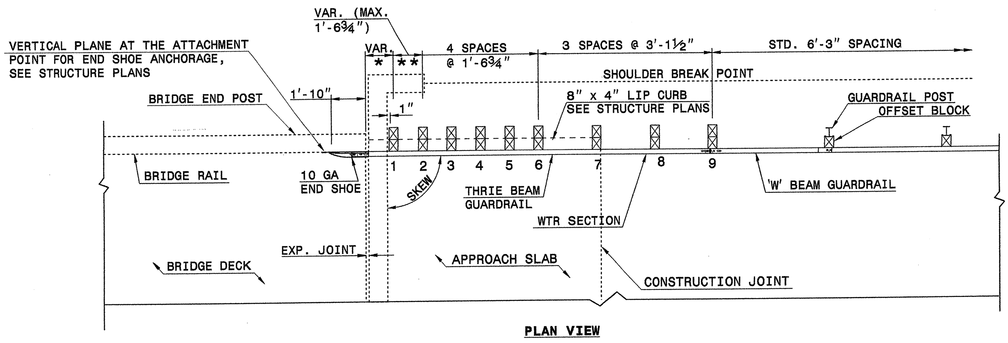
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



ELEVATION

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

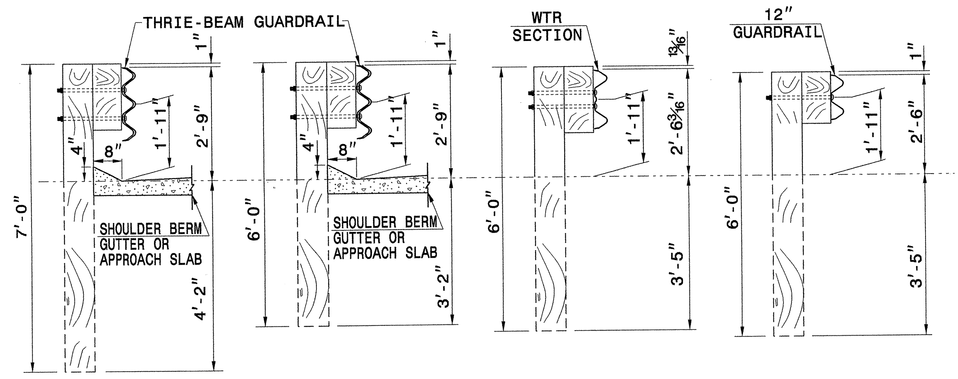
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

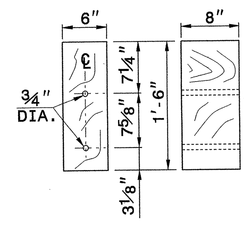
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

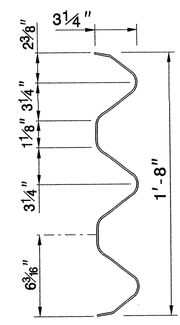
SHEET 3 OF 7
862d03



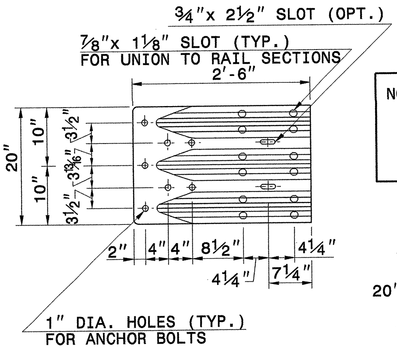
SECTION OF THRIE BEAM POSTS 1 THRU 6 | **SECTION OF THRIE BEAM POST 7** | **SECTION OF WTR BEAM POST 8** | **SECTION OF 'W' BEAM POST 9**



THRIE BEAM OFFSET BLOCK

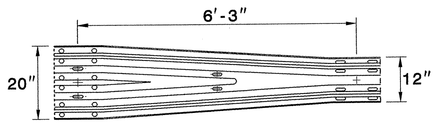


THRIE-BEAM SECTION

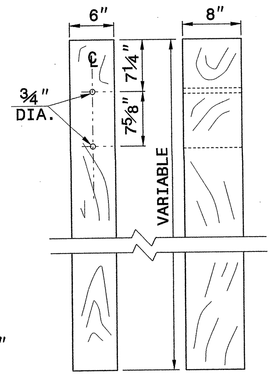


END SHOE

NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.



WTR SECTION
ELEVATION VIEW



THRIE BEAM LINE POST

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE: 11/13/12
FILE SPEC.:

NORTH CAROLINA PROFESSIONAL SEAL 02366 ENGINEER
7/23/13

PROJECT REFERENCE NO. B4755
SHEET NO. 2-A

12/06/07

COMPUTED BY: MONICA DUVAL	DATE: 02/07/12
CHECKED BY: HCN	DATE: 06/18/13

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4755	3-A

SUMMARY OF EARTHWORK

STATION -L-	STATION -L-	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
16+25.00	17+11.38(BRIDGE)	20	5	0	15
	SUBTOTAL:	20	5	0	15
17+83.63(BRIDGE)	18+75.00	17	53	36	0
	SUBTOTAL:	17	53	36	0
	PROJECT TOTALS:	37	58	36	15
WASTE IN LIEU OF BORROW:				-15	-15
B-4755 TOTALS:		37	58	21	
B-4755 SAY:		40		25	
B-5112 SAY:		15		70	
GRAND TOTALS		55		95	

CONTINGENCY UNDERCUT = 300 CY (B-4755)
CONTINGENCY UNDERCUT = 400 CY (B-5112)
GRAND TOTALS 700 CY

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L-, LT	16+82.00	17+00.38	18.40'
-L-, RT	16+82.00	17+00.38	18.40'
		B-4755 TOTAL:	36.80'
		B-4755 SAY:	40.0'
		B-5112 SAY:	65.0'
		GRAND TOTALS	105.0'

SPECIAL SHOULDER BERM CURB SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L-, LT	17+94.63	18+02.38	7.75'
-L-, RT	17+94.63	18+02.38	7.75'
		B-4755 TOTAL:	15.50'
		B-4755 SAY:	20.0'
		B-5112 SAY:	20.0'
		GRAND TOTALS	40.0'

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	STATION	LOCATION LT/RT/CL	DRAIN TYPE* UD/BD/SD	LF
B-4755 CONTINGENCY:				SD	100
B-5112 CONTINGENCY:				SD	100
GRAND TOTALS:					200

*UD = UNDERDRAIN
*BD = BLIND DRAIN
*SD = SUBSURFACE DRAIN

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
-L-	16+80.00	17+30.00	CL	105
-L-	17+66.00	18+15.00	CL	98
		B-4755 TOTAL:		203
		B-4755 SAY:		210
		B-5112 SAY:		160
		GRAND TOTALS		370

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE / -L-	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"
16+88	RT	0412		73.27	70.10										
	RT	0412	0413		70.10	70.00			16'						
16+88	LT	0410		73.27	70.10										
	LT	0410	0411		70.10	70.00			16'						
B-4755 TOTALS:									32'						
B-5112 TOTALS:									24'						
GRAND TOTALS:									56'						

STATION	C.S. PIPE (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	24"	30" .079	30"	36" .079	36"	42" .109	42"	48" .109	48"
16+88													
16+88													
B-4755 TOTALS:													
B-5112 TOTALS:													
GRAND TOTALS:													

STATION	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	
16+88														1							
16+88														1							
B-4755 TOTALS:														2							
B-5112 TOTALS:		24'												2							
GRAND TOTALS:		24'												4							

* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')

STATION	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD 840.35							CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
16+88									1		1											
16+88									1		1											
B-4755 TOTALS:									2		2											
B-5112 TOTALS:									2		2											
GRAND TOTALS:									4		4											

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END
-L-	16+36.38	17+11.38(bridge)	RT	81.25'			17+11.38(bridge)		3'-11"	6'	62.5'		1.25'	
-L-	16+36.38	17+11.38(bridge)	LT	81.25'				17+11.38(bridge)	3'-11"	6'		62.5'		1.25'
-L-	17+83.63(bridge)	18+58.63	RT	81.25'				17+83.63(bridge)	3'-11"	6'		62.5'		1.25'
-L-	17+83.63(bridge)	18+58.63	LT	81.25'			17+83.63(bridge)		3'-11"	6'	62.5'		1.25'	
			SUBTOTAL:	325'										
			ANCHOR UNIT DEDUCTIONS:	-275'										
			B-4755 TOTAL:	50'										
			B-4755 SAY:	62.5'			B-4755 ADDITIONAL POSTS = 5							
			B-5112 SAY:	87.5'			B-5112 ADDITIONAL POSTS = 5							
			GRAND TOTALS:	150.0'			GRAND TOTAL ADDITIONAL POSTS = 10							

ROW	ANCHORS XI MOD	GRAU 350	TYPE III	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
1		1	1													
2		1	1													
3		1	1													
4		1	1													
B-4755 TOTAL:		4	4													
B-5112 TOTAL:		4	4													
GRAND TOTAL:		8	8	B-4755 ANCHOR UNIT DEDUCTIONS:												
				TYPE III: 4@18.75' = 75'												
				GRAU 350: 4@50' = 200'												
				TOTAL: = 275'												

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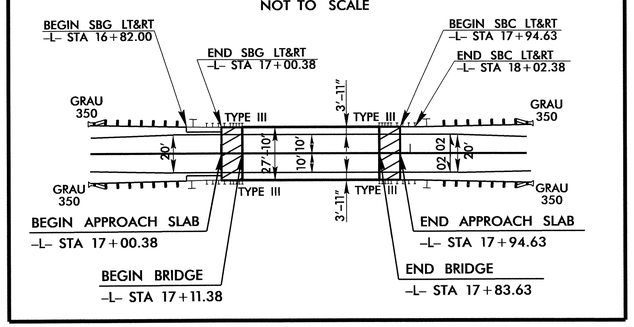
PROJECT REFERENCE NO.	SHEET NO.
B-4755	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

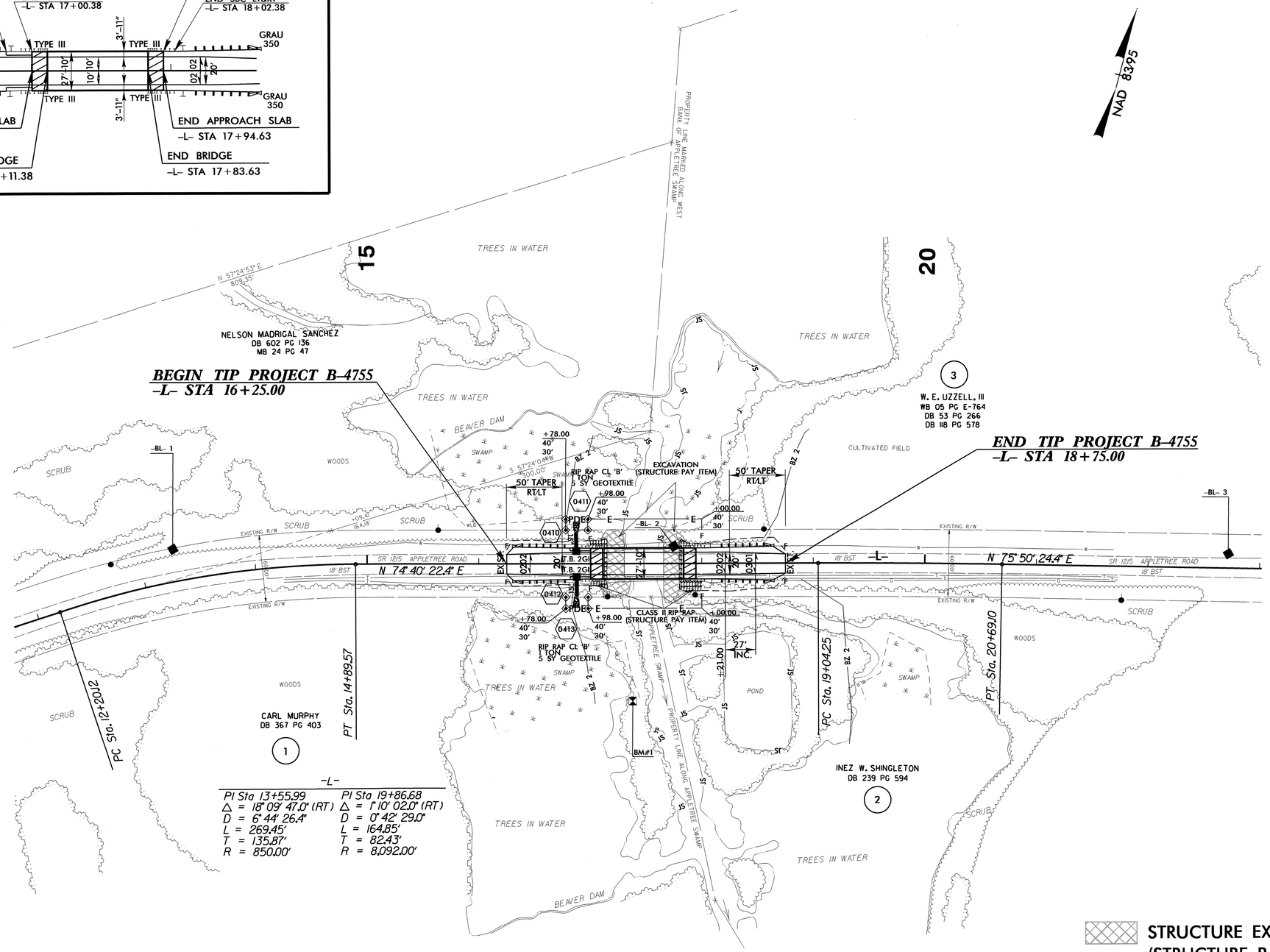
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCHESTER 7/22/13

NORTH CAROLINA PROFESSIONAL SEAL 20670 ENGINEER MARC T. SHOWN 7/22/13

SKETCH OF BRIDGE IN RELATIONSHIP TO PAVEMENT

NOT TO SCALE





-L-

PI Sta 13+55.99	PI Sta 19+86.68
Δ = 18° 09' 47.0" (RT)	Δ = 1° 10' 02.0" (RT)
D = 6° 44' 26.4"	D = 0° 42' 29.0"
L = 269.45'	L = 164.85'
T = 135.87'	T = 82.43'
R = 850.00'	R = 8,092.00'

STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)

BRIDGE APPROACH SLAB

FOR -L- PROFILE, SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-28

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PROJECT REFERENCE NO.	SHEET NO.
B-4755	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER

Susan Cauley Lancaster 7/22/13

HYDRAULICS ENGINEER

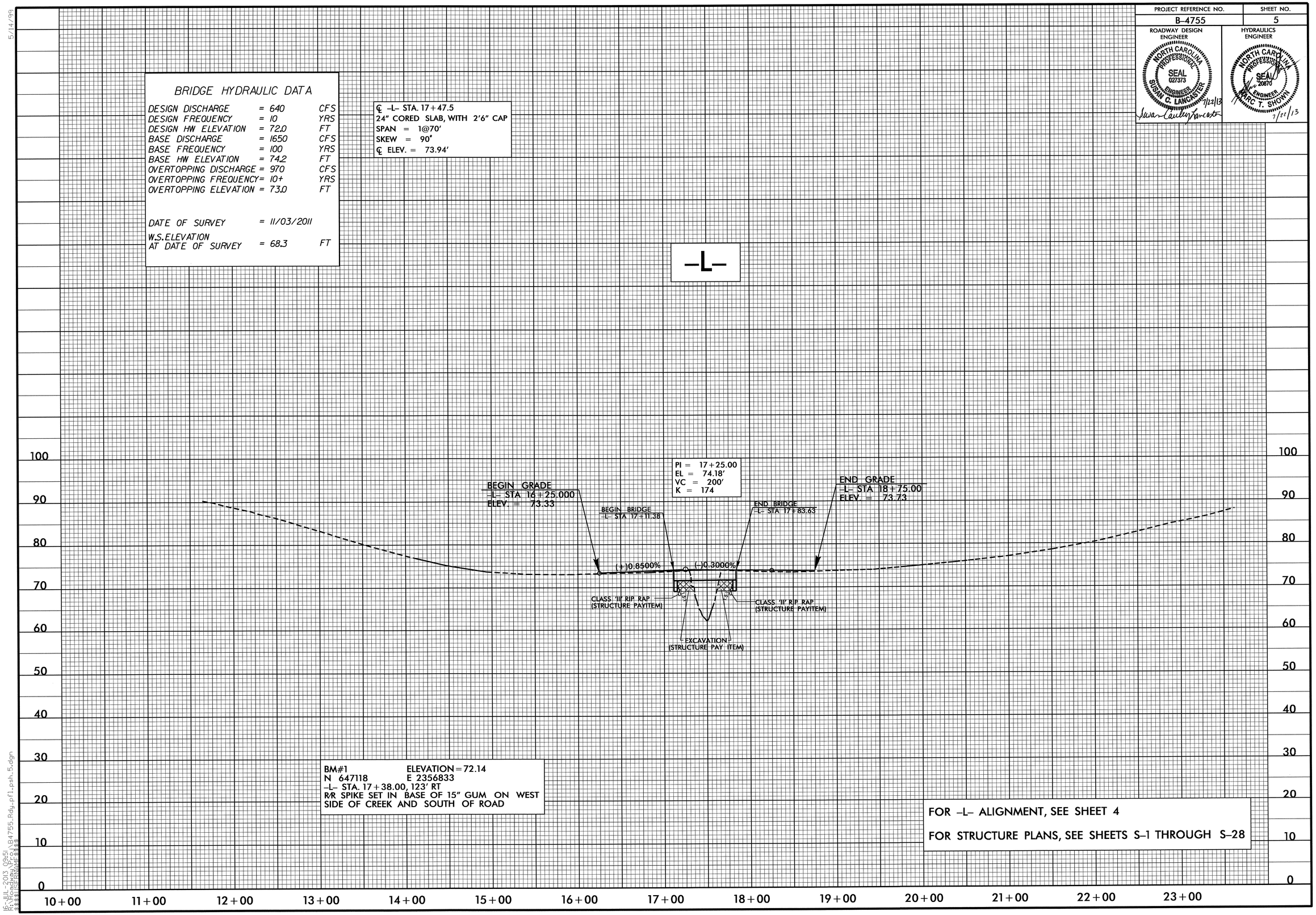
NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN

7/22/13

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 640	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 72.0	FT
BASE DISCHARGE	= 1650	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 74.2	FT
OVERTOPPING DISCHARGE	= 970	CFS
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING ELEVATION	= 73.0	FT
DATE OF SURVEY	= 11/03/2011	
W.S.ELEVATION AT DATE OF SURVEY	= 68.3	FT

℄ -L- STA. 17+47.5
24" CORED SLAB, WITH 2'6" CAP
SPAN = 1@70'
SKEW = 90°
℄ ELEV. = 73.94'



BM#1 ELEVATION = 72.14
N 647118 E 2356833
-L- STA. 17+38.00, 123' RT
R/R SPIKE SET IN BASE OF 15" GUM ON WEST SIDE OF CREEK AND SOUTH OF ROAD

FOR -L- ALIGNMENT, SEE SHEET 4

FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-28

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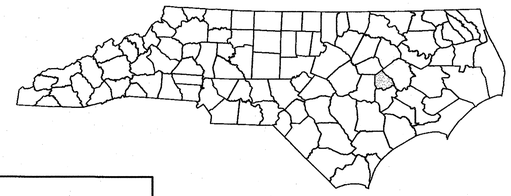
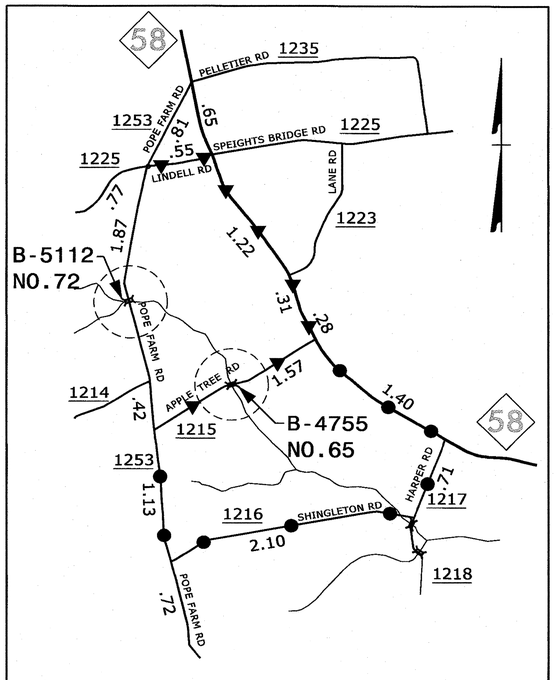
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GREENE COUNTY





VICINITY MAP

DETOUR ROUTES

B-4755 *B-5112*

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL

NORTH ARROW

WORK AREA

DETOUR

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

TEMPORARY SIGNING

STATIONARY SIGN

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, INDEX OF SHEETS, LEGEND, GENERAL NOTES AND PHASING

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

c) STATE FORCES WILL BE RESPONSIBLE FOR PROVIDING SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

E) STATE FORCES WILL COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

F) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

G) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PHASING

NOTES:

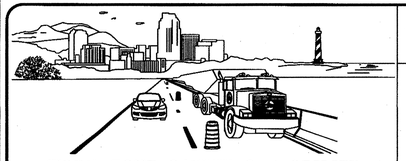
1. DO NOT CLOSE BRIDGE NO. 65 AND BRIDGE NO. 72 SIMULTANEOUSLY.
2. COMPLETE BRIDGE NO. 72 BEFORE BEGINNING WORK ON BRIDGE NO. 65.
3. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEP 1: USING ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, CLOSE ROAD FOR PROJECT B-5112 (BRIDGE NO. 72) AND PLACE TRAFFIC ON OFFSITE DETOUR.

STEP 2: REMOVE EXISTING STRUCTURE AND CONSTRUCT PROPOSED ROADWAY, BRIDGE AND APPROACHES, UP TO AND INCLUDING THE FINAL LAYER OF SURFACE SURFACE COURSE. PLACE FINAL PAVEMENT MARKINGS/MARKERS AND TIE IN WITH EXISTING MARKINGS.

STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES AND REOPEN ROAD TO FINAL TRAFFIC PATTERN.

STEP 4: REPEAT STEPS 1 THROUGH 3 FOR PROJECT B-4755 (BRIDGE NO. 65).



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
STEVE KITE, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
DON PARKER — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
SPENCER JENNINGS — *TRAFFIC CONTROL DESIGN ENGINEER*

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

APPROVED: [signature]
DATE: [illegible], 2013

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

SHEET NO.
TMP-1

B-4755 / B-5112

TIP PROJECT:

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TIP PROJECT: B-4755

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4755	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

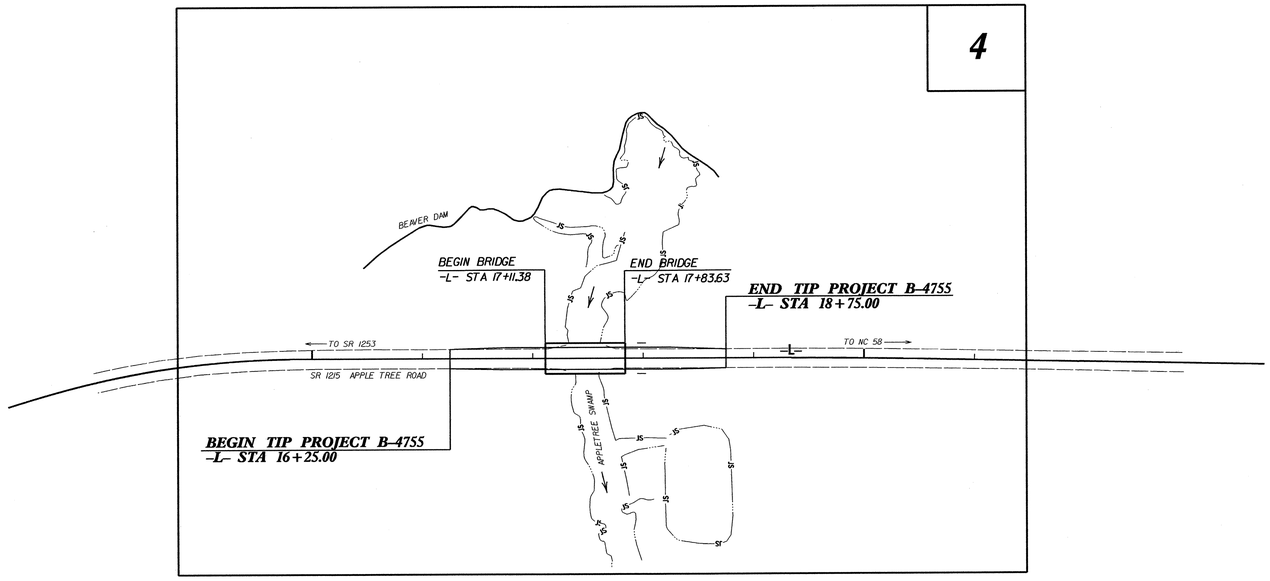
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

GREENE COUNTY

LOCATION: BRIDGE NO. 65 OVER APPLETREE SWAMP ON SR 1215 (APPLE TREE RD)

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

NAD 83/95



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.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:

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

2012 STANDARD SPECIFICATIONS

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		

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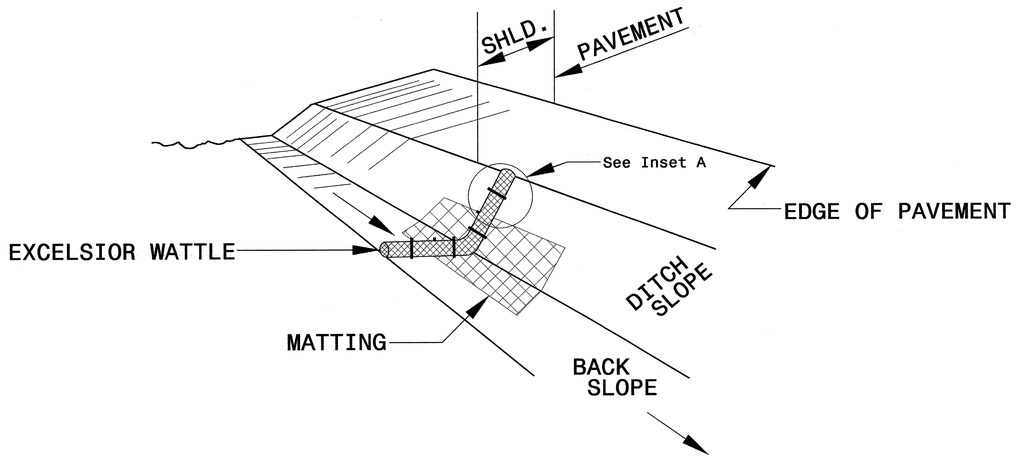
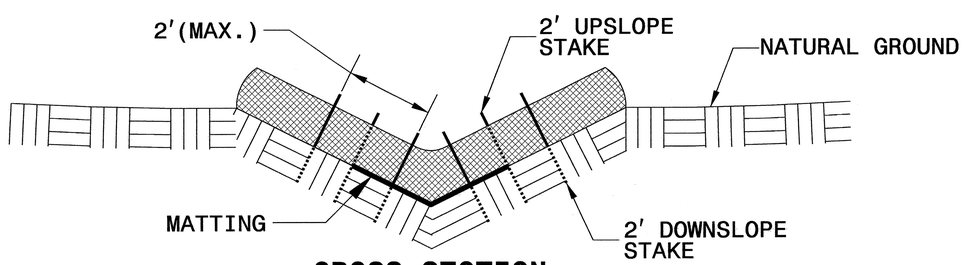
PROJECT REFERENCE NO.	SHEET NO.
B-4755	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

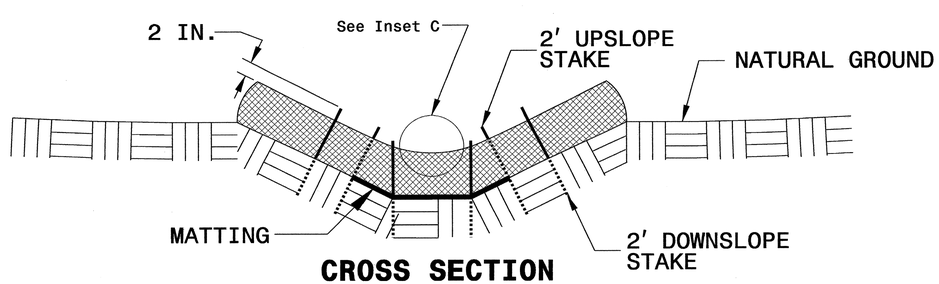
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR 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.

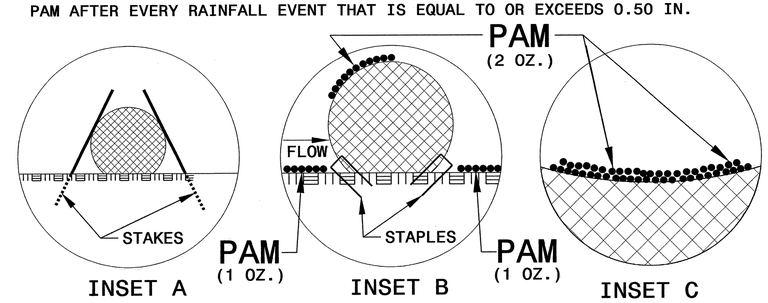
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

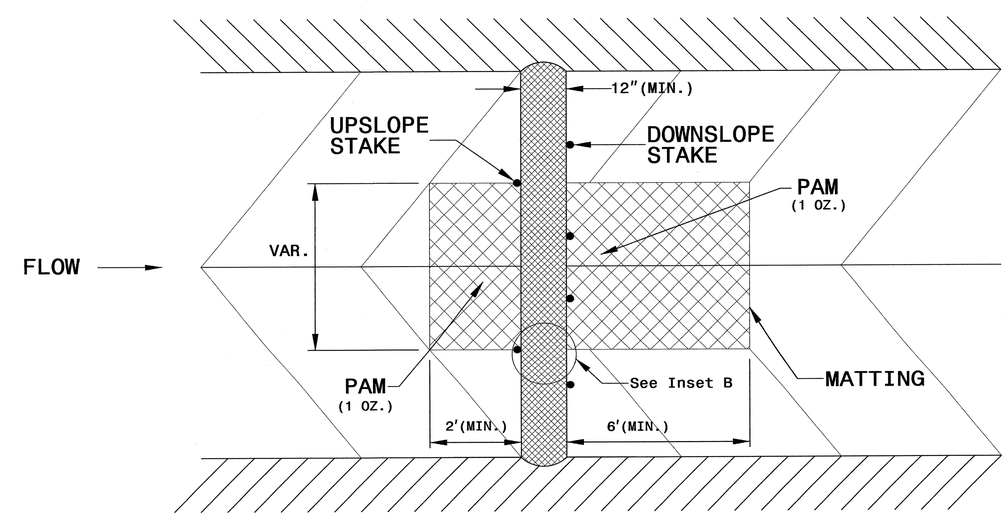
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

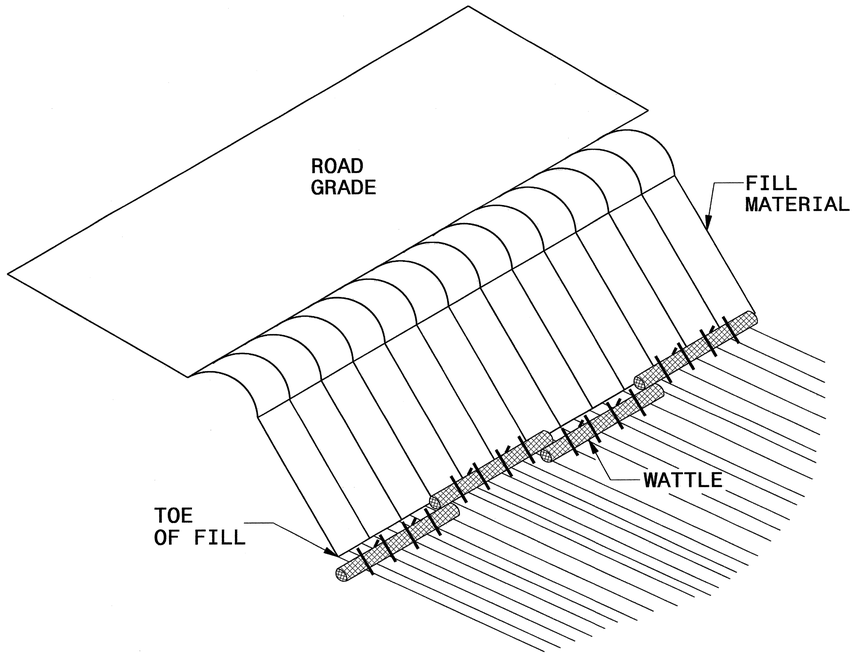




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4755	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

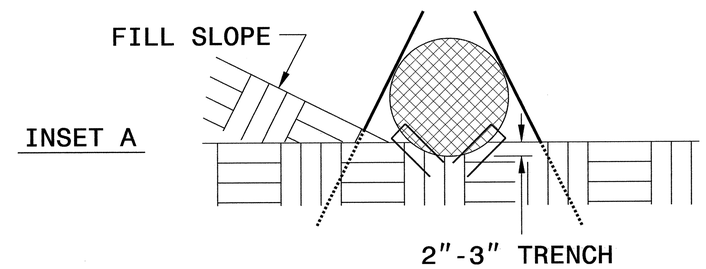
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

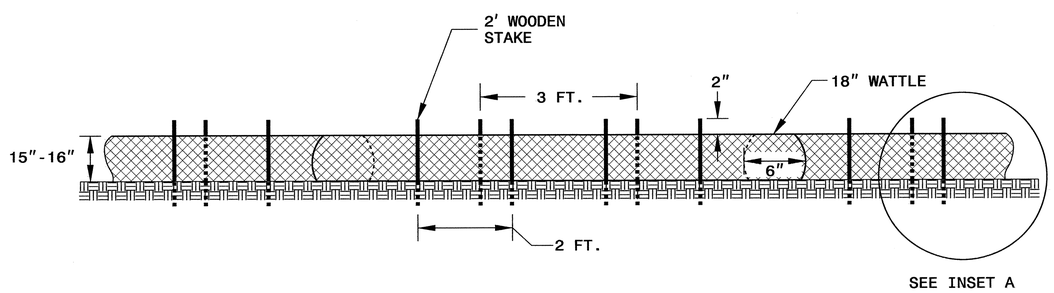
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

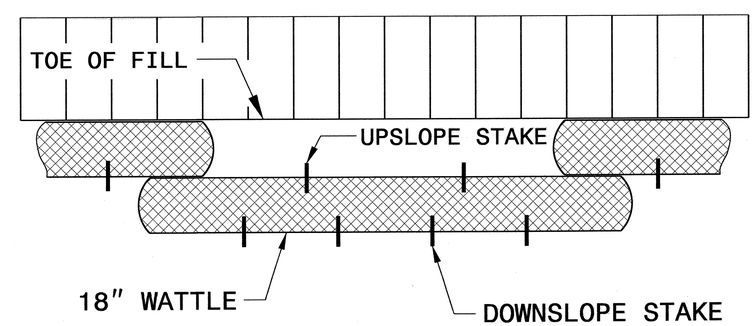
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 20 FT.





FRONT VIEW



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4755	EC-3
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.

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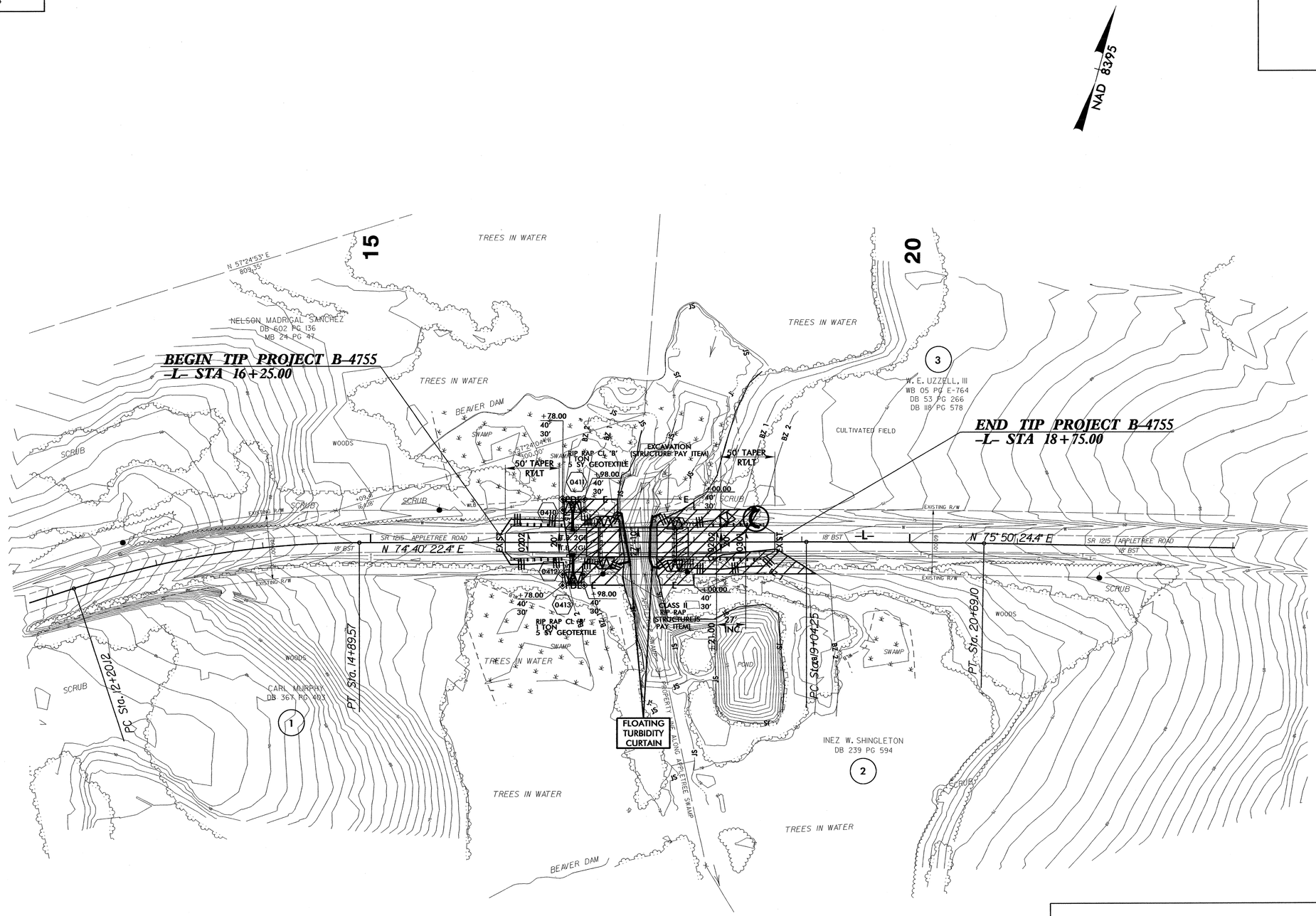
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

PROJECT REFERENCE NO.	SHEET NO.
B-4755	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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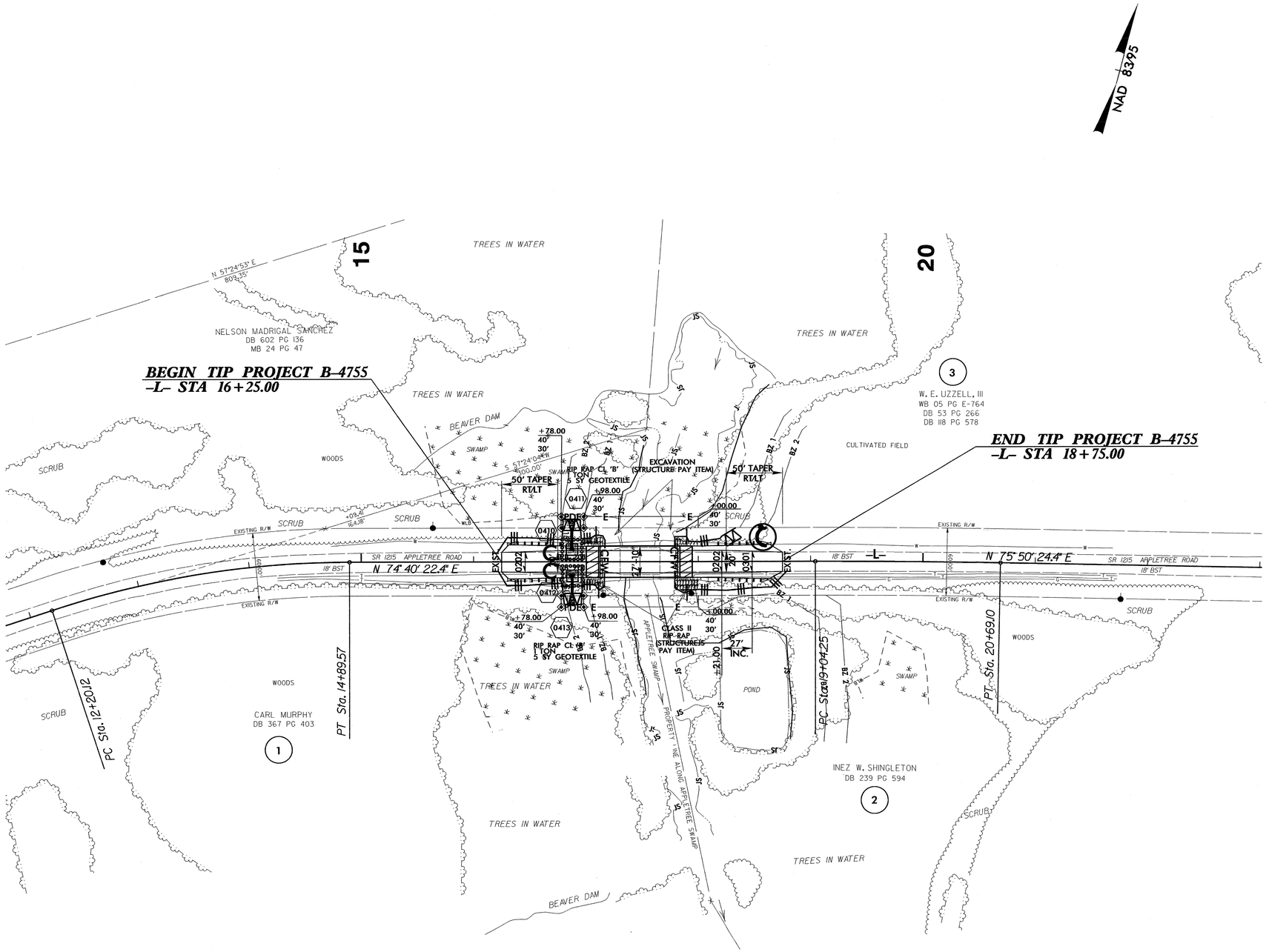
PROJECT REFERENCE NO.	SHEET NO.
B-4755	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



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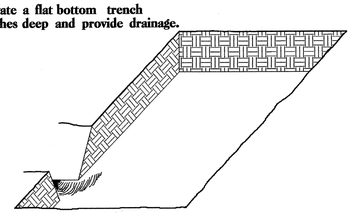
PROJECT REFERENCE NO.	SHEET NO.
B-4755	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

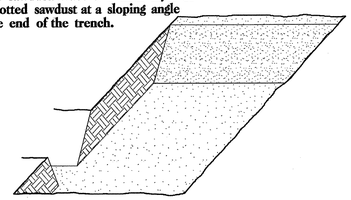
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

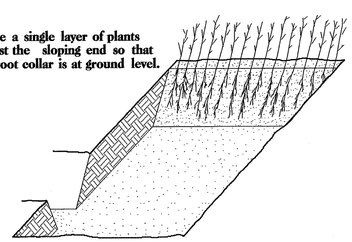
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



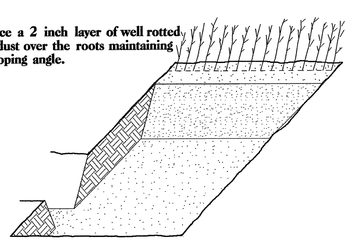
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

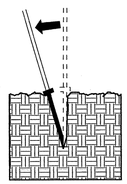


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

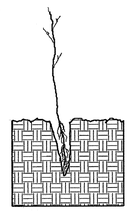


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

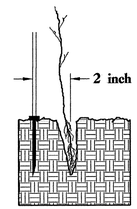
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



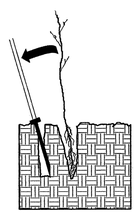
1. Insert planting bar as shown and pull handle toward planter.



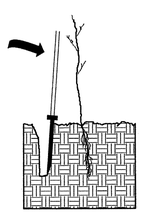
2. Remove planting bar and place seedling at correct depth.



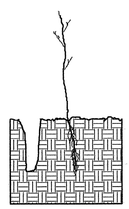
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

30% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
30% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR
40% PRUNUS SEROTINA	BLACK CHERRY	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09/08/99

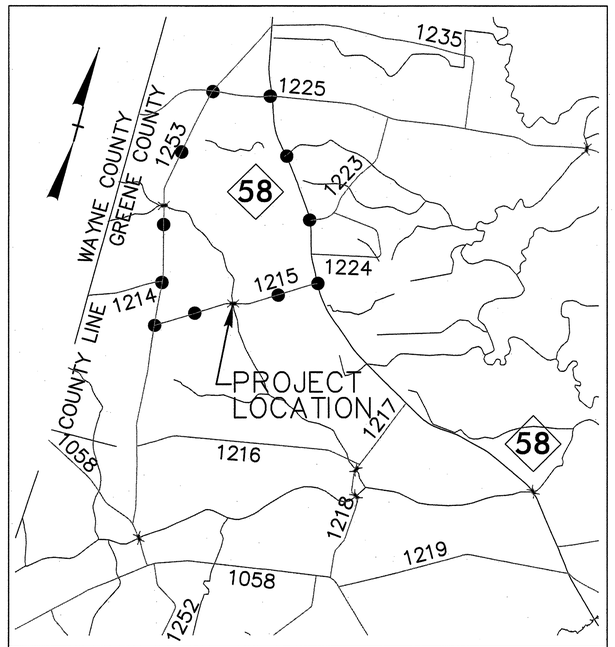
TIP PROJECT: B-4755

T.I.P. NO.	SHEET NO.
B-4755	UC-1

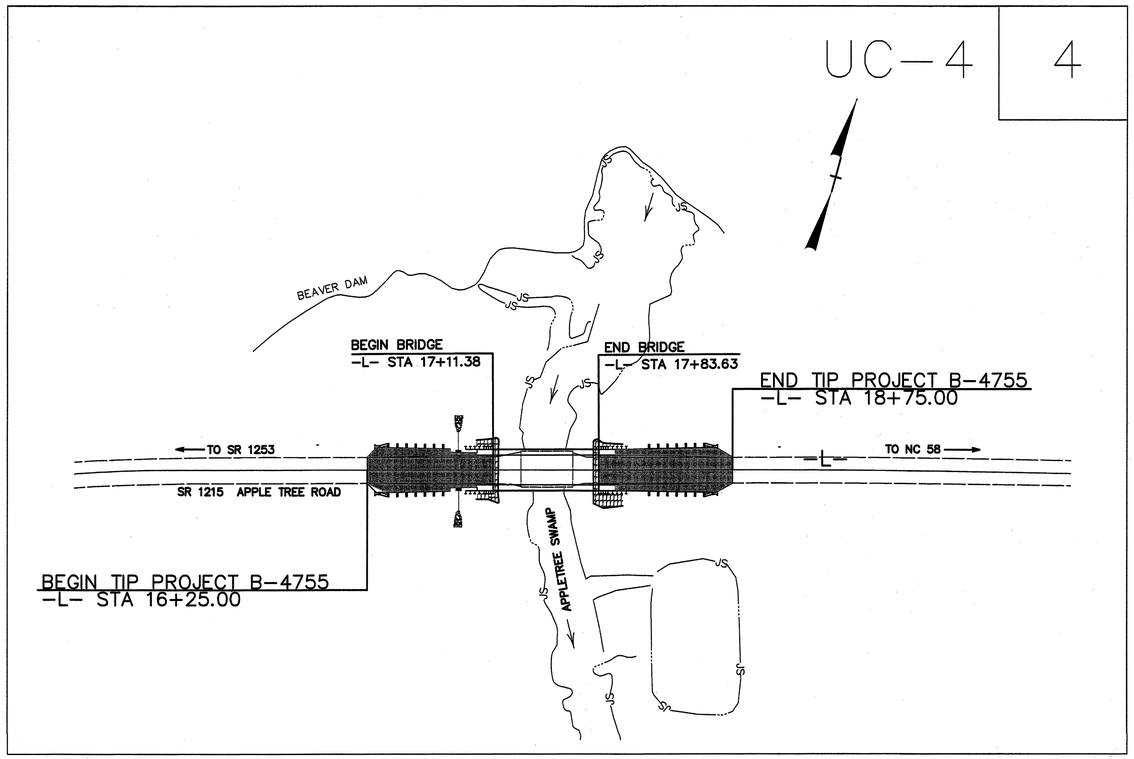
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
GREENE COUNTY

LOCATION: BRIDGE NO. 65 OVER APPLETREE SWAMP ON SR 1215
TYPE OF WORK: WATER LINE RELOCATION



VICINITY MAP
NOT TO SCALE
OFFSITE DETOUR



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

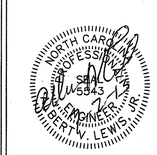
INDEX OF SHEETS

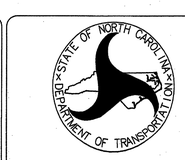
SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4	UTILITY CONSTRUCTION SHEET
UC-5	PROFILE SHEET

UTILITY OWNERS ON PROJECT

(1) GREENE COUNTY REGIONAL WATER SYSTEM
(6" WATER LINE)
Contact Info: David Jones, Public Works Director
P.O. Box 543
Snow Hill, NC 28580
(252) 939-5721
djones@mediacastftth.com

SEAL





PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER
Mariko Hafeez — UTILITIES PROJECT DESIGNER

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4755	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PBRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RBRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line
- *Underground Telephone Cable
- *Underground Telephone Conduit
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Force Main Line — FSS
- Underground Unknown Utility Line — TU/L
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown)
- Designated Utility Line (Type as Shown)

REV: 2/1/2012

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4755	UC-3
DESIGNED BY: AVL	
DRAWN BY: NRW	
CHECKED BY: AVL	
APPROVED BY: AVL	
REVISED:	

MCDAVID ASSOCIATES, INC.
3714 N. MAIN STREET
FARMVILLE, NC 27828
PHONE: (252)753-2139
FAX: (252)753-7220

NORTH CAROLINA PROFESSIONAL SEAL 5543 ENGINEER AVERY V. LEWIS, JR.

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING UTILITIES BELONG TO **Greene County Regional Water System**.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.

2. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.

3. CONNECTIONS BETWEEN EXISTING AND PROPOSED WATER LINES SHALL BE MADE BETWEEN 10:00 PM AND 2:00 AM. CONNECTIONS SHALL BE MADE IN A MANNER THAT THE WATER LINE IS TAKEN OUT OF SERVICE ONCE DURING CONSTRUCTION. CONTRACTOR TO PROVIDE WATER LINE OWNER 3 WEEKS NOTICE PRIOR TO CONNECTIONS BETWEEN EXISTING AND PROPOSED WATER LINES.

5/14/99

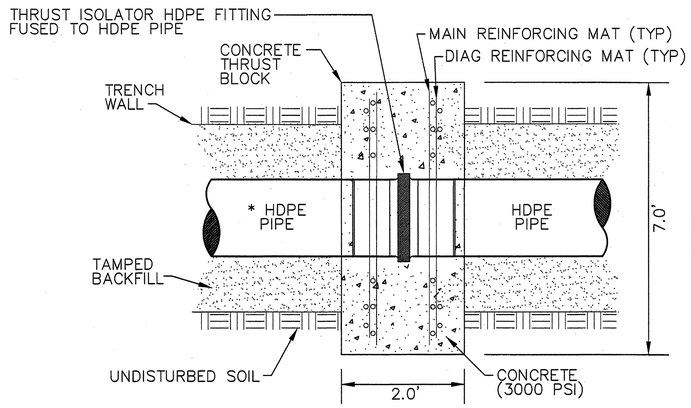
PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
B-4755	UC-3A
DESIGNED BY: AVL	
DRAWN BY: NRW	
CHECKED BY: AVL	
APPROVED BY: AVL	
REVISED:	
MCDAVID ASSOCIATES, INC. 3714 N. MAIN STREET FARMVILLE, NC 27828	
PHONE: (252)753-2139 FAX: (252)753-7220	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 5543 ENGINEER ALBERT V. LEWIS, JR.

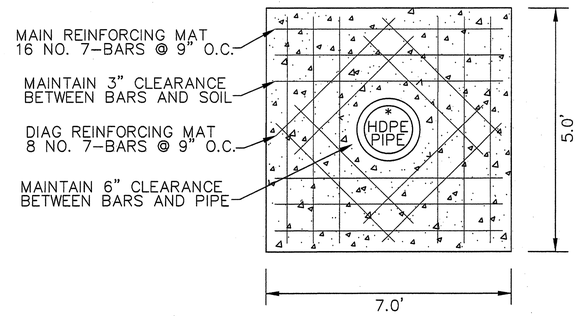
UTILITY CONSTRUCTION

CONCRETE THRUST BLOCK – PLAN VIEW FOR HDPE AND DI PIPE



NOTE: BOTTOM OF TRENCH SHALL BE STABILIZED TO SUPPORT THE WIEIGHT OF THE CONCRETE THRUST BLOCK

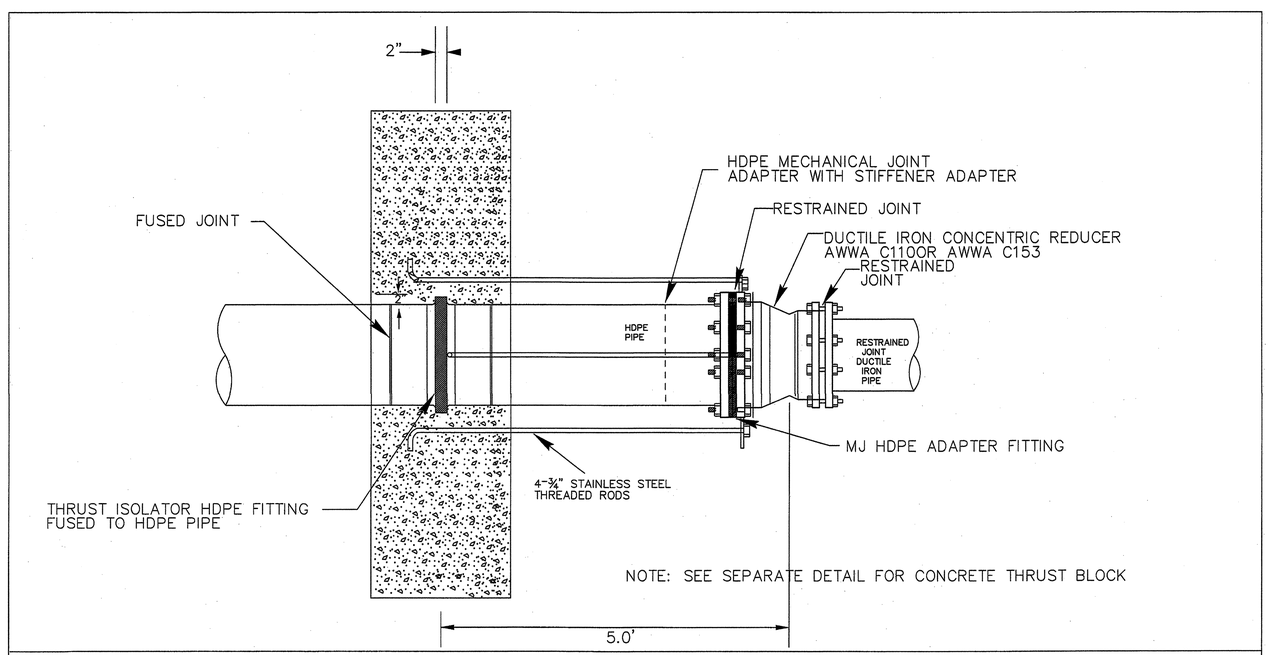
CONCRETE THRUST BLOCK – SECTION VIEW FOR HDPE PIPE



REINFORCING BARS (PER THRUST BLOCK):
MAIN MATS = 24 (#7 BARS) @ 78" LONG
DIAG MATS = 16 (#7 BARS) @ 58" LONG

FORCE MAIN AND WATER MAIN PROFILE NOTES:

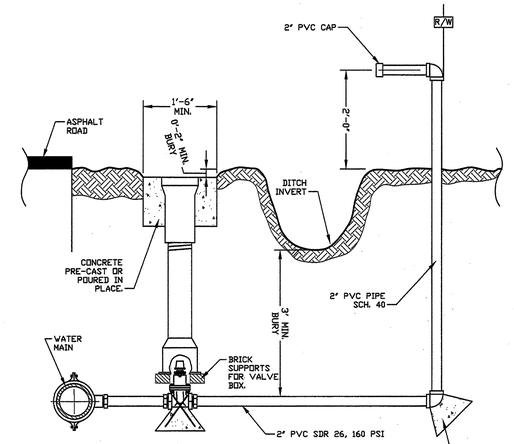
(1) ELEVATIONS OF EXISTING UTILITIES SHOWN ON PROFILE SHALL TO BE VERIFIED IN THE FIELD BY CONTRACTOR.
(2) CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER OR BUFFER ZONES.
(3) CONTRACTOR'S ENGINEER SHALL PROVIDE ON-SITE OVERSIGHT FOR HDD OPERATION.
(4) THE HDPE WATER LINE INSIDE DIAMETERS SHALL BE EQUIVALENT TO THE DI WATER LINE INSIDE DIAMETER. *



NOTE: SEE SEPARATE DETAIL FOR CONCRETE THRUST BLOCK

TRANSITION DETAIL FROM HDPE TO DI WATER PIPE

1999XXYY SD042503



2" PVC BLOW-OFF ASSEMBLY TO INCLUDE BUT NOT BE LIMITED TO:

1. 2" PVC PIPING AND CAP.
2. 2 " GATE VALVE EQUAL TO AWWA C-500 WITH THREADED ENDS WITH MALE ADAPTOR.
3. CAST IRON VALVE BOX AND COVER – TYPE "B".
4. APPROPRIATE REDUCER FROM MAIN. FOR 2" AND 3" MAINS A TEE IS REQUIRED. FOR 4" MAIN OR LARGER, IRON PIPE THREADED BRASS SADDLE AND MALE ADAPTER ARE REQUIRED.

TYPICAL DITCH, STREAM OR CREEK CROSSING

w:\pwworking\ent\avl\avl1755_UC\2012-07-19_Columbus Co 12-3_Water line relocation\UC01 Set-2 13\b1755_uc_uc03a_ridwg.bmod, 7/12/2013 2:50:18 PM

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4755	UC-4

DESIGNED BY: AVL
DRAWN BY: NRW
CHECKED BY: AVL
APPROVED BY: AVL
REVISED:

MCDAVID ASSOCIATES, INC.
3714 N. MAIN STREET
FARMVILLE, NC 27828

PHONE: (252)753-2139
FAX: (252)753-7220

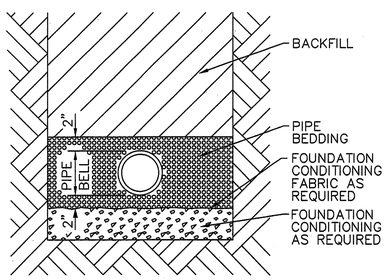
NORTH CAROLINA PROFESSIONAL SEAL 16343 ENGINEER RALPH V. LEWIS, JR.

UTILITY CONSTRUCTION PLANS ONLY

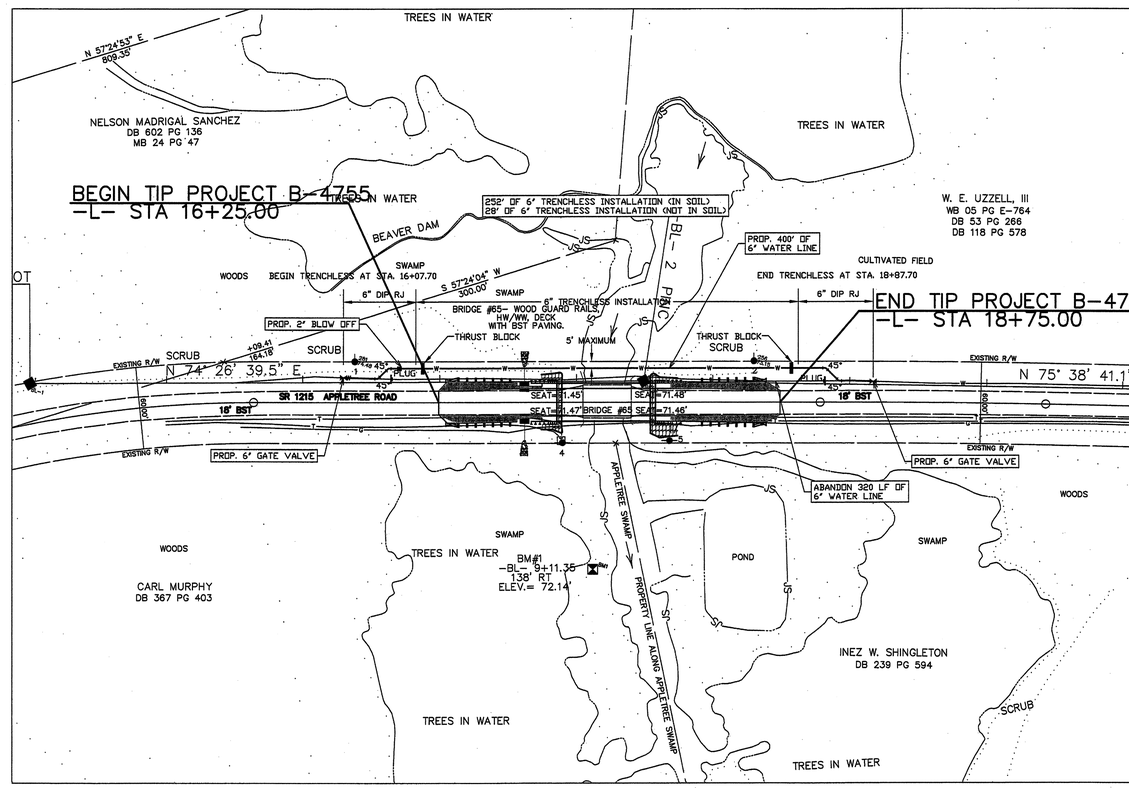
MAXIMUM TRENCH WIDTH
AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



PROJECT REFERENCE NO.	SHEET NO.
B-4755	UC-5

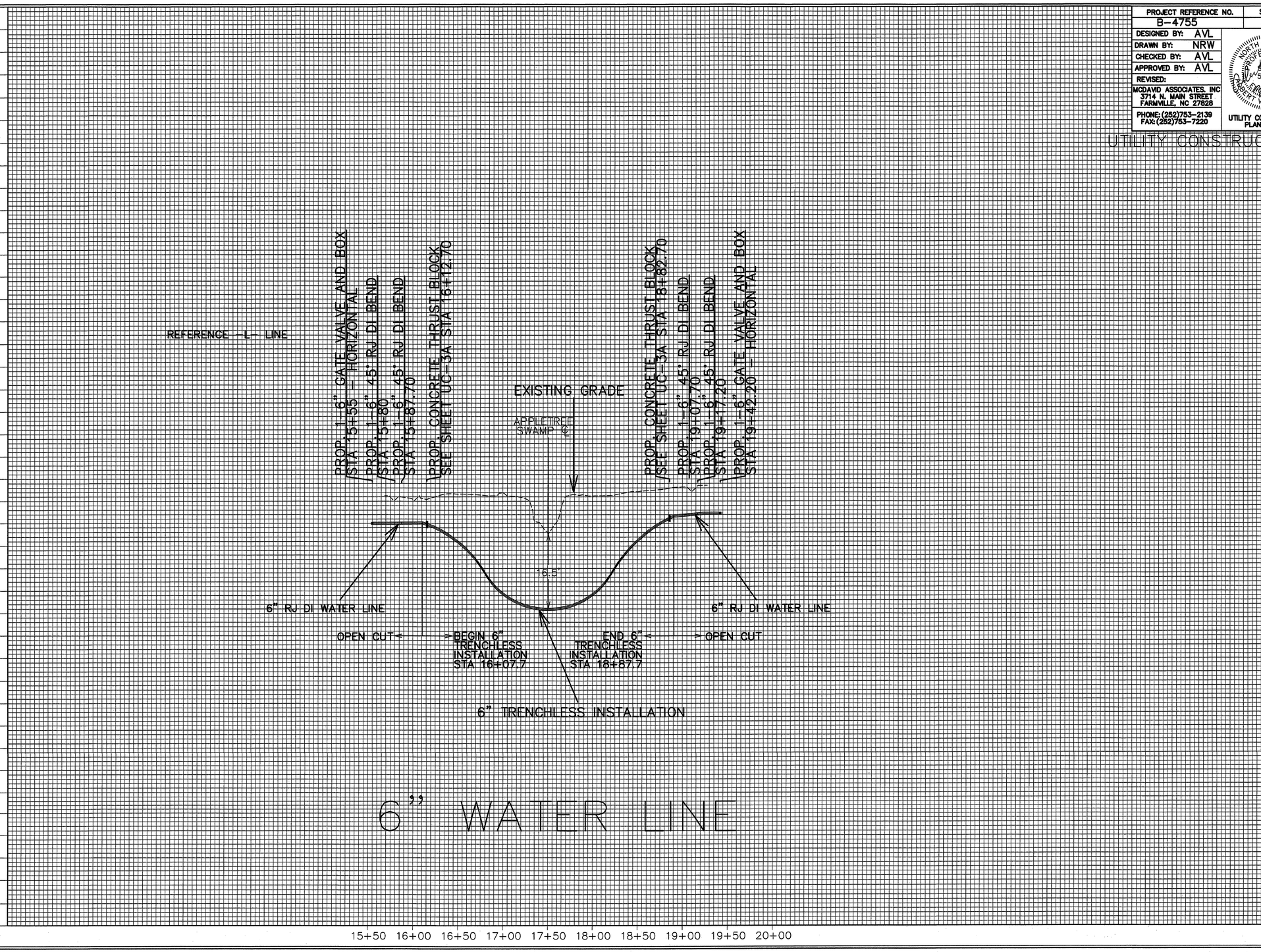
DESIGNED BY: AVL
DRAWN BY: NRW
CHECKED BY: AVL
APPROVED BY: AVL
REVISED:

MCDAVID ASSOCIATES, INC
3714 N. MAIN STREET
FARMVILLE, NC 27828
PHONE: (252)753-2139
FAX: (252)753-7220

NORTH CAROLINA PROFESSIONAL SEAL 5543 ENGINEER ROBERT V. LEWIS, JR.

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" WATER LINE

5/14/99

SYSTIME$$$$$$$$
PLOTNAME$$$$$$$$

V:\Dixx_gen\D84x_eng\D847_LD\2012-0357-4700 Greene Co 12-SR 1215 Water Line Relocation\DOT Set-7-2-13\B4755_ut_UC5_pfl_psh.dwg, 7/2/2013 3:24:30 PM, CAD-106

T.I.P. NO.	SHEET NO.
B-4755	UO-1

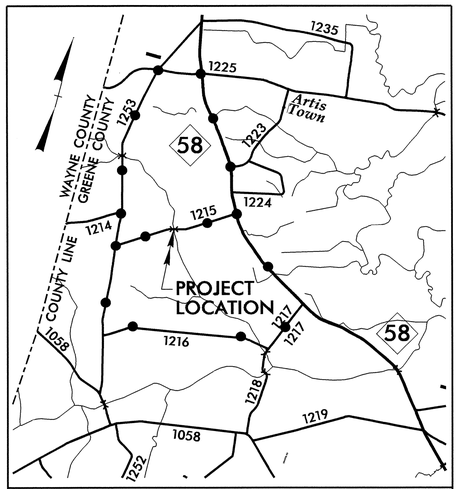
TIP PROJECT: B-4755

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

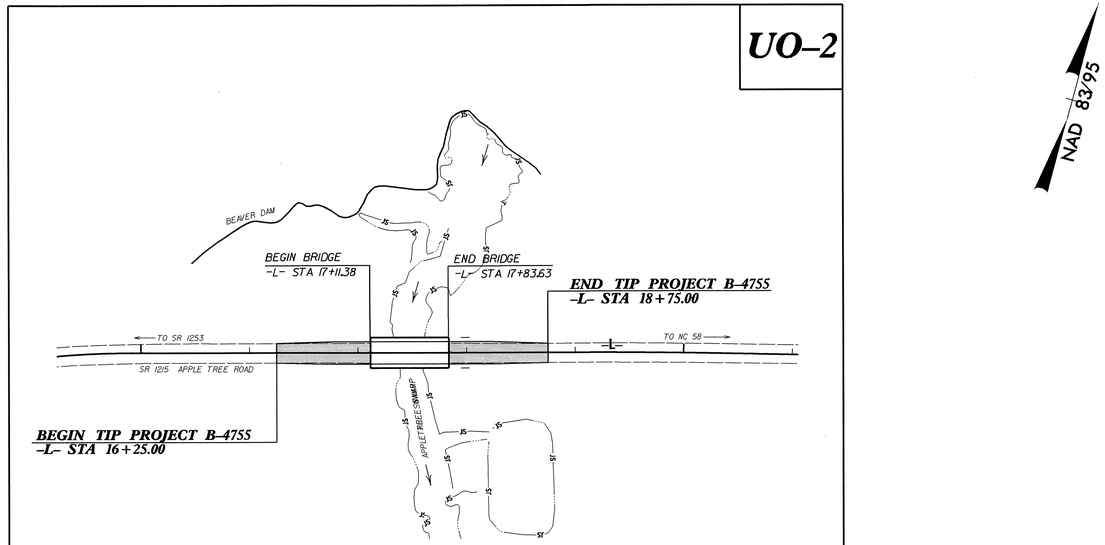
UTILITIES BY OTHERS PLANS
GREENE COUNTY

LOCATION: BRIDGE NO. 65 OVER APPLETREE SWAMP ON SR 1215 (APPLE TREE RD)

TYPE OF WORK: UTILITIES RELOCATION



VICINITY MAP
NTS
OFFSITE DETOUR



NAD 83/95

SD-DEEP © US, P.C.

Louis Ostendorff, P.E. — UTILITY COORDINATION MANAGER
Thomas Taylor, PLS — QA/QC CADD MANAGER

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET
UO-3	PROFILE SHEET

UTILITY OWNERS ON PROJECT

(1) PIEDMONT NATURAL GAS (Gas)
(2) CENTURYLINK (Telephone)

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

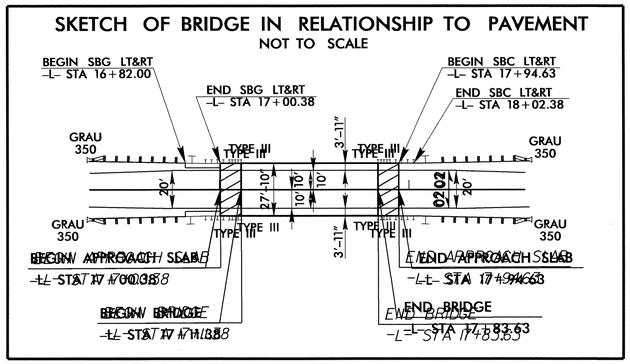
Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER
Mariko Hafeez — UTILITIES PROJECT DESIGNER

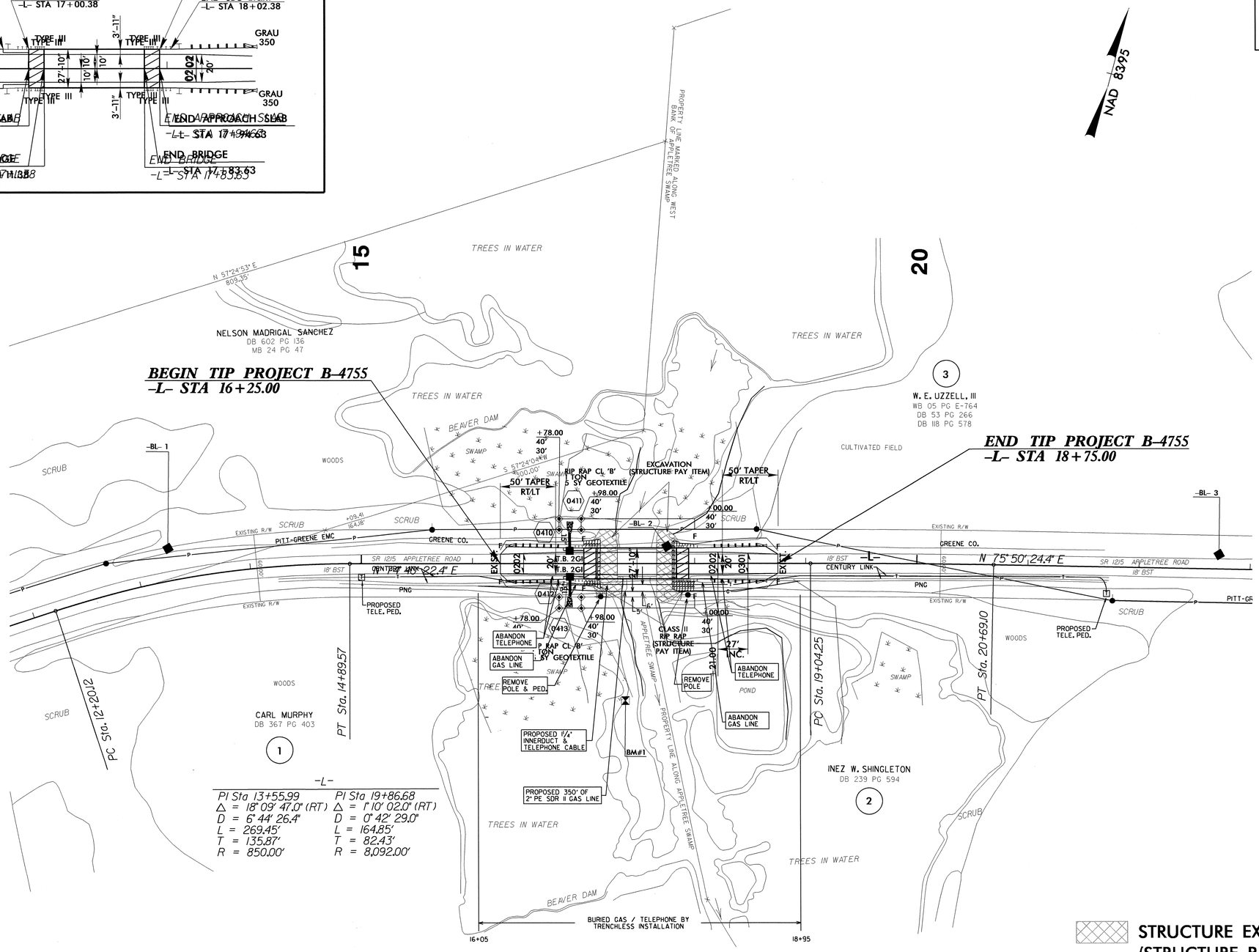
09/08/99
26-JUN-2013 13:22
R:\Utilities\Ray\UI\B4755_UT_RDY5_U03_PSH.zip\B4755_UT_TSH_U01_Psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4755	UO-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS





FOR -L- PROFILE, SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-28

5/14/99

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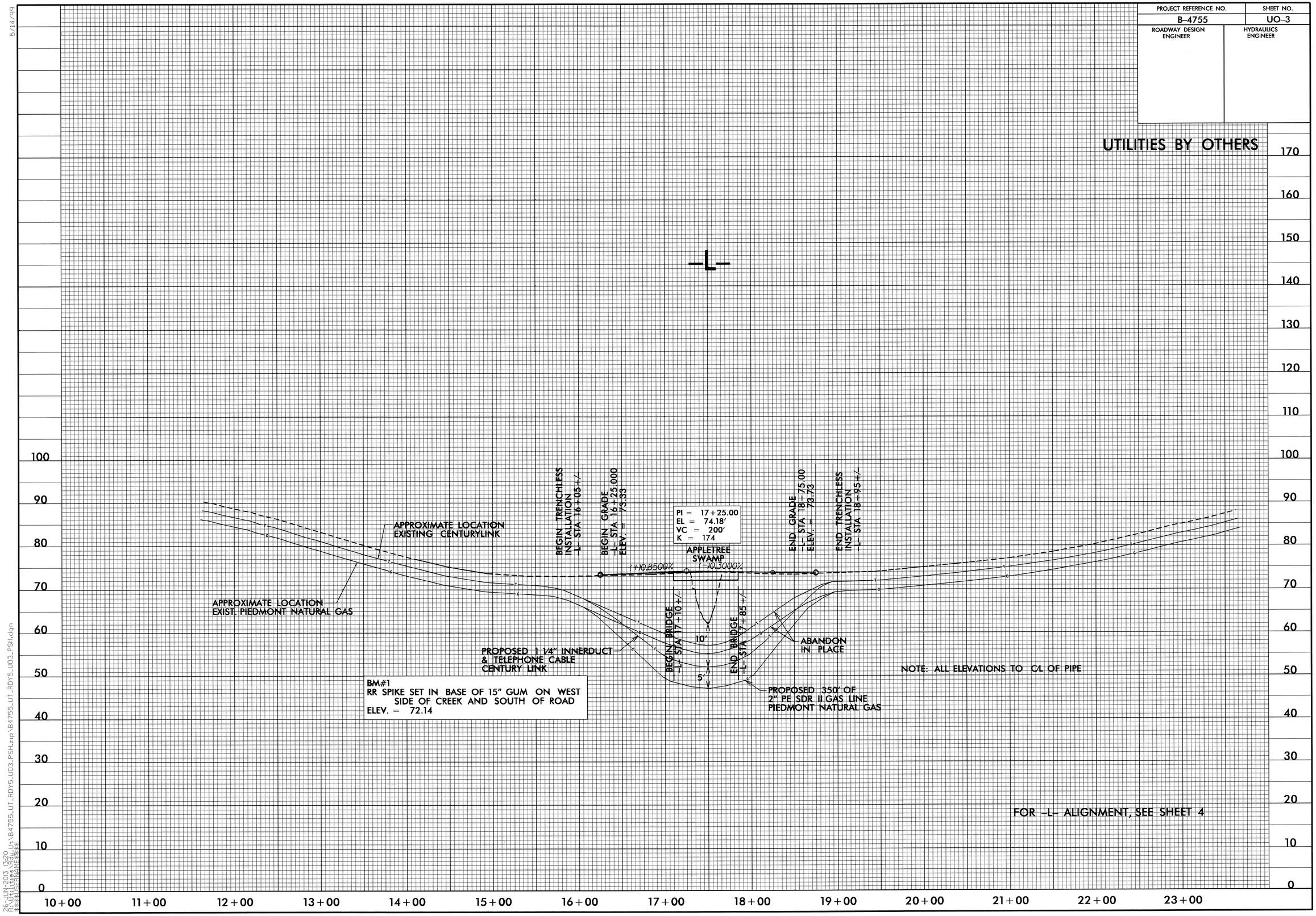
PROJECT REFERENCE NO.	SHEET NO.
B-4755	UO-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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PROJ. REFERENCE NO.	SHEET NO.
B-4755	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

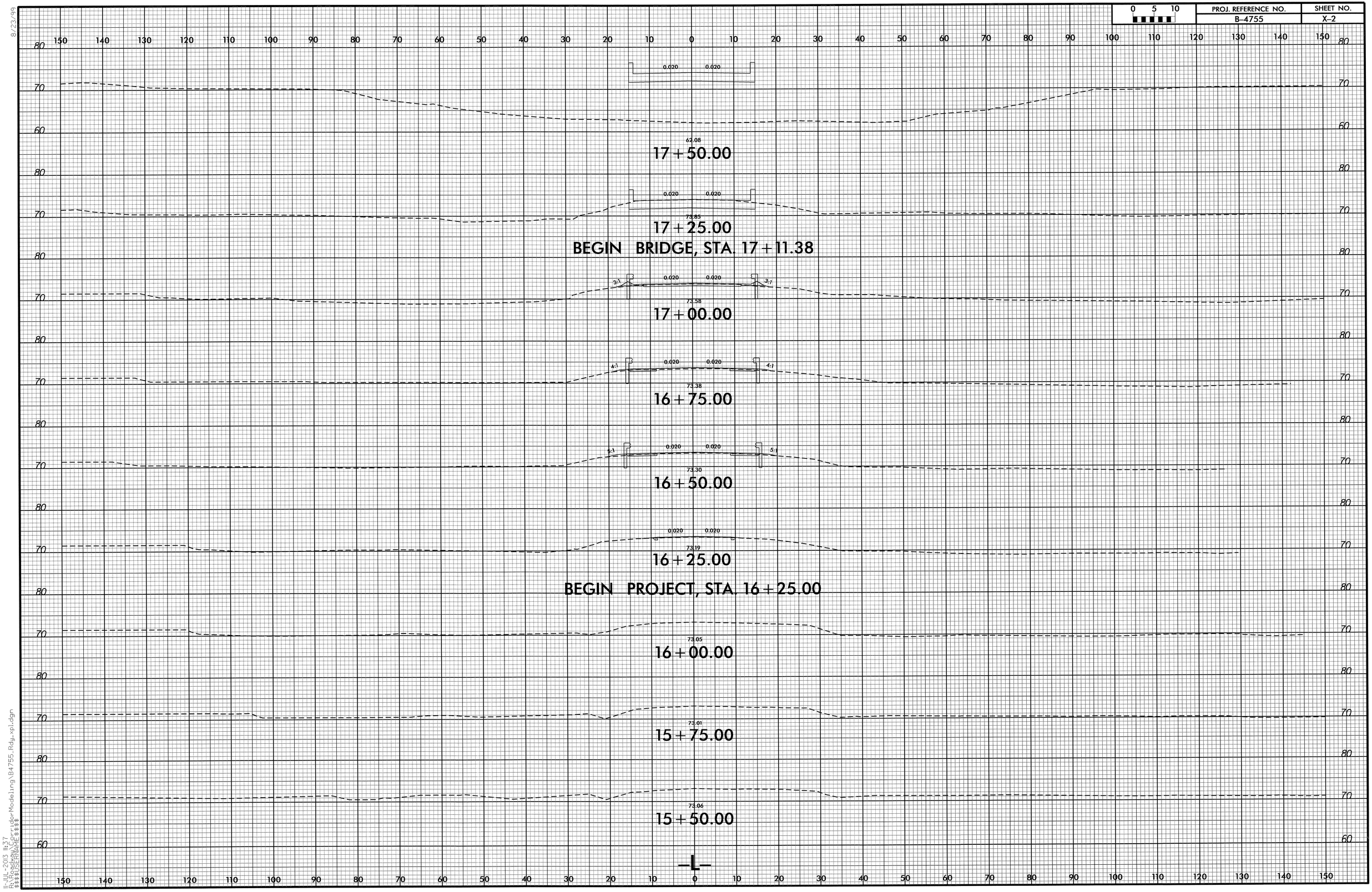
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
16+25.00	0	0
16+50.00	3	1
16+75.00	5	2
17+00.00	7	1
17+11.38	5	0

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
17+83.63	0	0
18+00.00	6	9
18+25.00	6	15
18+50.00	3	13
18+75.00	2	5

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4755	X-2



8/23/99

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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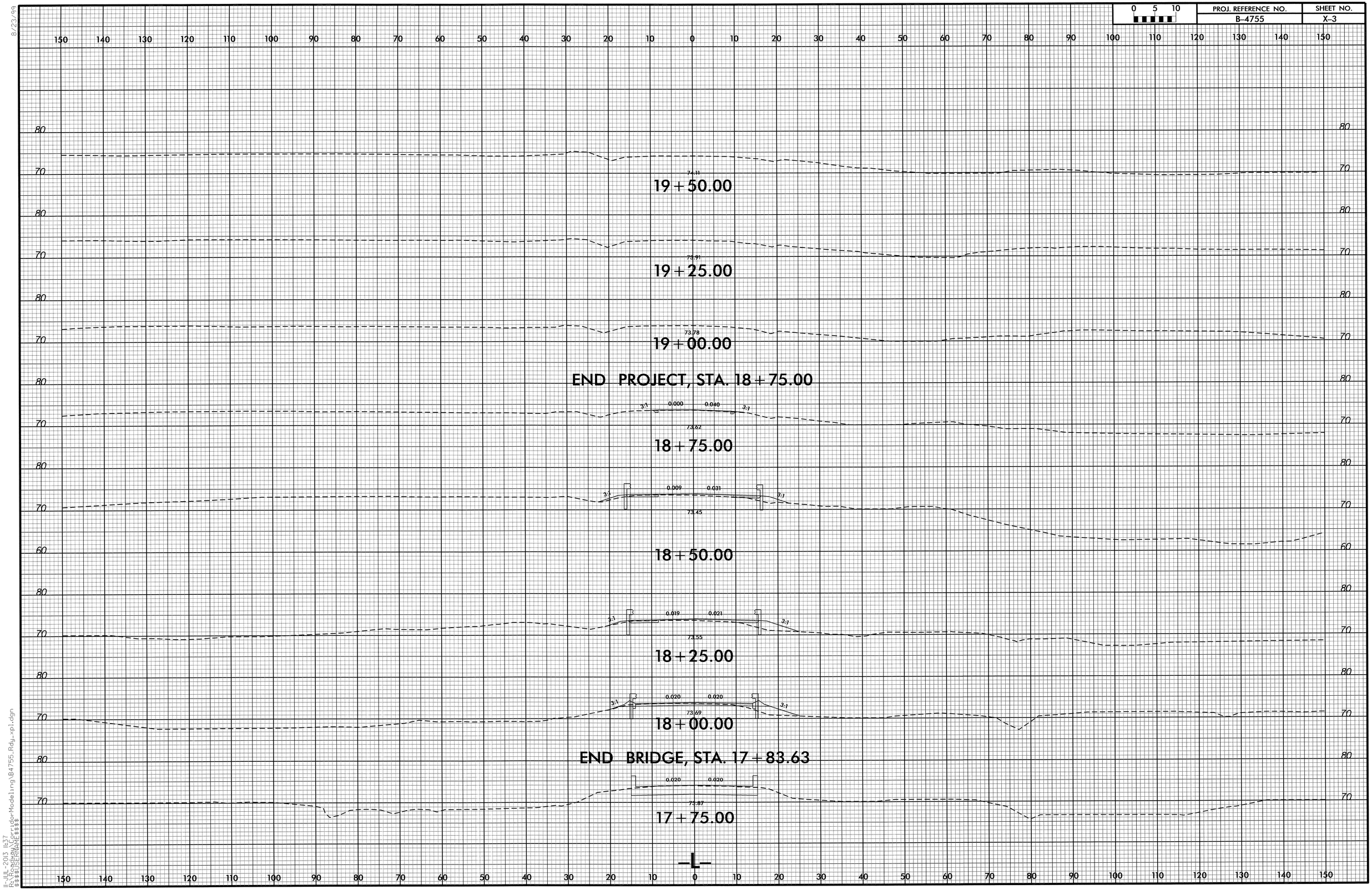

8/23/99

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TIP PROJECT: B-5112

CONTRACT: C203248

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GREENE COUNTY

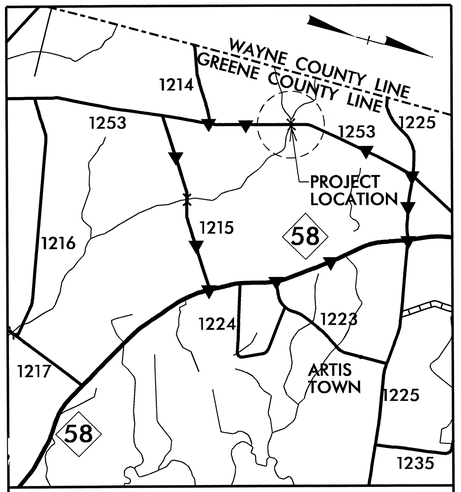
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5112	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
42250.1.1	BRZ-1253(2)	PE
42250.2.1	BRZ-1253(2)	R/W & UTIL.
38527.3.FD1	BRZ-1215(2)	CONST.

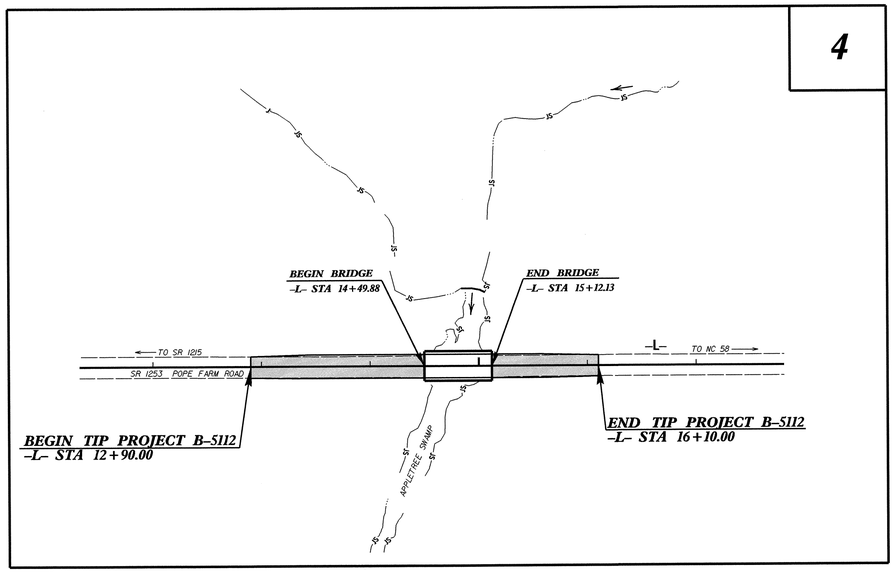
PART 2 OF 2

LOCATION: BRIDGE NO. 72 OVER APPLETREE SWAMP ON SR 1253 (POPE FARM RD)

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



VICINITY MAP
NOT TO SCALE
OFFSITE DETOUR



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2013 = 877
ADT 2033 = 1262
DHV = 11 %
D = 65 %
T = 14 % *
V = 60 MPH
* (TTST 8% + DUAL 6%)
FUNC CLASS. = RURAL LOCAL

SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5112	=	0.049 MILES
LENGTH STRUCTURE TIP PROJECT B-5112	=	0.012 MILES
TOTAL LENGTH OF TIP PROJECT B-5112	=	0.061 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 16, 2012

LETTING DATE:
OCTOBER 15, 2013

GARY LOVERING, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN
SIGNATURE: 7/29/13

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER
SIGNATURE: 7/29/13

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99
23-JUL-2013 14:37
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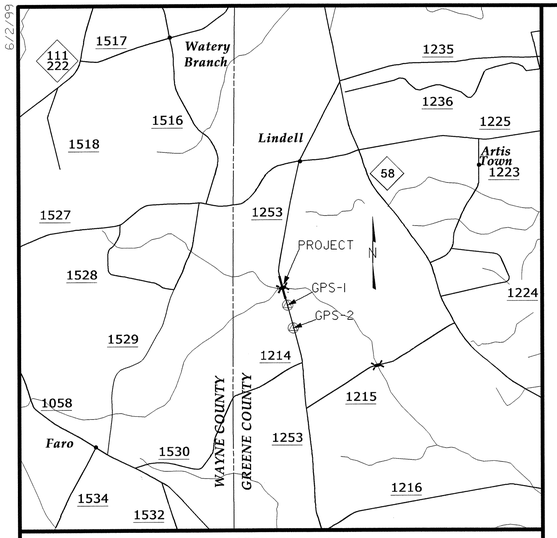
PROJECT REFERENCE NO.	SHEET NO.
B-5112	1-A
Location and Surveys	

SURVEY CONTROL SHEET B-5112



VICINITY MAP
(NOT TO SCALE)

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL1	BL-1	650479.5605	2352410.4236	91.72	OUTSIDE PROJECT LIMITS	
BL2	BL-2	650972.1369	2352313.1564	81.28	14+41.75	18.85 RT
BL3	BL-3	651536.4580	2352125.2180	87.18	20+35.26	17.03 LT
GPS1	NCDOT GPS B5112	650174.5730	2352522.3490	93.98	OUTSIDE PROJECT LIMITS	
GPS2	NCDOT GPS B5112	649052.4650	2352789.5810	102.66	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION - 81.38
N 650984 E 2352229
L STATION 14+76.00 59 LEFT
RR SPIKE SET IN 24" HARDWOOD

POPE2009 ELEVATION - 94.53
N 650122 E 2352538
L STATION 30+45.00
S 08°13'11.75" E DIST 2439.31
NCGS POPE 2009

FINAL L

TYPE	STATION	NORTH	EAST
POT	10+00.00	650540.7521	2352410.1578
PC	18+58.68	651369.7226	2352186.2346
PCC	21+48.13	651650.2402	2352114.9300
PT	22+17.72	651718.3593	2352100.7672
PC	22+32.94	651733.3440	2352098.1028
PCC	24+40.47	651940.0787	2352089.1259
PT	25+40.92	652039.6699	2352102.0066
PC	27+67.41	652262.9656	2352139.8914
PT	28+35.05	652329.5921	2352151.5931
POT	30+45.18	652536.3369	2352189.1406

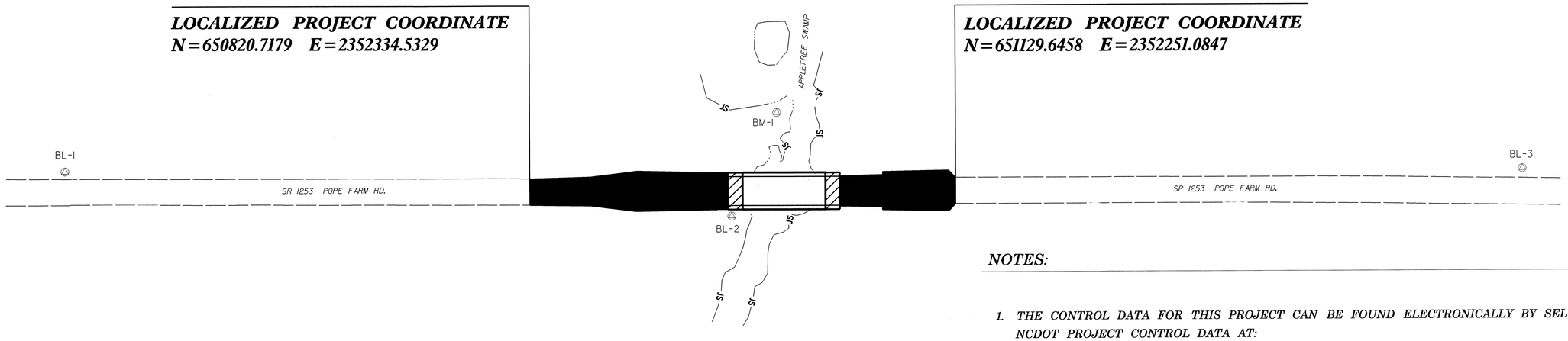
NAD 83/ NSRS 2007

BEGIN TIP PROJECT B-5112
-L- STA 12+90.00

LOCALIZED PROJECT COORDINATE
N=650820.7179 E=2352334.5329

END TIP PROJECT B-5112
-L- STA 16+10.00

LOCALIZED PROJECT COORDINATE
N=651129.6458 E=2352251.0847



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B5112-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 650174.573(ft) EASTING: 2352522.349(ft)
ELEVATION: 93.983(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998854401
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B5112-1" TO -L- STATION 12+90.00 IS
N 16°12'27.6" W 672.89'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

FINAL ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+90.00	45.00	650832.4528	2352377.9758
L	12+90.00	30.00	650828.5412	2352363.4949
L	15+36.29	50.00	651071.5259	2352318.5761
L	15+36.29	45.00	651070.2221	2352313.7491
L	15+36.29	30.00	651066.3104	2352299.2682
L	15+57.29	50.00	651091.7993	2352313.0999
L	15+57.29	45.00	651090.4955	2352308.2729
L	15+57.29	30.00	651086.5838	2352293.7919
L	16+10.00	45.00	651141.3807	2352294.5276
L	16+10.00	30.00	651137.4690	2352280.0467

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING NCDOT PROJECT CONTROL DATA AT:*
HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/

THE FILES TO BE FOUND ARE AS FOLLOWS:
B5112_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

△ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

6/2/99
12-AUG-2013 12:28
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5112	2

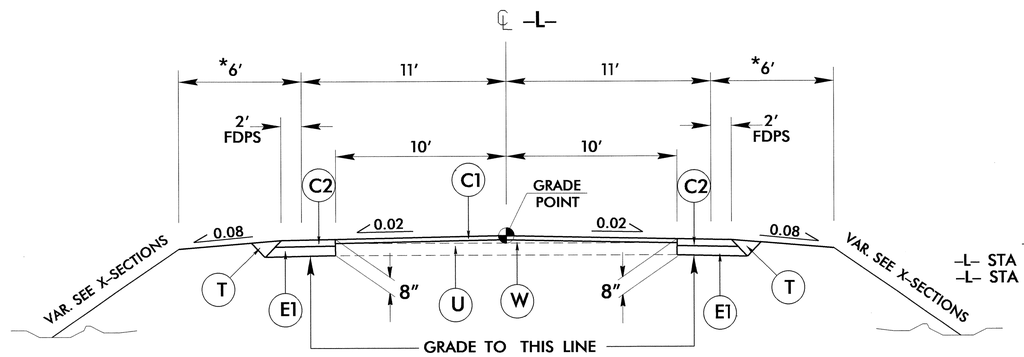
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER — 7/29/13

PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 22883 ENGINEER CLARK S. MORRISON — 7/30/13

FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	SPECIAL SHOULDER BERM CURB.
R2	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).
W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING ON BRIDGE).

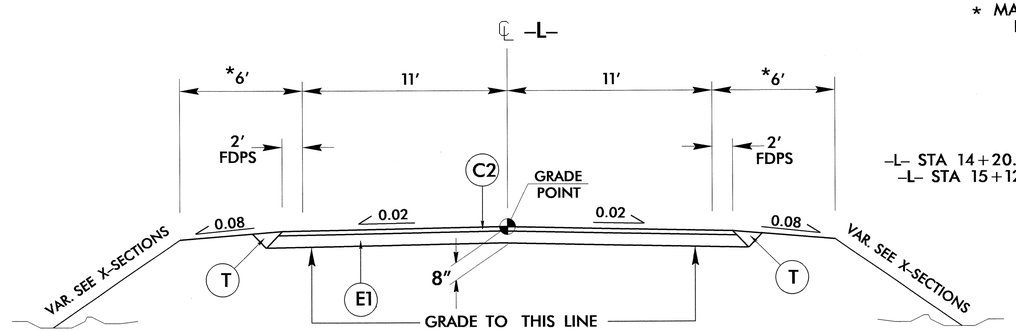
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION 1

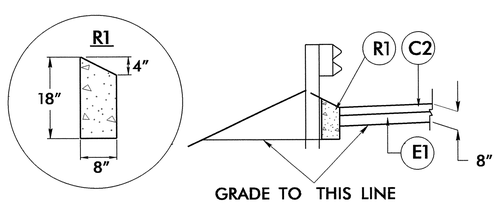
-L- STA 12+90.00 TO -L- STA 14+20.00
-L- STA 15+40.00 TO -L- STA 16+10.00

* MAINTAIN 3' OF GRADED SHOULDER BEHIND GUARDRAIL INSTALLATION



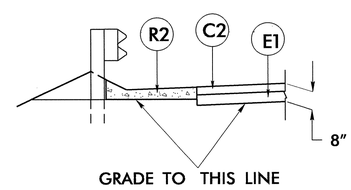
TYPICAL SECTION 2

-L- STA 14+20.00 TO -L- STA 14+49.88 (BEGIN BRIDGE)
-L- STA 15+12.13 (END BRIDGE) TO -L- STA 15+40.00



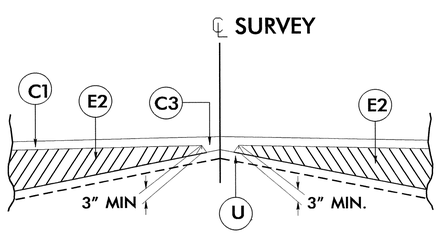
DETAIL SHOWING SPECIAL SHOULDER BERM CURB ON TOP OF SUBGRADE

-L- STA. 14+31.13 TO -L- STA. 14+38.88 (BEGIN APPROACH SLAB) (LT & RT)

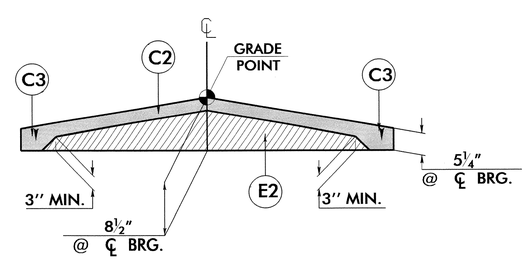


DETAIL SHOWING SHOULDER BERM GUTTER ON TOP OF SUBGRADE

-L- STA. 15+23.13 (END APPROACH SLAB) TO -L- STA. 15+55 (LT & RT)

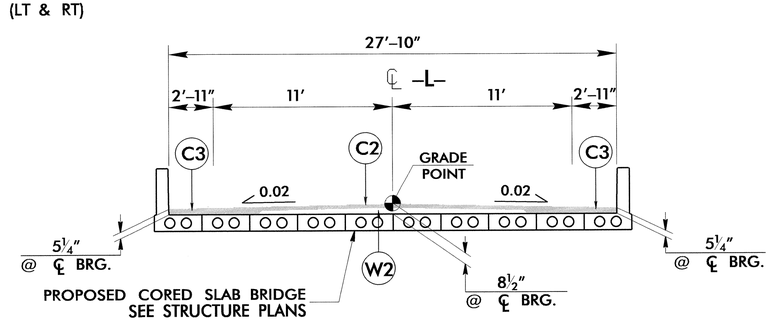


DETAIL SHOWING METHOD OF WEDGING



DETAIL SHOWING METHOD OF WEDGING ON BRIDGE

USE IN CONJUNCTION WITH BRIDGE TYPICAL



BRIDGE TYPICAL

-L- STA 14+49.88 (BEGIN BRIDGE) TO -L- STA 15+12.13 (END BRIDGE)

6/2/99

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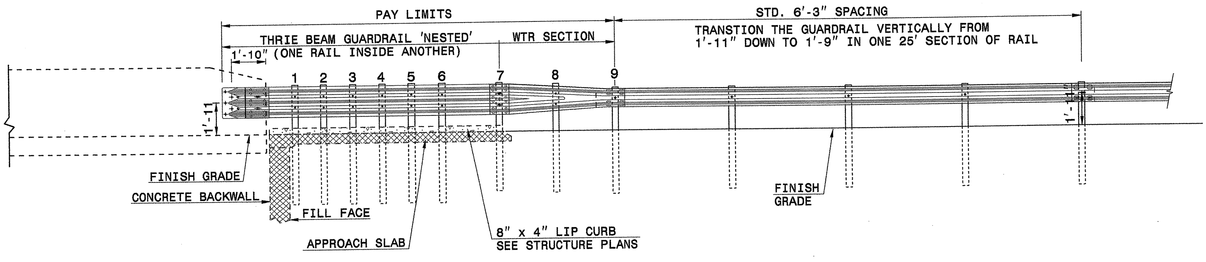
$$$$USERNAME$$$$

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

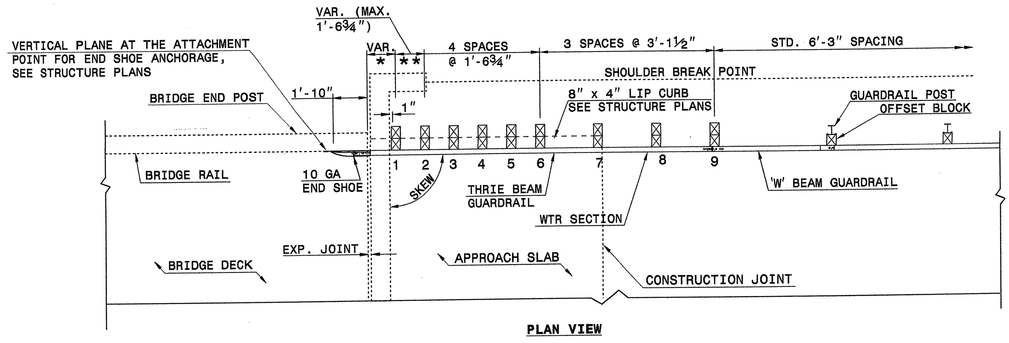
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



ELEVATION

NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.



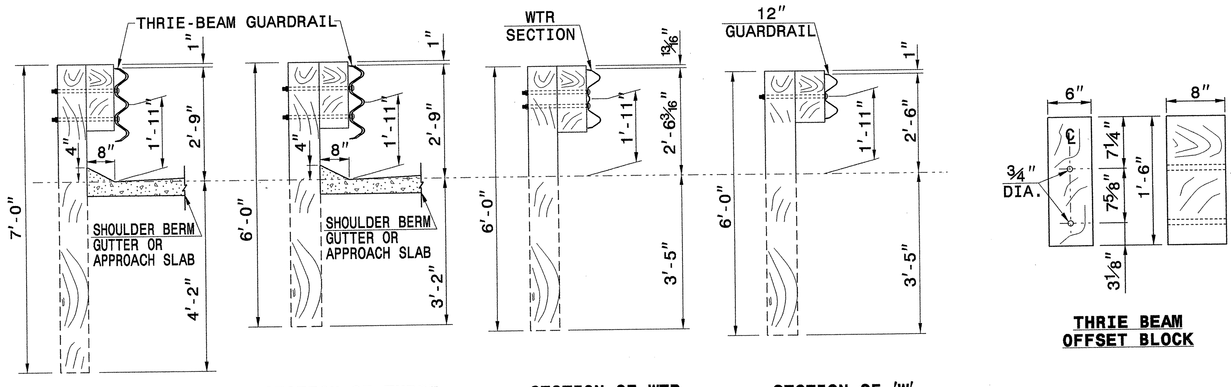
PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



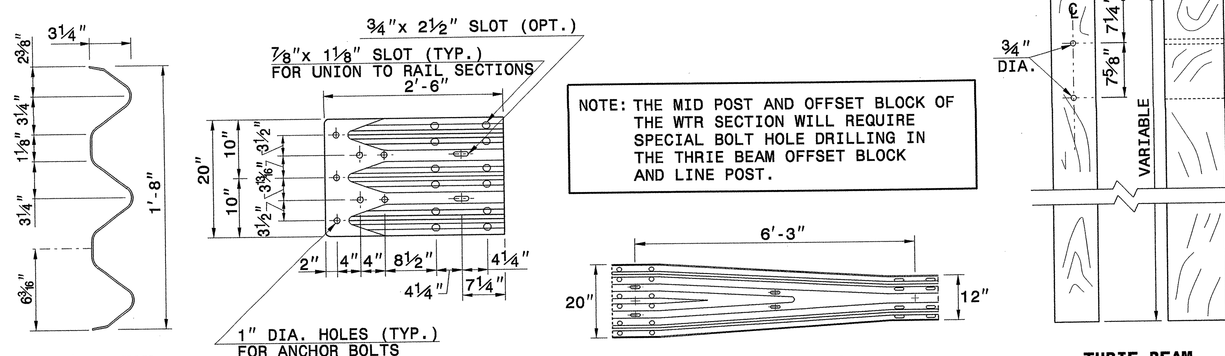
SECTION OF THRIE BEAM POSTS 1 THRU 6

SECTION OF THRIE BEAM POST 7

SECTION OF WTR BEAM POST 8

SECTION OF 'W' BEAM POST 9

THRIE BEAM OFFSET BLOCK



THRIE-BEAM SECTION

END SHOE

WTR SECTION
ELEVATION VIEW

THRIE BEAM LINE POST

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE: 11/13/12
FILE SPEC.:

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER
11/13/12

PROJECT REFERENCE NO. B512
SHEET NO. 2-A

6/21/00

COMPUTED BY: HCN	DATE: JUNE 20, 2013
CHECKED BY: SCL	DATE: JULY 10, 2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5112	3-A

SUMMARY OF EARTHWORK

STATION -L-	STATION -L-	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
12+90.00	14+49.88 (BRIDGE)	3	60	57	
	SUBTOTAL:	3	60	57	
15+12.13 (BRIDGE)	16+10.00	10	14	4	
	SUBTOTAL:	10	14	4	
	PROJECT TOTALS:	13	74	61	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				3	
	GRAND TOTALS:	13	74	64	
	SAY:	15		70	

CONTINGENCY UNDERCUT: 400 CY

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L- , LT	15+23.13	15+55.00	31.87
-L- , RT	15+23.13	15+55.00	31.87
		TOTAL:	63.74'
		SAY:	65.0'

SPECIAL SHOULDER BERM CURB SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L-, LT	14+31.13	14+38.88	7.75'
-L-, RT	14+31.13	14+38.88	7.75'
		TOTAL:	15.50'
		SAY:	20.00'

SUMMARY OF SUBSURFACE DRAINAGE

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	DRAIN TYPE* UD/BD/SD	LF
			CONTINGENCY	SD	100
				TOTAL LF:	100

*UD = UNDERDRAIN
*BD = BLIND DRAIN
*SD = SUBSURFACE DRAIN

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
-L-	14+20	14+55	CL	80.56
-L-	15+07	15+40	CL	76.56
			TOTAL:	157.12
			SAY:	160

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE / -L-	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	C.S. PIPE (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	24"	30" .079	30"	36" .079	36"	42" .109	42"	48" .109	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
15+46.31	LT	0402		82.3'																																
		0402	0404		79.1'	79.0'	X																							24'						
15+46.79	RT		0404	82.3'																																
		0404	0406		79.0'	78.9'	X		24'																											
TOTAL:									24'																					24'						

STATION	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35							CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
15+46.31						1																1		1												
15+46.79						1																1		1												
TOTAL:						2																2		2												

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	GRAU 350	TYPE III	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	13+68.63	14+49.88 (BRIDGE)	RT	81.25'				14+49.88 (BRIDGE)	2'-11"	6'	62.50'		1.25'			1	1													
-L-	13+68.63	14+49.88 (BRIDGE)	LT	81.25'			14+49.88 (BRIDGE)		2'-11"	6'		62.50'		1.25'		1	1													
-L-	15+12.13 (BRIDGE)	16+05.88	RT	93.75'			15+12.13 (BRIDGE)		2'-11"	6'		75.0'		1.50'		1	1													
-L-	15+12.13 (BRIDGE)	16+05.88	LT	93.75'				15+12.13 (BRIDGE)	2'-11"	6'	75.0'		1.50'			1	1													
															TOTAL	4	4													
			SUBTOTAL:	350'																										
			ANCHOR UNIT DEDUCTIONS:	(-) 275'											ANCHOR UNIT DEDUCTIONS:															
			TOTAL:	75'											TYPE III 4@18.75':			75'												
			SAY:	87.5'											GRAU 350 4@50':			200'												
															TOTAL:			275'												
			ADDITIONAL POSTS:	5																										

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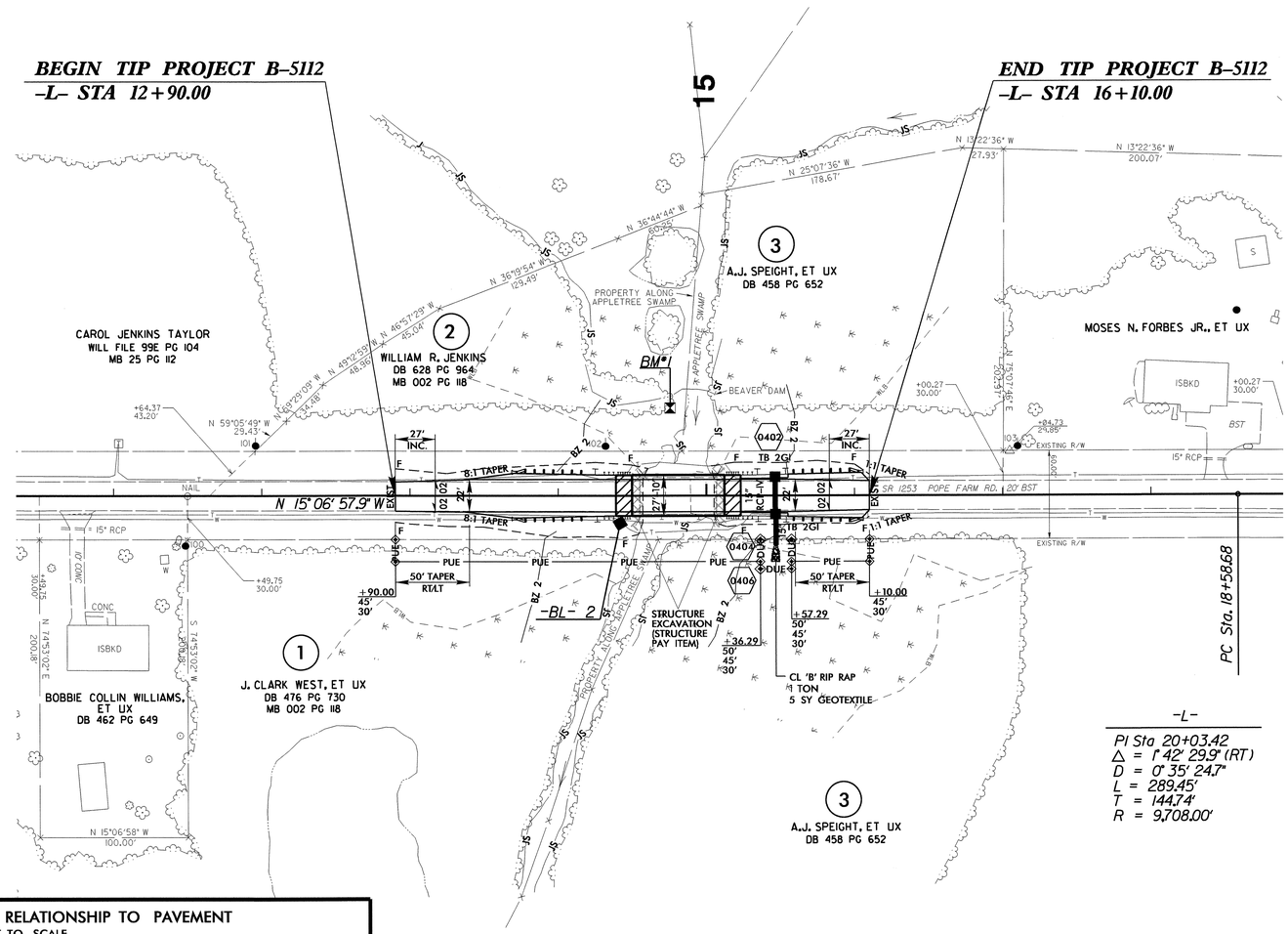
PROJECT REFERENCE NO.	SHEET NO.
B-5112	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER
7/22/13
Susan Lancaster

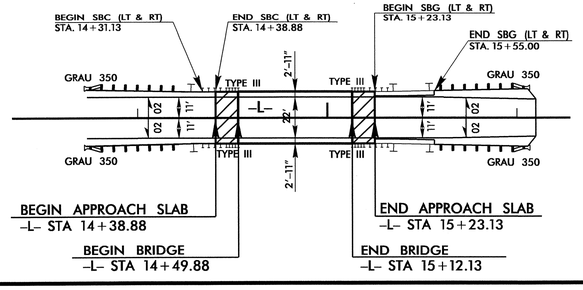
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN
7/22/13

NAD 83/NSRS 2007



SKETCH OF BRIDGE IN RELATIONSHIP TO PAVEMENT

NOT TO SCALE



STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)

BRIDGE APPROACH SLAB

FOR -L- PROFILE, SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEETS S1 – S28

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PROJECT REFERENCE NO.	SHEET NO.
B-5112	5

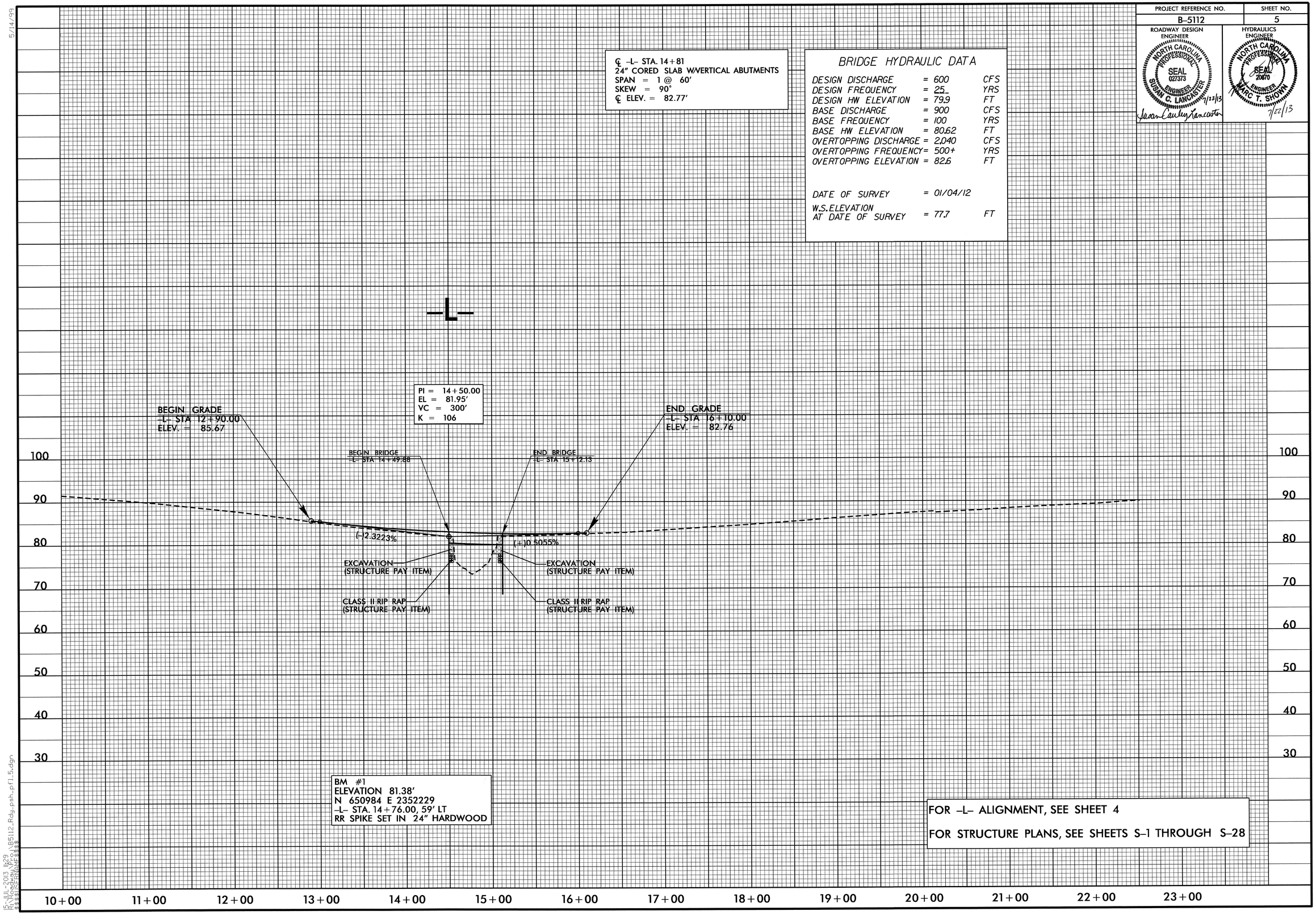
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027373 ENGINEER SUSAN C. LANCASTER
7/22/13
Susan Lanier Lancaster

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20670 ENGINEER MARC T. SHOWN
7/22/13

℄ -L- STA. 14+81
24" CORED SLAB W/VERTICAL ABUTMENTS
SPAN = 1 @ 60'
SKEW = 90°
℄ ELEV. = 82.77'

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 600	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 79.9	FT
BASE DISCHARGE	= 900	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 80.62	FT
OVERTOPPING DISCHARGE	= 2,040	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 82.6	FT
DATE OF SURVEY	= 01/04/12	
W.S. ELEVATION AT DATE OF SURVEY	= 77.7	FT



BM #1
ELEVATION 81.38'
N 650984 E 2352229
-L- STA. 14+76.00, 59' LT
RR SPIKE SET IN 24" HARDWOOD

FOR -L- ALIGNMENT, SEE SHEET 4

FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-28

5/14/99

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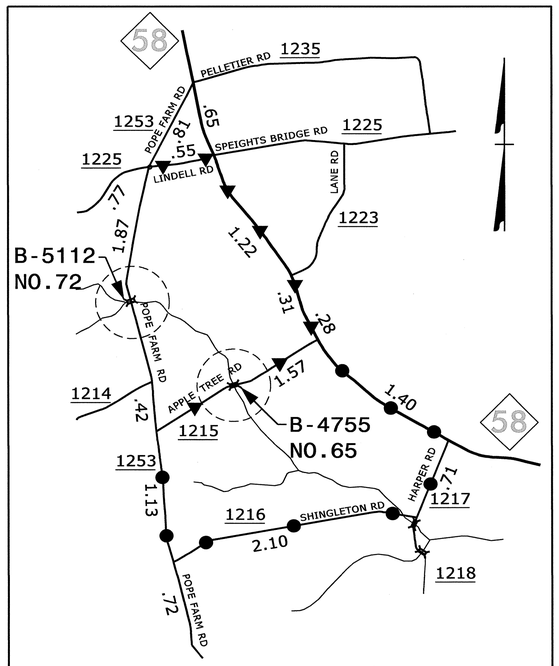
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GREENE COUNTY



VICINITY MAP

DETOUR ROUTES

B-4755 *B-5112*

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL

NORTH ARROW

WORK AREA

DETOUR

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

TEMPORARY SIGNING

STATIONARY SIGN

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, INDEX OF SHEETS, LEGEND, GENERAL NOTES AND PHASING

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

c) STATE FORCES WILL BE RESPONSIBLE FOR PROVIDING SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

E) STATE FORCES WILL COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

F) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

G) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PHASING

NOTES:

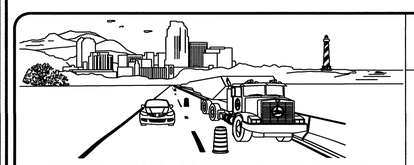
1. DO NOT CLOSE BRIDGE NO. 65 AND BRIDGE NO. 72 SIMULTANEOUSLY.
2. COMPLETE BRIDGE NO. 72 BEFORE BEGINNING WORK ON BRIDGE NO. 65.
3. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEP 1: USING ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, CLOSE ROAD FOR PROJECT B-5112 (BRIDGE NO. 72) AND PLACE TRAFFIC ON OFFSITE DETOUR.

STEP 2: REMOVE EXISTING STRUCTURE AND CONSTRUCT PROPOSED ROADWAY, BRIDGE AND APPROACHES, UP TO AND INCLUDING THE FINAL LAYER OF SURFACE SURFACE COURSE. PLACE FINAL PAVEMENT MARKINGS/MARKERS AND TIE IN WITH EXISTING MARKINGS.

STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES AND REOPEN ROAD TO FINAL TRAFFIC PATTERN.

STEP 4: REPEAT STEPS 1 THROUGH 3 FOR PROJECT B-4755 (BRIDGE NO. 65).



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
STEVE KITE, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
DON PARKER — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
SPENCER JENNINGS — *TRAFFIC CONTROL DESIGN ENGINEER*

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

APPROVED:
DATE: 7/19/2013

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

SHEET NO.
TMP-1

B-4755 / B-5112

TIP PROJECT:

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TIP PROJECT: B-5112

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5112	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

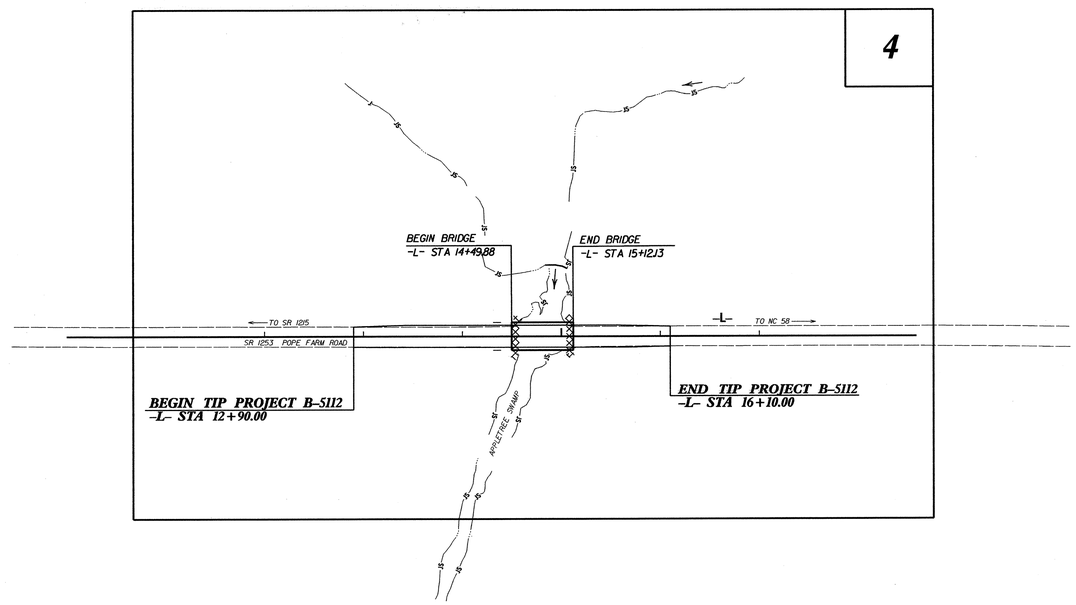
NAD 83/ NSRS 2007

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

GREENE COUNTY

LOCATION: BRIDGE NO. 72 OVER APPLETREE SWAMP ON SR 1253 (POPE FARM RD)

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	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.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:

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

2012 STANDARD SPECIFICATIONS

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		

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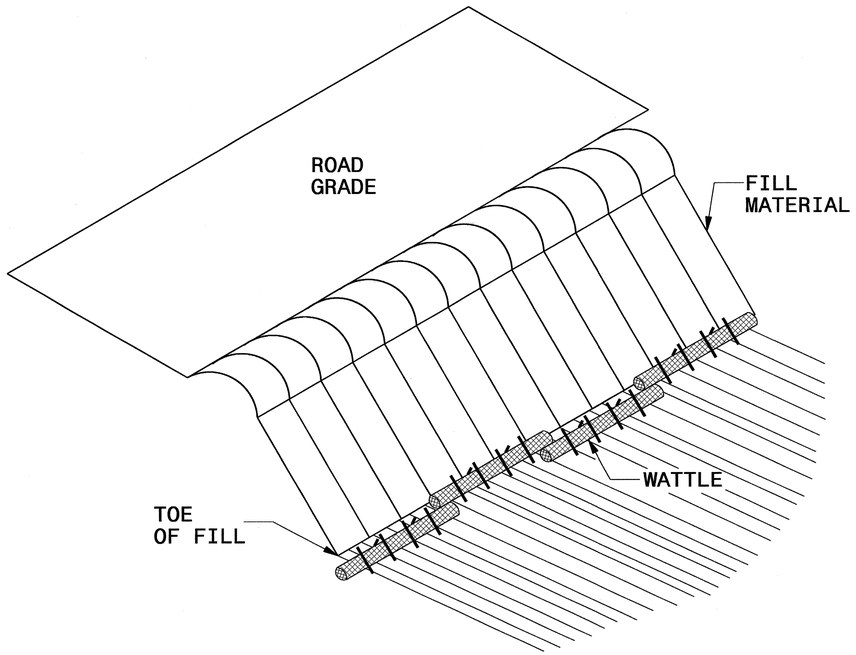
PROJECT REFERENCE NO.	SHEET NO.
B-5112	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

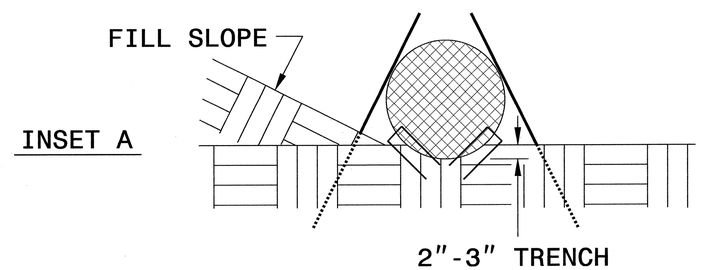
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

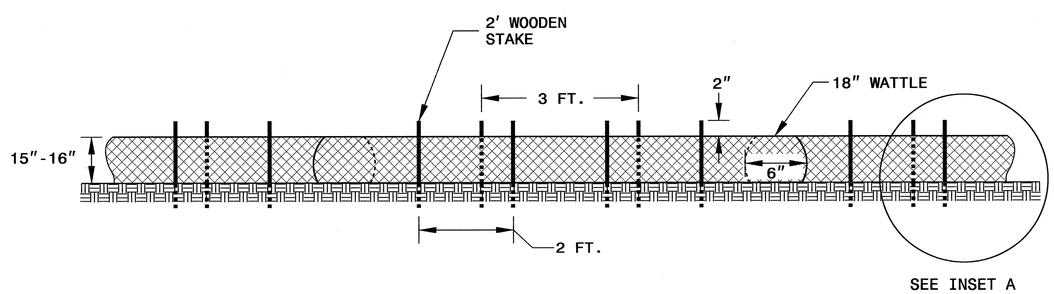
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

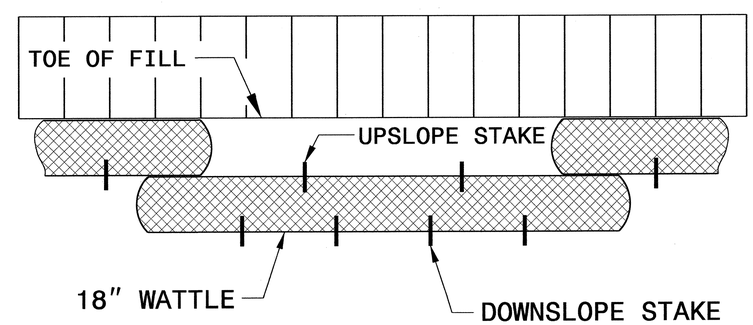
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 20 FT.





FRONT VIEW



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-5112	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

PROJECT REFERENCE NO.	SHEET NO.
B-5112	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

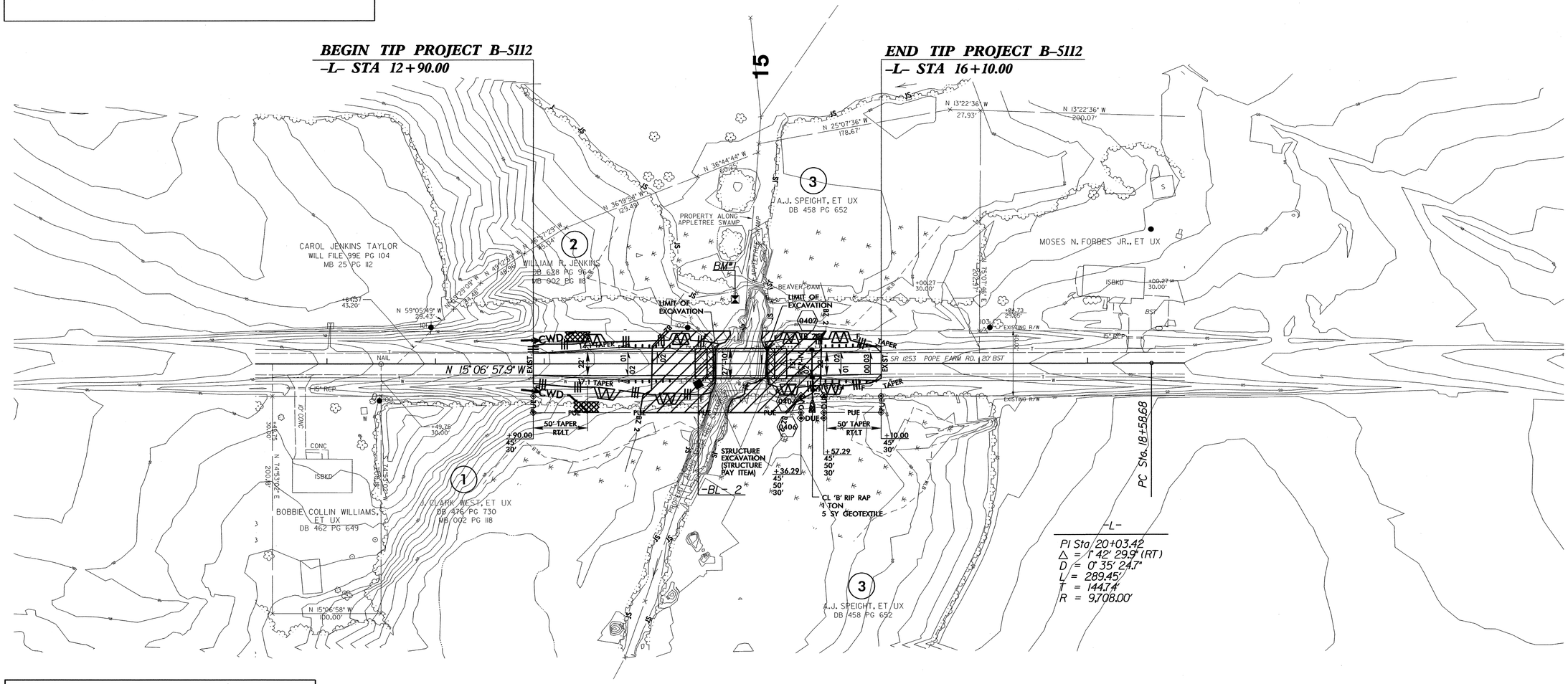
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

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

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

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

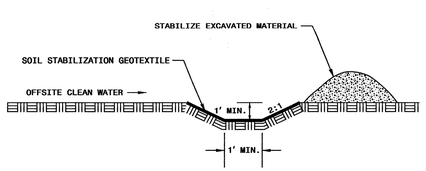
NAD 83/NSRS 2007



CLEAN WATER DIVERSION

CWD — CWD — CWD — CWD — CWD — CWD

(Not to Scale)



STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)

BRIDGE APPROACH SLAB

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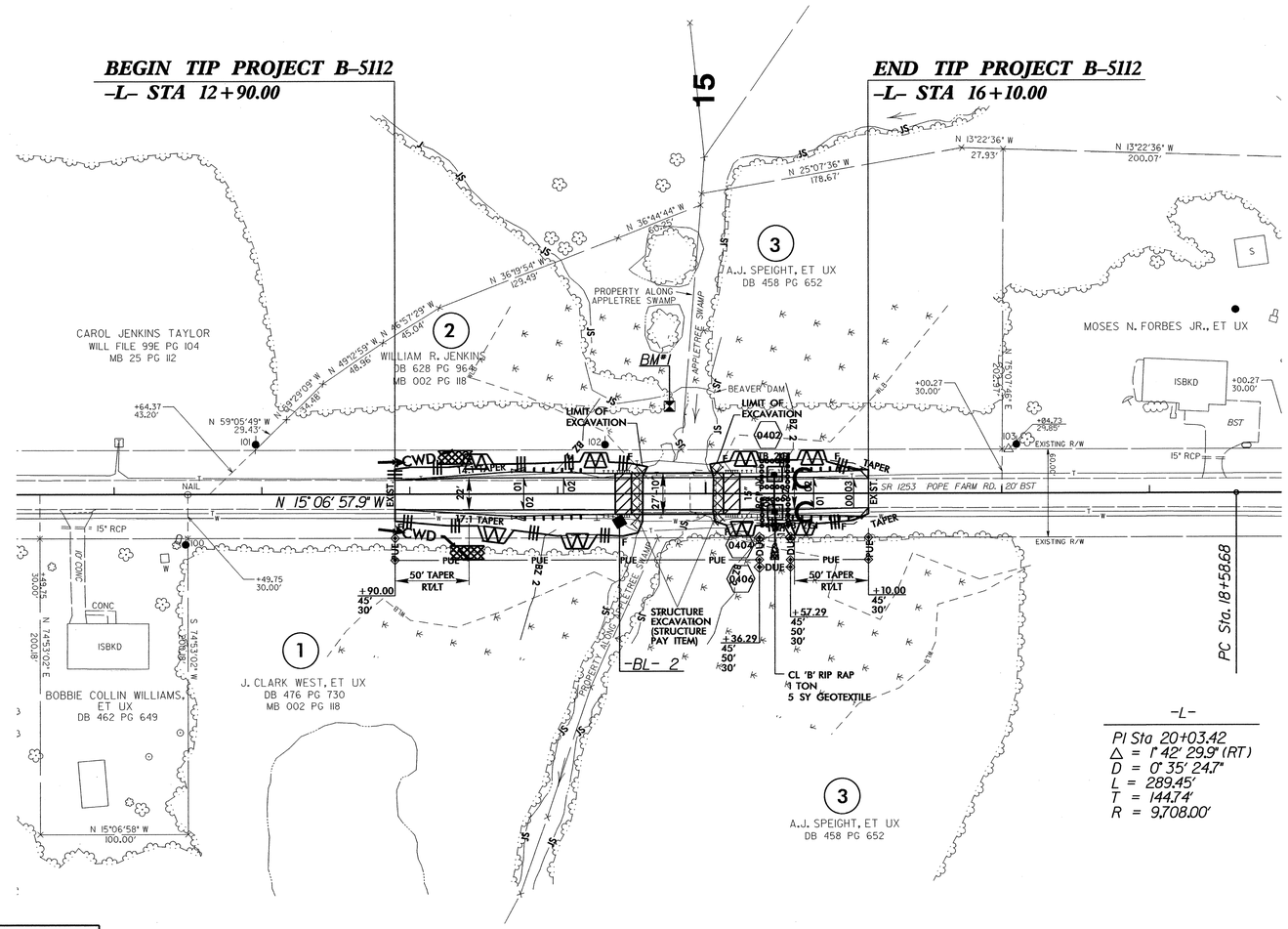
PROJECT REFERENCE NO.	SHEET NO.
B-5112	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

NAD 83/NSRS 2007



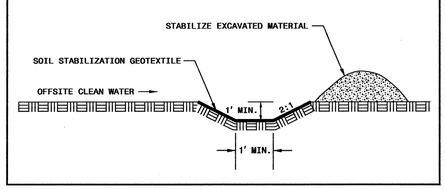
-L-

PI Sta 20+03.42
Δ = 1° 42' 29.9" (RT)
D = 0° 35' 24.1"
L = 289.45'
T = 144.74'
R = 9,708.00'

CLEAN WATER DIVERSION

CWD — CWD — CWD — CWD — CWD — CWD

(Not to Scale)



STRUCTURE EXCAVATION (STRUCTURE PAY ITEM)

BRIDGE APPROACH SLAB

5/14/99

28-JUN-2013 13:11
R:\Environmental\Design\B5112_EC_psh_4.dgn
rmcgee
01 BENTLEY\Bentley

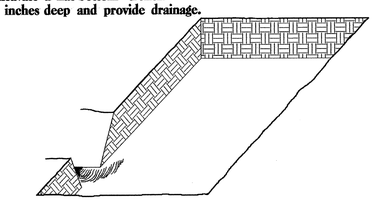
PROJECT REFERENCE NO.	SHEET NO.
B-5112	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

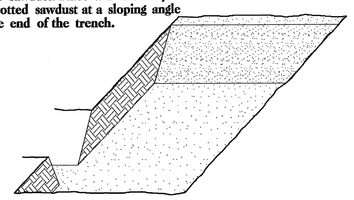
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

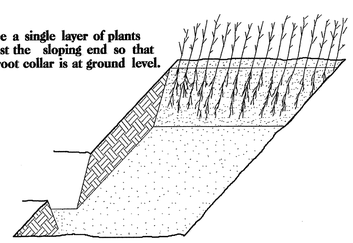
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



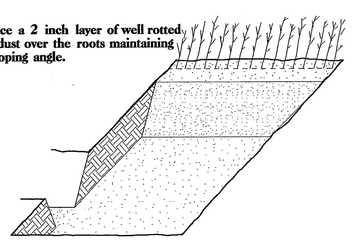
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

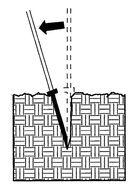


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

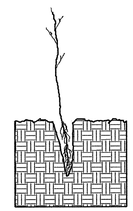


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

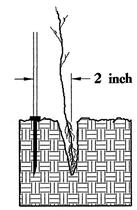
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



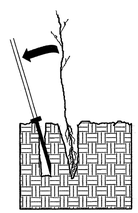
1. Insert planting bar as shown and pull handle toward planter.



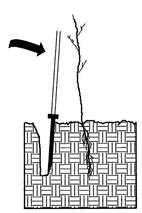
2. Remove planting bar and place seedling at correct depth.



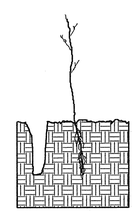
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

34%	QUERCUS NIGRA	WATER OAK	12 in - 18 in BR
33%	LIRIODENDRON TULIPIFERA	YELLOW POPLAR	12 in - 18 in BR
33%	BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09/08/99

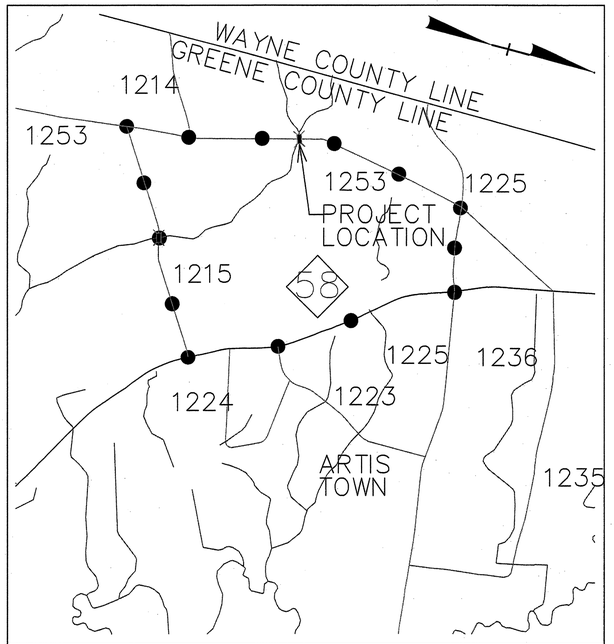
TIP PROJECT: B-5122

T.I.P. NO.	SHEET NO.
B-5112	UC-1

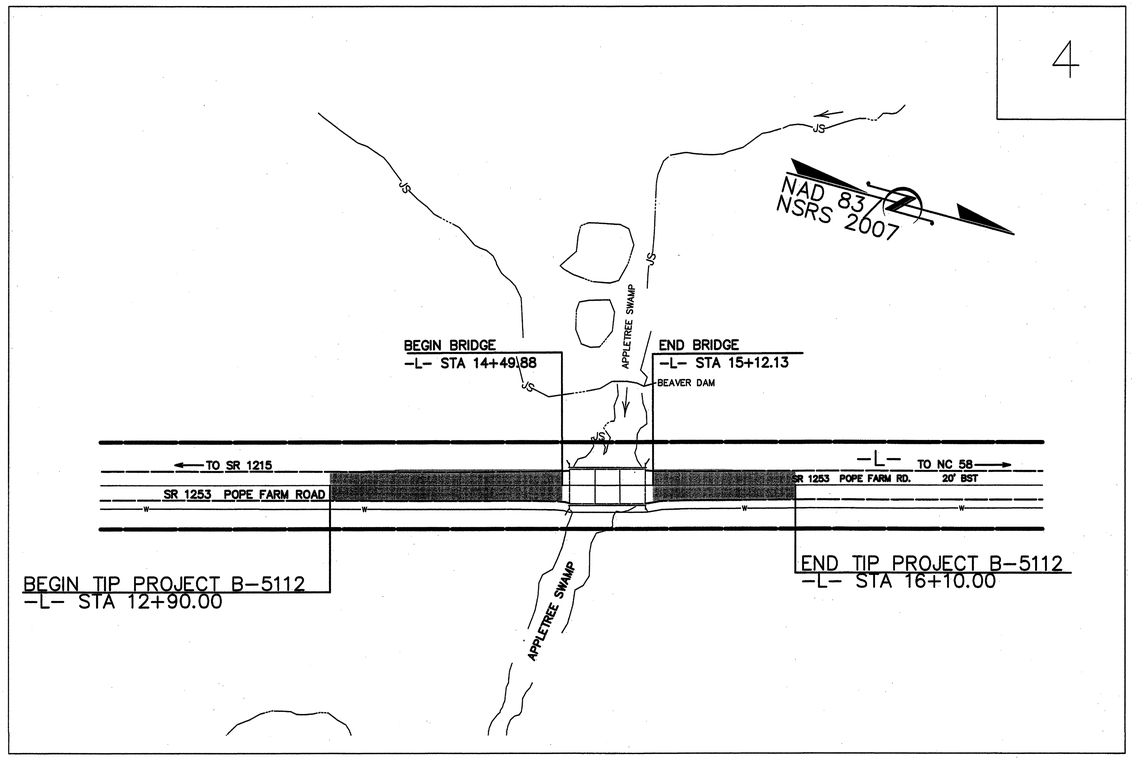
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
GREENE COUNTY

LOCATION: BRIDGE NO. 72 OVER APPLETREE SWAMP ON SR 1253
TYPE OF WORK: WATER LINE RELOCATION



VICINITY MAP
NOT TO SCALE
OFFSITE DETOUR



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4	UTILITY CONSTRUCTION SHEET
UC-5	PROFILE SHEET

UTILITY OWNERS ON PROJECT

(1) GREENE COUNTY REGIONAL WATER SYSTEM
(8" WATER LINE)
Contact Info: David Jones, Public Works Director
P.O. Box 543
Snow Hill, NC 28580
(252) 939-5721
djones@mediacastftth.com

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 5943 ENGINEER ALBERT V. LEWIS, JR.

McDAVID ASSOCIATES, INC.
Engineers • Planners • Land Surveyors
Corporate License No. C-131

CORPORATE OFFICE
3714 North Main Street
P. O. Drawer 49
Farmville, NC 27828
Telephone: (252) 753-2139
Facsimile: (252) 753-7220

BRANCH OFFICE
109 East Walnut Street
P. O. Box 1776
Goldsboro, NC 27533
Telephone: (919) 736-7630
Facsimile: (919) 735-7351

Albert V. Lewis, Jr., P.E. PROJECT ENGINEER

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5112	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PBPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RBPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Force Main Line — FSS
- Underground Unknown Utility Line — N/TL
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown)
- Designated Utility Line (Type as Shown)

REV: 2/1/2012

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5112	UC-3

DESIGNED BY: AVL
DRAWN BY: NRW
CHECKED BY: AVL
APPROVED BY: AVL
REVISED:

MCDAVID ASSOCIATES, INC.
3714 N. MAIN STREET
FARMVILLE, NC 27828
PHONE: (252)753-2139
FAX: (252)753-7220

NORTH CAROLINA PROFESSIONAL SEAL 5543 ENGINEER LIBERTY V. LEWIS, JR.

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING UTILITIES BELONG TO **Greene County Regional Water System**.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.

2. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.

3. CONNECTIONS BETWEEN EXISTING AND PROPOSED WATER LINES SHALL BE MADE BETWEEN 10:00 PM AND 2:00 AM. CONNECTIONS SHALL BE MADE IN A MANNER THAT THE WATER LINE IS TAKEN OUT OF SERVICE ONCE DURING CONSTRUCTION. CONTRACTOR TO PROVIDE WATER LINE OWNER 3 WEEKS NOTICE PRIOR TO CONNECTIONS BETWEEN EXISTING AND PROPOSED WATER LINES.

5/14/99

PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
B-5112	UC-3A
DESIGNED BY: AVL	
DRAWN BY: NRW	
CHECKED BY: AVL	
APPROVED BY: AVL	
REVISED:	

MCDAVID ASSOCIATES, INC.
3714 N. MAIN STREET
FARMVILLE, NC 27828

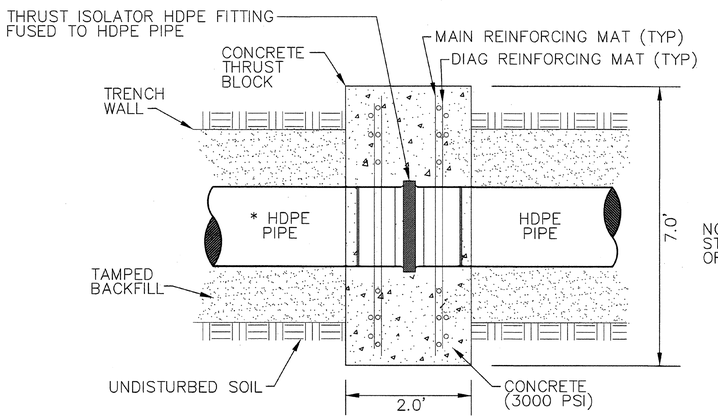
PHONE: (252)753-2139
FAX: (252)753-7220

NORTH CAROLINA PROFESSIONAL SEAL 5543 ENGINEER ALBERT V. LEWIS, JR.

UTILITY CONSTRUCTION PLANS ONLY

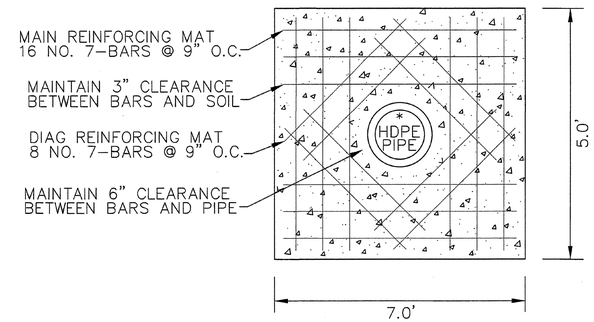
UTILITY CONSTRUCTION

CONCRETE THRUST BLOCK – PLAN VIEW FOR HDPE AND DI PIPE



NOTE: BOTTOM OF TRENCH SHALL BE STABILIZED TO SUPPORT THE WIEIGHT OF THE CONCRETE THRUST BLOCK

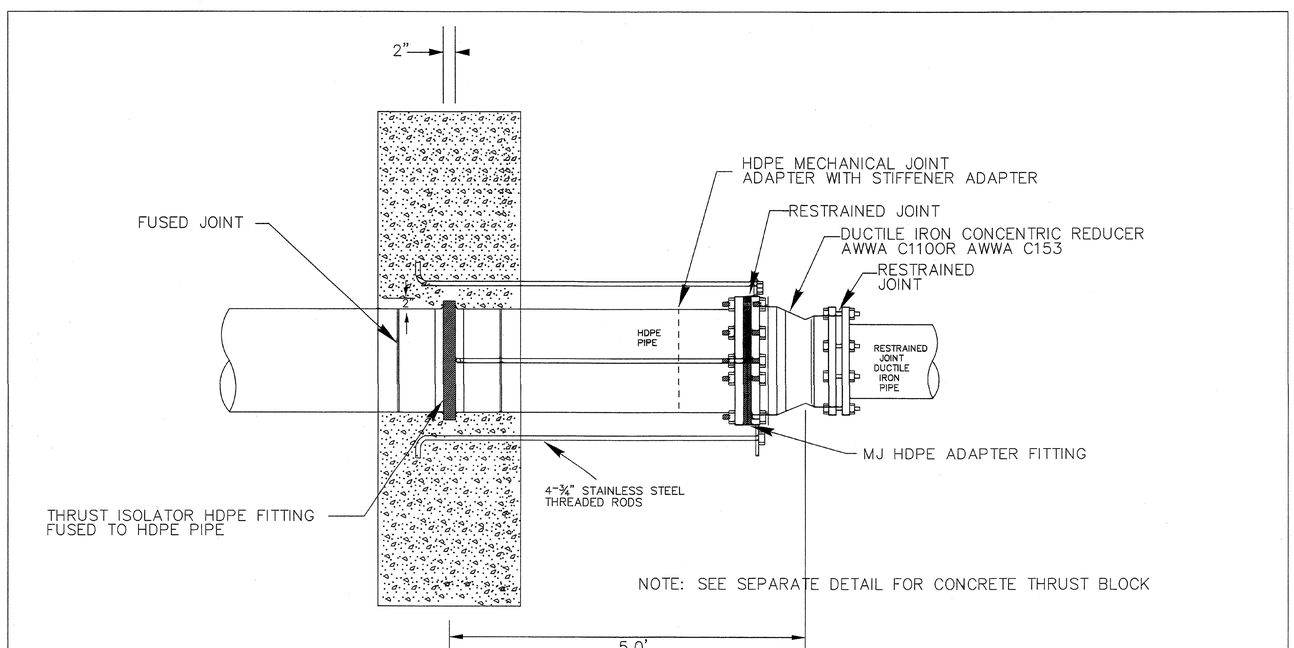
CONCRETE THRUST BLOCK – SECTION VIEW FOR HDPE PIPE



REINFORCING BARS (PER THRUST BLOCK):
MAIN MATS = 24 (#7 BARS) @ 78" LONG
DIAG MATS = 16 (#7 BARS) @ 58" LONG

FORCE MAIN AND WATER MAIN PROFILE NOTES:

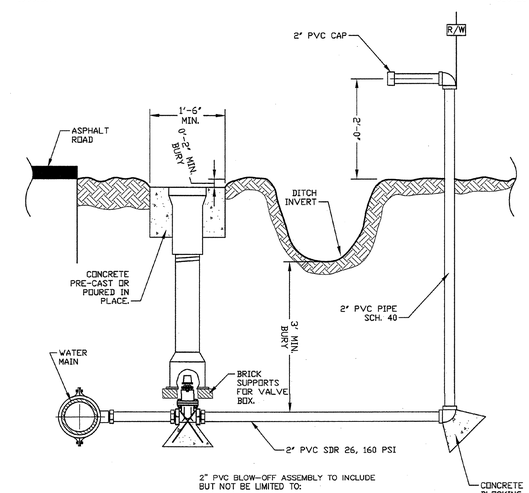
(1) ELEVATIONS OF EXISTING UTILITIES SHOWN ON PROFILE SHALL TO BE VERIFIED IN THE FIELD BY CONTRACTOR.
(2) CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER OR BUFFER ZONES.
(3) CONTRACTOR'S ENGINEER SHALL PROVIDE ON-SITE OVERSIGHT FOR HDD OPERATION.
(4) THE HDPE WATER LINE INSIDE DIAMETERS SHALL BE EQUIVALENT TO THE DI WATER LINE INSIDE DIAMETER. *



TRANSITION DETAIL FROM HDPE TO DI WATER PIPE

1999XXYY

SD042503



2" PVC BLOW-OFF ASSEMBLY TO INCLUDE BUT NOT BE LIMITED TO:

1. 2" PVC PIPING AND CAP.
2. 2 " GATE VALVE EQUAL TO AWWA C-500 WITH THREADED ENDS WITH MALE ADAPTOR.
3. CAST IRON VALVE BOX AND COVER – TYPE "B".
4. APPROPRIATE REDUCER FROM MAIN. FOR 2" AND 3" MAINS A TEE IS REQUIRED. FOR 4" MAIN OR LARGER, IRON PIPE THREADED BRASS SADDLE AND MALE ADAPTER ARE REQUIRED.

TYPICAL DITCH, STREAM OR CREEK CROSSING

5/14/99

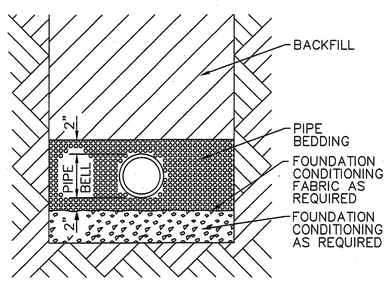
PROJECT REFERENCE NO.	SHEET NO.
B-5112	UC-4
DESIGNED BY: AVL	
DRAWN BY: NRW	
CHECKED BY: AVL	
APPROVED BY: AVL	
REVISED:	
MCDAVID ASSOCIATES, INC. 3714 N. MAIN STREET FARMVILLE, NC 27828	
PHONE: (252)753-2139 FAX: (252)753-7220	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 5544 ENGINEER ROBERT V. LEWIS, JR.

MAXIMUM TRENCH WIDTH
AT TOP OF PIPE

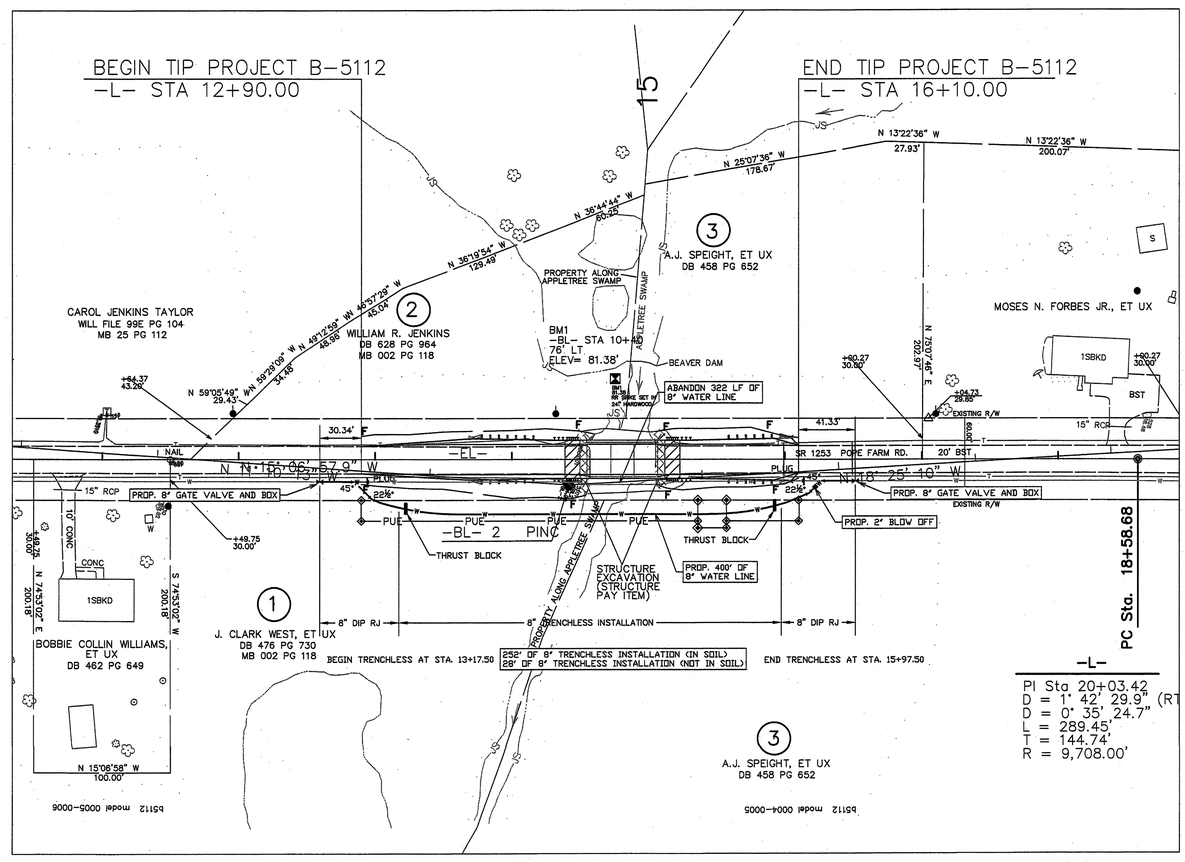
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

NAD 83/NSRS 2007



PROJECT REFERENCE NO.	SHEET NO.
B-5112	UC-5

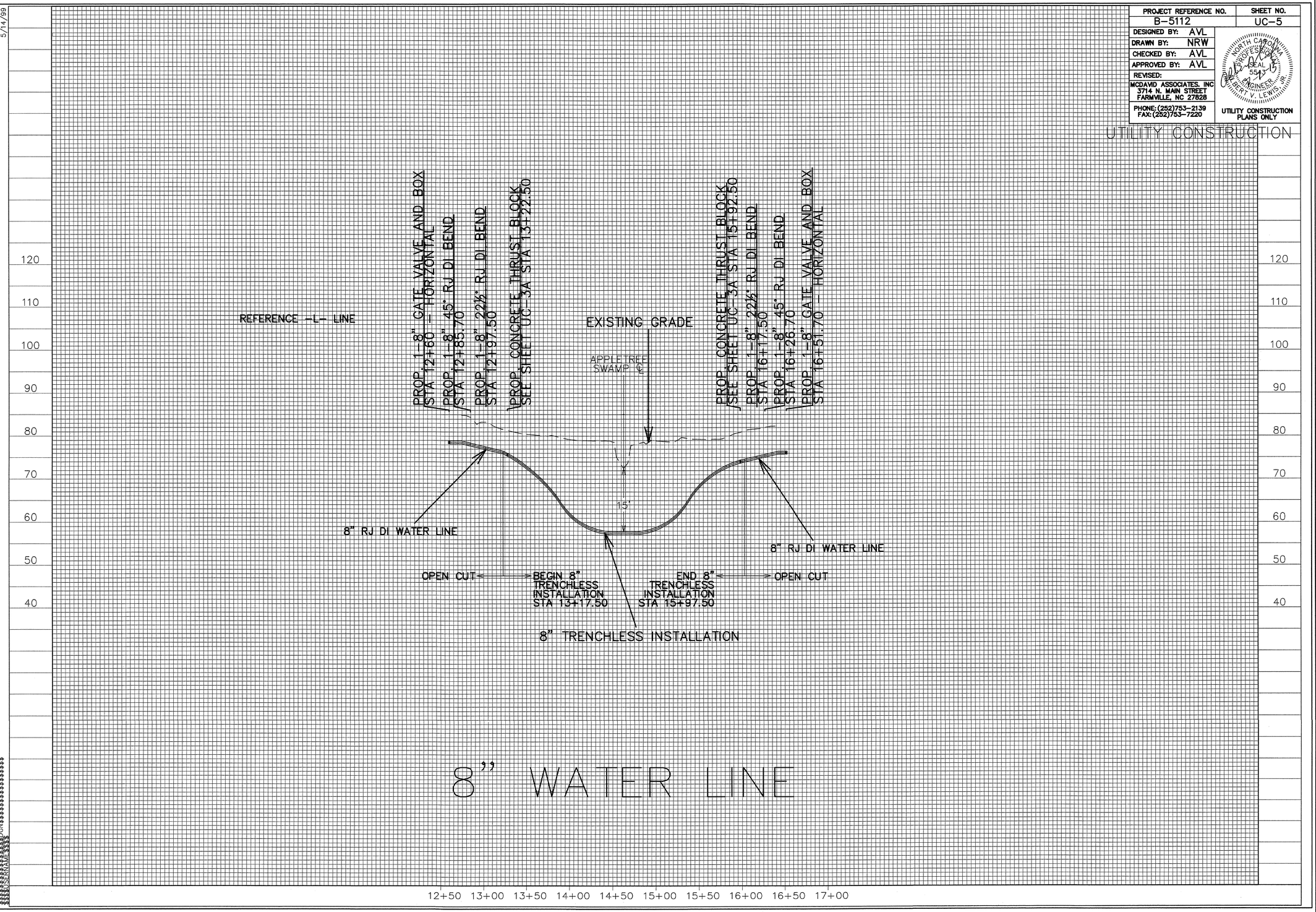
DESIGNED BY: AVL
DRAWN BY: NRW
CHECKED BY: AVL
APPROVED BY: AVL
REVISED:

MCDAVID ASSOCIATES, INC
3714 N. MAIN STREET
FARMVILLE, NC 27828
PHONE: (252)753-2139
FAX: (252)753-7220

NORTH CAROLINA PROFESSIONAL SEAL 55413 ENGINEER BERT V. LEWIS, JR.

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



8" WATER LINE

5/14/99

$$$$$$SYSTIME$$$$$$
$$$$$$DGN$$$$$$
$$$$$$LOGFNAME$$$$

W:\Drxx_gen\D84x_eng\D847_LD\2012-0358-4700 Greene Co 12-SR 1253 Water Line Relocation\DOT Set-7-2-13R\B5112_ut_UC5_pfl_psh.dwg, 7/2/2013 3:17:59 PM, CAD-106

09/08/99

TIP PROJECT: B-5112

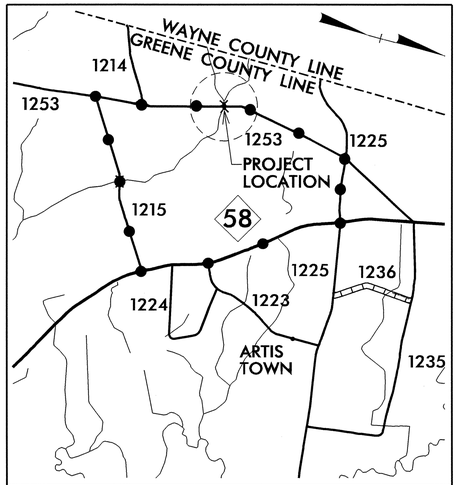
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-5112	UO-1

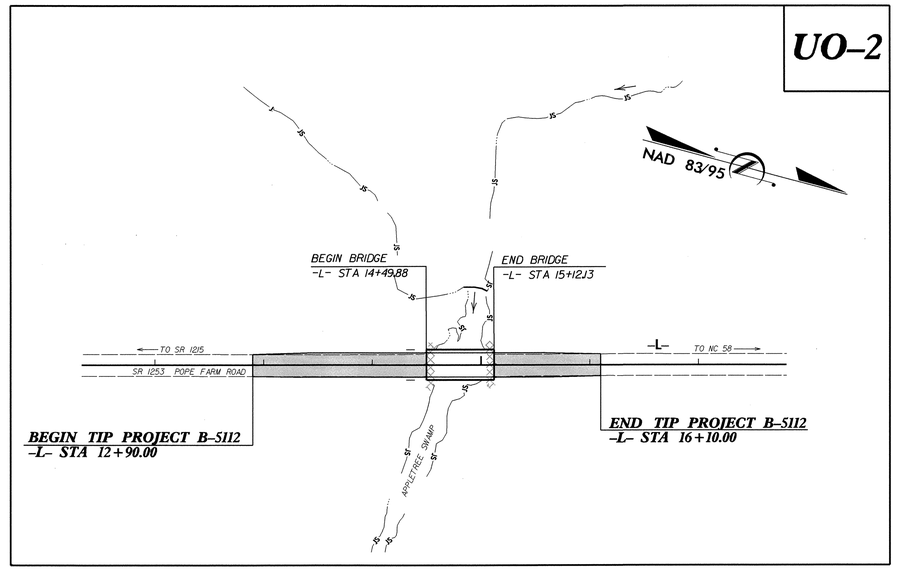
UTILITIES BY OTHERS PLANS
GREENE COUNTY

LOCATION: BRIDGE NO. 72 OVER APPLETREE SWAMP ON SR 1253

TYPE OF WORK: UTILITIES RELOCATION



VICINITY MAP
NTS
OFFSITE DETOUR



SO-DEEP US, P.C.

Louis Ostendorff, P.E. — UTILITY COORDINATION MANAGER

Thomas Taylor, PLS — QA/QC CADD MANAGER

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET
UO-3	PROFILE SHEET

UTILITY OWNERS ON PROJECT

(1) CENTURYLINK (Telephone)

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER

Corey Bousquet, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER

Nabil Hamdan — UTILITIES PROJECT DESIGNER

02-JUL-2013 15:40
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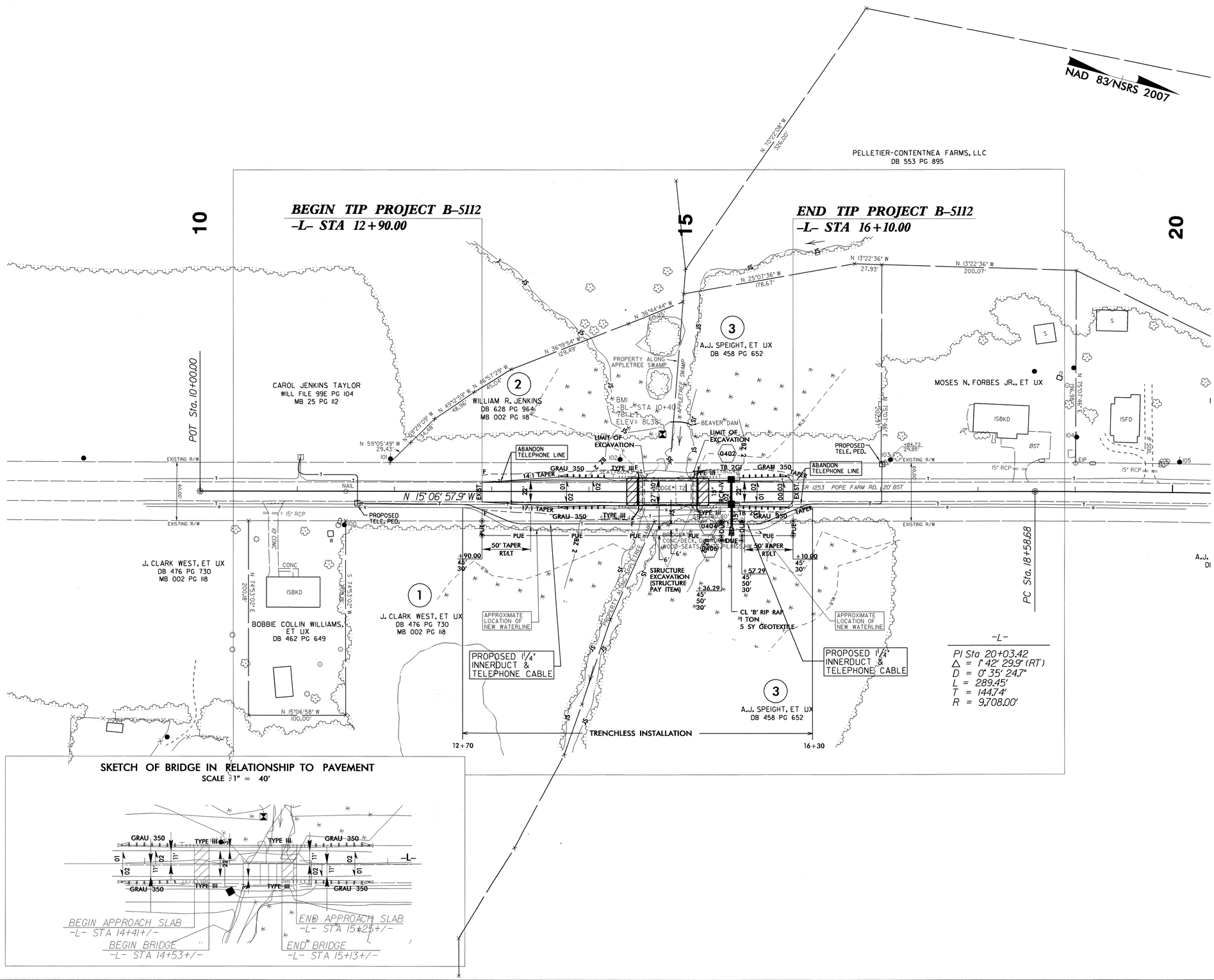
PROJECT REFERENCE NO.	SHEET NO.
B-5112	UO-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



SKETCH OF BRIDGE IN RELATIONSHIP TO PAVEMENT

SCALE 1" = 40'

5/14/99

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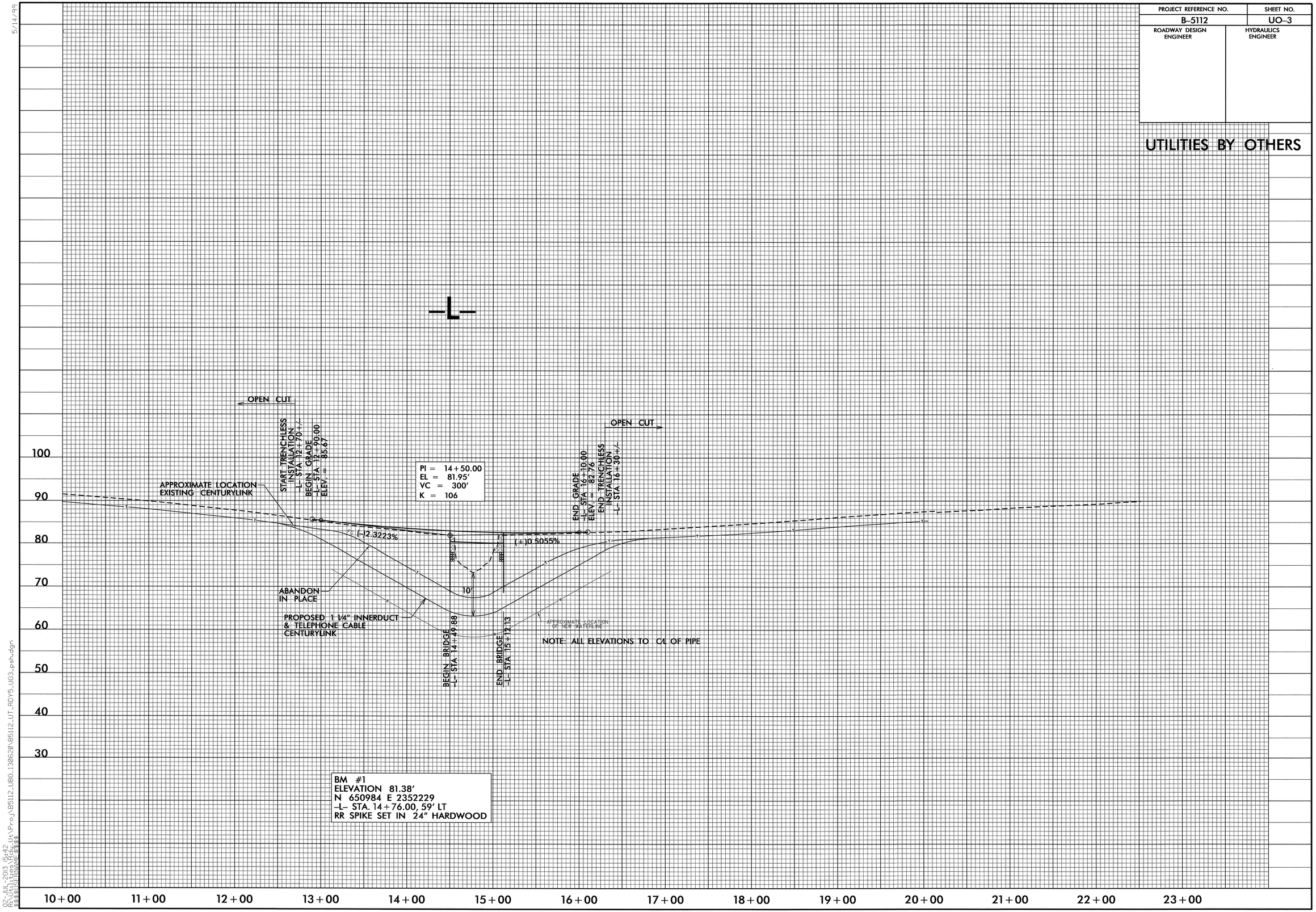
PROJECT REFERENCE NO.	SHEET NO.
B-5112	UO-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

UTILITIES BY OTHERS



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PROJ. REFERENCE NO.	SHEET NO.
B-5112	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

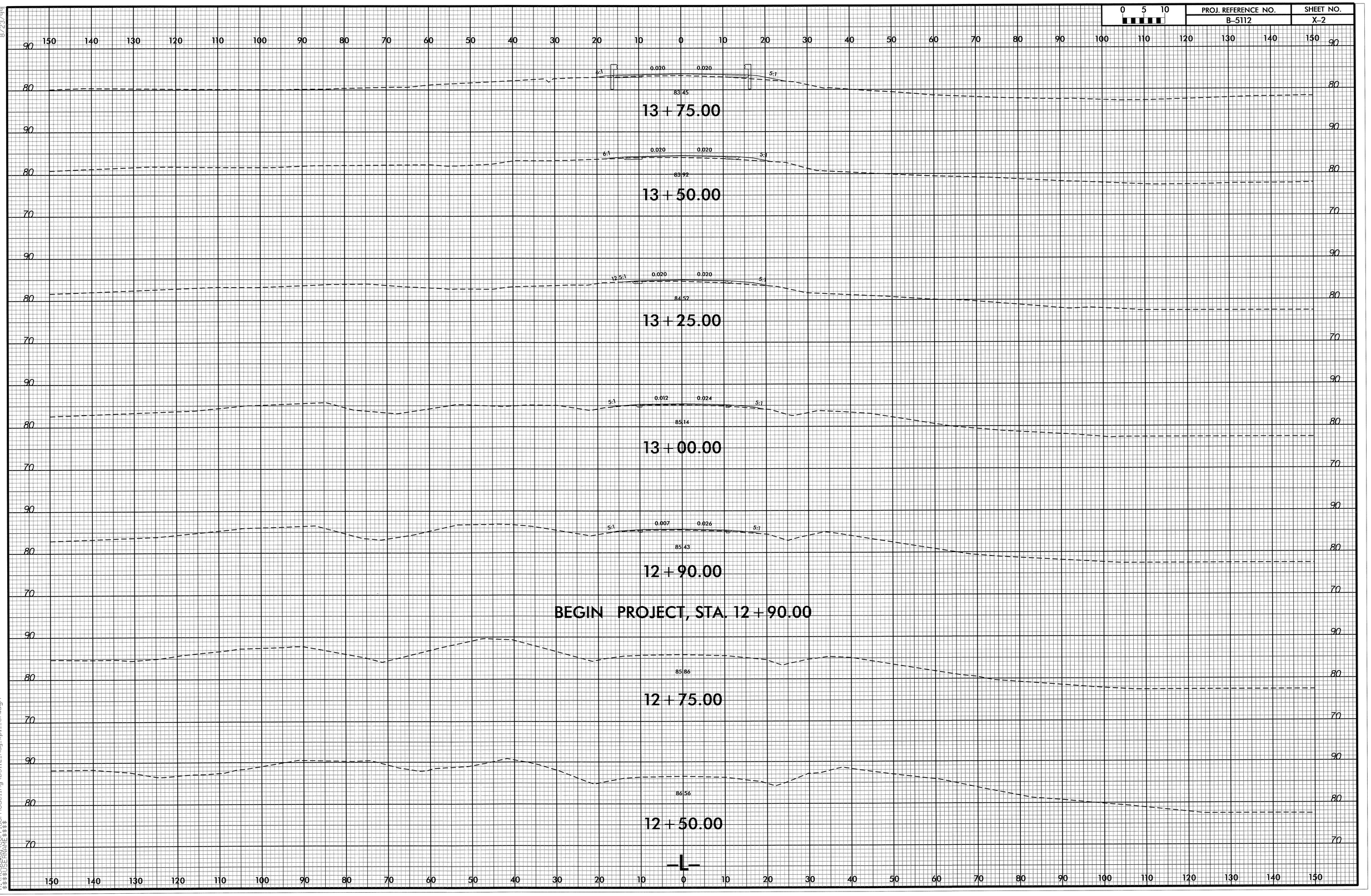
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
12+90.00	0	0
13+00.00	0	1
13+25.00	1	3
13+50.00	1	4
13+75.00	1	5
14+00.00	0	8
14+25.00	0	12
14+49.88	0	15

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
15+12.13	0	0
15+13.00	0	0
15+25.00	1	2
15+50.00	2	4
15+75.00	2	3
16+00.00	4	2
16+10.00	1	0

PROJ. REFERENCE NO.	SHEET NO.
B-5112	X-2



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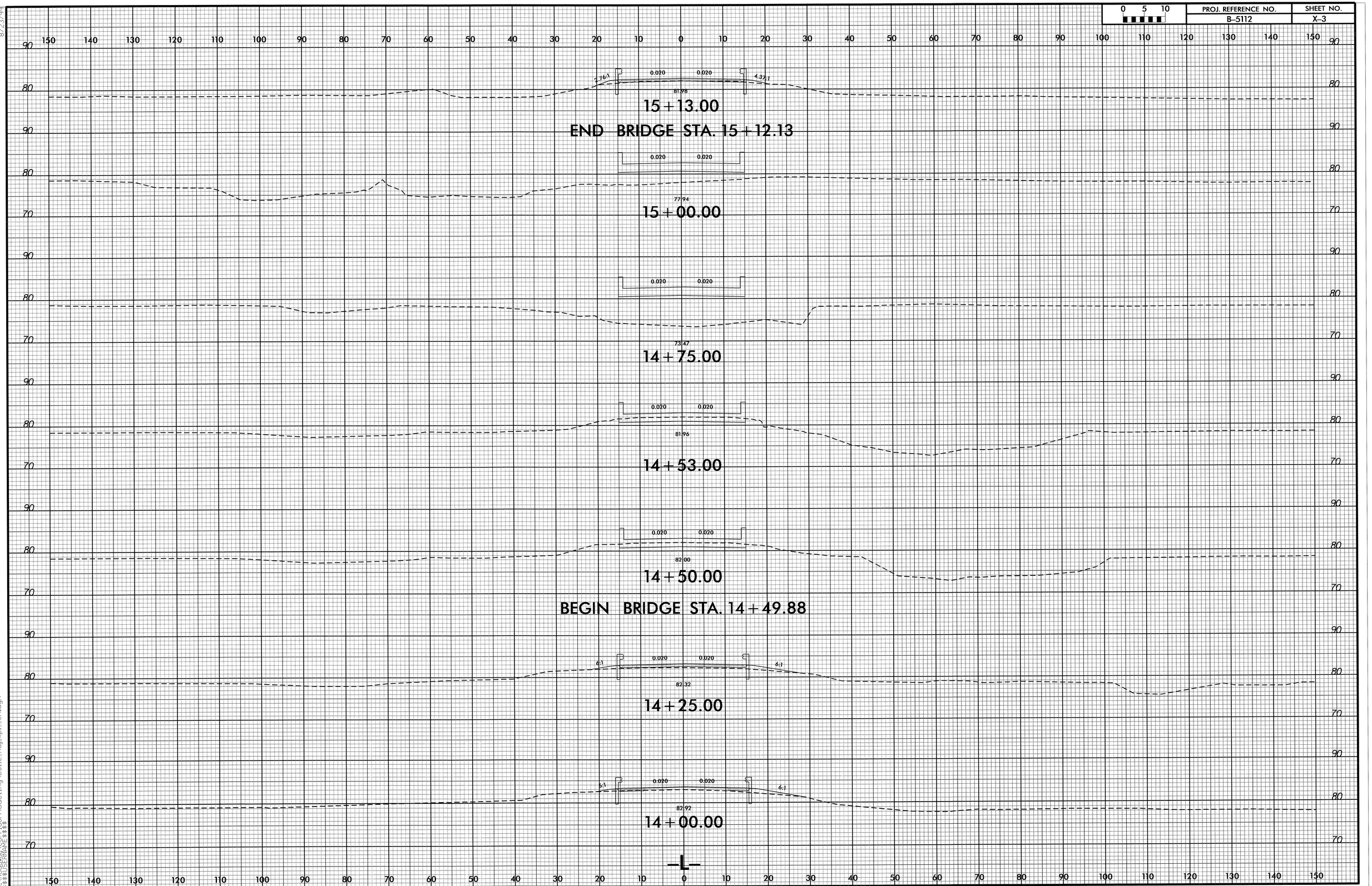
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5112	X-3



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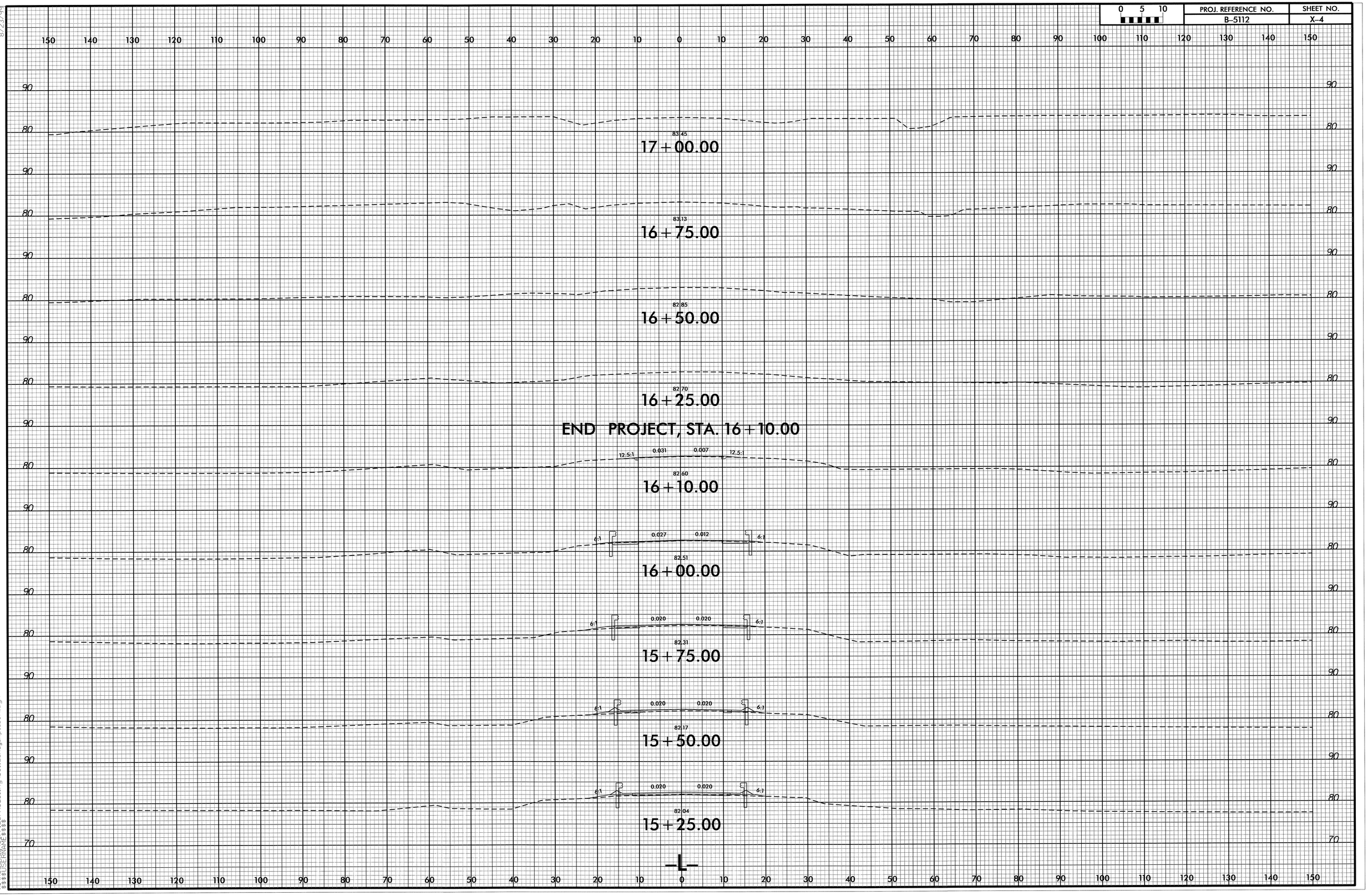
	B-5112	X-4



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